



FileNET®

PANAGON™

IDM DOCUMENT SERVICES

WINDOWS NT SQL SERVER EDITION

release 5 series

IDMDS 5.1.1 Service Pack

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Getting Started

For information on:	Refer to:
Late Breaking News	<p>“IDMDS 5.1.1 Service Pack” on page 13</p> <p>“Current Notices” on page 29</p> <p>FileNET Worldwide Support Choose the Documentation link, and after logging on, navigate to the IDM Document Services 5.1 category. If you do not have a CSS Web Account, click the New User button and follow the online instructions.</p>
IDM Document Services	<p>“Release Notes” on page 23</p> <p>“IDMDS Overview” on page 35</p>
IDMDS Documentation	<p>“Product Renaming Notice” on page 7</p> <p>“About the IDMDS Documentation” on page 8</p>
Installing IDM Document Services	<p>“Roadmap to Setting Up” on page 84</p> <p>“Planning Guide” on page 56</p> <p>“Prerequisites to Installing IDMDS” on page 95</p> <p>“Installing IDM Document Services” on page 113</p> <p>“Installing Additional IDMDS Components” on page 122</p>
Administering IDM Document Services	<p>“Administration Guide” on page 245</p>
Administering Replication Services	<p>“Replication Services” on page 464</p>
Installing, Configuring, and Administering Rendition Services	<p>“Rendition Services” on page 505</p>
Installing, Configuring, and Administering Hierarchical Storage Management	<p>“DiskXtender HSM” on page 539</p>

Product Renaming Notice

A decorative graphic consisting of a horizontal dotted line that extends from the right side of the title, then turns 90 degrees downward at the end, forming an L-shape.

With the 5.1 release of *Panagon IDM Document Services*, we at FileNET have completed our renaming of the Saros[®] Mezzanine[®] product and fully incorporated it into the new FileNET[®] Panagon[™] family. As a result, you will notice that many utility and file names have changed. We hope this does not cause confusion or inconvenience. To make the transition as easy as possible, we are providing a list of the new names and their Saros Mezzanine equivalents. Refer to [“IDMDS Name Change Details”](#) on page 26.

About the IDMDS Documentation

Documentation Updates

For updates to the IDM Document Services documentation, go to the [FileNET Worldwide Support](#) web site, choose the Documentation link, and after logging on, navigate to the IDM Document Services category. If you do not have a CSS Web Account, click the New User button and follow the online instructions.

Software Patches

For software patches related to IDM Document Services, log on to the [FileNET Worldwide Support](#) web site, choose the Troubleshooting link, and navigate to Download Files/Fixes. If you do not have a CSS Web Account, click the New User button and follow the online instructions.

Reader Comments

If you have comments, questions, or suggestions regarding this documentation, we in FileNET Technical Publications will be happy to respond. Please write or call:

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Documentation Formats and Editions

The IDMDS server documentation is provided in two formats. Content in each format is identical.

- **Compiled HTML Help (Idmds*.chm)** files are optimized for viewing with Microsoft Internet Explorer 5.0. These file can be viewed with Internet Explorer 4.0/SP1, however you may experience some display anomalies such as:
 - Vertical spacing problems when printing
 - Sublists may not indent properly when the list item wraps
 - Some special characters (such as the Euro character) will not display or print
- **Portable Document Format (Idmds*.pdf)** files can be viewed with Adobe Acrobat Reader 4.0. These file are provided for users who do not have Internet Explorer installed or who wish to print the documentation in book format. These files are created with compatibility set for Acrobat 4.0. There are known problems (such as some characters and graphics dropping out) associated with viewing them using earlier versions of the Acrobat Reader.

Note The asterisks (*) above indicate that an edition-specific acronym completes the file name. Three editions of the IDMDS server documentation are provided:

- NTM = Windows NT Microsoft SQL Server
- NTO = Windows NT Oracle
- HPO = HP-UX Oracle

For example, **idmdsNTM.chm** is for the IDMDS Windows NT Microsoft SQL Server edition.

Hierarchical Storage Manager Documentation

Documentation for the optional FileNET DiskXtender (DX) software is provided in two parts:

- The *DiskXtender System Guide* is available in an Adobe Acrobat PDF file (**dxadmin.pdf**) in the \docs directory of the *FileNET DiskXtender* CD-ROM. This file contains detailed procedures for installing DX, obtaining a permanent serial number, and using DX.
- Information on using DX with an IDMDS library system is included in the IDMDS server documentation files referenced above (**idmds*.chm** and **idmds*.pdf**).

Typographical Conventions

The IDMDS documentation uses these conventions to distinguish elements of text.

Convention	Usage
UPPERCASE	Environment variables, status codes, utility names.
Bold	Paths and file names, program names, and selected terms such as command parameters or environment variables that require emphasis.
<i>Italic</i>	User-supplied variables and new terms introduced in text.
Monospace	Code samples, examples, display text, and error messages.

Software Numbers

Software Release: 5.1

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Addendum



The following notes describe updates made to the documentation since the IDMDS 5.1.1 Service Pack release.

Note For software patches related to IDM Document Services, log on to the [FileNET Worldwide Support](#) web site, choose the Troubleshooting link, and navigate to Download Files/Fixes. If you do not have a CSS Web Account, click the New User button and follow the online instructions.

January 14, 2002 Web Update

- In [“Upgrading IDMDS on a Property Server” on page 152](#), added step 17 to require running the VUPDATE utility (to supply missing file names for Version objects) and step 18, pointing to [“Upgrade Notes” on page 156](#) for important information about library system upgrades.
- In [“Upgrade Notes” on page 156](#), noted the consequences of failure to run the VUPDATE utility.

August 28, 2001 Web Update

- Revised step 6 in [“Upgrading IDMDS” on page 141](#) to emphasize the need to run migration utilities for each library system being upgraded.

October 6, 2000 Web Update

- Added the following note to [“Current Notices” on page 29](#):

Uninstalling IDM Desktop 3.1 from an IDMDS 5.1.1 server will remove the ODBC data source used by IDMDS 5.1.1. If you uninstall IDM Desktop 3.1, use the ODBC Data Source Administrator tool (available from the Windows NT Control Panel) to add another data source for the IDMDS server. Select the System DNS tab, click Add, select the SQL Server driver, and then click Finish. This will start the "Create a New Data Source to SQL Server" wizard which you can use to add the data source. (FR 23755)
- In [“Adding Custom Properties” on page 281](#), added sentence to last bullet strongly recommending that you assign custom property names that are unique from any other custom or system-generated property names. Duplicate property names can cause problems in some applications that access your IDMDS system.
- Edited the following topics to improve readability:
 - [“DTCVLCHK” on page 387](#)
 - [“DTCVLMIG” on page 394](#)

- “USGRPCHK” on page 426
- “USGRPMIG” on page 434
- Updated the list of supported content search filters. Refer to “Content Search Filters” on page 300.

IDMDS 5.1.1 Service Pack

The IDMDS 5.1.1 Service Pack provides an easy method of applying the latest IDMDS 5.1 patches and additional features and fixes from a single **update** utility. After applying the service pack, your IDMDS system version will be 5.1.1.

The service pack includes:

- IDMDS 5.1 patches. Refer to [“Included 5.1.0 Patches”](#) on page 14.
- New features and fixes (available only in the IDMDS 5.1.1 Service Pack). Refer to [“New Features and Fixes”](#) on page 18.
- This updated IDMDS 5.1.1 documentation.

Refer to [“Service Pack Installation”](#) on page 20 for the procedure on how to apply the IDMDS 5.1.1 Service Pack.

Included 5.1.0 Patches

Patch Number	Description
IDMDS-5.1.0-001	Provides utilities that must be run before and after upgrading IDMDS 5.0 systems to IDMDS 5.1. The utilities maintain the relationship between existing compound documents. If they are not run, these relationships will be lost. Refer to “UPDBEFORE” on page 425 and “UPDAFTER” on page 424. (FR N/A)
IDMDS-5.1.0-002	Provides a fix to prevent stored searches from replicating. (FR 18401)
IDMDS-5.1.0-004	Provides the SRLIST utility for upgrading from IDMDS 4.3 to 5.1. This utility lists Saros Document Manager (SDM) smart folders and IDMDS stored searches created with user interfaces other than IDM Desktop. Refer to “SRLIST” on page 420. (FR N/A)
IDMDS-5.1.0-008	Fixes a problem where deleting a source document that had a published document with more than one version would stop the Storage Manager and cause Windows Explorer to hang. (FR 19155)
IDMDS-5.1.0-009	Provides the following utilities for upgrading from 4.3 to 5.x: <ul style="list-style-type: none">• CDLIST lists compound documents that, in their current state, cannot yet be migrated to support IDM Desktop/Web 3.x or IDMDS 5.x services.• CDMIG migrates pre-IDMDS 5.0 (custom property based) compound document relationships to IDMDS 5.1 relationships. Refer to “CDLIST” on page 368 and “CDMIG” on page 371. (FR N/A)

Patch Number	Description
IDMDS-5.1.0-010	<p>Includes the following bulk process fixes:</p> <ul style="list-style-type: none"> • Messages to the admin.log file are now written immediately to the file instead of being buffered. (FR 19368) • The admin.log file can now be edited while the IDMDS Explorer is running. (FR 19370) • Fixes a problem where folders added using the /s parameter did not inherit folder ACLs or rights from the parent folders. (FR 19415) • Fixes a problem where, after patches had been applied to an IDMDS system, any attempt to open a new Bulk Process resulted in a "16472 Unable to fill the Template" error. (FR 19526) • Fixes a problem where deleting a Bulk Add Process would result in the deleting of other processes. (FR 19529)
IDMDS-5.1.0-013	<p>Fixes errors that occur on IDMDS library systems that have been upgraded from 4.3 to 5.1 and have Document Classes containing the system Default Checkout File Name property.</p> <p>The DCFIX utility included in this patch scans Document Classes for any references to the obsolete Default Checkout File Name property (SPI_ITEM_CURVER_TRUNC_FILE), and replaces them with a File Name property (SPI_VERS_FILE_NAME) reference. Refer to “DCFIX” on page 379. (FR 19119)</p>
IDMDS-5.1.0-015	<p>Contains updated IDMDS Client Library Files for all FileNET IDMDS products and provides Windows 2000 compatibility for IDMDS servers and clients. The updated IDMDS Client Library Files create the necessary Windows 2000 Active Directory objects to enable remote starting, stopping, and monitoring of IDMDS services on other Windows 2000 servers within an Active Directory forest.</p> <p>This patch is used in conjunction with IDMDS-5.1.0-016. Refer to “Certified Server Software Requirements (Windows 2000)” on page 101 and “Migrating to Windows 2000” on page 157 for more information about IDMDS and Windows 2000. (FR N/A)</p>
IDMDS-5.1.0-016	<p>Provides Windows 2000-based IDMDS systems with limited Active Directory support, enabling the IDMDS Service Manager (dsstatus.exe) to start, stop, and monitor library system services on other IDMDS servers in the same Active Directory forest.</p> <p>This patch is used in conjunction with IDMDS-5.1.0-015. Refer to “Certified Server Software Requirements (Windows 2000)” on page 101 and “Migrating to Windows 2000” on page 157 for more information about IDMDS and Windows 2000. (FR N/A)</p>

Patch Number	Description
IDMDS-5.1.0-025	<p data-bbox="516 279 1250 310">Includes the following User Import Tool (DIRSYNC) fixes:</p> <ul style="list-style-type: none"> <li data-bbox="516 338 1461 575">• Fixes a problem with running the DIRSYNC daemon on servers with multiple IDMDS systems installed and DIRSYNC active on more than one of the systems on that server. You can now select (in dsproperties.cpl) the system you want to modify. To enable this feature, in the IDMDS Configuration Tool select the "Enable automated user import" on the User Import tab for any IDMDS system. (FR 19880) <li data-bbox="516 602 1461 772">• Fixes a problem with the User Import Tool when used to import users/groups from Windows NT. You can now set the Secure Search field for a User to "Nothing" (previously it could only be set to Yes or No). This enables the system to apply the group level value for the Secure Search Property to the User. (FR 20094) <li data-bbox="516 800 1461 1037">• Fixes a problem where the User Import Tool would fail to handle more than 19 Domain\Group combinations. The number of groups that can be added is now based on a fixed byte pool of 16K (the increase in this limit to 16KB has been made to accomodate longer group names). For example, if your average DOMAIN\GROUP name is 22 characters long then you could have approximately 650 groups in the list box. (FR 20246) <li data-bbox="516 1064 1461 1129">• Fixes a problem where illegal values in the registry would cause errors to be reported in the dirsync.log file. (FR 20246) <li data-bbox="516 1157 1461 1222">• Fixes a problem where running the DIRSYNC daemon on a server would prevent the Domain Controller from responding. (FR 20409) <li data-bbox="516 1249 1461 1383">• Changes how the User Import Tool logs on to the IDMDS 5.1 system. The tool now creates a unique User ID in the Admin group, with it's own password, on its first execution in the database. It will then use this User ID to logon to IDMDS. (FR 20515) <li data-bbox="516 1411 1461 1509">• Fixes an issue where a single User ID in an IDMDS 5.1 group would not be deleted if it was the last remaining User ID in the group. (FR 20515) <li data-bbox="516 1537 1461 1671">• Fixes a problem with the use of accented characters in the User ID. Windows NT and/or Windows 2000 placed accented characters last and the IDMDS database put them first, causing multiple additions and deletions during a normal update. (FR 20516) <li data-bbox="516 1698 1461 1902">• Fixes a problem where, if you attempted to select more than 94 groups to be imported into IDMDS, dsproperties.cpl produced an error message and exited without saving the groups that had been selected. Note that the space limit setting for Domain\Group names is 16KB. Therefore the actual number of groups that can be imported will vary, dictated by the length of their names. (FR 20661) <li data-bbox="516 1929 1461 2064">• Fixes a problem where, if the IDMDS server that was running DIRSYNC lost connectivity to the Windows NT domain(s) from which groups were imported, imported users in those groups would get deleted. (FR 21602)

Patch Number	Description
IDMDS-5.1.0-026	Contains FileNET Replication utilities required to upgrade IDMDS systems that use Replication from version 4.3 to 5.1. Refer to “DTCVLCHK” on page 387, “DTCVLMIG” on page 394, “REPLKICK” on page 414, “USGRPCHK” on page 426, and “USGRPMIG” on page 434. (FR N/A)

New Features and Fixes

- Applied all the fixes from the IDMDS 5.1.0 release. Refer to “[Included 5.1.0 Patches](#)” on page 14.
- Fixed a problem where **.pdf** (Acrobat) files were not being filtered properly. (FR 19606)
- Provided improved performance during logons, particularly when multiple sessions are active. (FR N/A)
- Fixed the following problem: When a folder was expanded, if that folder contained another (sub) folder which in turn contained more folders than the Maximum row count specified in the General number in the Options dialog box, the error "Bad file name or number (52)" was displayed when the first folder was expanded. Specifically, when the number of grandchildren contained in one child folder was greater than the number specified, an error occurred when the grandparent folder was expanded. (FR 21397)
- Changed the format of the network logon scheme so a dash character is no longer the delimiter between the DOMAIN and USER NAME values. The delimiter will now be a semi-colon (;). This will allow customers who have domain names containing dashes (-) to use network logons. (FR 21286)
- Fixed a problem where the bulk process tool would hang when the Properties entry from the drop down menu was selected. (FR 21096)
- Messages to the **admin.log** file are now written immediately to the file instead of being buffered. (FR 19368)
- The **admin.log** file can now be edited while the IDMDS Explorer is running. (FR 19370)
- Fixed a problem where folders added using the /s parameter did not inherit folder ACLs or rights from the parent folders. (FR 19415)
- Fixed a problem that occurred when checking in a new version of an indexed document. An error would occur if the maximum number of indexed words had been reached. The fix enables you to de-index documents that have been queued for de-indexing within a Content Search repository that is no longer accessible due to the fact that the number of unique terms has been reached. (FR 21756)
- Fixed a problem where the Bulk Process tool would hang when you attempted to select a property value from a controlled vocabulary list (CVL) with more than 100 values assigned to it. Selecting any value past the 100th would cause Explorer to hang. (FR 22268)
- Fixed a problem with replicated systems where non-replicated compound documents would not migrate after the CDMIG utility had been run. (FR N/A)
- Provided a way to better support dual network interface cards (NICs), via a modification of the Registry. The problem was that, on an IDMDS 5.1 system with dual NICs on the server, there was an extended delay the first time a document was accessed via the client. (FR 20856)

- Fixed a problem where the User Import Tool (**dirsync.exe**) would cause a Dr. Watson error and hang when adding more than 12,500 users. (FR 23316)
- Updated content search filters. Refer to “[Content Search Filters](#)” on page 300 for an updated list.
- Fixed a problem where if you reinstalled a Storage Manager on a remote storage server, the drive on which the Storage Manager was originally installed was not presented as the default destination drive by the Setup program. This was also the case if you reinstalled a Content Search Manager on a remote server. (FR 10265)
- Fixed a problem where insufficient disk space on the drive where the temp path is located caused installation to fail. (FR 12392)
- Fixed a problem where a user that has Add User privilege, but has been removed from its own access control list was still allowed to add a new user. (FR 4030)
- Fixed a problem where the Client Library Files Setup program did not create the **MSSQL\binn** client database installation directory as it did in previous IDMDS releases. The files that were previously installed there were installed into %StysemRoot%\System32. (FR 4549)
- The following products are now certified for use with IDMDS 5.1:
 - Microsoft SQL Server Service Pack 2
 - Microsoft Data Access Components (MDAC) 2.5
- During an upgrade from IDMDS 4.3 to 5.1, the custom properties **idmAnnotation**, **idmPublish**, **idmCDBehaviorID**, **idmFilterQuery**, and **idmSearch** may not be created. These properties are required by Panagon clients to support annotations, compound documents, renditions, and other functionality. FileNET is providing the **CUSTPROP** utility (available in your library system's **pbin** directory) to correct this problem. If you are missing the properties listed above, run the **CUSTPROP** utility from a command prompt (that is, type `custprop` and press return).
- Added ODBC connection pooling to improve IDMDS system performance. For more information on connection pooling, refer to <http://msdn.microsoft.com/library/techart/pooling2.htm>.
- Added the ability to modify the ODBC login timeout value. Refer to “[ODBC Login Timeout](#)” on page 22 for more information.

Service Pack Installation

To apply the IDMDS 5.1.1 Service Pack:

1. Upgrade your clients to IDM 3.1, as follows:
 - a. If you are running IDM 2.0.3 clients, upgrade them to version 3.0. Refer to your IDM 3.0 documentation for instructions.
 - b. Upgrade IDM 3.0 clients to version 3.1. Refer to your IDM 3.1 documentation for instructions.
2. If you are using IDMDS in a Windows NT/Windows 2000 domain or Active Directory environment and want to use network logons, use the IDMDS System Administration Tools to change the delimiter in the User object's Network Logon Name property from a dash to a semicolon (for example, mydomain;myusername). Refer to the *IDMDS System Administration Tools Online Help* for instructions on modifying properties.

Note If you are experienced with the User Import Tool, you can use the version included with the IDMDS 5.1.1 Service Pack to automatically update the delimiter for all IDM 3.1 clients. If you choose this method, you must apply the IDMDS 5.1.1 Service Pack (as described in the steps that follow) before you run the User Import Tool. Once you run the tool only IDM 3.1 clients (not 3.0 clients) will be able to use network logons. Remember, to update the Network Logon Name property with the User Import Tool, the User object's Imported User? property must be set to Yes. Refer to ["IDMDS Configuration Tool User Import Tab" on page 179](#).

3. Depending on your situation, do one of the following:

Caution If you need to migrate your property server database from Oracle 7.3.4 to Oracle8i 8.1.5 and you have multiple Oracle Home directories, contact FileNET Customer Support Services (CSS).

- If you have not installed IDMDS, install version 5.1.0. Refer to ["Installation Roadmap" on page 85](#) and ["Installation Guide" on page 93](#).
- If IDMDS 4.3 is installed, upgrade to version 5.1.0. Refer to ["Upgrade Roadmap" on page 92](#) and ["Upgrading IDMDS" on page 141](#).

Note In order to perform the upgrade from IDMDS 4.3 to 5.1.0, you may need to use some of the utilities located in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM.

- If IDMDS 5.0.0 is installed, upgrade to version 5.1.0. Refer to ["Upgrade Roadmap" on page 92](#) and ["Upgrading IDMDS" on page 141](#).

Note If you created compound documents under IDMDS 5.0.0 Windows NT, MSSQL edition and want to maintain their relationships, you will need to use the UPDBEFORE and UPDAFTER utilities located in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to ["UPDBEFORE" on page 425](#) and ["UPDAFTER" on page 424](#).

- If IDMDS 5.1.0 is installed, go to the next step in this procedure. If you have already installed some (or all) of the patches described in [“Included 5.1.0 Patches” on page 14](#), you should still continue to the next step.
4. Put the library system in single-user mode. A library system is in single-user mode when:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.
 5. Stop all IDMDS services (local and remote) for the IDMDS system(s) you want to update.
 6. Log off the system. There should be no open user sessions when the **update** utility is run.
 7. Run the **update** utility located in the **Server** directory of the IDMDS 5.1.1 Service Pack CD-ROM on each computer that makes up your IDMDS system(s). If multiple IDMDS 5.1.0 systems are installed on a computer, the **update** utility will update all of them.

Notes

If IDM Desktop and/or the IDMDS System Administration tools are installed on an updated IDMDS server, you *must* upgrade IDM Desktop to version 3.1 and install the latest IDMDS System Administration Tools on the IDMDS server. (The latest IDMDS System Administration Tools are located in the **Admin** directory on the IDMDS 5.1.1 Service Pack CD-ROM.)

The IDMDS 5.1.1 Service Pack cannot be installed via the Microsoft Systems Management Server (SMS).

8. After running the **update** utility under Windows NT, restart the computer.
9. If you have installed Rendition Services on one or more computers, reinstall the IDMDS 5.1.1 client library files to the same location as the existing client library files used by Rendition Services. Refer to [“Client Library Files” on page 224](#).
10. If you want to add an IDMDS system or service after applying the IDMDS 5.1.1 Service Pack, do the following:
 - a. Use your IDMDS 5.1.0 CD-ROM to add the system or service.
 - b. Reapply the IDMDS 5.1.1 Service Pack to that computer.

Note Answer No if the IDMDS 5.1.1 **update** program prompts you about overwriting existing files. (Depending on the number of IDMDS 5.1.1 systems and services installed on the computer, you may be prompted many times.)

ODBC Login Timeout

IDM Desktop users, IDM Web Services, and remote IDMDs services (such as a remote Storage Manager) accessing IDMDs via a WAN that delivers slow logon times may not be able to logon to IDMDs, because ODBC will timeout before the logon process completes. Increasing the ODBC login timeout value as described below can fix this problem.

To change the ODBC timeout value:

1. Run the Windows NT Registry Editor (**regedit** or **regedt32**).

Warning Using Registry Editor incorrectly can cause serious, system-wide problems that may require you to reinstall Windows NT to correct them. FileNET cannot guarantee that any problems resulting from the use of Registry Editor can be solved. Use this tool at your own risk. If you choose to proceed, we highly recommend that you first back up your system and create (or update) an emergency repair disk.

2. From the HKEY_LOCAL_MACHINE subtree, go to the following key:

Software\FileNET\IDM Document Services Client Libraries

3. Change the LoginTimeout value (of type integer) from 0 to a value greater than 15.

Note The LoginTimeout value is specified in seconds. If the LoginTimeout value is set to 0 (the default) or is not preset, the ODBC timeout value will be 15 seconds. If your IDMDs users are experiencing ODBC time outs, you can increase this value (for example, you could set the LoginTimeout value to 120 seconds).

4. Exit the registry editor.
5. Restart your IDMDs system servers, IDM Web servers, and IDM Desktop clients for the change to take effect.

Release Notes



For information on:

New features in this release

Name changes for files, directories, utilities, etc. related to the Product name change

A list of the bugs fixed in this release, with Failure Report (FR) numbers included for reference

A list of known problems and critical information for this release, with Failure Report (FR) numbers included for reference

Refer to:

[“Release Highlights” on page 24](#)

[“Product Renaming Notice” on page 7](#)

[“IDMDS Name Change Details” on page 26](#)

[“Problems Fixed in this Release” on page 28](#)

[“Current Notices” on page 29](#)

Release Highlights

- **SQL Server 7.0 support.** IDMDS 5.1 supports Microsoft SQL Server 7.0 as the database engine for the property repository.
- **French and German display languages.** Support files are provided for French and German library system display languages. Follow-on support will be provided for additional languages such as Czech and Greek.
- **New administrative and user clients.** IDMDS 5.1 supports new administrative client and user interfaces. Refer to [“Administrative Client Setup Roadmap” on page 88](#) and [“Client Interface Setup Roadmap” on page 91](#).
- **Easier IDMDS Setup.** IDMDS Setup now provides easier installation and initial library system configuration. Refer to [“IDMDS Installation Settings” on page 113](#) and [“Installing a Library System on a Windows NT Server” on page 118](#) or [“Installing a Library System on a Windows 2000 Server” on page 119](#).
- **Initialization parameters moved to registry.** Library system initialization parameters have been moved from initialization (*.ini) files to the Windows registry. Refer to [“IDMDS Name Change Details” on page 26](#).
- **IDMDS Configuration Tool.** A Windows Control Panel tool is installed on each library system server. It provides GUI controls for viewing (and in some cases editing) configuration parameters for the library system installation, Storage Manager, and Replication Services. It also provides controls for the User Import tool (see below). Refer to [“The IDMDS Configuration Tool” on page 163](#).
- **User Import tool.** Available via a tab of the IDMDS Configuration Tool (see above), the User Import tool can be configured to enable one-way synchronization of your library system groups and users with your network domain groups and users. Refer to [“IDMDS Configuration Tool User Import Tab” on page 179](#).
- **IDMDS Service Manager.** A service management tool is installed on each server, providing GUI controls for starting, stopping, and viewing the status of library system services. Refer to [“IDMDS Service Manager” on page 209](#).
- **Default Document Class.** A default Document Class (formerly called Document Type) is now created during installation or upgrade of a library system. Refer to *IDMDS Document Class and CVL Online Help*, available via IDMDS Explorer.
- **Windows NT logon support.** Windows NT logon is now supported as a simplified alternative to using IDMDS logon for accessing library systems. Refer to [“Customizing Logon Procedures” on page 206](#).
- **Minimum Item Delete Access Level.** Owner access no longer implies the ability to delete items. In IDMDS 5.1, administrators can control this privilege by setting the System object's Minimum Item Delete Access Level property to either Admin or Owner. If set to Admin (the default), only

administrators can delete items. Refer to *IDMDS Explorer Online Help* for information on setting this property.

- **Replication Services improvements.** Replication is now supported for: Compound Documents, Annotations, Published documents (Renditions), Document Classes, and Controlled Vocabulary Lists (CVLs). Refer to [“Replication Services” on page 464](#).
- **Hierarchical Storage Management option.** Mass storage is now available for IDMDS repositories via FileNET DiskXtender software. Refer to [“DiskXtender HSM” on page 539](#).
- **Rendition Services option.** Rendition Services is an optional service that creates PDF renditions of documents stored in your IDMDS library system. Refer to [“Rendition Services” on page 505](#).
- **SLU reports.** Software Licensing Unit (SLU) Reporting adds the ability to log IDMDS concurrent user activity. You can track how much your system is actually being used, and you can ensure that your site is in compliance with current FileNET licensing contracts. Refer to [“SLU Reporting” on page 321](#).
- **Documentation formats.** IDMDS documentation has been restructured, and is now provided in two formats: HTML Help and Adobe Acrobat PDF. Refer to [“About the IDMDS Documentation” on page 8](#).

IDMDS Name Change Details

The following tables list the major name changes that have been made for Panagon IDM Document Services 5.1.

***IDM Document Services* CD-ROM Directory and File Name Changes**

Previous Name	New Name	Description
<i>Drive:\Sdsbo</i>	<i>Drive:\Setup</i>	Directory containing the IDMDS Setup program
<i>Drive:\Mezz</i>	<i>Drive:\Idmids</i>	Directory containing the files for performing silent install or uninstall, and the subdirectories containing the actual installation files
mzsetup.exe	dssetup.exe	Command-line IDMDS installer
mzuninst.exe	dsuninst.exe	IDMDS uninstaller
mzsetup.pdf	dssetup.pdf	Package definition file for installing or uninstalling IDMDS via Microsoft Systems Management Server

Installed Library System Directory and File Name Changes

Previous Name	New Name	Description
<i>Drive:\Saros</i>	<i>Drive:\Idmids</i>	Default top-level installation directory for new library systems (remains <i>saros</i> for upgraded systems)
mez_conf.ini	n/a	Library system initialization parameters have been moved to the Windows registry.
shf.ini	n/a	Storage Manager initialization parameters have been moved to the Windows registry.
repl.ini	n/a	Replication initialization parameters have been moved to the Windows registry.
mez_strt.exe	dsstrt.exe	Command-line utility for starting library system services

Previous Name	New Name	Description
mez_info.exe	dsinfo.exe	Command-line utility for reporting the status of library system services
mez_stop.exe	dsstop.exe	Command-line utility for stopping library system services
saros.ftl	fultext.ftl	Content Search Manager variants file
saros.fts	fultext.fts	Source file for the Content Search Manager thesaurus
saros.fth	fultext.fth	Compiled Content Search Manager thesaurus
mzstatus.log	dsstatus.log	Log file containing IDMDS status information.
mzsetup.log	dssetup.log	Log file of setup results, including any errors generated.

Problems Fixed in this Release

The following problems have been fixed in IDMDS 5.1. Problem descriptions include the associated Failure Record (FR) number for reference.

- New content search indexing filters have been added (OIVT 6.0). Fixes indexing problem experienced when customer-supplied Microsoft Excel (.xls) file appeared to block indexing. (Indexing was not actually blocked, but would hang until the csindex timeout was reached, as designed.) (FR 5990)
- Autocad (.dwg) documents can now be indexed for content based retrieval. Previously the only type of Autocad documents supported were Autocad Interchange (.dwf) files. (FR 2982)
- The INDXDATE utility previously indexed all versions, ignoring the Indexed Version Limit property. To ensure that the Indexed Version Limit is observed, an item search will now always be done whether or not the user specifies it. All versions that are online and were last accessed prior to the specified date will be indexed up to the Indexed Version Limit. If some of an item's versions are archived or are after the date, the total number of indexed versions may be less than the Indexed Version Limit, but never more. You may notice an impact on performance when comparing to earlier versions in which item searches were performed only when specified. Deindexing and reindexing will apply to all versions prior to the specified date, regardless of the Indexed Version Limit. (By definition, reindexing only applies to versions which already have a status of Indexed.) (FR 3112)
- Content search has been optimized for use of JOIN vs. SUBSELECT statements, resulting in considerably faster search performance in many cases. (FR 3221)
- The REPCHECK utility is no longer case-sensitive with respect to file names. REPCHECK tries to validate shelf file names to filter out files that may be in the repository by mistake. Prior to this fix if an uppercase file name was found, REPCHECK did not recognize it as a library system file and moved it from the storage repository to the lost+found directory and reported it as lost offline. (FR 5366)
- Default index ID now used. Previously, if no content search repository was specified when a storage category was created, an error was generated. When you added an item with the index flag set to that storage category it generated Error 16542 "The content search index ID cannot be accessed or does not exist." (FR 5396)
- Indexing filters distributed with IDM Document Services now match the viewer filters for IDM Desktop. Previously, the filter set shipped with IDM Document Services was older than the view filter set installed on the IDM Desktop clients, resulting in indexing problems. (FR 5603)
- The SRDELETE utility now reports the correct date. Previously, when run with the system date set to year 2000, SRDELETE reported the date as year 101. (For example Feb 29, 2000 was reported as Feb 29 101.) (FR 6990)

Current Notices

The following notes describe known problems or critical information for this release. Where applicable, each note includes the associated Failure Report (FR) number for reference and tracking purposes.

Installation and Upgrade Issues

- **Caution** If you are upgrading from IDMDS 5.0 to IDMDS 5.1 and you are storing compound documents, you must run UPDBEFORE before the upgrade and UPDAFTER after the upgrade. Otherwise, the relationships among the files in each compound document will be lost. The utilities are provided in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to “UPDBEFORE” on page 425 and “UPDAFTER” on page 424 for information on using the utilities.
- If you install IDMDS on a machine with an incorrect OEM code page, you will receive a warning message informing you which code page to use for proper support of accented characters. This warning will not otherwise affect completion of the setup, however, using the wrong code page can lead to improper storage of accented characters in the library system. This, in turn, can adversely affect users' ability to retrieve data and documents. (FR 6285)
- The Dsuninst program does not delete the subfolder for the library system from the Repl folder. (FR 8064)
- If you abort an IDMDS property server installation after the IDMDS executables are copied to the server but before the default Document Class is created, you must delete and re-create the library system database before performing reinstallation of the property server. If you do not do this, the default Document Class will not be created. (FR 11537)
- Only one top-level installation directory per server (property server or remote storage server) is allowed. The default name for this directory is **Drive:\ldmids**. You can assign a different name during Setup if you wish, but if you install multiple library systems using different top-level directory names, there is potential for serious problems in your registry if you do not follow these rules: you must either (1) be sure to use the same top-level directory name on ALL servers, or (2) NEVER install/re-install library system services with different top-level directory names on the same machine. (FR 12003 and FR 12142)

Examples of what NOT to do:

- On a remote storage server, DO NOT install two Storage Managers that reference two different property servers, each of which has a library system installed in a top-level directory of a different name. In other words, if multiple property servers have remote Storage Managers installed on the same remote server, the top-level directory must be named the same on ALL of the servers.
- DO NOT restore a library system that was originally installed with one top-level directory name (for example, \ldmids) onto a different server that already has existing library system components installed in a different top-level directory (for example \Filenet).

- DO NOT install a library system using one top-level directory name (for example, \ldmids), then uninstall it and install a different library system (different database) on that server using a different top-level directory name (for example, \Filenet), and then re-install the first library system with the top-level directory name \ldmids.
- The Dssetup installer will fail if you put a space in the top-level installation directory name. Dssetup should produce an error message saying that spaces are not allowed. For example, if you attempt to use 'IDM DS' as the top-level directory name Dssetup installation will fail. (If you were to attempt this with IDMDS Setup, an error message would be displayed and the name would not be accepted.) (FR 12379)
- Reinstalling a library system does not create the *SSLibrarySystem* ODBC Data Source correctly if the content search repository is on a drive other than C: (FR 13708)
- FileNET strongly recommends that you do not run remote-control software (such as PC Anywhere or LapLink) on IDM Document Services servers. This is particularly true in Wide Area Network (WAN) environments. The use of such remote-control software can cause network-related problems (for example, timeouts that interfere with client-server communication). (FR 14530)
- On a system with English Windows NT, with regional settings of Czech and enabled Czech keyboard, you are unable to type uniquely Latin2 characters into the dialog boxes during IDMDS installation. For example, if you try to enter a uniquely Latin2 character into a name such as Admin, Administrators group, Default Document Class, the character is displayed in the dialog box as a completely different character. (FR 15101)
- During an upgrade, the **shf.ini** file is not removed. This file is no longer needed because all of the Storage Manager initialization parameters that it contains have been moved to the Windows registry. (FR 19387)
- When running IDMDS command line utilities, you must enter accented characters on the command line. Letting the system prompt you for input, may cause problems due to codepage compatibility issues. (FR 21980)
- The User Import Tool (**DIRSYNC**) cannot add groups that contain more than 32 characters. (FR 22706)
- On a storage server containing IDMDS 5.1 Replication Services, running UPDATE to install the IDMDS 5.1.1 Service Pack unexpectedly removes the associated library system's entry in IDMDS Service Manager. (FR 22798)
- You cannot install IDMDS 5.1.x using the 2.0 version of SMS. SMS delivers the package to the advertised collection correctly, but the IDMDS setup program quits as soon as the installation begins. (FR 22975)
- If you use the DSSETUP installation program during an IDMDS 4.3 to 5.1.x upgrade, and you either ignore the Administrator name/password prompts or enter incorrect values, the program will continue but will not create the necessary default document class or the custom properties required by IDM clients. (FR 23092)
- If there are more than two users still logged in to a library system when you run the UPDATE program to install the IDMDS 5.1.1 Service Pack, the program cannot load the database correctly. The fact that the Storage Manager is shut down and logons are disabled does not preclude the possibility that

multiple user sessions could still be open. Be sure that ALL users are logged off the system before you run UPDATE. (FR 23187)

Configuration and Operation Issues

- If your library system's display language is either French or German, the string "Content Search Threshold" in the User object are displayed in English. (FR 2883)
- In the DocClass and CVL Administration Tool, the DocClass name DOCTYPE_CONTROL_OBJECT doesn't fit within its list box unless you resize the list box. (FR 3189)
- The value range for integer custom properties is -2,147,483,648 to +2,147,483,647. Entering a value outside this range will cause an error. The '+' sign is assumed unless an explicit '-' is entered. Positive values are allowed 10 characters; negative values 11 (to accommodate the '-' sign). (FR 3485)
- Running the REPCHECK utility in fix mode or the CSADMIN utility in rebuild mode has the potential to fill your transaction log. Refer to [“REPCHECK” on page 410](#) and [“CSADMIN” on page 377](#) for information on how you can avoid this problem. (FR 5194)
- A bug in the FrameMaker filter file causes indexing to fail for FrameMaker 5.5 documents. (FR 5669)
- Because of limitations imposed by Windows NT on the number of files that can be efficiently stored in a single folder or directory, Microsoft recommends not to add more than 10,000 documents to a single storage repository. Severe operating system performance problems will arise if you exceed 15,000, either through normal usage or while doing a bulk add. Therefore, before performing a bulk add operation, you should verify that no more than 10,000 documents will be added. (FR 6035)
- Do not use the Euro character or other non-alphanumeric or special characters, such as `~!@#%&*()_+ -=[]\}|;':",./<>?` in IDMDS database (library system) names. Also, do not use these characters in IDMDS object names, such as group names, user names, search names, etc. (FR 9389)
- An item search with an OR on keyword returns invalid results. For example, a search with the following criteria: "Item ID=*valid_ID* OR Keyword = *valid_keywd*" only returns items containing a keyword. Note that if the item searched for with the Item ID happens to contain a keyword, it IS also returned. (FR 9451)
- If your IDMDS 4.3 library system contains a custom property named "Document Class" and DocTypes were not defined for this library, you must rename this custom property prior to upgrading to IDMDS 5.1. To rename the custom property, use FileShare to modify both the display name and the property name. This is necessary because during the library system upgrade, the installer creates a custom property named "Document Class" that is used to define all DocTypes for this library. This renaming must be performed on *all* library systems prior to upgrade. (FR 17944)
- If the maxRows parameter is set to a value greater than 1000, a content search that returns more than 1000 hits will cause a General Protection Fault. (FR 18443)
- When you delete a source document that has more than 100 published source-dependent documents created via IDMDS Rendition Services, the system does not delete all of the published documents as expected. (FR 18549)

- If you choose the Indexing option from the IDM Desktop Publishing Wizard, IDMD5 will not queue the published document. To index the published document, turn on indexing from the IDM Desktop's Document menu. (FR 19757)
- Under Windows 2000, DSSTATUS fails to display the correct Replication Service status. Users can start and stop Replication Services on a local system, but on remote systems in the Windows 2000 domain, DSSTATUS will erroneously indicate that the service is not installed by displaying an "X" instead of a start/stop indicator. (FR 20636)
- If you use a browser to access an IDMD5 5.1.1 library system via IDM Web Services 3.1 running on a Windows 2000 web server you will not be able to log on to an IDMD5 library system when system logging is turned on with trace enabled. (FR 21528)
- If you rename or move the **proc.dat** file for CAT_PROC, it will return a message saying it failed to open the file **proc.dat**, but the restore was performed successfully. This message is wrong; the restore was not performed. (FR 21977)
- If you use the IDMD5 Explorer to add a new multivalue custom property while Replication Services is running, new values for that property will not start replicating immediately on all the associated library systems. You must either (1) stop and restart Replication Services on all the library systems or (2) expect to wait up to 6 hours to use the property (because the replication daemon checks for any new multivalue custom properties every 6 hours). (FR 22523)
- If you set the DB Threshold value in the IDMD5 Configuration Tool Storage Manager Tab to 0, restarting the Storage Manager for that system will result in a Dr. Watson error. (FR 22666)
- Under Windows 2000, if you add a group using the User Import Tool (DIRSYNC) and then manually delete the group from the domain controller, the User Import Tool will not function properly. The group and its users will remain in the IDMD5 system. (FR 22710)
- When you have two network domain groups with the same name but from different domains, and you allow the User Import Tool to import them into IDMD5 5.1.x, the tool will import the group appearing first in the Selected Groups list as expected, but will unexpectedly import the users from the second group. (FR 22772)
- The User Import Tool does not correctly accept a setting of "Default" for the Secure Searches value when importing users and groups. Instead, the value is always read as "Yes," and the system sets the Secure Searches properties incorrectly to that value in the resulting User and Group objects. (FR 22867)
- Using the NOT LIKE operator to search on properties that contain null (empty) values may return incomplete results. (FR 23035)
- Uninstalling IDM Desktop 3.1 from an IDMD5 5.1.1 server will remove the ODBC data source used by IDMD5 5.1.1. If you uninstall IDM Desktop 3.1, use the ODBC Data Source Administrator tool (available from the Windows NT Control Panel) to add another data source for the IDMD5 server. Select the System DNS tab, click Add, select the SQL Server driver, and then click Finish. This will start the "Create a New Data Source to SQL Server" wizard which you can use to add the data source. (FR 23755)

Replication Issues

- Restoring a replicating library system to a server with a different name has not been certified for this IDMDS release. If you attempt to restore a library system to a server with a name other than that of the server on which the library system was originally installed, Replication Services will not install and the following error message will be displayed:

```
Setting up replication daemon on Drive
A replication daemon is already installed for
library LibrarySystem on server ServerName.
No replication change at this time
```

Please consult with FileNET Customer Support Services or Professional Services before attempting to make this change. (FR 12670)

- The DSINFO utility does not report the status of Replication Services when Replication Services are installed on a standalone machine. Replication status will only be reported if the associated Storage Manager is installed on the same server as Replication Services. (FR 14746)
- Upgrading an existing IDMDS library system that already participates in Replication Services requires a special utility. Check the Troubleshooting link on [FileNET Worldwide Support](#) for the IDMDS patch containing the Replication Services upgrade utility. Do not attempt to upgrade your library systems until the utility is available. (FR 16508)
- Do not place IDM Desktop stored searches in Replication folders. Any associated custom properties in the searches may not map correctly to comparable custom properties in the other library systems; thus, the replicated searches will return unexpected results. The IDMDS 5.1.1 Service Pack, contains a fix that will restrict stored searches from being replicated. Refer to ["IDMDS 5.1.1 Service Pack" on page 13](#). (FR 18401)
- You cannot copy a parent compound document into a replication folder. (FR 19607)
- If you want to uninstall just Replication Services, you must do it from the command line. Type:


```
drive:\idmds\Repl\util\inst_rep -U
```

 Use the -h flag to get command line help for **inst_rep**. (FR 20944)
- Folders are not replicating as expected on IDMDS 5.1.x library systems, especially when there is a large number of folders to replicate (100 or more) and the folder hierarchy has multiple levels. (FR 21401)
- The USRGRPCHK and USRGRPMIG utilities do not correctly map non-default names for the Admin user, Administrators group, and General Users group created during IDMDS setup. For example, suppose you have two library systems that are members of a replication administrative domain. On one of these systems you accepted the default name of *General Users*, on the other you assigned the name *Universal Users*. You run USRGRPCHK and discover that "CORRUPT REPLICA" messages are logged for perfectly valid replica users and "DUP MASTER" messages stating that "the two masters differ" are logged for otherwise identical users. You can safely disregard these messages. For more information about these utilities and the messages they generate, see ["USRGRPCHK" on page 426](#) and ["USGRPMIG" on page 434](#). (FR 22273)

- The DTCVLCHK utility may produce spurious messages about CVLs differing on upgraded library systems. If you modify CVL data (via the DocClass and CVL Administration tool) on a library system that has been upgraded from IDMDS 4.3 to 5.1, DTCVLCHK may produce a message indicating a difference with a seemingly identical CVL on another library system. This is a benign error message caused by internal database issues; you can safely ignore it. For more information about this utility, see “DTCVLCHK” on page 387. (FR 22342)
- If you are using Replication and add a new multivalue custom property, you must stop and restart the Replication Service(s). (FR 22523).
- Even if you have configured the Index Replicas setting to be ITEM, current behavior is that manual index/de-index operations you perform on a source version of a replicated document do not cause IDMDS to perform the same operations on the replicas in the other replication library systems. Such replicated behavior occurs only if you do the indexing/de-indexing while adding a new document or checking in a version. (FR 22940)

IDMDS Overview



For information on:

The basics of Integrated Document Management and IDM Document Services

How objects and properties are used in a library system

How IDMDS stores and archives documents in a library system

The search features available for finding information in a library system

How versions of the items checked into a library system are managed

How documents stored in a library system are protected against unauthorized access

Refer to:

“What is Integrated Document Management?” on page 36

“The IDMDS Library System” on page 39

“Objects and Properties” on page 41

“Document Storage and Archiving” on page 45

“Searching for Information” on page 47

“Version Tracking” on page 49

“Library System Security” on page 51

What is Integrated Document Management?

Corporate information comes in many forms, from print to voice to electronic. An integrated document management system spans an entire enterprise, from site to site, across LANs and WANs, enabling all the people in your organization to access, protect, share, and manage corporate information.

An integrated document management (IDM) solution generally includes:

- Network-wide search and retrieval
- Logical, not physical, references to storage locations
- Object-oriented approach
- Version control
- Multilevel security
- Network administration tools
- Flexible and open technology
- Load balancing and scalability of distributed services

Network-wide Search and Retrieval

FileNET IDM systems allow documents to be identified using plain language titles and property names, not cumbersome file names.

End users can search for documents based on their properties and/or their content. Regardless of the user's location or the file's location, complex path commands with coded document names are never required. Documents are checked out of and checked in to the FileNET IDM system for updates and revisions. One simple end user command transparently saves, tracks, and archives any document.

Logical, Not Physical, Storage Pointers

Unlike conventional document management packages that rely on physical file locations, a FileNET IDM system does not require users to have any knowledge of where documents are actually stored. In fact, users are shielded from that knowledge, providing an added layer of security for the documents and the network.

Document management systems that use physical pointers require constant supervision and cumbersome revision as networks grow and change. Moving files, adding users, adding or changing directories means updating every single workstation individually. With a FileNET IDM system, such system changes can be handled centrally by the network administrator.

Object-Oriented Approach

A FileNET IDM system encapsulates all types of files and objects. Each object is described by properties such as description, security, and administration. Actions are performed against objects using these properties as variables. In this way, an ordinary file becomes an "intelligent" document because, regardless of how or where it is used, the document retains its properties and always knows who is authorized to view it or make edits, where it is to be stored on the network, and how it is to be administered and archived.

Version Control

When a user opens a document for editing, it is designated as checked out. The user is always provided a copy of the particular version of the document, and the original copy of that version remains protected. Other users who try to access a document version that is checked out are notified that it is checked out and by whom. A FileNET IDM system can be configured to allow or restrict multiple checkouts of the same document version. When the user is finished working with a checked out version, he or she can check it in. The FileNET IDM system retains the old version and automatically saves the checked in document as a new version. Once the checkin is completed, the old and new versions of the document become available for check out to other users. When users access the document, they are free to check out the most current version or go back to older versions as needed.

Multilevel Security

An access control list is created for each document added to a FileNET IDM system. This access control is part of the document's properties and is independent of the document's location on the network. In this way, authorized users have access to the information they need, no matter where they or the documents are physically located. Yet all stored documents are well protected, because only the documents that each user is authorized to see will be displayed as the result of a search.

A FileNET IDM system controls who can create new versions of any given document, regardless of data type, application used, or storage location. Security levels determine access rights such as *Owner*, *Author*, *Viewer*, or *None*. The only access to documents is through the FileNET IDM system. File names are encrypted and users are prevented from bypassing the FileNET IDM system to access files via the network operating system.

Network Administration Tools

FileNET IDM systems include a Windows[®] based administrative tool. Network administration tasks such as adding new servers, designating new storage locations, or adding new users and groups can be performed at any time, no matter how many users are online.

Flexible Open Technology

FileNET IDM systems are designed to work with virtually every combination of user interface, application, and hardware/software. Creation and maintenance of general office materials (including enterprise, departmental, workgroup, and personal documents), legal document management, email, as well as document imaging may all be handled through a common repository. This means that no matter

how many platforms or environments are used across the network, all enterprise applications are interoperable. Additionally, any enterprise can take advantage of IDM Desktop (and, if necessary, IDM Document Services) API programming functions to build custom enterprise applications as future needs emerge.

Load Balancing and Scalability of Distributed Services

No matter how an organization's workload grows and changes across departments or divisions, the FileNET IDM system's queue management and load balancing features ensure a consistent working environment for end users. All user requests for documents are processed through efficient multithreaded or multiprocess services, allowing simultaneous requests to be processed in parallel. If a server reaches its processing limit, the request is automatically handled by another server. FileNET IDM systems evenly allocate document storage as well. If the traffic load becomes too great, additional servers can be added without changing network performance for end users.

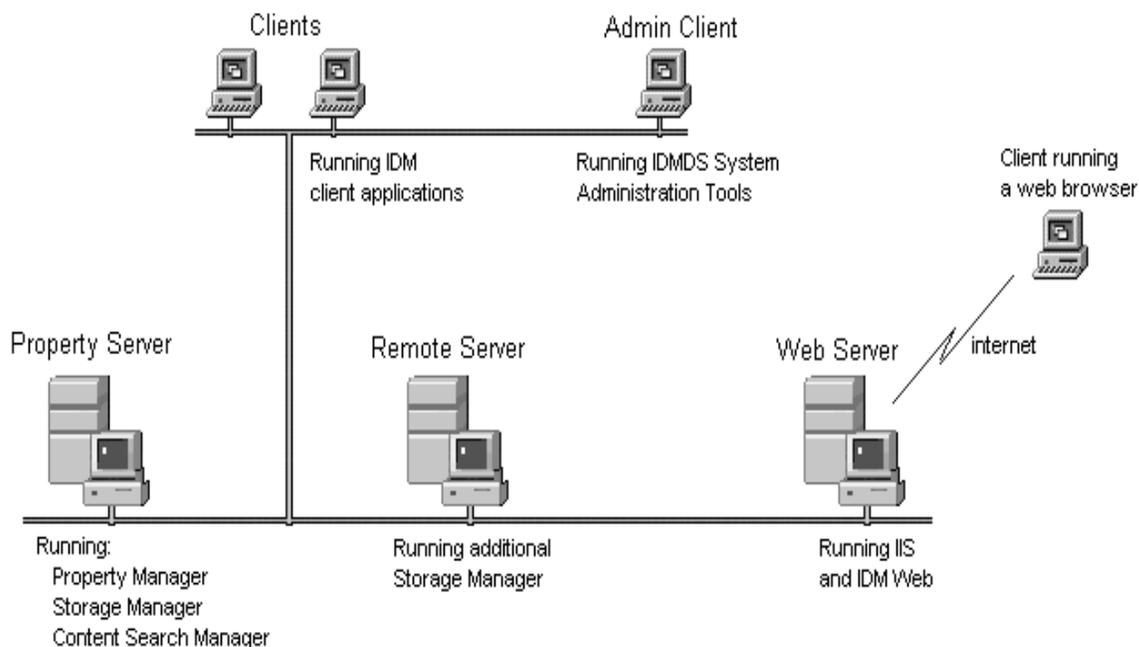
The IDMDS Library System

IDM Document Services (also called *IDMDS* or simply the *library system*) provide server-based document management that can be accessed via the IDM client interface using applications such as IDM Desktop or IDM Web. An enterprise, especially if it's spread across various sites, may have multiple library systems, depending upon sizing and load balancing considerations.

A typical library system comprises a minimum of the following components:

- One or more library systems.
- One or more administrative clients.
- One or more document management clients (such as IDM Desktop).
- One or more application solutions (such as IDM Web for intranet/internet access).

As you can see in the following illustration, each library system has a set of sub-components that you install and configure to provide the services for your various client-based users.



A Basic Library System

Each library system acts as an information storehouse. The Property Manager stores and manages object properties (users, groups, system, and custom properties) and metadata describing your cataloged documents. The Storage Manager stores the actual documents and process requests. The Content Search Manager provides document content-based indexing and searching capabilities.

Objects and Properties

An IDMS library system is based on an object-oriented architecture: users and administrators add instances of objects to the library system which then manages these objects. Objects represent real things, such as electronic files, hard-copy documents, drawings, users, groups, and library system components. Although a library system manages many different types of objects, those that users will work with most frequently are:

- Items
- Versions
- Users
- Groups

Of these objects, users will add only items and versions to the library system. Although you may give users the access privileges to add and modify User and Group objects, you usually take care of adding users, groups, and many other objects that will help you manage the library system and help your users manage their documents.

When something such as a document or user is added to a library system, the system creates an instance of the related object for it (in this case, the Item or User object) and catalogs the properties describing this object in an electronic property repository.

The library system automatically assigns values for some properties. For example, when you add a user to the library system, a value is automatically assigned to the Date Added property. There are other property values of the User object that you can assign when you add the user to the library system, such as the values you want to assign to the User Name and Comment properties.

Some properties require values when you add an instance of an object. For example, when you add a user to a library system, you must assign a value for the User Name property in the User object.

For Item, Version, and Checkout objects only, there are properties called custom properties, which you can define yourself. For example, if a particular library system has been installed in a word-processing environment, you might create custom properties such as Subject, Author, Work Order Number, and Supervisor for your Item or Version objects.

Protected Items

When you add a document to a library system, you usually add it as a protected item. It is called "protected" because the library system physically stores the document, thereby protecting it from unauthorized access, inadvertent removal, and more.

Protected items can be documents that were created by any application (for example, word-processing documents, financial spreadsheets, images, audio, tables, and so on).

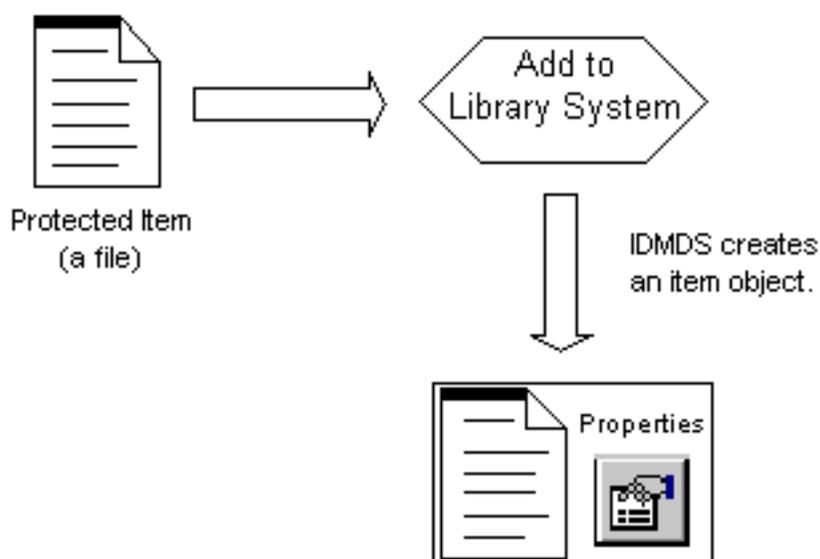
Unprotected Items

A library system also lets you control and manage unprotected items (external documents), which are items that are not physically stored in the library system but are tracked for easy management. This capability is especially useful for items that are stored in special locations, yet still require version tracking or controlled access. Some examples are: magnetic tapes, printed technical manuals, printed engineering drawings, and software source code listings.

Although the unprotected items added at most sites represent these kinds of physical objects, unprotected items can also be electronic files that you do not want to store in the library system.

Document Versions

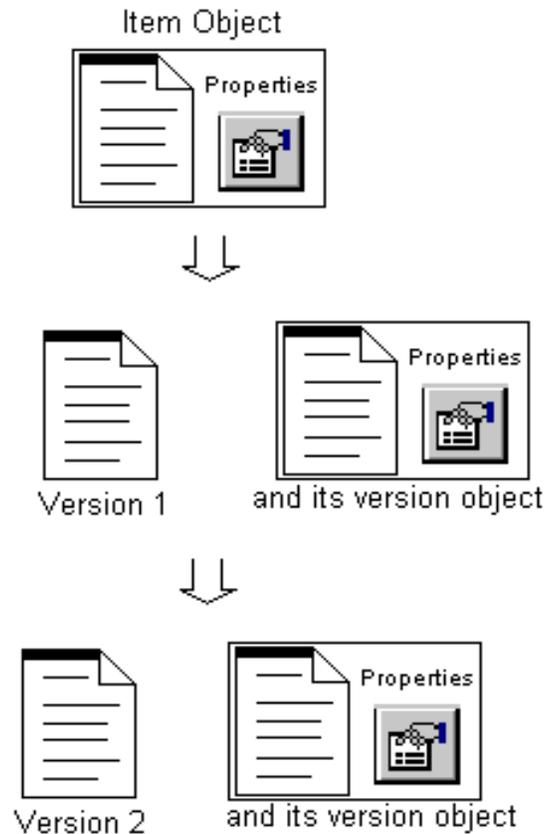
Versions are always associated with a document. When a document is added to a library system, an instance of the Item object is created to describe its general features or properties: the author, the date it was added, the original file name, and so on.



Adding an Item to a Library System

At the same time that an instance of the Item object is created to generally describe the document, an instance of the Version object is created to uniquely identify the first version of the document. This Version object includes information such as the user who created the version, the date the version was created, and any comments about what makes this version unique.

A Version object acquires more meaning as revisions are made to the document. If you were to modify version 1, for example, you would be expected to save the new revision as version 2 of the document. As a result, a second instance of the Version object would be created to describe who made the changes, when the changes were made, and any comments you might have.



Item and Version Objects

Each time you create a new version of a document, the library system creates a new instance of the Version object to uniquely identify any changes. Thus, each document has one instance of the Item object to describe the original document and, possibly, several instances of the Version object, each one identifying a revision of the document.

Users and Groups

Before anyone can access the information managed by a library system, you must first add that person to the library system as a user. In doing so, an instance of the User object is created to describe who that user is and what privileges he or she has been assigned.

When users are added, they are automatically included as a permanent member of a universal group (*General Users* by default). You may also assign the user to the administrative group (*Administrators* by default). All users working as members of the Administrators group have the highest level of access rights and system-wide privileges. The General Users group and the Administrators group are created automatically when you install a library system.

Note During installation you can assign custom names to the universal and administrative groups in each library system at your site. However, once you have installed the library system, you cannot rename or delete either of these groups.

If you have added other groups to the library system, you can assign a user to one or more of those groups. Every group that you add to the library system has an instance of the Group object that describes the group, identifies the group members, and indicates the assigned privileges of the members. Groups are typically made up of users who work closely together and have common access requirements to documents in the library system. For example, for a library system oriented towards word-processing documents, you might create DataEntry, Supervisors, and Managers groups.

Refer to “[Library System Security](#)” on page 51 for a discussion of access control.

Document Storage and Archiving

Most users of a FileNET IDM system will probably have one basic objective in mind: to manage documents more efficiently. To meet this objective, they must first add their documents to a FileNET IDM system. They can forget about networks, directories, path locations, and file names. One of the greatest advantages of a FileNET IDM system is that users don't have to know anything about file storage to get their work done.

As an administrator, it's your job to determine the best way to distribute document storage across the network.

Storage Repositories and Storage Categories

Storage repositories are the directories or partitions you create for storing documents added to a library system. When a storage repository is added to a library system, a corresponding Storage Repository object instance is created. It contains several descriptive properties, including the system-assigned storage repository ID, the directory path, and the network name of the server on which the storage repository resides.

Storage categories are groupings of documents that have common storage requirements. You define the storage categories that best suit a particular library system. For example, if you are administering a library system largely oriented to word-processing, you could define its storage categories as Documents, Graphics, and Memos. On the other hand, if you are administering a library system oriented to financial data, you could define its storage categories as Spreadsheets, Charts, Schedules, and Miscellaneous.

Your job is to link the storage categories to the appropriate storage space, as represented by the storage repositories you assign. For example, if you were administering the word-processing library system mentioned above, you could assign the Documents and Graphics storage categories to a storage repository on a device with a large amount of space, and assign the Memos storage category to a storage repository on a device with less space allocated.

Archive Repositories and Archive Categories

Since each document in a library system has one or more versions, the amount of data in a system's storage repositories could eventually grow beyond reasonable limits. Each library system uses parameters you establish to begin the process of moving offline some (or all) document versions.

Archive repositories are the directories or partitions you create to temporarily store the versions that are moved offline by the archiving process. You can manually archive versions, or you can specify an online version limit and let the library system handle the process for you automatically.

Like storage categories, archive categories determine where a library system moves the archived document versions. For each library system, you can assign the archive categories unique names appropriate to the offline storage capabilities of that library system. For example, for a library system that

archives files onto tape, sends them to a printer, or simply deletes them, you might set up archive categories named: Tape Archive, Print Archive, and Delete Without Backup. For another library system you could assign names such as Six-Month Hold, Old Docs, and Trash.

Whether or not a user can reclaim (to online status) the document versions handled by these archive categories depends on the needs or limitations of the particular library system. You can designate each archive repository as reclaimable or nonreclaimable. A library system also provides an option for the archive process to immediately delete versions from specified nonreclaimable archive repositories.

Searching for Information

Just as users don't need to know anything about document storage to add documents to the library system, neither do they need to know where the library system stored their document to be able to access them. Instead of forcing users to access information based on path locations and file names, users find documents simply by describing them.

For example, suppose a user added a document yesterday and gave it these property values:

Property	Value
Author	Jean Giono
Title	John Berger and I
Department	Pyrenees

Now any user with the appropriate access rights can find the document by searching on any of the values listed above. For example, you could search for all documents whose author is Jean Giono. This search would return a list of all the documents he had ever added to the library system. To narrow this search, you could request only those documents added to the Pyrenees department. The more specific your search criteria, the more precise your search results will be.

Provided you have the appropriate access rights, you can check out a version of the document listed in your search results. The library system delivers a working copy of the version to your client workstation.

Most, if not all, library system client applications provide searching capabilities based on properties. They may also provide search facilities based on the content of documents.

Content Searches

With the optional Content Search Manager installed in your library system, users can search for files based on words or phrases in the file contents.

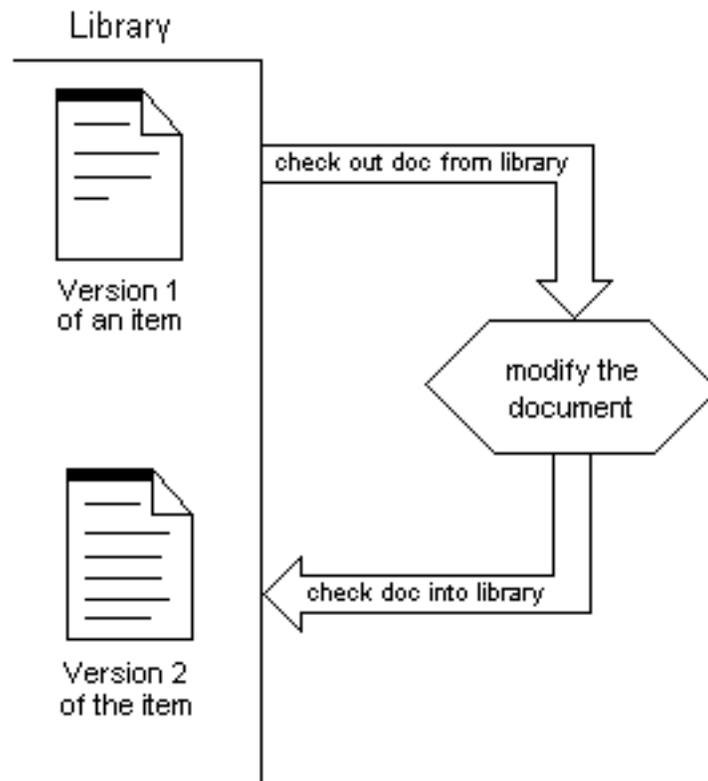
The IDMS Content Search Manager supports the following content search features:

Feature	Description
Basic Boolean searching	Allows use of AND, OR, and NOT search operators to indicate relationships between query statements.
Proximity searching	Allows queries for text found within a specified number of characters.
Wildcard searching	Allows use of * and ? as wildcard placeholders in queries for all words or phrases containing specified portions of text.

Feature	Description
Stopword list	Provides a list of words that will not be included in any searches, such as <i>a</i> , <i>an</i> , and <i>the</i> .
File filters	Allow files created in particular applications (for example, Microsoft Word) to be indexed in ASCII format for content searches. The third party filters which the library system uses during indexing have a limited ability to index ASCII files. Some ASCII files may not be recognized and will be passed over.
Embedded variants file	Allows searching for word variants based on character substitution.

Version Tracking

Each time you add a document to a library system, you create the first version of that document. Each time you check out and check in the document, you create another version. The following figure illustrates this process.



Version Tracking

Whenever you check out a document, the library system ensures that you are always working with the latest version of the document (unless you specify otherwise).

The version history of your documents is protected, because the library system delivers a copy of the document version you check out. This is important in situations where you may accidentally delete an important section of a document. If this happens, you can always cancel the first checkout, check out a new copy of the file, and make the necessary repairs. With this safety feature, the library system ensures that the original document for each version of a protected item is safely stored on the network.

As an administrator, you can also cancel the checkouts of other users. For example, you might find this feature useful if a user has left the company and forgotten to check in all his or her checked out versions of particular items.

Version Lines

Each time you use IDM Desktop (or some other library system client application) to check out the current version of a document and then check it back in, you are adding a new version of the document. The sequence of versions created by this process, as shown in the diagram above, is referred to as the primary version line. In the primary version line, versions of a document are sequentially numbered in the order in which they were checked in (1 through 9999). By default, you receive the current version when you check out a document.

Note Secondary version lines are not supported by FileNET client applications, but may be supported by customer-developed client interfaces. Refer to the *IDMDS Explorer Online Help* for information about the Allow Secondary Version Lines? property of the Item object.

Library System Security

Another powerful feature of the library system is the security it provides for your important information. Each time you or any other user adds a document to the library system, you determine the document's descriptive properties and its associated version files and properties that users and groups will be able to access. You provide this information using the document's Access List property. For further security, there is also an Access List property for all users and groups.

By strict definition, only three objects contain an access list: the User object, the Group object, and the Item object. However, access rights to entities without access lists (such as versions) are passed down through "parent" objects (such as the Item object). So, the library system provides a simple way to set up and maintain access control, yet allows this security to be as controlled or permissive as necessary.

There are five levels of access rights in a library system:

Access Level	Privileges Granted
None	None. If no other access level is stated in the access list, access rights of None are assumed. An access level of None can also be explicitly stated in an access list.
Viewer	Generally, the ability to view the object properties or to make copies of the associated versions.
Author	(Applies to documents and versions only) Viewer access rights <i>plus</i> the ability to check out, check in, and copy associated versions and modify property values for the version. In addition, you may be allowed to modify designated custom property values for the document.
Owner	Author access rights <i>plus</i> the ability to delete documents, modify security, and modify most properties.
Admin	Owner access rights <i>plus</i> the ability to modify all property values. Active members of the Administrators group are automatically assigned Admin access rights to all properties, even though their names do not appear in any access lists. Users who are not members of the Administrators group can be explicitly assigned an Admin access level to the properties associated with particular objects.

Controlling Access through Groups

Although an access list can control access on a user-by-user basis, the lists would become long and difficult to maintain if they listed all possible users by name. To make access control easy to implement and maintain, the library system allows you to assign access rights to groups, because groups contain sets of users who have common access requirements.

Because a user may belong to more than one group in a library system, access control is determined by a user's *active group*, that is, the group in which a user is currently working. Thus, when users change their active group, their access rights to objects also change accordingly.

Using groups to control access greatly simplifies security. Suppose, for example, that there are seventy users in a library system, but these users all fall into three work groups: employees, supervisors, and a personnel department. Since there are also three groups with those same names, the access list for a document that corresponds to an employee's personnel record would need only three entries (one for each group), rather than seventy (one for each individual user).

If groups are created to match the way people work in an organization, their use in controlling access can ensure people will read and modify only the appropriate information.

How Access Lists Work

An access list contains information about the users and groups who have been assigned specific access rights to a particular object.

In IDMDS Explorer, this information is displayed as Access Control object properties. Each Access Control object contains three pieces of information:

- The name of a user or a group
- The type of name
- The access rights granted

Here are several Access Control objects:

Name	Type	Access Level
General Users	Group	Viewer
Tech Pubs	Group	Author
Leads	Group	Owner
Admin Assistants	Group	Viewer
Sally Kemp	User	Owner

Note Other interfaces may represent this information differently, but the access information stored in a library system is the same.

Notice the group called General Users in the example. Every user that is added to a library system is automatically made a member of the General Users group. This group provides a mechanism for adding all users to an access list in one simple entry. Another unique group in the library system is the Administrators group, whose active members have Admin access rights to all objects, even if the group is not specifically included in access lists.

Note During the installation of a library system, you can assign your own customized name for the General Users group and for the Administrators group in each library system.

To determine a user's access rights to a particular object, a library system uses the following search pattern and assigns the first access rights that apply:

1. Checks to see if the user is a member of the Administrators group.
2. Checks in the object's access list for an entry under the user name.
3. Checks in the object's access list for an entry under the user's active group.
4. Checks the access rights assigned to the General Users group, if included in the access list.
5. Assigns the user access rights of None.

Notice that this search pattern ensures that active members of the Administrators group always receive Admin access; thereafter, access rights specifically granted to a user take precedence over those granted to a group.

Access List Defaults

To ensure that each access list contains initial entries, a library system provides some defaults in the User, Group, and Item object. In User and Group object access lists, these defaults are standard entries that are always added, as shown in the following:

Name	Type	Access Level
(Added By User)	User	Admin
(User's Name)	User	Owner
General Users	Group	Viewer

The **Added By User** value is the user who added the object to the library system. This user and any user with Owner or Admin access rights can modify the values after the User or Group object has been created. The Administrators group always has Admin access rights, even though these rights are not displayed in the access list.

Default Item Access Lists

Another way a library system can help users control access to their files is by inserting default entries in document access lists so that the user does not have to provide the same set of entries each time he or she adds a document.

You can specify a set of default item access list entries for each user in his or her User object. Then, each time that user adds a document to the library system from any user interface, the access list of the

Item object is filled in with those specified defaults. Of course, to cover special cases, users can always change the access list of any documents they add, but they do not have to start from scratch with each document.

In the same way that you add entries to the default item access list in the User object, you can also specify them in Group objects and the System object.

Thus, the access lists of documents do not necessarily have a standard set of default entries. The library system does add default entries to the document's access list as the document is added, but to determine these defaults, the library system will check for entries in the Default Item Access List properties in the following objects and use the first such list with any entries:

1. The User object
2. The Group object for the user's active group
3. The System object

If all the Default Item Access List properties are empty, the library system uses the program default: the user who added the document is added with Owner access rights.

To understand how default item access lists work, consider the following example. At the law firm of Hunter and Bowers, senior lawyer Sarah Black is using IDM Desktop to add an item to a library system. She knows that her system administrator has given her active group (Attorneys) the default item access list (shown below), which will be applied to all documents added by the group's members.

Name	Type	Access Level
General Users	Group	None
Attorneys	Group	Author
Managers	Group	Author
Paralegals	Group	Viewer

The system administrator has left the Default Item Access List property blank in Sarah's User object because Sarah always wants the default access list for her active group to be applied. (Likewise, whenever Sarah changes her active group, the library system will apply the default item access list of her new active group.) She also realizes that since the default access list at her active group level does not mention her name specifically, she will receive the program default access rights for any user who adds a document and Owner access rights to the document that she is adding to the library system. And with Owner access rights to the new document, she can modify the entries in the document's access list at a later time if necessary.

Special Privileges for Custom Properties

You can assign access privileges for users to the custom properties in an Item, Version, or Checkout object (properties the administrator has defined specifically for the site) that are different from the access rights you assign them for the rest of the properties in that object. This tactic allows you to specify just what privileges (none, read, read/write, or write) users with the same access rights have to each custom property.

For example, consider a small chemical company where the employees fall into three groups: Management, Technicians, and Clerical. At this firm, a protected item is added to the library system for each chemical formula produced. The Item objects for these formulas contain several custom properties, but each group needs to read or fill out only a few values. Assigning special privileges to these properties ensures that the right group fills out the right values and that information can remain confidential.

The assigned privileges are:

Custom Property	Group	Privileges
Formula Name	Viewer	See (Read)
	Author	Modify (Read/Write)
	Owner	See (Read)
Toxicity Level	Viewer	Not see (None)
	Author	Modify (Read/Write)
	Owner	See (Read)
Status Assigned	Viewer	Not see (None)
	Author	Not see (None)
	Owner	Modify (Read/Write)
Enforced Security Code	Viewer	Not see (None)
	Author	Not see (None)
	Owner	Modify (Read/Write)

Secure Document Delete

With the IDMDS Secure Document Delete feature you can *scrub* your sensitive document files to prevent any possibility of recovery via disk recovery tools. Scrubbing a file means to overwrite its contents with a byte pattern before actually deleting them.

Refer to [“Secure Document Delete” on page 323](#) for details about functionality.

Refer to [“IDMDS Configuration Tool Storage Manager Tab” on page 166](#) for configuration procedures.

Planning Guide



For information on:

How to use this guide to plan a library system

Guidelines about the types of information you will need and who to ask

Guidelines about developing an implementation plan

A set of forms you can print and fill out when developing your implementation plan

Refer to:

“About the Planning Guide” on page 57

“Gathering Information” on page 58

“Designing Your Library System” on page 59

“Configuration Worksheets” on page 60

About the Planning Guide

Note Throughout this guide are references to worksheets that are provided to help you gather and analyze data, and then to plan and implement your FileNET IDM system. Refer to “[Configuration Worksheets](#)” on page 60 for the actual forms you can print.

Who Should Use this Guide

This guide is intended for FileNET® IDM Document Services system administrators and network planning personnel. It assumes you have:

- A basic understanding of networks.
- An understanding of the planning and configuration issues associated with networks.
- A solid working knowledge of the FileNET IDM products you will be using.

We strongly recommend attending the appropriate FileNET Training classes.

Purpose of this Guide

This guide helps you determine the information storage and access needs of your corporation and create a design for implementing an IDM system.

To do this, you will need to examine how information flows within your organization and what corporate information model best describes your company. While this is not necessarily a complex task, it must be done before you can properly design an IDM system that meets your needs.

How to Use this Guide

This guide describes how to use the series of “[Configuration Worksheets](#)” on page 60 that lead you through the planning process for your FileNET IDM system.

Throughout this guide, the word *document* will be used to describe any information that can be stored as an electronic file (word processing, spreadsheet, graphic, image, sound, project).

If you still have questions or concerns after reading this guide, please contact your FileNET representative.

Gathering Information



The first step in planning your Panagon IDM system is to gather information about the documents in your organization and how they move among users. The most effective way to do this is by interview, using the provided Configuration Worksheets. While this may seem time-consuming, we have found that it is the best way to consolidate and organize the details necessary for a successful library system implementation.

The goal here is to gather information about the nature and flow of information in your organization. This will give you the resources to design a library system that will meet your specific needs. Sites that have not taken the time to gather this information before beginning to implement have generally had to modify their systems after their initial setup.

Some of the information you will need is general descriptive data, intended to help you make decisions about your overall library system configuration (such as budgetary constraints that force you to design your system using one Property Manager for your entire site). Other information will help you to set up specific property values within your library system (such as the names of your users, the groups to which they belong, and what access rights they will need to specific types of documents).

Who to Interview

You may want to consider interviewing some of the following sources:

- Division Heads
- Department Heads
- Administrative Assistants
- Word Processing Managers
- Delivery and Document Handling Personnel
- Telephone System Manager
- Network Administrators (WAN and LAN)
- Receptionist

What to Ask

The Configuration Worksheets are designed to drive the interview process. Refer to [“Configuration Worksheets” on page 60](#) for guidelines on using these forms.

Designing Your Library System

The following topics, in conjunction with the [“Configuration Worksheets” on page 60](#), lead you through the steps for designing your FileNET IDM system. You will use the general and specific information gathered in the previous topic to assist you with your design process. Once you have completed these worksheets, you will find that the difficult part of the installation process--a good plan--is done.

Describe and Diagram Your LAN

The first step in actually designing your FileNET IDM system is use the [“LAN Description Worksheet” on page 74](#) to describe and diagram the major components of your LAN as they are planned for the proposed system installation. FileNET IDM system configuration and performance depend on the network as well as the client and server hardware and software configuration.

As you create your diagram, ask yourself the following questions:

- What do I have to do, if anything, to my current network to support a FileNET IDM system at the desired performance level?
- Do I need to add or upgrade any servers (including web servers)?
- Do I need to add or upgrade network links (such as communication lines, bridges, routers, hubs, segments, rings, etc.)?
- Do I need to add or upgrade any clients?
- Will my FileNET IDM system be based on one library system? Or do I want to share the load among multiple library systems, making sure that all users have access to the information required to do their work?

Estimate Hardware and Software Requirements

In the "Hardware and Software Requirements" worksheets, you will provide the detail necessary to actually install and configure your FileNET IDM system. Use the information you gathered in the previous topic, [“Gathering Information” on page 58](#).

After you have completed these configuration worksheets, draw a second diagram of your LAN, this time placing your FileNET IDM system within it. Check the loading and access to be sure they can meet your access and performance expectations.

Configuration Worksheets

The IDMS configuration worksheets are provided to help you gather and analyze the data you will need to plan your library system. As you interview your sources, you should ask the following questions.

Who?

Use the "Answering Who" worksheets when asking:

- Who will access the library system? Who does each user work with? How do these people work together (departments, project teams, functional or cross-functional work groups)? Refer to [“Users and Groups Worksheets” on page 62](#).
- Who will act as installer? System manager? Site administrator? Sub-administrator? Refer to [“Administrators Worksheet” on page 64](#).

What?

Use the "Answering What" worksheets when asking:

- What are the types of documents and what are their requirements? Refer to [“Document Description Worksheet” on page 65](#).
- What are the access rights of specific users/groups to each type of document? Refer to [“Document Access Rights Worksheet” on page 66](#).
- What is the network setup? What types of WANs, LANs, servers, and client machines are used? (This information is necessary because an IDM system depends upon the performance and integrity of the network to function properly.) Refer to [“Network Worksheet” on page 68](#) and [“LAN Description Worksheet” on page 74](#).
- What are your hardware and software requirements? Refer to:
 - [“Machine Requirements Worksheet” on page 75](#)
 - [“Library System Components and Sizing Worksheet” on page 76](#)
 - [“Client Application Requirements Worksheet” on page 78](#)
 - [“IDM System Requirements Worksheet” on page 79](#)
 - [“Property Manager Hardware Worksheet” on page 81](#)
 - [“Storage Manager Hardware Worksheet” on page 82](#)
- What are the budgetary constraints? Refer to [“Budgetary Constraints Worksheet” on page 69](#).

Where?

Use the "Answering Where" worksheet when asking:

- Where are the documents stored and accessed?
- Do all these locations have connections between them? What is the availability of these connections?
- Is remote access required?
- Are there other special considerations?

Refer to the ["Document Storage & Access Worksheet"](#) on page 70.

When?

Use the "Answering When" worksheets when asking:

- When is each site in your organization open for operation? Refer to ["Site Hours Worksheet"](#) on page 71.
- When is your network used most? least? Refer to ["Network Usage Worksheet"](#) on page 72.
- When are documents accessed at a given location? Refer to ["Document Timeframes Worksheet"](#) on page 73.
- When a disaster occurs, what is your recovery plan? Refer to ["Disaster Recovery Worksheet"](#) on page 83.

Document Description Worksheet

Use this table to determine the categories of documents in your organization and their specific requirements. List the document categories on the top (such as financial spreadsheets, engineering specs, manuals) and then provide the necessary information for each document category.

	D o c C a t														
Mission Critical, General Office, or Reference?															
Total # of files															
Predicted # of files over next year															
Predicted # of versions per file															
Avg size of file															
Storage Requirements															
# of unprotected items															
Performance expectations/needs															

Access Levels

Level	Rights Granted
Admin	Owner access rights <i>plus</i> the ability to modify all property values.
Owner	Author access rights <i>plus</i> the ability to modify most property values, including security, and to delete the document.
Author	Viewer access rights <i>plus</i> the ability to check out and check in the document and change a few property values.
Viewer	The ability to view and make copies of the document and view the properties.
None	None. The user doesn't even know the object exists.

Network Worksheet

Describe the following aspects of your existing network setup.

Network topology	
WAN	
Speed	
Performance	
Availability	
Bridges & routers	
Remote access - freq. & quan. of use	
LAN	
Network OS type & version	
Server speed	
Performance	
Network interface cards	
Server IP addresses	
Disk space	
Backup	
Freq. & quantity of use	
Client Setup	
Hardware	
Configurations	
Run software across network? from local disk?	
Web browser	

Budgetary Constraints Worksheet

List any budgetary constraints that could affect your library system setup.

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Document Storage & Access Worksheet

List the document categories on the top (such as financial spreadsheets, engineering specs, manuals) and then provide the necessary information for each document category.

	D o c u m e n t C a t e g o r y						
Storage requirements							
Storage location							
Access location							
Connections between storage and access sites							
Availability of connections							
Remote access?							
Special considerations							
Web access							

LAN Description Worksheet

In addition to completing the following LAN description worksheet, make sure you have a complete LAN diagram.

User/Network Info	Number	Descriptions
User Information		
# of LAN users		
Types of users		
Types of files		
# of files		
Avg. size of files		
Freq. of access		
Current response time		
Network Information		
NW OS type & version		
Total # of nodes		

Machine Requirements Worksheet

Indicate the number of computers required and a brief description of each type.

Component	Quantity	Descriptions
IDM property servers		
IDM storage servers		
IDM clients		

Library System Components and Sizing Worksheet

System #1 Name:

Specific Component	Value	Comments
Property server (name)		
FileNET IDM system name		
Size of property repository database system tablespace		
Size of database transaction (or redo) log		
Rollback database segment tablespace		
Temporary database tablespace		
Physical location		
Archive media		
# of users (w/ growth)		
# of storage repositories		
Disk space available		
Physical location		
Projected # of files (w/ growth)		
Storage server #1 (name)		
# of storage repositories		
Disk space available		
Physical location		
Projected # of files (w/ growth)		
Content Search Manager?		
# of content search repositories		
Projected content search repository sizes		

Specific Component	Value	Comments
Storage server #2 (name)		
# of storage repositories		
Disk space available		
Physical location		
Projected # of files (w/ growth)		
Content Search Manager?		
# of content search repositories		
Projected content search repository sizes		
Content Search Server (name)		
# of content search repositories		
Physical location		
Projected content search repository sizes		

Client Application Requirements Worksheet

Client Application	Version	Configuration Requirements

IDM System Requirements Worksheet

List the overall system requirements for your library system

System Properties	Value	Comments
Online version limit		
Permanent versions in limit?		
Secure searches?		
Default Checkout File Name		
Custom property 1		
Custom property 2		
Custom property 3		
Custom property 4		
Custom property 5		
Custom property 6		
Custom property 7		
Custom property 8		
Custom property 9		
Custom property 10		
Storage categories		
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
Archive categories		
1.		
2.		

System Properties	Value	Comments
3.		
4.		
5.		
6.		
7.		
8.		

Property Manager Hardware Worksheet

Property Server	Model/Ver.	Description	Size/Speed
Server brand & model			
CPU (speed & number)			
Memory			
Storage			
Network interface card			
Archive media (size & speed)			
OS version			

Storage Manager Hardware Worksheet

Storage Server	Model/Ver.	Description	Size/Speed
Server brand & model			
CPU (speed & number)			
Memory			
Storage			
Network interface card			
Archive media (size & speed)			
OS version			

Disaster Recovery Worksheet

Disaster Recovery	Value	Comments
Disk duplexing / mirroring / disaster recovery		
Off-site backup storage		

Roadmap to Setting Up

For information on:

Installing and configuring the prerequisite software, installing the initial IDM Document Services, and adding a Storage Manager, Content Search Manager, Replication Services, or Display Language to an existing library system

Installing and configuring the administrative client

Configuring a library system to meet the specific requirements of your site

Installing client software for accessing a library system

Upgrading the database and IDMDS software

Refer to:

[“Installation Roadmap” on page 85](#)

[“Administrative Client Setup Roadmap” on page 88](#)

[“Configuration Roadmap” on page 89](#)

[“Client Interface Setup Roadmap” on page 91](#)

[“Upgrade Roadmap” on page 92](#)

Installation Roadmap

To install an IDMDS library system:

Required

Before you begin any IDMDS installation or upgrade, always check the [FileNET Worldwide Support](#) web site for documentation updates and software patches. Log on using your CSS web account. If you do not have an account, follow the online instructions for new users.

- To check for documentation updates, choose the Documentation link, navigate to Panagon IDM Document Services, then follow the links to the correct version number and platform.
- To check for software patches, choose the Troubleshooting link and navigate to Download Files/Fixes.

Highly
Recommended

For an introduction to IDM architecture and Document Services, read these topics in the *IDMDS Overview*:

- [“What is Integrated Document Management?”](#) on page 36
- [“The IDMDS Library System”](#) on page 39

To familiarize yourself with some of the main IDMDS features, read these overview topics in the *Administration Guide*:

- [“Storage Repositories”](#) on page 257 and [“Storage Categories”](#) on page 261
- [“Archive Repositories”](#) on page 263 and [“Archive Categories”](#) on page 271
- [“Content Search Repositories”](#) on page 274
- [“Custom Properties”](#) on page 280
- [“User Objects”](#) on page 285
- [“Group Objects”](#) on page 289

Highly
Recommended

Before beginning installation of the initial IDMDS services, complete the worksheets included with the [“Planning Guide”](#) on page 56. This will help you plan your library system in advance, and will provide a detailed record of your library system configuration.

Highly
Recommended

Complete the supplied [“Installation and Restoration Templates”](#) on page 110. This will create a record of your installation settings.

- Required Review the “[Release Notes](#)” on [page 23](#) for a list of new features, known problems, and other critical information pertaining to this release.
- Required Prepare your server for the IDMDS software installation. Verify that all requirements have been met, as specified in “[System Requirements](#)” on [page 96](#).
- Required Install and configure the database engine and prepare the database, as specified in “[Preparing the Database](#)” on [page 105](#).
- Required Install the Panagon IDM Document Services software, as specified in:
 - “[IDMDS Installation Settings](#)” on [page 113](#)
 - “[Installing a Library System on a Windows NT Server](#)” on [page 118](#) or “[Installing a Library System on a Windows 2000 Server](#)” on [page 119](#)

To add components to an existing library system:

- Highly Recommended Familiarize yourself with the features as well as the general installation and configuration issues of the component you plan to install.
 - Before installing a Storage Manager refer to:
 - “[Document Storage and Archiving](#)” on [page 45](#)
 - “[Storage Repositories](#)” on [page 257](#)
 - “[Storage Categories](#)” on [page 261](#)
 - “[Adding a Storage Manager](#)” on [page 122](#)
 - Before installing a Content Search Manager refer to:
 - “[Searching for Information](#)” on [page 47](#)
 - “[Content Search Repositories](#)” on [page 274](#)
 - “[Adding a Content Search Manager](#)” on [page 123](#)
 - Before installing Replication Services refer to:
 - “[Replication Services Overview](#)” on [page 465](#)
 - “[Planning for Replication Services](#)” on [page 471](#)
 - “[Replicating Objects](#)” on [page 479](#)
 - Before installing a Display Language refer to “[Adding a Display Language](#)” on [page 125](#)
- Highly Recommended Complete the supplied “[Installation and Restoration Templates](#)” on [page 110](#). This will create a record of your installation settings.

- Required
- Verify that all hardware and software requirements have been met for the server on which you plan to install the additional components. Install any necessary updates or service packs.
- “Server Hardware Requirements (Windows NT)” on page 97
“Server Hardware Requirements (Windows 2000)” on page 98.
 - “Certified Server Software Requirements (Windows NT)” on page 99
“Certified Server Software Requirements (Windows 2000)” on page 101.
- Required
- Install the additional library system components as specified in “Installing Additional IDMS Components” on page 122.

Note To configure and administer a library system, you must set up an administrative client. Refer to “Administrative Client Setup Roadmap” on page 88.

Administrative Client Setup Roadmap



The administrative client software for IDM Document Services 5.1 is IDMDS System Administration Tools 5.1.

To set up your administrative client:

- | | |
|----------|--|
| Required | Prepare your administrative client machine as specified in “Certified Client Software Requirements” on page 103. |
| Required | Install IDM Desktop on the administrative client machine. |
| Required | Install IDMDS System Administration Tools on the administrative client. |

Note Before you begin using your library system, there are a number of configuration issues to consider. Refer to [“Configuration Roadmap”](#) on page 89.

Configuration Roadmap

Note For information about performing administrative tasks for your library system, refer to “Administration Guide” on page 245.

To configure your library system:

- | | |
|---|---|
| Highly recommended | Familiarize yourself with important configuration issues. Refer to “IDMDS Configuration And Maintenance” on page 247. |
| Highly recommended | Create additional repositories for storing your documents. Refer to “Storage Repositories” on page 257 and “Adding a Storage Repository” on page 258. |
| Required if you add storage repositories | Create additional groupings of documents that have common storage requirements. Refer to “Storage Categories” on page 261 and “Adding a Storage Category” on page 262. |
| Highly recommended | Create additional repositories for archiving your documents. Refer to “Archive Repositories” on page 263 and “Adding an Archive Repository” on page 268. |
| Required if you add archive repositories | Create additional groupings of documents that have common archive requirements. Refer to “Archive Categories” on page 271 and “Adding an Archive Category” on page 272. |
| Required if you install Content Search Managers | Create additional repositories for the index files used in content-based searches. Refer to “Content Search Repositories” on page 274 and “Adding a Content Search Repository” on page 276. |
| Required if you use Document Classes | Add custom properties to document, version, and checkout object types. Refer to “Custom Properties” on page 280 and “Adding Custom Properties” on page 281. |
| Optional | Add users. Refer to “User Objects” on page 285 and “Working with User Objects” on page 285. |

Note To bulk add users, refer to *IDMDS Bulk Process Online Help*.

Also see “IDMDS Configuration Tool User Import Tab” on page 179 for information about importing users from your network domain to your library system.

- Optional Add groups. Refer to “Group Objects” on page 289 and “Working with Group Objects” on page 290.
- Note** To bulk add groups, refer to *IDMDS Bulk Process Online Help*.
- Also see “IDMDS Configuration Tool User Import Tab” on page 179 for information about importing groups from your network domain to your library system.
- Optional Edit the IDMDS configuration parameters. Refer to “The IDMDS Configuration Tool” on page 163.
- Optional Reconfigure database parameters to improve system performance. Refer to “Configuring IDMDS Databases” on page 253.
- Optional Configure port numbers at sites that use WANs and firewalls. Refer to “Configuring for WANs and Firewalls” on page 208.
- Optional Add Document Classes to specify the property display sets for associated documents. Refer to *IDMDS Document Class and CVL Administration Tool Online Help*.
- Optional Add controlled vocabulary lists (CVLs). CVLs provide required selection lists for associated custom properties. Refer to *IDMDS DocClass and CVL Online Help*.
- Optional Bulk add pre-existing documents. Refer to “Managing Storage Space” on page 249 for information about avoiding disk space overflow. Refer to the *IDMDS Bulk Process Online Help* for procedures.
- Optional Configure Replication Services. Refer to “Replication Services” on page 464.
- Optional Turn on and configure audit logging. Audit logging tracks particular library system processes. Refer to “Audit Logging” on page 314.
- Optional Install additional display languages. Refer to “Adding a Display Language” on page 125.
- Optional Set up multiple IDMDS library systems at your site. Refer to “Accessing Multiple Library Systems” on page 214 and “Managing Multiple Library Systems” on page 293.
- Optional Configure a mass storage device for use with your IDMDS library systems. Refer to “DiskXtender HSM” on page 539.
- Required Implement a backup strategy for each library system's database information and stored documents. Refer to “Backing Up the Library System” on page 329.

Note For users to access a library system, they must have a client interface installed on their workstation. Refer to “Client Interface Setup Roadmap” on page 91.

Client Interface Setup Roadmap



For users to access a library system, you must install a client interface on their workstations or set up a web server through which users can access the library system using a web browser. The following FileNET interfaces are certified for use with this release of IDM Document Services. Refer to the documentation for these products for installation instructions.

- IDM Desktop 3.1
- IDM Web Services 3.1

Note If your site has its own customized client interface to IDM Document Services, refer to its documentation and to [“Client Library Files” on page 224](#).

Upgrade Roadmap

Note If your IDMDS library system is older than version 4.3, you must upgrade to version 4.3 before you can upgrade to version 5.1.

To upgrade a library system from IDMDS 4.3 or 5.0 to IDMDS 5.1:

- | | |
|--------------------|---|
| Required | <p>Before you begin any IDMDS installation or upgrade, always check the FileNET Worldwide Support web site for documentation updates and software patches. Log on using your CSS web account. If you do not have an account, follow the online instructions for new users.</p> <ul style="list-style-type: none">• To check for documentation updates, choose the Documentation link, navigate to Panagon IDM Document Services, then follow the links to the correct version number and platform.• To check for software patches, choose the Troubleshooting link and navigate to Download Files/Fixes. |
| Required | <p>Do a full backup of the library systems you plan to upgrade. If the upgrade fails for any reason, you may need to restore the library system from this backup. Refer to “Backing Up the Library System” on page 329.</p> |
| Required | <p>Read the “Release Notes” on page 23 for information that may affect your upgrade.</p> |
| Required | <p>Verify that your server is in compliance with all requirements specified in “System Requirements” on page 96.</p> |
| Required | <p>Upgrade your library system servers as specified in “Upgrading IDMDS” on page 141.</p> |
| Required | <p>Upgrade your administrative client.</p> <p>Note FileShare is not supported for IDMDS 5.1. The administrative client for IDMDS 5.1. is IDMDS System Administration Tools. Refer to “Administrative Client Setup Roadmap” on page 88 for current administrative client requirements.</p> |
| Required | <p>Upgrade your client interfaces.</p> <p>Note Saros Document Manager and @mezzanine are not supported for IDMDS 5.1. Refer to “Client Interface Setup Roadmap” on page 91 for current client requirements.</p> |
| Highly recommended | <p>Do a full backup of the upgraded library systems. Refer to “Backing Up the Library System” on page 329.</p> |

Installation Guide

For information on:

Verifying compliance with hardware, software, server name, and database name requirements, installing the database engine and creating the library system database

Installing the IDM Document Services software on a property server

Adding a Storage Manager, Content Search Manager, Replication Services, or Display Language to an existing library system

Installing Client Library Files for a custom client interface, or updating or reinstalling the library files (initial installation of Client Library Files is done automatically during installation of FileNET clients and servers)

Preparing for and performing an upgrade from IDMDS 4.3 to IDMDS 5.1 on property servers and remote storage servers

Configuring an installed or upgraded library system to meet your site's specific needs

Setting up the optional DiskXtender software to provide mass storage for your library systems

Refer to:

[“Prerequisites to Installing IDMDS” on page 95](#)

[“Installing IDM Document Services” on page 113](#)

[“Installing IDMDS Unattended” on page 134](#)

[“Installing Additional IDMDS Components” on page 122](#)

[“Client Library Files” on page 224](#)

[“Installing Client Library Files Unattended” on page 226](#)

[“Upgrading IDMDS” on page 141](#)

[“The IDMDS Configuration Tool” on page 163](#)

[“Configuring IDMDS” on page 163](#)

[“Accessing Multiple Library Systems” on page 214](#)

[“Code Pages” on page 217](#)

[“The Variants Facility” on page 309](#)

[“DiskXtender HSM” on page 539](#)



For information on:

Refer to:

Troubleshooting installation problems

“Property Server Problem Solving” on page 237

Uninstalling IDMDS library system or client software

“Uninstalling” on page 241

Prerequisites to Installing IDMDS

Before you begin the actual installation of a library system, it is important to ensure that your hardware and software resources are in order, your database is correctly installed and configured, and your installation templates are completed. Refer to:

- “[System Requirements](#)” on page 96 for the minimum hardware and prerequisite software required for property servers, remote servers, and clients, also requirements for server host names and library system names
- “[Preparing the Database](#)” on page 105 for IDMDS-specific procedures for installing and configuring the property repository database
- “[Installation and Restoration Templates](#)” on page 110 for a set of forms you can use to plan and record your library system installation settings

Note The “[Installation Roadmap](#)” on page 85 provides a complete list of the tasks required when installing a library system or adding components to an existing library system.

Installing IDMDS with IDMIS

Installing IDM Document Services 5.1 to share a SQL Server database engine with an existing IDM Image Services 3.5.0 installation is supported. Installation and configuration details for collocating these products on a single server are provided in a technical notice titled, *Installing IDMDS to Share a Database Engine with IDMIS*.

To obtain IDMDS technical notices, log on to the [FileNET Worldwide Support](#) web site, select the Documentation link, select Panagon IDM Document Services, and navigate to the Documentation page for your version and edition of the software. If you do not have a CSS Web Account, click the New User button and follow the online instructions.

Installing IDMDS into Non-English Environments

Before installing IDM Document Services 5.1 on a server with a non-English operating system or database engine, please refer to the technical notice titled, *Installing IDMDS into Non-English Environments*.

To obtain IDMDS technical notices, log on to the [FileNET Worldwide Support](#) web site, select the Documentation link, select Panagon IDM Document Services, and navigate to the Documentation page for your version and edition of the software. If you do not have a CSS Web Account, click the New User button and follow the online instructions.

System Requirements

- “Server Hardware Requirements (Windows NT)” on page 97
“Server Hardware Requirements (Windows 2000)” on page 98
- “Certified Server Software Requirements (Windows NT)” on page 99
“Certified Server Software Requirements (Windows 2000)” on page 101
- “Certified Client Software Requirements” on page 103
- “Server Name Requirements” on page 103
- “Library System Name Requirements” on page 104

Server Hardware Requirements (Windows NT)

The following minimum hardware configuration is certified for IDMSD library systems installed on Windows NT 4.0 servers:

Component	Requirements
Processor	Intel® or compatible Pentium 166 MHz or higher Note The server must meet or exceed the specified hardware requirements for Windows NT Server 4.0 and Microsoft SQL Server 7.0.
Disk space for essential IDMSD components	225 MB minimum. This includes: <ul style="list-style-type: none"> • Microsoft SQL Server 7.0: 170 MB (typical installation) • Database for the library system: 10 MB minimum • Database log for the library system: 8 MB minimum • Initial Storage Manager and Content Search Manager: 30 MB minimum • Remote storage server: <ul style="list-style-type: none"> • Storage Manager: 25 MB minimum • file storage: 10 MB minimum • (optional) Content Search Manager: 8.5 MB (plus repository space of about 10% the size of all documents to be indexed) Note A minimum of 40 MB of temporary disk space (where the temp path is located) is required during installation.
RAM	Property server with Standard SQL Server: 64 MB minimum Property server with Enterprise SQL Server: 96 MB minimum Remote storage server: 32 MB minimum Note Enough memory must be available to support the library system, database, other applications, and any additional library systems installed on this server.
Dual Network Interface Cards	Supported
CD-ROM drive	Required
Backup Device	Required (tape or disk)

Note For Hierarchical Storage Manager hardware requirements, refer to “DiskXtender Prerequisites” on page 542.

Server Hardware Requirements (Windows 2000)

The following minimum hardware configuration is certified for IDMDS library systems installed on Windows 2000 servers:

Component	Requirements
Processor	Intel® or compatible Pentium 300 MHz or higher
Disk space	4 GB minimum
RAM	256 MB minimum Note Enough memory must be available to support the library system, database, other applications, and any additional library systems installed on this server.
CD-ROM drive	Required
Backup Device	Required (tape or disk)

Note For Hierarchical Storage Manager hardware requirements, refer to “[DiskXtender Prerequisites](#)” on [page 542](#).

Certified Server Software Requirements (Windows NT)

IDMDS 5.1 servers running Microsoft Windows NT are certified with the following software components.

Property Server (database host)

Component	Requirements
Operating System	<p>Windows NT™ Server 4.0 or Windows NT™ Server 4.0 Enterprise edition that is <i>not</i> configured as a primary or backup domain controller</p> <p>Note IDMDS does not support Active Directory on Windows NT 4.0.</p> <p>Windows NT Service Pack 6a</p>
Web Browser	Microsoft Internet Explorer 5 (See “ Documentation Formats and Editions ” on page 8 for more information.)
Network Protocol	TCP/IP
Database	<p>Microsoft SQL Server™ 7.0 Standard or Enterprise edition (English, French, or German) with Service Pack 2. The database engine must be installed with these settings:</p> <ul style="list-style-type: none"> • ISO character set 8859-1 (listed as 1252/ISO Character Set, the default, in SQL Server Setup) • Sort order: 54 Dictionary order, case-insensitive, accent-insensitive • Network Support: Named Pipes (required by Microsoft SQL Server) and TCP/IP Sockets (required by IDMDS) <p>Note The character set and sort order requirements pertain to new installations only. If you are upgrading a library system, or if your new library system will participate in replication services either to or from an upgraded library system, use the existing character set and sort order.</p> <p>Microsoft ODBC Driver Manager (odbc32.dll) version 3.510.3711.0 (installed during IDMDS Setup)</p> <p>Microsoft 32-bit SQL Server ODBC driver (sqlsrv32.dll) version 3.70.06.23 (installed during IDMDS Setup)</p>

Remote Storage Server

Component	Requirements
Operating System	Windows NT™ Server or Workstation 4.0 with Service Pack 6a
Web Browser	Microsoft Internet Explorer 5 (See “ Documentation Formats and Editions ” on page 8 for more information.)
Network Protocol	TCP/IP



Component	Requirements
Database Connectivity	Microsoft ODBC Driver Manager (odbc32.dll) version 3.510.3711.0 (installed during IDMS Setup) Microsoft 32-bit SQL Server ODBC driver (sqlsrv32.dll) version 3.70.06.23 (installed during IDMS Setup)

Certified Server Software Requirements (Windows 2000)

IDMDS 5.1 servers running Microsoft Windows 2000 are certified with the following software components.

Property Server (database host)

Component	Requirements
Operating System	Windows 2000™ Server Edition (see notes below)
Web Browser	Microsoft Internet Explorer 5 (See “ Documentation Formats and Editions ” on page 8 for more information.)
Network Protocol	TCP/IP
Database	<p>Microsoft SQL Server™ 7.0 Standard or Enterprise edition (English, French, or German) with Service Pack 2. The database engine must be installed with these settings:</p> <ul style="list-style-type: none"> • ISO character set 8859-1 (listed as 1252/ISO Character Set, the default, in SQL Server Setup) • Sort order: 54 Dictionary order, case-insensitive, accent-insensitive • Network Support: Named Pipes (required by Microsoft SQL Server) and TCP/IP Sockets (required by IDMDS) <p>Note The character set and sort order requirements pertain to new installations only. If you are upgrading a library system, or if your new library system will participate in replication services either to or from an upgraded library system, use the existing character set and sort order.</p> <p>Microsoft ODBC Driver Manager (odbc32.dll) version 3.520.4403.2 (installed during Windows 2000 Setup)</p> <p>Microsoft 32-bit SQL Server ODBC driver (sqlsrv32.dll) version 3.70.08.20 (installed during Windows 2000 Setup)</p>

Remote Storage Server

Component	Requirements
Operating System	Windows 2000™ Server Edition (see notes below)
Web Browser	Microsoft Internet Explorer 5 (See “ Documentation Formats and Editions ” on page 8 for more information.)
Network Protocol	TCP/IP

Component	Requirements
Database Connectivity	Microsoft ODBC Driver Manager (odbc32.dll) version 3.520.4403.2 (installed during Windows 2000 Setup)
	Microsoft 32-bit SQL Server ODBC driver (sqlsrv32.dll) version 3.70.08.20 (installed during Windows 2000 Setup)

Notes on Windows 2000 Support

You **cannot** install IDMDS on a domain controller.

In order to configure a Windows 2000 server for Direct Shelf Access, users must have Read permission to the content search repository directories. To do this under Windows 2000, the Allow Read permission check box on the Share Permission tab should be checked. (The Share Permission tab is accessed by clicking the Permissions button on a directory Properties dialog box.) The check boxes for Full Control and Change should be left unchecked. If either of these are checked, users will not have access to the documents in the shared content search repository directory.

IDMDS 5.1.1 provides limited Windows 2000 Active Directory support, enabling IDMDS Service Manager to start, stop, and monitor library system services remotely. Once the IDMDS 5.1.1 Service Pack is applied to each IDMDS server within an Active Directory forest, library system services throughout the forest can be monitored and controlled from any IDMDS server. This functionality requires the following configuration:

- The IDMDS servers must be on the same IP subnet.
- The IDMDS servers must be in the same Active Directory forest.
- The Enterprise Admins group and the Domain Admins group must belong to the local Administrators group on each IDMDS server in the Active Directory forest.

For information on the IDMDS 5.1.1 Service Pack, refer to [“IDMDS 5.1.1 Service Pack”](#) on page 13.

Certified Client Software Requirements

IDMDS 5.1 library system clients are certified for use with the following required client software, which must be installed before installing IDM Desktop, IDMDS Explorer, or IDM Web.

Component	Requirements
Operating System	<p>One of the following:</p> <ul style="list-style-type: none"> • Microsoft Windows 95® (not supported for IDMDS Explorer) • Microsoft Windows 98® (not supported for IDMDS Explorer) • Windows NT™ 4.0 with Service Pack 6a
Microsoft SQL Server	<p>During installation of any FileNET client, the IDMDS Client Library Files Setup will install the components it needs, including:</p> <ul style="list-style-type: none"> • DCOM95, version 1.2 (Windows 95 clients only) • Microsoft ODBC Driver Manager (odbc32.dll) version 3.510.3711.0 (For FileNET clients, this is installed during Setup.) • Microsoft 32-bit SQL Server ODBC driver (sqlsrv32.dll) version 3.70.06.23 (For FileNET clients, this is installed during Setup.) <p>Note If you later need to install or upgrade the components listed above for non-FileNET software, you may need to install all such files that make up that component.</p>
Network Stack/ Protocol	<p>One of the following:</p> <ul style="list-style-type: none"> • Windows 32-bit client on Windows 95: Microsoft Network (Microsoft TCP/IP (Native) / TCP/IP) • Windows 32-bit client on Windows 98: Microsoft Network (Microsoft TCP/IP (Native) / TCP/IP) • Windows 32-bit client on Windows NT 4.0 with 6a: Microsoft Network (Microsoft TCP/IP (Native) / TCP/IP)

Server Name Requirements

Host names of IDMDS property server and storage servers must not exceed 32 characters, and must be unique from all other server names in the first 31 characters.

Do *not* install library system components on servers having accented characters in their computer name. The directory naming services for some operating systems change such accented characters in path names; this, in turn, adversely affects the library system's ability to locate certain system components and directories.

Library System Name Requirements

Each IDMDS library system must have the same name as its database. The case-insensitive database name should uniquely identify this library system on the enterprise network (LAN and WAN) and must be unique from any other library system name on the enterprise network. A name can be up to 30 alphanumeric characters, but cannot start with a number.

Due to database restrictions, you cannot use the following keywords (upper or lowercase) as a library system name:

add, all, alter, and, any, arith_overflow, as, asc, at, authorization, avg, begin, between, break, browse, bulk, by, cascade, case, char_convert, check, checkpoint, close, clustered, coalesce, comment, commit, committed, compute, confirm, constrain, continue, controlrow, convert, count, create, current, current_date, current_time, current_timestamp, current_user, cursor, data_pgs, database, date, dbcc, deallocate, declare, default, delete, desc, disk, distinct, double, drop, dummy, dump, else, end, endtran, errlvl, errvl, errexit, escape, escept, except, exec, execute, exists, exit, fetch, fillfactor, floppy, for, foreign, from, goto, grant, group, having, holdlock, identity, identity_insert, identitycol, if, in, index, insensitive, insert, intersect, into, is, isolation, key, kill, level, like, lineno, load, max, min, mirror, mirroexit, national, nocheck, noholdlock, nonclustered, not, null, nullif, numeric_truncation, of, off, offsets, on, once, only, open, option, or, order, over, override, perm, permanent, pipe, plan, precision, prepare, primary, print, privileges, proc, procedure, processexit, public, raiserror, read, readtext, reconfigure, references, repeatable, replace, replication, reserved_pgs, return, revoke, role, rollback, rowcnt, rowcount, rows, rule, save, schema, scroll, select, serializable, session_user, set, setuser, shared, shutdown, some, statistics, stripe, sum, syb_identity, syb_restree, system_user, table, tape, temp, temporary, text, textsize, then, time, title, to, tran, transaction, trigger, trunc, truncate, tsequal, type, uncommitted, union, unique, update, updatetext, use, used_pgs, user, user_option, using, values, varying, view, waitfor, when, where, while, with, work, write, writetext.

Preparing the Database

- “Installing the Database Engine” on page 105
- “Creating a Property Repository Database” on page 107

Installing the Database Engine

Note The following procedure provides minimal instructions for installing Microsoft SQL Server on an IDMDS property server, either for a new library system installation or an upgrade. Details are given only where IDMDS has specific requirements pertaining to SQL Server installation and configuration. For complete information about installing and configuring SQL Server, refer to *Microsoft SQL Server Books Online*.

To install SQL Server 7.0:

1. Verify that your server is in compliance with all requirements specified in “System Requirements” on page 96.
2. Insert the *Microsoft SQL Server 7.0* CD-ROM into your CD drive to access the autorun main menu.

Note If you do not have direct access to the *Microsoft SQL Server 7.0* CD-ROM, you can view this menu by executing **autorun.exe** in the root directory of the installation media.

3. On the autorun main menu, select Install SQL Server 7.0 Components, then select the edition of SQL Server 7.0 you are going to install. This launches SQL Server Setup.

Note For information about the various SQL Server 7.0 editions, refer to *SQL Server Editions* in the *SQL Server Books Online* (available via the Browse Books Online button on the autorun main menu).

4. On the Select Install Method dialog box, select Local or Remote Install and click Next.

If you select Remote, the Remote Setup Information dialog box is displayed:

- a. Enter your user name, domain, and password.
 - b. Enter the host name of the target machine where you are installing SQL Server.
 - c. Enter the target path for the installation directory.
 - d. Enter the path to the setup source files.
 - e. Click Next.
5. Click Next on the Welcome screen. Click Yes to accept the license agreement. On the User Information screen, enter your name and company, then click Next.
 6. Enter your CD key on the Setup dialog box if prompted for it, then click Next.
 7. If you are installing a new property server (that is, if you are installing SQL Server 7.0 on a machine that does not have SQL Server 6.x installed on it) skip to the next step.

If you are performing an upgrade (that is, if you are installing SQL Server on a machine that has SQL Server 6.x installed) the Convert Existing SQL Server Data screen is displayed. If you want to have

the upgrade wizard run automatically after Setup is complete, select "Yes, run the SQL Server Upgrade Wizard" and click Next. (Or, you can opt not to run the wizard automatically and upgrade your database as a separate step after installing SQL Server 7.0.)

8. The Setup Type screen is displayed.

Make sure you select the Setup type appropriate for the IDMDS task you are performing:

- If you are doing a new installation of a property server (not an upgrade), select Custom as your Setup type. (Typical and Minimum do not allow you to select your character set, sort order, and network library settings.) Refer to ["Certified Server Software Requirements \(Windows NT\)" on page 99](#) or ["Certified Server Software Requirements \(Windows 2000\)" on page 101](#) for information about setting these values.
- If you are upgrading a property server, select either Typical or Custom. (The Minimum option does not install the necessary database upgrade components.)

Note If you select Typical as your Setup type, the character set, sort order, and network library of your SQL Server 6.x installation (and the default settings for Unicode Collation) will be used and you will not be prompted for these settings.

9. If you selected Custom as your Setup type in the previous step, you will be prompted for the following settings. (If you did not select Custom, skip to the next step.)
 - a. On the Select Components dialog box, select the components you want to install and click Next. (Refer to *SQL Server Books Online* for information about the available components.)
 - b. On the Character Set/Sort Order/Unicode Collation dialog box, select the character set and sort order for your database. Refer to ["Certified Server Software Requirements \(Windows NT\)" on page 99](#) or ["Certified Server Software Requirements \(Windows 2000\)" on page 101](#) for information about the requirements for the settings. Accept the default settings for Unicode Collation. Click Next.
 - c. On the Network Libraries dialog box, select Named Pipes and TCP/IP Sockets. Note the port number for use in later procedures. Click Next.
10. On the Service Accounts dialog box, select "Use a Domain User account" and enter your user name, domain, and password. Click Next.
11. On the Start Copying Files dialog box, click Next.
12. On the Choose Licensing Mode dialog box, select the type of licensing you will use and click Continue.
13. On the Setup Complete dialog box, select "Yes, I want to restart my computer now" and click Finish.
When the server reboots, the installer finishes configuring SQL Server 7.0.
14. Apply Service Pack 2:
 - a. Obtain a copy of SQL Server 7.0 SP2 (available from Microsoft).
 - b. Unzip the file to the location of your choice.
 - c. Start the service pack Setup program by running setup.bat.

d. Follow the instructions on the screen.

15. If you installed SQL Server 7.0 as a part of a new property server installation, refer to [“Creating a Property Repository Database” on page 107](#) to continue.

If you installed SQL Server 7.0 as a part of a property server upgrade, refer to [“Upgrading the Database” on page 151](#) to continue.

Creating a Property Repository Database

Note This procedure provides minimal instructions for using Microsoft SQL Server Enterprise Manager to create a database for your library system's property repository. For complete information about creating and configuring databases, refer to the *Microsoft SQL Server Books Online*.

To create the database for your library system:

1. Open the Windows Control Panel and start the Services tool. Verify that the MSSQLServer service is running. If the service is not already running, start it.
2. For proper conversion and storage of text in the databases, MS-SQL Server must have the correct DB Library configuration setting. Refer to [“Setting the DB Library Parameters” on page 256](#) to verify your configuration.
3. Start the SQL Server Enterprise Manager (available in Start > Programs > Microsoft SQL Server 7.0).
4. If your server is not already registered:
 - a. In the left pane of the Enterprise Manager window, select Microsoft SQL Servers.
 - b. In the Action menu, select New SQL Server Registration.
 - c. Enter the server name and logon information to register your server. (For example, you can choose *Use SQL Server authentication* and enter the sa logon name and password.)

If you have problems getting your server registered, refer to *Microsoft SQL Server Books Online*.

5. In the left pane of the Enterprise Manager window, expand the tree for your server and select the Databases folder.
6. From the Action menu, choose New Database.
7. On the General tab of the Database Properties dialog box, define your database as follows:

Name	Enter a name for your database. The name you give to your database will also be used as your library system name when you install the IDMDS software in a later procedure. Refer to “Library System Name Requirements” on page 104 for information about database and library system naming requirements.
File Name	Accept the default name (derived from the database name you entered in the previous step) or edit the file name. This is the logical file name by which SQL Server will know the database.

Location	Accept the default location or edit the path and file name to reflect the location you want to use for the database file. This is the physical location where SQL Server will store the database file.
Initial Size	Edit the default value to give the database an initial size of at least 10 Mb.
File Group	Accept the default PRIMARY file group, or edit the name to specify the file group that you want to include the database file. Refer to <i>SQL Server Books Online</i> for information about working with file groups.
File Properties	<p>(recommended) Check the box to automatically grow the database file. Complete the <i>File growth and maximum file size</i> section of the dialog box as follows:</p> <ul style="list-style-type: none"> • Specify the number of megabytes or the size percentage of the increments by which SQL Server will automatically grow the database file. • Select unrestricted file growth, or select restricted file growth and specify the number of megabytes for the maximum database file size.

8. On the Transaction Log tab of the Database Properties dialog box define your transaction log as follows:

File name	Accept the default name (derived from the database name you entered on the General tab) or edit the file name. This is the logical file name by which SQL Server will know the transaction log.
Location	Accept the default location or edit the path and filename to reflect the location you want to use for the transaction log. This is the physical location where SQL Server will store the transaction log file.
Initial Size	Edit the default value to give the transaction log an initial size of at least 8 Mb.
File Properties	<p>(recommended) Check the box to automatically grow the transaction log file. Complete <i>File growth and maximum file size</i> section of the dialog box as follows:</p> <ul style="list-style-type: none"> • Specify the number of megabytes or the size percentage of the increments by which SQL Server will automatically grow the transaction log file. • Select unrestricted file growth, or select restricted file growth and specify the number of megabytes for the maximum transaction log file size.

9. Click OK to create the database and close the Database Properties dialog box.

10. Leave the Enterprise Manager open for the next procedure.

To create a backup device for your database:

1. In the left pane of the Enterprise Manager window, expand your server's tree, then expand the Management folder.
2. Right click on the Backup icon and select New Backup Device from the popup menu.
3. On the Backup Device Properties dialog box, enter a name for the new backup device (for example, IDMDS_DUMP).
4. Specify the device you plan to use for database backups:
 - If you are going to use a tape device, select the Tape drive option, then select the tape drive from the drop-down list.
 - If you are going to back up to a disk file, select the File name option. You can either accept the default file location or edit the default path and file name to reflect the location you want to use.
5. Click OK to create the device.
6. Exit the Enterprise Manager.

You are now ready to install or reinstall the IDMSD library system.

- Refer to [“Installing IDM Document Services” on page 113](#) if you are doing a new installation.
- Refer to [“Restoring the Library System's Property Repository” on page 334](#) if you are restoring a library system.

Installation and Restoration Templates

As you install, add, or restore IDMSD components, you will need to supply the configuration values listed in the Installation and Restoration Templates. We recommend that, prior to an installation or restore operation, you print the appropriate template and fill in the information. This will help you do the necessary planning and provide a record of the library system configuration.

- “Library System Setup Template” on page 111
- “Storage Manager Setup Template” on page 112
- “Content Search Manager Setup Template” on page 112

Library System Setup Template

For information on completing this template, refer to “IDMDS Installation Settings” on page 113.

Installation Prompt	Supplied Value
Property Server Name (database host)	
Database Name	
Database sa_password	
Install Content Search Manager?	
Install Replication Manager?	
Top-level Directory	
Storage Manager Destination Drive	
Content Search Manager Destination Drive	
Replication Manager Destination Drive	
Administrative User (default: Admin)	
Administrative Group (default: Administrators)	
Universal Group (default: General Users)	
Initial Storage Category (default: Documents)	
Initial Archive Category (default: Archive)	
Document Class (default: General)	
Display Language	
Installer's Name	
Installation Comment	
Automatically start the new library system?	

Storage Manager Setup Template

For information on completing this template, refer to “Installation Settings for Additional Components” on page 126.

Installation Prompt	Supplied Value
Remote Server Name	
Property Server Name	
Database Name	
Database sa_password	
Database Port Number	
Install Content Search Manager?	
Storage Manager Destination Drive	
Content Search Manager Destination Drive	

Content Search Manager Setup Template

For information on completing this template, refer to “Installation Settings for Additional Components” on page 126.

Installation Prompt	Supplied Value
Remote Server Name (if applicable)	
Property Server Name	
Database Name	
Database sa_password	
Database Port Number	
Content Search Manager Destination Drive	

Installing IDM Document Services

Once you have completed the [“Prerequisites to Installing IDMDS” on page 95](#), you are ready to install the IDMDS software.

Refer to:

- [“IDMDS Installation Settings” on page 113](#) for detailed descriptions of the values you will need to enter during installation
- [“Installing a Library System on a Windows NT Server” on page 118](#) or [“Installing a Library System on a Windows 2000 Server” on page 119](#) for the procedure for installing a new library system

Note The [“Installation Roadmap” on page 85](#) provides a complete list of the tasks required when installing IDMDS.

IDMDS Installation Settings

When you install IDMDS, you will need to supply the following information. Refer to [“Installation and Restoration Templates” on page 110](#) for a set of forms you can use to plan and record your installation settings.

Select Setup Operation

Parameter	Description
Install IDM Document Services	<p>Select this option to install the initial IDMDS library system, which includes:</p> <ul style="list-style-type: none">• The core IDMDS executable programs• An initial Storage Manager with storage repository and category• An initial archive repository and category• An administrative user and group• A universal IDMDS user group• (optional) Content Search Manager and the initial repository• (optional) Replication Manager <p>Refer to “IDMDS Overview” on page 35 for descriptions of the library system components.</p>

Parameter	Description
Install Additional Services or Language	The information in the following tables pertains to installing new library systems. If you want to install additional services or display languages for an existing library system, refer to “Installation Roadmap” on page 85 for a list of topics.
Upgrade Services	The information in the following tables pertains to installing new library systems. If you want to upgrade a library system, refer to “Upgrade Roadmap” on page 92 for a list of topics.

Specify Database

Parameter	Description
Server Name	The property server host name. This name cannot be changed during IDMDs installation.
Database Name	The name of the database you created for the library system's property repository. Refer to “Creating a Property Repository Database” on page 107 for information about creating a database for your library system and “Library System Name Requirements” on page 104 for information about database naming requirements.
SQL Server SA Password	The password for your Microsoft SQL Server System Administrator account. This is required because Setup must log into the database to configure your library system.
Database Connection	Port Number: The TCP/IP port number assigned during Microsoft SQL Server 7.0 installation (default is 1433). If the displayed port number is not correct, click Change and enter the correct value. Destination: The directory path where shared library files used by FileNET software will be installed. If you want to install these files in a different location, click Change and type in or browse to the desired path. Note Once you enter the database name and sa password and then click Next, the Client Library Files will be installed in the selected location. If you do not successfully complete the installation for some reason (for example, you entered the wrong database name) you will not be able to select a new location for these files when running a subsequent Setup unless you first uninstall the client files. Refer to “Uninstalling Client Library Files” on page 243 .

Install Optional Services

Parameter	Description
Content Search Manager	<p>Installs a service that enables you to create content search repositories on this server so that users can search for files based on file contents. This service may be installed during the installation on the initial library system, or you can wait and install it later (either on the property server or on a remote storage server). Refer to “Adding a Content Search Manager” on page 123 for more information.</p> <p>Note If you opt to install a Content Search Manager, you will be prompted for the device on which to install this service. For best performance, install the Content Search Manager on its own disk drive or partition.</p>
Replication Manager	<p>Installs a service that you can configure to duplicate documents and objects across IDMS library systems. Refer to “Replication Services” on page 464 for more information.</p>

Select Directory and Drives

Parameter	Description
Top-level Directory	<p>The name of the top-level installation directory for all installed IDMS components for this library system. If you install components on more than one server or drive, a directory with this name will be created at the root level of each drive where components are installed.</p> <p>Note If you plan to install multiple property servers that will each have an additional Storage Manager installed on the same remote server, the top-level IDMS installation directory <i>must be</i> named the same on all of the servers; only one top-level IDMS installation directory per server is allowed.</p>
Component	<p>Each component selected for installation will be installed in the displayed destination path. To change the destination drive for any component, highlight the component and then select a different drive in the Destination Drive box. To change the top-level installation directory for <i>all</i> components, enter the directory name in the top-level directory field.</p>

Parameter	Description
Destination Drive	The drive where each library system component is to be installed. This must be a local drive on the server where you are doing the installation; network drives cannot be used. If possible, install the Content Search Manager on its own disk. You can install library system components on either a FAT or NTFS partition. However, we recommend NTFS for all repositories that are predominantly write-intensive (such as the storage and content search repositories).
	Caution Do not attempt to install the Storage Manager or Content Search Manager on a removable disk or tape device. Serious errors will result if the installer tries to write to a device that has been removed.
Space	The disk space information shows the impact of this installation on the selected destination drive.

Default User and Group Names

Parameter	Description
Administrative User	The name you want to assign to the initial administrative user for your library system. You will use the administrative user account to access your library system for the first time from IDMDS Explorer. The name Admin is offered as a default. You cannot change this name after IDMDS is installed.
Administrative Group	The name you want to assign to the administrative group for your library system. The users you will assign to this group will be designated IDMDS library system administrators. The name Administrators is offered as a default. You cannot change this name after IDMDS is installed.
Universal Group	The name you want to assign to the universal group for your library system. To be a user of this IDMDS library system a person must be a member of this group. The name General Users is offered as a default. You cannot change this name after IDMDS is installed.

Default Categories and Document Class

Parameter	Description
Storage Category	The name you want to assign to the default storage category Setup will create. This storage category points to the initial storage repository that Setup creates for your library system. The name Documents is offered as a default. You cannot change this name after IDMDS is installed.

Parameter	Description
Archive Category	The name you want to assign to the default archive category Setup will create. This archive category is installed in the initial reclaimable archive repository that Setup creates for your library system. The name Archive is offered as a default. You cannot change this name after IDMDs is installed.
Document Class	The name you want to assign to the default document class Setup will create. The name General is offered as a default. You cannot change this name after IDMDs is installed.

Select Display Language

Parameter	Description
Display Language	The language you want to use for displaying property names in IDMDs Explorer, message text sent to the Messages properties, and selectable system-supplied values (for example, Yes/No). Currently, IDMDs ships with English, French, and German files (english.nls, french.nls, and german.nls). Other language files can be created with direct FileNET assistance.
Installer's Name	Your name as the installer. In IDMDs Explorer, this name will appear as the value of the Installer property in the System object.
Installation Comment	An installation comment of up to 70 characters. The suggested default comment indicates the IDMDs version number. In IDMDs Explorer, the text of this comment will appear as the value for the Comment property in the System object.

Setup Complete

Parameter	Description
Yes, I want to restart my computer now.	The server must be rebooted before Setup can finish configuring the library system and verifying database connection.
No, I want to perform another IDMDs Setup task.	Select this option if you want to run Setup again to install another library system on the same server (or add components to the library system you just installed). (IDMDs Setup cannot install a library system remotely, via your network.)
No, I will restart my computer later.	You must restart the server before users can access the library system.
Set library system services to autostart at reboot	Select this option if you want the library system services to be started automatically each time you restart the server.

Installing a Library System on a Windows NT Server

Note If you have a previous version of IDMDS installed and want to upgrade to the current version, do not use this procedure. Refer to [“Upgrade Roadmap” on page 92](#) for a list of required procedures.

To install the initial library system services on a Windows NT platform:

1. Because some of the installation settings require resources or configurations that may be difficult or impossible to supply unless you prepare them in advance, we recommend that you complete the [“Installation and Restoration Templates” on page 110](#) before beginning the actual library system installation.
2. Perform this procedure on the intended property server; Setup cannot be run remotely. Verify that your server is in compliance with the [“System Requirements” on page 96](#).
3. If not already done, install and configure your property repository database as specified in [“Preparing the Database” on page 105](#).
4. If you are installing an additional library system on a property server that already has one or more library systems installed, do a full backup of all existing library systems before beginning installation of the new library system. Refer to [“Backing Up the Library System” on page 329](#) for procedures.
5. Open the Windows Control Panel and start the Services tool. Verify that the MSSQLServer service is started.
6. Shut down any applications, such as Enterprise Manager or Query Analyzer, that use ODBC to connect to the database.
7. To install IDMDS, run **Drive:\Setup\Setup.exe** on the *IDM Document Services* CD-ROM. Complete the Setup dialog boxes, referring to [“IDMDS Installation Settings” on page 113](#) and to the Installation and Restoration Templates you completed at the beginning of this procedure.
8. At the end of the setup process, the server is rebooted. The installer will then finish configuring IDMDS and checking the database connection. If you did not opt to have the IDMDS services start automatically, refer to [“Controlling Library System Services” on page 209](#) for information about starting, stopping, and checking the status of services.

Installation Notes

During installation, an ODBC data source (*SSLibrarySystem*) for Content Search Manager's Fulcrum search engine is created. It does not require user configuration.

IDMDS dynamically allocates port numbers for the Storage Manager and the Content Search Manager, and therefore does not write anything into the `\etc\services` file.

Install Shield creates several temporary files in your `\TEMP` directory that the IDMDS installer can't remove (for example, `_istmp1.dir`, `_istmp2.dir`, `_istmp3.dir`). After the installation is complete you can delete these files manually.

If you experience problems during installation, refer to:

- [“Property Server Problem Solving” on page 237](#)

- [“Release Notes” on page 23](#)

Installing a Library System on a Windows 2000 Server

To install a new library system on a Windows 2000 platform:

1. Because some of the installation settings require resources or configurations that may be difficult or impossible to supply unless you prepare them in advance, FileNET recommends that you complete the [“Installation and Restoration Templates” on page 110](#) before beginning the actual library system installation.
2. Verify that your server is in compliance with the [“Server Hardware Requirements \(Windows 2000\)” on page 98](#).
3. Install Windows 2000 on the intended property server, making sure your system is in compliance with:
 - [“Certified Server Software Requirements \(Windows 2000\)” on page 101](#)
 - [“Server Name Requirements” on page 103](#)

For additional information on installing Windows 2000, refer to the Microsoft documentation.

4. If you did not add the server to a Windows 2000 domain during Setup, add it now:
 - a. Open the Windows 2000 Control Panel and start the System tool.
 - b. Go to the Network Identification tab and click Properties.
 - c. Select the Domain radio button and enter your domain name. For example, to join the MYDOM.LOCAL domain, type in MYDOM and click OK.
 - d. Reboot the server.
5. Install and configure your property repository database as specified in [“Preparing the Database” on page 105](#), making sure that your database name meets the requirements in [“Library System Name Requirements” on page 104](#).
6. Log on as local Administrator on the server where you intend to install the library system. (Setup cannot be run remotely.)

Note When running IDMDS Setup, it is important that you log on as *local* Administrator and not Domain or Enterprise Administrator.
7. Open the Windows Control Panel, start Administrative Tools, and double click the Services tool. Verify that the MSSQLServer service is started.
8. Verify that no applications are running that use ODBC to connect to the database, such as Enterprise Manager or Query Analyzer.
9. To install IDMDS, run **Drive:\Setup\Setup.exe** on the *IDM Document Services* CD-ROM. Complete the Setup dialog boxes, referring to [“IDMDS Installation Settings” on page 113](#) and to the Installation and Restoration Templates you completed at the beginning of this procedure.

At the end of the setup process, the server is rebooted. The installer will then finish configuring IDMDS and checking the database connection.

10. For IDMDS 5.1 to run without Active Directory support on a Windows 2000 server, no FileNET patches are required. For limited Active Directory support, enabling IDMDS Service Manager to monitor and control library system services remotely, you must apply the IDMDS 5.1.1 Service Pack. Refer to [“IDMDS 5.1.1 Service Pack” on page 13](#).
11. To enable remote monitoring and control of IDMDS services, the Domain Admins and Enterprise Admins groups must belong to the local Administrators group on your IDMDS server. To add these groups, log on to your IDMDS server as a user with at least local Administrator rights and:
 - Right click My Computer and select Manage from the menu.
 - Go to Local Users and Groups > Groups > Administrators.
 - On Administrators Properties, click Add.
 - On Select Users or Groups, select your domain from the Look In list.
 - Select Domain Admins and click Add, then select Enterprise Admins and click Add.
 - Click OK on Select Users or Groups, then click OK on Administrators Properties to add the groups.
12. The first time IDMDS Service Manager starts a library system, it creates an Active Directory object on the domain controller for each of the library system services.

Note In the Active Domain hierarchy, these objects appear under your server's Computer object as: **SHF_LibrarySystem** for Storage Managers, **CSMGR_LibrarySystem** for Content Search Managers, and **REPL_LibrarySystem** for Replication Daemons.

To start your newly installed library system and register its services with Active Directory:

- a. Log on to the property server as a user with Domain Admin or Enterprise Admin rights. This is necessary so IDMDS Service Manager will be able to create new Active Directory objects on the domain controller.
- b. Display the IDMDS Service Manager (available via the library icon in the System Tray at the far right of the Windows Taskbar, or by executing **Drive:\idmds\dsstatus.exe**).
- c. If the Service Manager does not show all of the local IDMDS services as started, start them now.

Refer to [“IDMDS Service Manager” on page 209](#) for details about controlling IDMDS services, locally or throughout an Active Directory forest.

Installation Notes

During installation, an ODBC data source (*SSLibrarySystem*) for Content Search Manager's Fulcrum search engine is created. It does not require user configuration.

IDMDS dynamically allocates port numbers for the Storage Manager and the Content Search Manager, and therefore does not write anything into the `\etc\services` file.

If you experience problems during installation, refer to:

- “Property Server Problem Solving” on page 237
- “Release Notes” on page 23

Installing Additional IDMDS Components

After you have installed a library system, as explained in “Installing IDM Document Services” on page 113, you may want to install additional IDMDS components.

Refer to:

- “Installation Settings for Additional Components” on page 126 for detailed descriptions of the values you will need to supply.
- “Installing Additional IDMDS Components on a Windows NT Server” on page 130 or “Installing Additional IDMDS Components on a Windows 2000 Server” on page 131 for the procedure to add components to an existing library system.

Note The “Installation Roadmap” on page 85 provides a complete list of the tasks required for adding IDMDS components to an existing library system.

Adding a Storage Manager

Each library system has one or more Storage Managers that route service requests and provide storage space for the version files the library system controls. When you install the initial library system services, the first Storage Manager is automatically set up on the same server as the Property Manager. Installing additional Storage Managers not only allows the use of additional disk space on other machines, it also allows you to spread storage activity over multiple CPUs for faster processing.

While installing a Storage Manager, you will be given the option of installing a Content Search Manager on the same server. Refer to “Adding a Content Search Manager” on page 123 for details.

Storage Manager Prerequisites

Refer to “Certified Server Software Requirements (Windows NT)” on page 99 “Certified Server Software Requirements (Windows 2000)” on page 101 for the latest software requirements for any intended storage server.

Note It is most important that you complete the Installation and Restoration Templates prior to beginning the actual installation. Refer to “Installation and Restoration Templates” on page 110. Many of the installation settings will require resources or configurations that may be difficult or impossible to supply if attempted during installation. The templates will help you plan your installation, and will provide a record of the settings used.

Storage Manager Installation

To install an additional Storage Manager for an existing library system:

- Refer to “Installation Settings for Additional Components” on page 126.

- Refer to “Installing Additional IDMS Components on a Windows NT Server” on page 130 or “Installing Additional IDMS Components on a Windows 2000 Server” on page 131.

Adding a Content Search Manager

A Content Search Manager is an optional IDMS component that enables users to search for files based on file contents (for example, single words or phrases). Once Content Search Manager is installed and configured on your library system, users can create content searches using a client application, such as IDM Desktop. Refer to “Searching for Information” on page 47 for a description of Content Search features.

Note We strongly recommend that you install a Content Search Manager only if users accessing the library system plan to index and search on files with supported formats. Refer to “Content Search Filters” on page 300 for a list of the supported application file formats.

Where to Install the Content Search Manager and Repositories

Where you install the Content Search Manager and its repositories can affect the amount of traffic on your network, especially in complex library systems having numerous Storage Managers.

- The Content Search Manager requires that a Storage Manager be operational on the same server. Therefore, Content Search Manager can only be installed on an IDMS property server or storage server. (A storage server is a machine that has Storage Manager installed).
- A library system can have multiple Content Search Managers, but only one Content Search Manager per library system can be installed on a server.
- For optimum performance, install the Content Search Manager in its own partition on a server other than the property server, which contains the library system's database.
- Content search repositories index version files according to their assigned storage categories. Storage categories are, in turn, assigned to repositories associated with particular Storage Managers. You can reduce the associated network traffic flow by placing the Content Search Manager and its repositories on the same server as the Storage Manager and its repositories that are likely to contain versions indexed for content searching.

Note The IDMS installer automatically assigns content search repository 1 to the initial storage category (named Documents by default) regardless of where you install the Content Search Manager for this repository. Thereafter, the library system assigns repository 1 to each new storage category by default.

Content Search Manager Installation

You can install a Storage Manager and Content Search Manager at the same time, or you can install the Content Search Manager onto a server containing an existing Storage Manager.

- Refer to “Installation Settings for Additional Components” on page 126.
- Refer to “Installing Additional IDMS Components on a Windows NT Server” on page 130 or “Installing Additional IDMS Components on a Windows 2000 Server” on page 131.

Content Search Manager Components

To enable users to find documents based on file contents, these components must be installed in your library system:

Component	Description
Content Search Manager	<p>Contains the executable programs and other program files for the content search engine.</p> <p>Use Setup to install the executable programs for the Content Search Manager onto a server containing a Storage Manager.</p>
Content Search Repositories	<p>Named collections of files that work together to enable the content search capability. These files keep track of the unique contents (primarily, the individual words) found in version files that have been indexed for content searching.</p> <p>Use IDMDS Explorer to add content search repositories to the Content Search Manager.</p> <p>The files that make up a content search repository include:</p> <ul style="list-style-type: none"> • A database file containing a record to uniquely identify each version in the content search repository. • A database mapping file identifying the location of each version record in the database file. • A dictionary file containing an entry for each searchable term in the content search repository. • A reference file containing further information that allows each term in the dictionary file to be located in a version.

When you install the Content Search Manager, the installation program creates a directory named **Drive:\Idmds\LibrarySystem\Content**. Required executable programs and other program files are added to the bin and data subdirectories in this path. Another subdirectory, **index**, is created for the initial content search repository. The index directory will contain the content search repository files mentioned above and two log files for tracking indexing operations and conditions, **index00x.log** and **csi00x.log** (where x is the content search repository ID).

Note Refer to “Content Search Repositories” on page 274 for information on how these index logs are maintained and how you can use them for troubleshooting.

Content Search Manager Configuration and Administration

To administer content searches (for example, to add content search repositories and to make versions available for content searches) you use IDMDS Explorer.

- *Stopwords* are words that are not indexed and will not be found in a content search. Refer to “[Content Search Stopwords](#)” on page 307 for information on modifying the stopword list for your library system.
- You can use IDMDS Explorer to add additional content search repositories (using the Content Repositories property of the System object). Refer to “[Content Search Repositories](#)” on page 274.

Note Performance is better and maintenance simpler if you add as few content search repositories as possible. We recommend one repository for each Content Search Manager, although you may want to add multiple repositories to each Content Search Manager to spread the indexing load across multiple devices or repositories. This will speed up indexing, but will likely slow down searches.

- Version files are indexed in the content search repositories based on their storage categories. For this reason, after adding the content search repositories, you must assign storage categories to those repositories. You can accomplish this task in IDMDS Explorer by selecting a value for the Assigned Content Search Repository property in each affected Storage Category object.
- Each Content Search Manager can have from one to fourteen content search repositories. You can locate additional content search repositories on different servers, provided there is a Content Search Manager installed on the server before the content search repository is created.
- You must assign content search repositories to particular storage categories. Versions in those categories can then be indexed in those repositories for content searches. New storage categories are assigned to repository 1 by default.
- Once a Content Search Manager and its repositories are installed, you can enable and disable content searches system-wide by changing the value of the Content Search Enabled? property in the System object.

Adding a Display Language

IDMDS can display property names, field names, and system messages in languages other than the default English. Currently, IDMDS ships with support files for English, French, and German (**english.nls**, **french.nls**, and **german.nls**). Other language files can be created with direct FileNET assistance. If your company or the vendor for your chosen interface to IDMDS has created the necessary data file for a particular language and has had it certified by FileNET, you will be able to configure it into your system so that your users can view IDMDS using a language-specific set of display names and text. You can add any number of language files to a library system, thereby supporting concurrent, multiple display languages.

Display Language Installation

Assuming you have the required language data file for a particular language, you can add support for that language by running **Drive:\Setup\Setup.exe** on the *IDM Document Services* CD-ROM.

To install a display language for an existing library system:

- Refer to “[Installation Settings for Additional Components](#)” on page 126.
- Refer to “[Installing Additional IDMDS Components on a Windows NT Server](#)” on page 130 or “[Installing Additional IDMDS Components on a Windows 2000 Server](#)” on page 131.

Choosing an Installed Display Language

After you have installed the data files for one or more additional languages, you can set up your site configuration so that a particular language is your system default.

A Display Language property is available in the System, Group, and User objects in IDMDS. With IDMDS Explorer, you can access the System properties and see the value for the Display Language property. If you enable support for other languages, you can select the Display Language property and choose a different language as the system default for your site. You can also specify a language default for particular groups and users.

When a user opens a session from any interface to IDMDS, the system checks the associated User properties, active Group properties, and System properties in this order and uses the first Display Language property value it finds to determine the language in which to display the property names. A user can change his or her display language by changing the value in the User properties (or by removing that value altogether and accepting the value from the Group properties or System properties).

If no language is specified in the User, Group, or System properties, the system defaults to English. Likewise, if a language data file contains no entry for a particular property name, the name will be displayed in English.

Note Only property names (not property values) are translated. Exceptions to this rule include Yes/No values and the text that appears in the messages that are sent to the Administrators group object and to any User object.

Installation Settings for Additional Components

When you install additional components for a library system, you will need to supply the following information. Refer to [“Installation and Restoration Templates” on page 110](#) for a set of forms you can use to plan and record your installation settings.

Select Setup Operation

Parameter	Description
Install IDM Document Services	The information in the following tables pertains to installing additional services or display languages for an existing library system. If you are installing a new library system, refer to “Installation Roadmap” on page 85 for a list of topics.

Parameter	Description
Install Additional Services or Language	<p>After you have installed a library system, you can run Setup again and select this option to:</p> <ul style="list-style-type: none"> • Install an additional Storage Manager on a remote server • Install a Content Search Manager on the property server or on a remote server • Install Replication Services on the property server or on a remote server • Install an additional Display Language on the property server
Upgrade Services	<p>The information in the following tables pertains to installing additional services or display languages for an existing library system. If you are upgrading a library system, refer to “Upgrade Roadmap” on page 92 for a list of topics.</p>

Select Additional Services or Language

Parameter	Description
Storage Manager	<p>Installs an additional Storage Manager for your library system, which allows you to use additional disk space on another server for file storage. Refer to “Adding a Storage Manager” on page 122.</p>
Content Search Manager	<p>Installs a service that enables you to create content search repositories, so users can search for files based on file contents. Refer to “Adding a Content Search Manager” on page 123.</p> <p>Note Content Search Manager requires that a Storage Manager be installed on the same server. If you select only Content Search Manager for installation on a machine with no Storage Manager installed, Setup will automatically install a Storage Manager along with the Content Search Manager.</p>
Replication Manager	<p>Installs a service that you can configure to duplicate documents and objects across IDMDS library systems. Refer to “Replication Services” on page 464.</p>
Display Language	<p>Installs support files for English, French, or German (property server only). The display language is the language used for displaying the property names in IDMDS Explorer, the message text sent to the Messages properties, and selectable system-supplied values (for example, Yes/No). Refer to “Adding a Display Language” on page 125.</p>

Specify Library System

Note This dialog box is displayed if you selected Storage Manager, Content Search Manager, or Replication Manager on the "Select Additional Services or Language" dialog box. If you selected the Display Language option, refer to ["Select Display Language" on page 128](#).

Parameter	Description
Database Server Name	The host name of your library system's property server (where the database and initial IDMDS services are installed). This may or may not be the same server on which you are installing the additional component.
Database Name	The name of the library system for which you are installing the additional component. This was the name you originally assigned to the database you created for the library system's property repository.
SQL Server SA Password	The password for your Microsoft SQL Server System Administrator account. This is required because Setup must log into the database to configure your library system.
Database Connection	<p>Port Number: The TCP/IP port number assigned during Microsoft SQL Server 7.0 installation (default is 1433). If the displayed port number is not correct, click Change and enter the correct value.</p> <p>Destination: The directory path where shared library files used by FileNET software will be installed. If you want to install these files in a different location, click Change and type in or browse to the desired path.</p> <p>Note Once you enter the database name and sa password and then click Next, the Client Library Files will be installed in the selected location. If you do not successfully complete the installation for some reason (for example, you entered the wrong database name) you will not be able to select a new location for these files when running a subsequent Setup unless you first uninstall the client files. Refer to "Uninstalling Client Library Files" on page 243.</p>

Select Display Language

Note This dialog box is displayed only if you selected the Display Language option on the "Select Additional Services or Language" dialog box. If you selected Storage Manager, Content Search Manager, or Replication Manager, refer to ["Specify Library System" on page 128](#).

Parameter	Description
Library System Name	The library system for which you want to add the display language. To add a display language to multiple library systems on the same property server, you must run Setup once for each library system.
SQL Server SA Password	The password for your Microsoft SQL Server System Administrator account. This is required because Setup must log into the database to configure your library system.

Parameter	Description
Display Language	Select English, French, or German.
Database Connection	<p>Port Number: The TCP/IP port number assigned during Microsoft SQL Server 7.0 installation (default is 1433). If the displayed port number is not correct, click Change and enter the correct value.</p> <p>Destination: The directory path where shared library files used by FileNET software will be installed. If you want to install these files in a different location, click Change and type in or browse to the desired path.</p> <p>Note Once you enter the database name and sa password and then click Next, the Client Library Files will be installed in the selected location. If you do not successfully complete the installation for some reason (for example, you entered the wrong database name) you will not be able to select a new location for these files when running a subsequent Setup unless you first uninstall the client files. Refer to “Uninstalling Client Library Files” on page 243.</p>

Select Directory and Drives

Parameter	Description
Top-level Directory	The name of the top-level IDMDS installation directory. If you are installing library system components on more than one drive, a directory of this name will be created at the root level of each drive and the selected components will be installed there. This name cannot be changed after the initial library system installation.
Component	Each component selected for installation will be installed in the displayed destination path. To change the drive on which a component will be installed, highlight the component's line in the selection box, then select a different local drive in the Destination Drive selection box (see below).
Destination Drive	<p>The drive where each library system component is to be installed. This must be a local drive on the server where you are doing the installation; network drives cannot be used. If possible, install the Content Search Manager on its own disk. You can install library system components on either a FAT or NTFS partition. However, we recommend NTFS for all repositories that are predominantly write-intensive (such as the storage and content search repositories).</p> <p>Caution Do not attempt to install any of the IDMDS components on a removable disk or tape device. Serious errors will result if the installer tries to write to a device that has been removed.</p>
Space	The disk space information shows the impact of this installation on the selected destination drive.

Setup Complete

Parameter	Description
Yes, I want to restart my computer now.	The server must be rebooted before setup can finish configuring the library system and verifying database connection.
No, I want to perform another IDMDS setup task.	Select this option if you want to run setup again to install or upgrade another library system on the same server. (IDMDS setup cannot install a library system remotely, via your network.)
No, I will restart my computer later.	You must restart the server before users can access the library system.
Set library system services to autostart at reboot	Select this option if you want the library system services to be started automatically each time you restart the server.

Installing Additional IDMDS Components on a Windows NT Server

Follow this procedure to install additional components for an existing library system, either on the property server or on a remote server.

Note If you have a previous version of IDMDS installed and want to upgrade to the current version, do not use this procedure. Refer to [“Upgrade Roadmap” on page 92](#) for a list of required procedures.

To install additional IDMDS components on a Windows NT platform:

1. Because some of the installation settings require resources or configurations that may be difficult or impossible to supply unless you prepare them in advance, we recommend that you complete the [“Installation and Restoration Templates” on page 110](#) before beginning the actual installation.
2.
 - Verify that your server is in compliance with all requirements specified in [“System Requirements” on page 96](#).
3. On the property server for the library system to which you are adding components, open the Windows Control Panel and start the Services tool. Verify that the **MSSQLServer** service is running. (Refer to [“The Control Panel Services Tool” on page 212](#) for information about stopping, starting, and checking the status of services.)
4. Perform the remaining steps of this procedure on the server where you intend to install the additional component; Setup cannot be run remotely.
5. Shut down any applications, such as Enterprise Manager or Query Analyzer, that use ODBC to connect to the database.

6. Run **Drive:\Setup\Setup.exe** on the *IDM Document Services* CD-ROM. Complete the Setup dialog boxes, referring to [“Installation Settings for Additional Components”](#) on page 126 and to the Installation and Restoration Templates you completed at the beginning of this procedure.
7. At the end of the setup process, the server is rebooted. The installer will then finish configuring IDMS and checking the database connection. Refer to [“Controlling Library System Services”](#) on page 209 for information about starting, stopping, and checking the status of services.

Installation Notes

During installation, an ODBC data source (named *SSLibrarySystem*) for Content Search Manager's Fulcrum search engine and an ODBC data source for IDMS connection (named *PropertyServer*) are created. They do not require user configuration.

IDMS dynamically allocates port numbers for the Storage Manager and the Content Search Manager, and therefore does not write anything into the `\etc\services` file.

Install Shield creates several temporary files in your `\TEMP` directory that the IDMS installer can't remove (for example, `_istmp1.dir`, `_istmp2.dir`, `_istmp3.dir`). After the installation is complete you can delete these files manually.

If you experience problems during installation, refer to:

- [“Property Server Problem Solving”](#) on page 237
- [“Release Notes”](#) on page 23

Installing Additional IDMS Components on a Windows 2000 Server

Follow this procedure to install additional components for an existing library system, either on the property server or on a remote storage server.

To install additional IDMS components for an existing library system on a Windows 2000 platform:

1. Because some of the installation settings require resources or configurations that may be difficult or impossible to supply unless you prepare them in advance, FileNET recommends that you complete the [“Installation and Restoration Templates”](#) on page 110 before beginning the actual installation.
2. If you are adding library system components to an existing IDMS installation on a Windows 2000 server, skip ahead to step 4.

If you are installing a new remote storage server:

- a. Verify that your server is in compliance with the [“Server Hardware Requirements \(Windows 2000\)”](#) on page 98.
- b. Install Windows 2000, making sure your system is in compliance with:
 - [“Certified Server Software Requirements \(Windows 2000\)”](#) on page 101
 - [“Server Name Requirements”](#) on page 103

For additional information on installing Windows 2000, refer to the Microsoft documentation.

3. If you did not add the server to a Windows 2000 domain during Setup, add it now:
 - a. Open the Windows 2000 Control Panel and start the System tool.
 - b. Go to the Network Identification tab and click Properties.
 - c. Select the Domain radio button and enter your domain name. For example, to join the MYDOM.LOCAL domain, type in MYDOM and click OK.
 - d. Reboot the server.
4. On the property server for the library system to which you are adding components, open the Windows Control Panel, start Administrative Tools, and double click the Services tool. Verify that the MSSQLServer service is started.
5. Log on as local Administrator on the server where you intend to install the library system components. (Setup cannot be run remotely.)

Note When running IDMDS Setup, it is important that you log on as *local* Administrator and not Domain or Enterprise Administrator.

6. Verify that no applications are running that use ODBC to connect to the database, such as Enterprise Manager or Query Analyzer.
7. Run **Drive:\Setup\Setup.exe** on the *IDM Document Services* CD-ROM. Complete the Setup dialog boxes, referring to “[Installation Settings for Additional Components](#)” on page 126 and to the Installation and Restoration Templates you completed at the beginning of this procedure.

At the end of the setup process, the server is rebooted. The installer will then finish configuring IDMDS and checking the database connection.

8. For IDMDS 5.1 to run without Active Directory support on a Windows 2000 server, no FileNET patches are required. For limited Active Directory support, enabling IDMDS Service Manager to monitor and control library system services remotely, you must apply the IDMDS 5.1.1 Service Pack. Refer to “[IDMDS 5.1.1 Service Pack](#)” on page 13.
9. To enable remote monitoring and control of IDMDS services, the Domain Admins and Enterprise Admins groups must belong to the local Administrators group on your IDMDS server. To add these groups, log on to your IDMDS server as a user with at least local Administrator rights and:
 - Right click My Computer and select Manage from the menu.
 - Go to Local Users and Groups > Groups and double click Administrators.
 - On Administrators Properties, click Add.
 - On Select Users or Groups, select your domain from the Look In list.
 - Select Domain Admins and click Add, then select Enterprise Admins and click Add.
 - Click OK on Select Users or Groups, then click OK on Administrators Properties to add the groups.

10. The first time IDMSD Service Manager starts a library system, it creates an Active Directory object on the domain controller for each of the library system services.

Note In the Active Domain hierarchy, these objects appear under your server's Computer object as: **SHF_LibrarySystem** for Storage Managers, **CSMGR_LibrarySystem** for Content Search Managers, and **REPL_LibrarySystem** for Replication Daemons.

To start your newly installed library system and register its services with Active Directory:

- a. Log on to the property server as a user with Domain Admin or Enterprise Admin rights. This is necessary so IDMSD Service Manager will be able to create new Active Directory objects on the domain controller.
- b. Display the IDMSD Service Manager (available via the library icon in the System Tray at the far right of the Windows Taskbar, or by executing **Drive:\idmdd\dsstatus.exe**).
- c. If the Service Manager does not show all of the local IDMSD services as started, start them now.

Refer to "IDMSD Service Manager" on page 209 for details about controlling IDMSD services, locally or throughout an Active Directory forest.

Installation Notes

During installation, an ODBC data source (named *SSLibrarySystem*) for Content Search Manager's Fulcrum search engine and an ODBC data source for IDMSD connection (named *PropertyServer*) are created. They do not require user configuration.

IDMSD dynamically allocates port numbers for the Storage Manager and the Content Search Manager, and therefore does not write anything into the `\etc\services` file.

If you experience problems during installation, refer to:

- "Property Server Problem Solving" on page 237
- "Release Notes" on page 23

Installing IDMDS Unattended

Once you have completed the “Prerequisites to Installing IDMDS” on page 95, you are ready to install the IDMDS software for your library system. As an alternative to using the GUI Setup program, you can perform unattended installation of a new library system or additional components for a library system.

Refer to:

- “Installing in Silent Mode” on page 134 for installation procedures
- “The dssetup Command” on page 135 for documentation of the command-line syntax and options
- “The setup.inf File” on page 136 for format and content requirements of the file containing the installation settings
- “Installing IDMDS via MS-SMS” on page 140 for the procedure to use the supplied **Idmds.pdf** file to perform installations via Microsoft Systems Management Server

Note The “Installation Roadmap” on page 85 provides a complete list of the tasks required when installing IDMDS.

Installing in Silent Mode

You can use **dssetup.exe** with a **setup.inf** file to perform *unattended* or *silent* installation of a complete library system or selected library system components.

Preparing a setup.inf File

To perform unattended IDMDS installation, you must first prepare a **setup.inf** file, to provide input to **dssetup**. You can either edit the provided **setup.inf** file, or run **dssetup** to create an input file.

To edit the provided setup.inf:

1. Copy **Drive:\Idmds\setup.inf** from the *IDM Document Services* CD-ROM, to a location accessible from the server on which you will run **dssetup**.
2. Edit **setup.inf** with a text editor. Refer to “The setup.inf File” on page 136 for format and content requirements.
3. You can now use your **setup.inf** file to install IDMDS components. Be sure to include the **-f** command-line option to point to the correct input file.

To create a setup.inf file without installing IDMDS:

1. Start a DOS Command Prompt and enter a **dssetup** command to create a **setup.inf** file. For example:

```
dssetup -f C:\setup.inf -n NO
```

This command will prepare an input file named **C:\setup.inf**. Because of the **-n NO** option, installation will not actually be done. Refer to “[The dssetup Command](#)” on page 135 for command-line syntax and options.

2. Respond to the **dssetup** prompts by entering the information you want included in your **setup.inf** file. Refer to “[The setup.inf File](#)” on page 136 for content requirements.
3. When **dssetup** completes, your **setup.inf** file will be written to the location specified with the **-f** parameter. You can then use this file when you run **dssetup** to install IDMDS components.

Using a setup.inf File to Install IDMDS Components

Once you have prepared a **setup.inf** file, as explained above, you are ready to run **dssetup** to perform an installation.

To perform a silent IDMDS installation:

1. Start a DOS command prompt and enter a **dssetup** command to perform the installation. For example:

```
dssetup -f C:\setup.inf -g NO
```

This command will perform an installation according to the parameters specified in **C:\setup.inf**, no input prompts will be displayed. Because **-w sa_password** was not included, you will be prompted for the password. Refer to “[The dssetup Command](#)” on page 135 for command-line syntax and options.

2. Reboot the server.
3. Refer to “[Controlling Library System Services](#)” on page 209 for information about stopping, starting, and checking the status of services.

The dssetup Command

The dssetup Syntax

```
dssetup [-s hostname] [-i LibrarySystem] [-f drive:\path\filename] [-n {YES | NO}] [-g {YES | NO}] [-w sa_password]
```

The dssetup Command Options

- s Optional. The name of the server where you plan to install IDMDS components. If you do not provide this value, you will be prompted for it. Refer to “[Server Name Requirements](#)” on page 103.
- i Optional. The IDMDS library system name. This must be the name you assigned to the library system database. If specified, this name overrides a system name supplied in the setup.inf file. If you do not provide a name, either by using this flag or by including the name in your **setup.inf** file, you will be prompted for one. Refer to “[Library System Name Requirements](#)” on page 104.

- f Optional. The path and file name of the Setup Information file. If you do not specify a value, dssetup will use **Drive:\Idmids\setup.inf**. Refer to “The setup.inf File” on page 136 for format and content requirements.
- n Optional. If you specify -n NO, dssetup will write setup.inf without installing IDMDS. The default is -n YES (install IDMDS).
- g Optional (not supported for restore operations). Use this option for unattended installations. If you specify -g NO, dssetup will not display prompts. The default value is -g YES (display prompts). If you do not provide a setup file, prompts will be displayed regardless of this option.
- w The SQL Server sa password (for the System Administrator account).

When doing an unattended installation (using the -g NO option), if the -w *password* parameter is not included in the command line, dssetup will prompt you for a password. If the -w parameter is included but no *password* value is supplied, dssetup will assume that the password is NULL.

The setup.inf File

The **setup.inf** file stores values that you plan to supply to the dssetup command during installation. Using this file you can reduce the number of prompts during interactive installation, or entirely eliminate the interactive process and install IDMDS unattended.

Every **setup.inf** file must contain these sections:

- A **[setup]** section, with general information about the current IDMDS library system and the selected components for the current procedure.
- An install section, such as **[StorageMgrInstall]**, with detailed information on the current procedure.
- An [ODBC setup] section, with information about how ODBC data source names are to be set up.

The [setup] Section

The **[setup]** section of setup.inf contains the following keywords:

Keyword	Description
Procedure	<p>The Procedure keyword indicates what kind of task Dssetup will perform. It must have one of these values:</p> <p>I = Install a new library system U = Update a previous version of a library system A = Add an IDMDS component to an existing library system</p>

Keyword	Description
Components	<p>The Components keyword indicates what components of the system are affected by the procedure. It must have one or more of the following values:</p> <p>P = Property Manager S = Storage Manager T = Content Search Manager R = Replication Manager L = Native language support</p> <p>When several components are specified, they must be separated by commas. For example, a typical multivalue entry would be: Components = P,T,R</p>
InstServer	The server name on which IDMDS components are to be installed. Refer to “Server Name Requirements” on page 103 .
SystemName	The IDMDS library system name. Refer to “Library System Name Requirements” on page 104 .
CollateSeq	(Future) For building a SQL engine with a different collate sequence.
InstallLanguage	Display language for the installation interface (English only).
NetType	The network protocol. Must be T (TCP/IP).
InstDirectory	<p>The name of the top-level installation directory for <i>all</i> installed IDMDS library system components. If you are installing library system components on more than one drive, a directory with this name will be created at the root level of each drive and the selected components will be installed there.</p> <p>Note If you plan to install multiple property servers that will have remote Storage Managers installed on the same remote server, the top-level IDMDS installation directory must be named the same on all of the servers. This is because only one top-level IDMDS installation directory per server is allowed.</p>

The "Install" Section

The name of this section is made up of two parts (component and procedure), which identify the type of component and the type of procedure that Dssetup will perform. For example, a typical section name would be [PropertyMgrInstall].

The component part of this section name will be one of the following values:

Value	Definition
PropertyMgr	Property Manager

Value	Definition
StorageMgr	Storage Manager
ReplicationMgr	Replication Manager
Language	Support for a particular language

The procedure part of this section name will be one of the following values:

Value	Definition
Install	Install the specified component.
Restore	Restore the specified component.
Update	Update the specified component.
Add	Add the specified component.

Keywords for Installing a New Library System

Use the following keywords in the setup.inf Install section to install a new IDMDS library system:

Keyword	Description
SystemLanguage	The system language (recorded in the Property Manager).
AdministrativeUser	The name you want to assign to the initial administrative user.
AdministrativeGroup	The name you want to assign to the initial administrative group.
UniversalGroup	The name you want to assign to the universal group.
StorageCategory	The name you want to assign to the initial storage category.
ArchiveCategory	The name you want to assign to the initial archive category.
DocClass	The name you want to assign to the default document class.
InstDrive	The drive for the Storage Manager.
ReplDrive	The drive for the Replication Manager.
InsCatServer	The server that contains the IDMDS database engine.
CSDrive	The drive for the Content Search Manager.
LanguageName	The name of the supported language.
Comment	The comment entered by the person installing.
Installer	The name entered by the person installing.

Keyword	Description
AutoStart	This keyword controls whether the library system services will be started automatically when the server is rebooted or must be started manually. Valid values are AutoStart = 1 (start services on reboot) and AutoStart = 0 (manual startup).

The [ODBC setup] Section

The [ODBC setup] section of setup.inf the file contains the following keywords:

Keyword	Description
Port	The TCP/IP port number assigned during Microsoft SQL Server 7.0 installation. Default is 1433.
TargetDir	The location where the Client Library Files shared by FileNET software will be installed.

Example setup.inf Files

Example setup.inf to install an initial Property Manager:

```
[setup]
Procedure = I
Components = P,T,R,
InstServer = Mickey
SystemName = yukon
CollateSeq = SSS
InstallLanguage = English
NetType = T
ConfDrive = C:
InstDirectory = idmds
[PropertyMgrInstall]
SystemLanguage = English
AdministrativeUser = Admin
AdministrativeGroup = Administrators
UniversalGroup = General Users
StorageCategory = Documents
ArchiveCategory = Archive
DocClass = General
InstDrive = C:
ReplDrive = C:
InsCatServer = Mickey
CSDrive = C:
LanguageName = English
Comment = FileNET IDM Document Services 5.1
Installer = Joe Admin
[ODBC setup]
```

```
Port = 1433  
TargetDir = C:\Program Files\FileNET\Shared
```

Installing IDMDS via MS-SMS

You can use Microsoft Systems Management Server (SMS) to perform silent installation of IDM Document Services.

To install IDMDS using MS-SMS:

1. Copy the complete contents of the *IDM Document Services* CD-ROM to a location accessible to the SMS server and all servers on which IDMDS is to be installed.
2. Using SMS, create a distribution package for the installation. As a starting point for the content of your package, you can import **Drive:\idmds\Dsetup.pdf**. Refer to the Microsoft SMS documentation as necessary.
3. Choose the **IDMDSSetup** command.
4. Edit the Dsetup command line as necessary for your installation. For example, the following command will install IDMDS using the setup options contained in **setup.inf**, and no command prompts will be displayed.

```
idmds\dsetup -g no -f setup.inf
```

Note If you use the *-g no* option and do not include the *-w password* option to specify your SQL Server sa password, you will be prompted for the password. If you include the *-w* option without including the password value, a NULL sa password will be assumed.

Refer to “[The dssetup Command](#)” on page 135 for details about the command-line options.

Refer to “[The setup.inf File](#)” on page 136 for details about the input file format and content requirements.

5. Use SMS to create a job and schedule the installation. Note that once the job is created, it may take quite awhile (an hour or more) for it to arrive at the computer where it is to be run.
6. On the server where IDMDS is to be installed, execute the job to run the distribution package. When the installation completes, the SMS Administrator will show the status.

Upgrading IDMDS

The upgrade path to IDMDS 5.1 is from IDMDS 4.3 or 5.0 only. If your library system is an earlier version than 4.3 and you want to upgrade to IDMDS 5.1, you must first upgrade to IDMDS 4.3.

When you upgrade a library system's property server, **dssetup** automatically upgrades the initial Storage Manager and, if installed, the initial Content Search Manager. If the library system has any components installed on remote servers, they must also be upgraded, *after* you upgrade the property server and *before* you resume using the library system.

Any server that has components for more than one library system installed must have all of those components upgraded at the same time. For example, if you have multiple library systems installed on a property server and you update one of them, you must update all of them. You cannot have IDMDS components of more than one version on the same server.

Perform the upgrade tasks explained in the following topics, in the order shown:

1. If you are upgrading library systems that participate in replication, first refer to [“Upgrading Replication-enabled Systems”](#) on page 141.
2. [“Preparing for the Upgrade”](#) on page 149
Note If you are upgrading a library system that participates in replication, disregard this topic and follow the procedure in [“Upgrading Replication-enabled Systems”](#) on page 141.
3. [“Upgrading the Database”](#) on page 151
4. [“Upgrading IDMDS on a Property Server”](#) on page 152
5. [“Upgrading Remote Storage Servers”](#) on page 154
6. Read the [“Upgrade Notes”](#) on page 156, which describe the migration utilities (CDMIG, SRLIST, and VUPDATE) you must now run for each library system you have upgraded.

Note The [“Upgrade Roadmap”](#) on page 92 provides a complete checklist of the tasks required when upgrading a library system.

Upgrading Replication-enabled Systems

This topic provides the procedure for upgrading IDMDS library systems that participate in replication, either inside or outside of a replication administrative domain (see [“Administrative Domains”](#) on page 476).

The upgrade path is from IDMDS 4.3 to IDMDS 5.1 only.

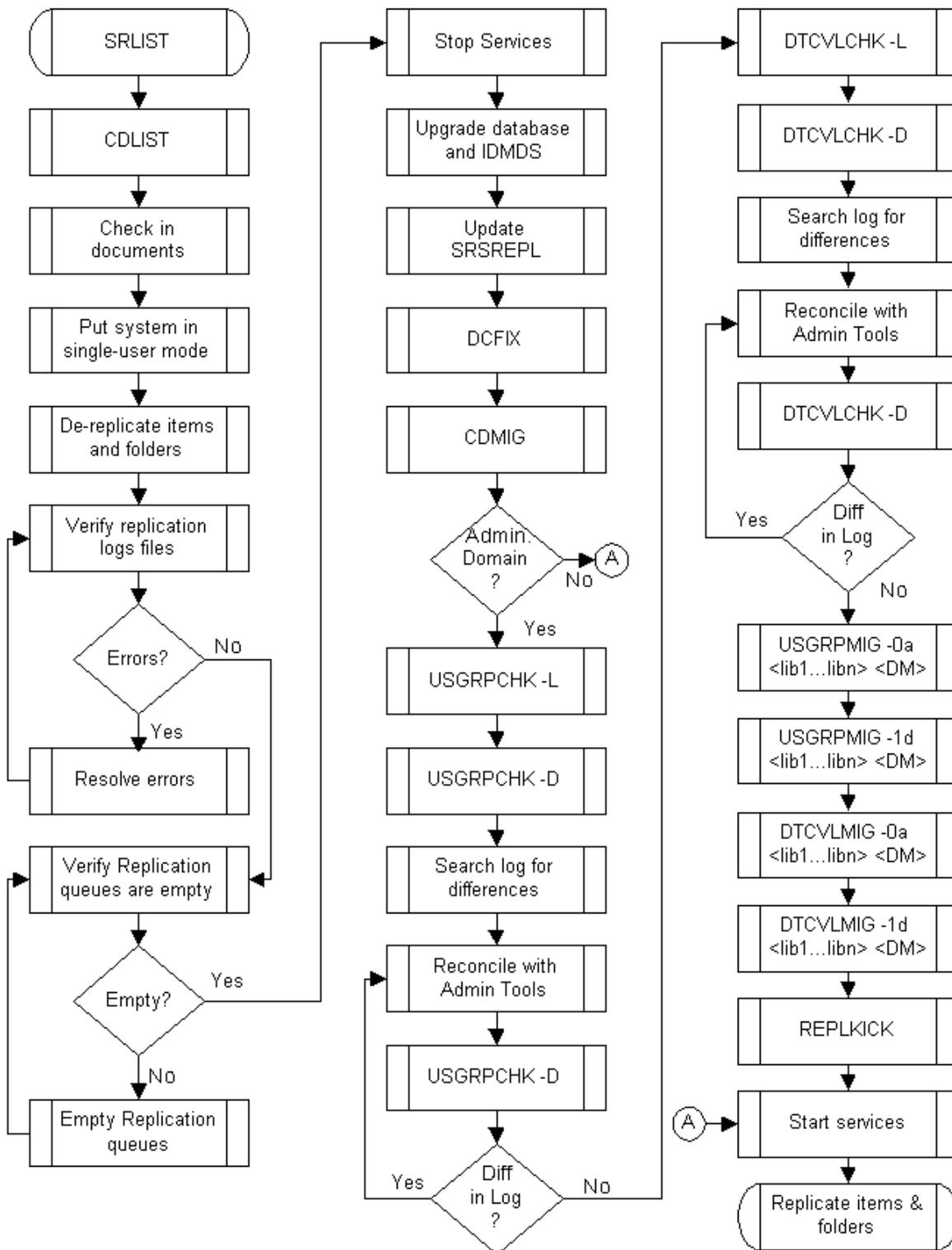
Required Utilities

Note The utilities required to upgrade IDMS 4.3 to 5.1 are included in the IDMS 5.1.1 Service Pack. Refer to “IDMS 5.1.1 Service Pack” on page 13.

To perform the upgrade, you will need the following FileNET utilities:

- “CDLIST” on page 368
- “CDMIG” on page 371
- “DCFIX” on page 379
- “DTCVLCHK” on page 387
- “DTCVLMIG” on page 394
- “REPLKICK” on page 414
- “SRLIST” on page 420
- “USGRPCHK” on page 426
- “USGRPMIG” on page 434

Upgrade Flowchart



Upgrade Procedure

Be sure to upgrade all IDMDS servers that replicate with one another at the same time, regardless of whether they are members of an administrative domain.

Note Before beginning the upgrade, perform a complete backup of your library systems as explained in “Backups” on page 329.

To upgrade replication-enabled library systems:

1. Run the SRLIST utility. Refer to “SRLIST” on page 420.
2. Run the CDLIST utility. Refer to “CDLIST” on page 368.
3. Notify users to check in all items that are currently checked out.

Caution Do not proceed to the next step until all documents are checked in and all users are logged off.

4. Put your library system(s) in single-user mode. A library system is in single-user mode when:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.
5. On all IDMDS 4.3 systems that you are upgrading, use your library system client to de-replicate all items and folders.
6. Verify that the Replication log file (**repl.log**) does not contain any errors. Also, run the following SQL query on all servers participating in Replications and check for errors:

```
SELECT * FROM REPLOBJ WHERE RD_STATUS>0 AND RD_STATUS<16
```

Warning You must resolve all errors before continuing with this procedure. If you are not sure how to resolve an error, open a case with FileNET Customer Support Services (CSS).

7. Verify that the Replication queues are empty.
8. Shut down the library system. On all servers (property server and any remote servers) for the library systems you are upgrading, run `mez_stop` to shut down all IDMDS services (including Replication). Refer to your release 4 series *IDM Document Services Administrator's Guide* for details about running this utility.

Note As described in previous steps, all items should be checked in and all users should be logged off.

9. Upgrade the database and IDMDS software. For details, see:
 - a. “Upgrading the Database” on page 151
 - b. “Upgrading IDMDS on a Property Server” on page 152
 - c. “Upgrading Remote Storage Servers” on page 154 (if applicable)

- d. [“Upgrade Notes” on page 156](#)
- 10. To update the **srsrepl.exe** file so IDM Desktop stored searches will not be replicated, apply patch the IDMS 5.1.1 Service Pack. For details, refer to [“IDMS 5.1.1 Service Pack” on page 13](#).
- 11. Run the DCFIX utility. Refer to [“DCFIX” on page 379](#).
- 12. Run the CDMIG utility. Refer to [“CDMIG” on page 371](#).
- 13. If the library systems you are upgrading are *not* members of a replication administrative domain, skip the following sub-steps and go to step 9.

If the library systems you are upgrading *are* members of a replication administrative domain, perform the following sub-steps. All of the utilities referenced below are included in the **drive:\Admin\Util** directory on the IDMS 5.1.1 Service Pack CD-ROM. Refer to [“IDMS 5.1.1 Service Pack” on page 13](#).

Note You can verify which server is the domain master by logging onto any library system in the domain via the Replication Domain Administration tool (available on the IDMS Explorer Tools menu). See the IDMS Explorer online help for more information.

- a. Run the USGRPCHK utility using the -L switch to list all library systems in the administrative domain:

```
usgrpchk -L domain_master_library domain_master_server
```

See [“USGRPCHK” on page 426](#) for more information about this utility.

- b. Run the USGRPCHK utility using the -D switch to perform collision detection among all reachable library systems in the administrative domain:

```
usgrpchk -D domain_master_library domain_master_server logfile
```

See [“USGRPCHK Messages” on page 430](#) for an annotated list of log messages produced by USGRPCHK.

- c. Using a text editor, search the log produced by USGRPCHK -D for instances of the word *differ*. In particular, look for instances of the following message:

```
DUP MASTER: object name is mastered on library system1 on server1 and on library system2 on server2. The two masters differ.
```

where *object* can be User or Group, and *name* is the name of the object being reported.

Note The log messages identify which User and Group objects contain differences, but they do not identify exactly which properties of those objects are different. For that information, you will need to use IDMS Explorer to check the property values of the identified objects.

- d. Using IDMS Explorer, modify User and Group objects as necessary to make the object pairs identified in the previous step *effectively identical* according to [“Definition of Terms for USGRPCHK” on page 428](#). For procedures on editing object properties, refer to the IDMS Explorer online help.
- e. Run USGRPCHK -D again and search the log to verify that all "differing masters" issues have been resolved. You can safely ignore any messages about duplicate replicas.

Repeat this step until the log indicates that all User and Group objects with the same name are effectively identical. In other words, the logfile should indicate only those User and Group objects that either collide or have missing replicas.

- f. Run the DTCVLCHK utility using the -L switch to list all library systems in the administrative domain:

```
dtcvlchk -L domain_master_library domain_master_server
```

See “DTCVLCHK” on page 387 for more information about this utility.

- g. Run the DTCVLCHK utility using the -D switch to perform collision detection among all reachable library systems in the administrative domain:

```
dtcvlchk -D domain_master_library domain_master_server logfile
```

See “DTCVLCHK Messages” on page 391 for an annotated list of log messages produced by DTCVLCHK.

- h. Using a text editor, search the log produced by DTCVLCHK -D instances of the word *differ*. In particular, look for instances of the following message:

```
DUP MASTER: object name is mastered on library system1 on server1 and on library system2 on server2. The two masters differ.
```

where *object* can be DocClass or CVL and *name* is the name of the object being reported.

Note The log messages identify which DocClass and CVL objects contain differences, but they do not identify exactly which properties of those objects are different. For that information, you will need to use IDMS Explorer to check the property values of the identified objects.

- i. Using System Administration tools, modify DocClass and CVL objects as necessary to make them *effectively identical* according to “Definition of Terms for DTCVLCHK” on page 389.

Note Make sure that all Custom Properties are *effectively identical* on every library system throughout the domain. To do this you will need to check the log carefully. The DUP MASTER message specified above may not appear in all situations. (For example, if a DocType is sourced on one library but not on another, there will be a MISSING REPLICA rather than a DUP MASTER message.)

For DUP MASTER log messages that identify differing DocClass objects, check the following and edit as necessary:

- i. Using the DocClass and CVL Administration tool (available via the IDMS Explorer Tools menu), ensure that all custom property names are the same between the DocClasses of the two libraries. (This applies both to Item and Version properties.)
- ii. For each custom property identified in the previous step, check the custom properties in IDMS Explorer to ensure that the *Property Type*, *Property Length*, and *Multivalue* settings match between the two library systems.
- iii. Using the DocClass and CVL Administration tool, ensure that each custom property's *CVL Name*, *Reqd*, and *Default Value* settings match between the two library systems.

For DUP MASTER log messages that identify differing CVL objects, check the following and edit as necessary:

- i. Using the DocClass and CVL Administration tool, select the CVL and click Edit CVL to display the CVL Information dialog box. In the CVL Properties section, ensure that the CVL Data Type settings match between the two library systems.
 - ii. Also on the CVL Information dialog box, on the CVL Data tab, ensure that the CVL Data sets match between the two library systems.
- j. Run DTCVLCHK -D again and search the log to verify that all potential problems have been resolved. You can safely ignore any messages about duplicate replicas.

Repeat this step until the log indicates that all DocClass and CVL objects with the same name are effectively identical. In other words, the logfile should indicate only those DocClass and CVL objects that either collide or have missing replicas.

- k. For each library system in the administrative domain that has User/Group discrepancies with the domain master, run the following USGRPMIG command:

```
usgrpmig -0a -v -x current_home_library current_home_server
domain_master_library domain_master_server logfile
```

Caution See “USGRPMIG” on page 434 for complete documentation before running this utility.

- l. For each library system in the administrative domain that has User/Group discrepancies with the domain master, run the following USGRPMIG command:

```
usgrpmig -ld -v -x current_home_library current_home_server
domain_master_library domain_master_server logfile
```

Note If errors are reported, repeat this command.

- m. For each library system in the administrative domain that has DocClass/CVL discrepancies with the domain master, run the following USGRPMIG command:

```
dtevlmig -0a -v -x current_home_library current_home_server
domain_master_library domain_master_server logfile
```

Caution See “DTEVMIG” on page 394 for complete documentation before running this utility.

- n. For each library system in the administrative domain that has DocClass/CVL discrepancies with the domain master, run the following USGRPMIG command:

```
dtevlmig -ld -v -x current_home_library current_home_server
domain_master_library domain_master_server logfile
```

Note If errors are reported, repeat this command.

- o. Run the REPLKICK utility to force Users, Groups, DocClasses, and CVLs to replicate throughout the administrative domain:

```
replkick domain_master_library domain_master_server logfile
```

See “REPLKICK” on page 414 for more information.

14. Start all library system services. See “[IDMS Service Manager](#)” on page 209 for more information.
15. Using your library system client, replicate the items and folders that you de-replicated at the beginning of this procedure.

Preparing for the Upgrade

Note If you are upgrading a library system that participates in replication (either inside or outside of an administrative domain) disregard the information below and perform the upgrade according to the procedure in “[Upgrading Replication-enabled Systems](#)” on page 141.

Before you upgrade the property server:

1. If you are upgrading from IDMDS 4.3 and SDM 4.2.1 to IDMDS 5.1 and IDM Desktop/Web 3.1, and you have existing compound documents, you must run the CDLIST utility before, and the CDMIG utility after, the IDMDS 5.1 upgrade. CDLIST and CDMIG are included in the IDMDS 5.1.1 Service Pack. Refer to “[IDMDS 5.1.1 Service Pack](#)” on page 13, “[CDLIST](#)” on page 368, and “[CDMIG](#)” on page 371.

Caution Failure to do this step will mean that IDMDS 5.x and IDM Desktop/Web 3.x will not be able to recognize and maintain the relationships between pre-existing parent and child compound document components.

2. Perform a complete backup of your existing library system.
 - a. Use your database management tools to back up the property repository database.
 Refer to “[Backing Up the Property Repository Database](#)” on page 331 for database-specific procedures.
 - b. Throughout your library system, make backup copies of the files in these directories:

Drive:\saros\LibrarySystem\content\index.**
Drive:\saros\LibrarySystem\stacks\shelfxxx.**
Drive:\saros\LibrarySystem\stacks\ldfilexxx.**
Drive:\saros\LibrarySystem\stacks\rfilexxx.**
Drive:\saros\LibrarySystem\stacks\rcmdxxx.**

Refer to “[Backing Up the Library System](#)” on page 329 for more information.

Note If you are upgrading a library system from IDMDS 5.0, skip ahead to step 5 of the procedure in “[Upgrading IDMDS on a Property Server](#)” on page 152.

3. If your IDMDS 4.3 library system contains a custom property named "Document Class" and DocTypes were not defined for this library, you must rename this custom property prior to upgrading to IDMDS 5.1. To rename the custom property, use FileShare to modify both the display name and the property name. This is necessary because during the library system upgrade, the installer creates a custom property named "Document Class" that is used to define all DocTypes for this library. This renaming must be performed on *all* library systems prior to upgrade.
4. If you want users of your upgraded library system to be able to use the Network Logon option, refer to “[Using Network Logons](#)” on page 206 for upgrade requirements.
5. Verify the tempdb size.
 - a. Start the SQL Enterprise Manager (available from Start > Programs > Microsoft SQL Server 6.5).
 - b. Expand the Databases folder until you find tempdb.

- c. Right click tempdb and select the Edit option.
 - d. On the Database tab of the Edit Databases dialog box, verify the data size. If tempdb data size is less than 10 Mbytes:
 - i. Click Expand.
 - ii. In the Data Device drop down menu, select master. The amount of space available in master (which tempdb can use) is displayed in the Size box to the right; reduce this number or allow tempdb to use the entire amount.
 - iii. Click Expand Now, and then click OK.
 - e. Exit SQL Enterprise Manager.
6. Shut down the library system.
- a. Notify users to check in all items that are currently checked out.
 - b. Notify all users to log off.
 - c. On all servers (property server and any remote servers) for the library system you are upgrading, run `mez_stop` to shut down all IDMS services. Refer to your release 4 series *IDM Document Services Administrator's Guide* for details about running this utility.
7. To ensure that all sessions are closed, use your database tools to run the following:

```
use librarysystem  
select * from sessiontab
```

If there are entries in the results, run:

```
delete from sessiontab
```

8. Before you can upgrade your database to SQL Server 7.0, you must have SQL Server 6.5 and SQL Server 7.0 both installed. To continue with the library system upgrade, refer to ["Installing the Database Engine"](#) on page 105.

Upgrading the Database

Once you have both SQL Server 6.5 and SQL Server 7.0 installed, you need to upgrade your existing library system database. When the database upgrade is complete, you can uninstall SQL Server 6.5 from the property server if you wish.

To upgrade your library system database to SQL Server 7.0:

1. If you opted in the SQL Server 7.0 installation procedure to autostart the SQL Server Upgrade Wizard, the wizard's Welcome screen is displayed when the SQL Server 7.0 installation is complete.

If you opted not to start the wizard automatically, you can start it now by selecting Start > Programs > Microsoft SQL Server Switch > SQL Server Upgrade Wizard.

On the SQL Server Upgrade Wizard's Welcome screen, click Next.

2. Complete the Data and Object Transfer screen and click Next:
 - In the "Export from 6.x Server" section, select Objects and Data.
 - In the "Import to 7.0 Server" section, select Objects and Data.
 - In the "Transfer Method" section, select Named Pipes. (Or select Tape if you are transferring your database from tape.)
 - Verification is optional.
3. Complete the Logon screen and click Next:
 - In the Export Server 6.x section, select the server from which you want to export your library system database. Enter the sa password for your SQL Server 6.x installation.
 - In the Import Server 7.0 section, select the server to which you want to import your library system database. Enter the sa password for your SQL Server 7.0 installation.
4. A message box is displayed indicating that the MSSQLServer service will need to be stopped and restarted. Click Yes.
5. On the Code Page Selection screen, verify that the correct code page is selected. Refer to ["Working with Code Pages" on page 217](#) for information about supported code page configurations.
6. On the Upgrade Databases to SQL Server 7.0 screen, select your library system database (and any other databases you want to upgrade), then click Next.
7. On the Database Creation screen, accept the defaults and click Next.
8. On the System Configuration screen, accept the defaults and click Next.
9. On the Completing the SQL Server Upgrade Wizard screen, review your selections, then click Finish.

The SQL Server Upgrade Script Interpreter will complete the upgrade.
10. To continue your property server upgrade, refer to ["Upgrading IDMS on a Property Server" on page 152](#).

Upgrading IDMS on a Property Server

To upgrade IDMS on your property server:

1. If you have not already completed the following procedures, do so now.
 - a. [“Preparing for the Upgrade” on page 149](#)
 - b. [“Installing the Database Engine” on page 105](#)
 - c. [“Upgrading the Database” on page 151](#)
2. Make sure you know the following information:
 - The name of the library system you are upgrading
 - The host name of the property server where that library system's Property Manager is installed
 - The port number that was specified when Microsoft SQL Server 7.0 was installed (default is 1433)
3. Verify your DB Library ANSI to OEM setting. Refer to [“Setting the DB Library Parameters” on page 256](#).
4. Open the Windows Control Panel and start the Services tool.
 - Stop all library system services.
 - Verify that the MSSQLServer service is started.

Refer to [“The Control Panel Services Tool” on page 212](#) for information about stopping, starting, and checking the status of services.
5. Be sure to shut down any applications, such as Enterprise Manager or Query Analyzer, that use ODBC to connect to the database.
6. Run **Drive:\Setup\Setup.exe** on the *IDM Document Services* CD-ROM.
7. Click Next on the Welcome screen. Click Yes on the License screen to accept the license agreement.
8. On the Select Setup Operation dialog box, select the Upgrade Services option and click Next.
9. On the Upgrade Library System dialog box, select the library system you want to upgrade and enter the SQL Server sa password.

In the Database Connection section:

 - Verify that the port number is the correct value (default is 1433).
 - Verify that the destination directory for the FileNET shared files is the correct location.

You can change these values if necessary.
10. A message will be displayed notifying you that Setup must stop your existing library system services. Click Yes.

Note If your server has multiple library systems installed, stopping all of the services can take a long time. For example, with eight library systems your server may appear to be hung for up to an hour. Because you manually stopped all library system services at the beginning of this procedure, you can speed up the process by pressing Ctrl-Alt-Del and selecting Task Manager, then on the Processes tab select **dsstop.exe** and click End Process.

11. A message will be displayed notifying you that Setup will move some files from the previous IDMS installation to a **Lost+Found** directory. Click OK.
12. On the Review Setup Instructions dialog box, verify your setup instructions, then click Next. Setup begins the installation.
13. The Add Default Document Class dialog box is displayed. If the library system you are upgrading does not already have a default Document Class defined, you can accept the default Document Class name of General, or change the name. Enter your IDMS administrator user name and password, click Add, then click Done. Refer to [“Document Classes and CVLs” on page 351](#) for more information.
14. On the Setup Complete dialog box, check the "Set Library System services to autostart on reboot" option, or leave this box clear if you want to manually start the services.

Select the option to perform another Setup task, restart your computer now, or restart your computer later, then click Finish.

15. When your server is rebooted, the installer will finish configuring IDMS and checking the connection with the database.
16. If you did not opt to have your library system services started automatically upon reboot, use the Control Panel Services tool to start the services manually. Refer to [“Controlling Library System Services” on page 209](#) for information about stopping, starting, and checking the status of services.
17. Run the VUPDATE utility to supply any missing version file names for the Version objects stored in the library system. Refer to [“VUPDATE” on page 440](#) and [“Upgrade Notes” on page 156](#) for information about this utility.

Note Failure to run VUPDATE can cause IDM Web Services (through which users access the library system using a web browser) to crash.

18. Read the [“Upgrade Notes” on page 156](#) for important information about your library system upgrade.
19. If you experience problems during the upgrade, refer to:
 - [“Property Server Problem Solving” on page 237](#)
 - [“Release Notes” on page 23](#)
20. If your library system has any remote storage servers, to continue your upgrade refer to [“Upgrading Remote Storage Servers” on page 154](#).

Upgrading Remote Storage Servers

When you upgrade a remote Storage Manager, if it has an associated Content Search Manager, it is also upgraded and its indices are rebuilt. The upgrade procedure does not modify or remove any existing document versions in the storage repositories associated with the Storage Manager.

Note Because replicated library systems communicate with each other, you must upgrade all servers that participate in replication servers at the same time.

To upgrade a Storage Manager (and its associated Content Search Manager if installed) on remote storage server:

1. Verify that you have completed the required steps listed in the [“Upgrade Roadmap” on page 92](#).
2. Make sure you know the following information:
 - The name of the library system
 - The name of the server where that library system's Property Manager is installed
 - The port number for the property server database (default is 1433)
3. On the property server for the library system whose remote services are being upgraded, open the Windows Control Panel and start the Services tool. Verify that the MSSQLServer service is running.

If it is not currently running, start it. Refer to [“The Control Panel Services Tool” on page 212](#) for information about stopping, starting, and checking the status of services.

4. Perform the remaining steps of this procedure on the remote server being upgraded.

Be sure to shut down any applications, such as Enterprise Manager or Query Analyzer, that use ODBC to connect to the database.
5. Run **Drive:\Setup\Setup.exe** on the *IDM Document Services* CD-ROM.
6. On the Select Setup Operation dialog box, select Upgrade Services.
7. On the Upgrade Library System dialog box, select the library system you want to upgrade and enter the Oracle Internal password.

In the Database Connection section:

- Verify that the port number is the correct values for the database of the library system being upgraded.
- Verify that the destination directory for the FileNET shared files is the correct location.

You can change these values if necessary.

8. A message will be displayed notifying you that Setup must stop your existing library system services. Click Yes.
9. A message will be displayed notifying you that Setup will move some files from the previous IDMS installation to a **Lost+Found** directory. Click OK.

10. On the Review Setup Instructions dialog box, verify your setup instructions, then click Next. Setup begins the installation.
11. On the Setup Complete dialog box, check the "Set Library System services to autostart on reboot" option, or leave this box clear if you want to manually start the services.

Select the option to perform another Setup task, restart your computer now, or restart your computer later, then click Finish.
12. When your server is rebooted, the installer will finish configuring IDMSD and checking the connection with the database.
13. If you did not opt to have your library system services started automatically upon reboot, use the Control Panel Services tool to start the services manually. Refer to ["Controlling Library System Services" on page 209](#) for information about stopping, starting, and checking the status of services.
14. If you experience problems during the upgrade, refer to:
 - ["Property Server Problem Solving" on page 237](#)
 - ["Release Notes" on page 23](#)
15. Read the ["Upgrade Notes" on page 156](#) for important information about your library system upgrade.

Upgrade Notes

- Migration utilities:
 - If your existing library system contains pre-IDMDS 5.0 (Custom object based) compound documents, you must run the CDMIG utility to perform a batch migration of existing compound document relationships so they are supported by IDMDS 5.x and IDM Desktop/Web 3.1. CDMIG and its associated CDLIST utility are included in the IDMDS 5.1.1 Service Pack. Refer to “[IDMDS 5.1.1 Service Pack](#)” on page 13, “[CDLIST](#)” on page 368, and “[CDMIG](#)” on page 371.
 - If your existing library system contains IDMDS searches (Search objects) that are associated with SDM smart folders, run the SRLIST utility to produce a list of these searches. Using this list, you can manually create comparable IDM Desktop searches and/or search templates and store them in appropriate folders (as Item objects). Refer to “[SRLIST](#)” on page 420.

Note This utility lists only Search objects that are associated with SDM smart folders. Use the IDMDS System Administration Tools to locate other Search objects that SDM, FileShare, or any non-IDM Desktop users may have added to the library system. Then, use IDM Desktop to recreate any of these searches you want to retain for IDM Desktop or IDM Web users.

Optionally, once you have located all the Search objects that are important to you, and recreated them using IDM Desktop, you can delete the older Search objects from the library system. (Or you can retain them for administrators/users running either IDMDS System Administration Tools or custom client applications built around IDMDS Search objects.)

- IDM Desktop 3.1, the client for IDMDS 5.x, requires version file names in order to display icons in search results. If the version file name is missing (typically the case for document versions checked in by older user interfaces, such as Saros Document Manager) IDM Desktop must do additional processing to determine an appropriate substitute. This can significantly degrade performance. If your existing library system contains documents with Version objects that do not have a value in the File Name property, you must run the VUPDATE utility (refer to “[VUPDATE](#)” on page 440) to prevent degraded performance. VUPDATE performs a batch update to enter version file names where missing.

Note Failure to run VUPDATE can also cause IDM Web Services (through which users access the library system using a web browser) to crash.
- Install Shield creates several temporary files in your \TEMP directory that IDMDS installer cannot remove (for example, _istmp1.dir, _istmp2.dir, _istmp3.dir). After the installation is complete you can delete these files manually.
- During the upgrade, a new ODBC data source (*SSLibrarySystem*) for the Content Search Manager's Fulcrum search engine is created. It does not require user configuration.
- IDMDS 5.1 dynamically allocates port numbers for the Storage Manager and the Content Search Manager, and therefore does not write anything into the **\etc\services** file. However, when upgrading to IDMDS 5.1, if the upgrade program finds ports already assigned in the **\etc\services** file, it will continue to use them; if it does not, it will dynamically allocate ports.

Migrating to Windows 2000

To migrate IDMS servers from Windows NT to Windows 2000, see:

- [“Migrating a Property Server to Windows 2000” on page 157](#)
- [“Migrating a Remote Storage Server to Windows 2000” on page 160](#)

Migrating a Property Server to Windows 2000

To migrate an IDMS property server from Windows NT to a Windows 2000 server:

1. Shut down the library system.
 - a. Notify users to check in all items that are currently checked out.
 - b. Notify all users to log off.
 - c. On all servers (property server and any remote servers) for the library system you are migrating, stop all library system services.
2. Perform a complete backup of your existing library system.
 - a. Use your database management tools to back up the property repository database. Refer to [“Backing Up the Property Repository Database” on page 331](#) for the procedure.
 - b. Throughout the library system, make backup copies of the files in these directories:

```
Drive:\idmds\LibrarySystem\content\index\*. *  
Drive:\idmds\LibrarySystem\stacks\shelfxxx\*. *  
Drive:\idmds\LibrarySystem\stacks\dfilexxx\*. *  
Drive:\idmds\LibrarySystem\stacks\rfilexxx\*. *  
Drive:\idmds\LibrarySystem\stacks\rcmdxxx\*. *
```

Refer to [“Backing Up the Library System” on page 329](#) for more information.

3. Verify that the server to which you are migrating is in compliance with the [“Server Hardware Requirements \(Windows 2000\)” on page 98](#).
4. Install Windows 2000 on the intended property server, making sure your system is in compliance with:
 - [“Certified Server Software Requirements \(Windows 2000\)” on page 101](#)
 - [“Server Name Requirements” on page 103](#)

For additional information on installing Windows 2000, refer to the Microsoft documentation.

5. If you did not add the server to a Windows 2000 domain during Setup, add it now:

- a. Open the Windows 2000 Control Panel and start the System tool.
 - b. Go to the Network Identification tab and click Properties.
 - c. Select the Domain radio button and enter your domain name. For example, to join the **MYDOM.LOCAL** domain, type in **MYDOM** and click OK.
 - d. Reboot the server.
6. Install and configure your property repository database as specified in “Preparing the Database” on page 105.

Be sure to set the following just as they were in your original library system:

- character set
 - sort order
 - database name
 - database and transaction log sizes (must be at least as big as your original library system)
7. Restore your property repository database from backup. Because you are restoring the backup to a new installation of Microsoft SQL Server, Enterprise Manager will not have a record of it. You will have to restore the database from a backup file. For example, to restore a file named **zipper_bak** to a newly created database named zipper, you could:
- a. Copy the **zipper_bak** file to your server's **C:\MSSQL7\Backup** directory (the default location for database backup files).
 - b. Start Enterprise Manager, expand your server's tree, and open the Databases folder.
 - c. Right click **zipper**, the database you are going to restore, and select All Tasks > Restore Database.
 - d. Select the Restore from Device option and click Select Device.
 - e. Click Add and select the file you are restoring from (**C:\MSSQL7\Backup\zipper_bak** in this example). Click OK twice to return to the Restore database dialog box.
 - f. On the Options tab, check the "Force restore over existing database" checkbox.
 - g. Click Ok to restore the database.

Refer to *Microsoft SQL Server Books Online* for more information.

8. To reinstall the library system on the Windows 2000 server, log on as local Administrator and run **Drive:\Setup\Setup.exe** on the *IDM Document Services* CD-ROM. Complete the Setup dialog boxes, referring to “IDMDS Installation Settings” on page 113.

Note When running IDMDS Setup, it is important that you log on as *local* Administrator and not Domain or Enterprise Administrator.

At the end of the setup process, the server is rebooted. The installer will then finish configuring IDMDS and checking the database connection.

9. For IDMDS 5.1 to run without Active Directory support on a Windows 2000 server, no FileNET patches are required. For limited Active Directory support, enabling IDMDS Service Manager to monitor and control library system services remotely, you must apply the IDMDS 5.1.1 Service Pack. Refer to [“IDMDS 5.1.1 Service Pack” on page 13](#).
10. To enable remote monitoring and control of IDMDS services, the Domain Admins and Enterprise Admins groups must belong to the local Administrators group on your IDMDS server. To add these groups, log on to your IDMDS server as a user with at least local Administrator rights and:
 - Right click My Computer and select Manage from the menu.
 - Go to Local Users and Groups > Groups > Administrators.
 - On Administrators Properties, click Add.
 - On Select Users or Groups, select your domain from the Look In list.
 - Select Domain Admins and click Add, then select Enterprise Admins and click Add.
 - Click OK on Select Users or Groups, then click OK on Administrators Properties to add the groups.
11. The first time IDMDS Service Manager starts a library system, it creates an Active Directory object on the domain controller for each of the library system services.

Note In the Active Domain hierarchy, these objects appear under your server's Computer object as: **SHF_LibrarySystem** for Storage Managers, **CSMGR_LibrarySystem** for Content Search Managers, and **REPL_LibrarySystem** for Replication Daemons.

To start your newly installed library system and register its services with Active Directory:

- a. Log on to the property server as a user with Domain Admin or Enterprise Admin rights. This is necessary so IDMDS Service Manager will be able to create new Active Directory objects on the domain controller.
- b. Display the IDMDS Service Manager (available via the library icon in the System Tray at the far right of the Windows Taskbar, or by executing **Drive:\idmds\dsstatus.exe**).
- c. If the Service Manager does not show all of the local IDMDS services as started, start them now.

Refer to [“IDMDS Service Manager” on page 209](#) for details about controlling IDMDS services, locally or throughout an Active Directory forest.

12. Restore all repositories from backup. Make sure to recreate the exact directory structures required. For example, for a second storage repository, you would create **Drive:\Idmds\LibrarySystem\stacks\shelf002**.
13. If your new Windows 2000 server has a different name than your old server, before performing the remaining steps of this procedure refer to [“Restoring a Library System to a Different Server” on page 336](#).
14. Restore any associated remote Storage Managers and Content Search Managers, making sure to reference the new property server. Refer to [“Migrating a Remote Storage Server to Windows 2000” on page 160](#).

15. Start the library system services. Refer to “[IDMDS Service Manager](#)” on page 209 for information about starting, stopping, and monitoring the status of services, locally or on other IDMDS servers within your Active Directory forest.
16. For every storage repository and content search repository that you have restored, run the REPCHECK utility to report any inconsistencies between the database and the storage repositories or content search repositories. See “[REPCHECK](#)” on page 410 for more information.
17. Check to see whether REPCHECK moved any files to the **lost+found** directory (located one directory up from storage repository directory). The library system administrator must take the appropriate action to address each file that appears in **lost+found**. For example, you may need to add the file to the appropriate storage repository (making the necessary modifications to the Property Manager) or you may need to delete the file.

Migrating a Remote Storage Server to Windows 2000

To migrate an IDMDS remote storage server from Windows NT to a Windows 2000 server:

1. Shut down the library system.
2. If you have not already backed up the following files on the remote storage server, do so now:

```
Drive:\idmds\LibrarySystem\content\index\*. *
Drive:\idmds\LibrarySystem\stacks\shelfxxx\*. *
Drive:\idmds\LibrarySystem\stacks\dfilexxx\*. *
Drive:\idmds\LibrarySystem\stacks\rfilexxx\*. *
Drive:\idmds\LibrarySystem\stacks\rcmdxxx\*. *
```

Refer to “[Backing Up the Library System](#)” on page 329 for more information.

3. Verify that the server to which you are migrating is in compliance with the “[Server Hardware Requirements \(Windows 2000\)](#)” on page 98.
4. Install Windows 2000 on the intended remote storage server, making sure your system is in compliance with:
 - “[Certified Server Software Requirements \(Windows 2000\)](#)” on page 101
 - “[Server Name Requirements](#)” on page 103

For additional information on installing Windows 2000, refer to the Microsoft documentation.

5. If you did not add the server to a Windows 2000 domain during Setup, add it now:
 - a. Open the Windows 2000 Control Panel and start the System tool.
 - b. Go to the Network Identification tab and click Properties.
 - c. Select the Domain radio button and enter your domain name. For example, to join the **MYDOM.LOCAL** domain, type in **MYDOM** and click OK.
 - d. Reboot the server.

6. To reinstall IDMDS components on the Windows 2000 server, log on as local Administrator. Run **Drive:\Setup\Setup.exe** on the *IDM Document Services* CD-ROM. Complete the Setup dialog boxes, referring to “[Installation Settings for Additional Components](#)” on page 126.

Note When running IDMDS Setup, it is important that you log on as *local* Administrator and not Domain or Enterprise Administrator.

At the end of the setup process, the server is rebooted. The installer will then finish configuring IDMDS and checking the database connection.

7. For IDMDS 5.1 to run without Active Directory support on a Windows 2000 server, no FileNET patches are required. For limited Active Directory support, enabling IDMDS Service Manager to monitor and control library system services remotely, you must apply the IDMDS 5.1.1 Service Pack. Refer to “[IDMDS 5.1.1 Service Pack](#)” on page 13.
8. To enable remote monitoring and control of IDMDS services, the Domain Admins and Enterprise Admins groups must belong to the local Administrators group on your IDMDS server. To add these groups, log on to your IDMDS server as a user with at least local Administrator rights and:
 - Right click My Computer and select Manage from the menu.
 - Go to Local Users and Groups > Groups > Administrators.
 - On Administrators Properties, click Add.
 - On Select Users or Groups, select your domain from the Look In list.
 - Select Domain Admins and click Add, then select Enterprise Admins and click Add.
 - Click OK on Select Users or Groups, then click OK on Administrators Properties to add the groups.
9. The first time IDMDS Service Manager starts a library system, it creates an Active Directory object on the domain controller for each of the library system services.

Note In the Active Domain hierarchy, these objects appear under your server's Computer object as: **SHF_LibrarySystem** for Storage Managers, **CSMGR_LibrarySystem** for Content Search Managers, and **REPL_LibrarySystem** for Replication Daemons.

To start your newly installed library system and register its services with Active Directory:

- a. Log on to the property server as a user with Domain Admin or Enterprise Admin rights. This is necessary so IDMDS Service Manager will be able to create new Active Directory objects on the domain controller.
- b. Display the IDMDS Service Manager (available via the library icon in the System Tray at the far right of the Windows Taskbar, or by executing **Drive:\idm\dsstatus.exe**).
- c. If the Service Manager does not show all of the local IDMDS services as started, start them now.

Refer to “[IDMDS Service Manager](#)” on page 209 for details about controlling IDMDS services, locally or throughout an Active Directory forest.

10. If your new Windows 2000 server has a different name than your old server, before performing the remaining steps of this procedure refer to “[Restoring a Storage Manager to a Different Server](#)” on

page 339 (and “Restoring a Content Search Manager to a Different Server” on page 342 if any Content Search Managers are installed).

11. Restore all repositories from backup. Make sure to recreate the exact directory structures required. For example, for a second storage repository, you would create **Drive:\ldm\LibrarySystem\stacks\shelf002**.
12. Start the library system services.
13. For every storage repository and content search repository that you have restored, run the REPCHECK utility to report any inconsistencies between the database and the storage repositories or content search repositories. See “REPCHECK” on page 410 for more information.
14. Check to see whether REPCHECK moved any files to the **lost+found** directory (located one directory up from storage repository directory). The library system administrator must take the appropriate action to address each file that appears in **lost+found**. For example, you may need to add the file to the appropriate storage repository (making the necessary modifications to the Property Manager) or you may need to delete the file.

Configuring IDMDS

After you have installed the IDMDS software, you will need to configure the library system to meet the specific requirements of your site. We recommend that you use the checklist provided in [“Configuration Roadmap” on page 89](#).

The topics in this section of the online help describe the settings you will likely be concerned with during the initial configuration of a library system. These settings are based on properties in the System object that provide system-wide default values or control mechanisms for various system functions. Refer also to the [“Administration Guide” on page 245](#) for additional management and configuration information.

The IDMDS Configuration Tool



The IDMDS Configuration tool (available in the Windows Control Panel) allows you to view or edit many of a library system's configuration parameters.

- [“IDMDS Configuration Tool Installation Tab” on page 164](#) allows you to view (not edit) many of the installation parameters for a selected library system.
- [“IDMDS Configuration Tool Storage Manager Tab” on page 166](#) allows you to view or edit many of the Storage Manager configuration settings for a selected library system.
- [“IDMDS Configuration Tool Replication Tab” on page 169](#) allows you to view or edit many of the Replication Services configuration options for a selected library system.
- [“IDMDS Configuration Tool User Import Tab” on page 179](#) provides GUI controls for a tool you can use to import users and groups from your network domains into your library systems.

IDMDS Configuration Tool Installation Tab



If your server has components for multiple library systems installed, you can select the library system whose configuration you want to view. All other fields on this tab are read-only; they display configuration parameters that were set during installation and cannot be changed.

Field	Description
Database type	The type of database management system you are using for all library systems on this server.
IDMDS version	The version number of the IDMDS software currently installed on this server.
Root directory	The top-level directory where the IDMDS software is installed.
Database installed on	The drive letter of the disk on which the property manager database is installed.
Replication installed on	The drive letter of the disk on which the Replication daemon is installed (if it is installed).

Library Systems

This section of the tab displays installation parameters specific to the selected library system.

Field	Description
Library system	Select the name of the library system whose configuration you want to view.
Storage Manager	The host name and drive letter on which the initial Storage Manager is installed.
Content Search	The host name and drive letter on which the initial Content Search Manager is installed (if installed).
Replication	The property server host name and root directory where the Replication daemon for this library system is installed (if it is installed).
Content Search	Engine char set: The character set used during indexing and searching. Engine char filt: The filter used during indexing.

Field	Description
Content Index Creation	Engine normalize: The normalization setting used during content search repository creation. Engine stop file: The Search Server stopfile used during content search repository creation.
Content Search Filter	Filter char set: The character set used in filtering. Filter file format: The file format expected during filtering.

IDMS Configuration Tool Storage Manager Tab



This tab allows you to view or edit many of the Storage Manager configuration options for a selected library system.

Note If you make changes to the data in any of the editable fields, you must click Apply and then stop and restart the library system services for your changes to take effect. Refer to “[Controlling Library System Services](#)” on [page 209](#) for information about stopping, starting, and checking the status of services.

Field	Description
Library system	Select the name of the library system whose configuration you want to view or edit.
Property server	The host name of the server on which the selected library system is installed. This value is set when you install the library system and cannot be edited with the IDMS Configuration tool.
Log file	The path and file name of the circular log of Storage Manager operations. This file will grow no larger than the specified Max file size before looping back and overwriting itself. By default, no log file is specified.
Max file size	Indicates the maximum number of kilobytes of processing information the circular log file will hold before looping back and overwriting itself. Default is 256.
Log SQL statements	If this box is checked, all generated SQL calls will be logged. Default is not to log SQL calls.
Log console	If this box is checked, logging information is written directly to the console window associated with the process. Default is not to send logging information to the console.
DB heart beat	Seconds: The interval for checking whether the library system database is running. Default is 300. Offset: A modifier for offsetting the start time of DB heart beat interval. Default is 0 seconds.
DB threshold	Seconds: The interval for checking whether the database has reached its maximum disk-space threshold. Default is 300. Offset: A modifier for offsetting the start time of DB threshold. Default is 38 seconds.

Field	Description
DB error log	<p>Seconds: The interval for checking for errors posted in the database error log file. Default is 300.</p> <p>Offset: A modifier for offsetting the start time of DB error log. Default is 75 seconds.</p>
Reclaim check	<p>Seconds: The interval at which the reclaim daemon runs to process queued reclaim requests. Default is 300.</p> <p>Offset: A modifier for offsetting the start time of Reclaim Check. Default is 112 seconds.</p>
CS index	<p>Seconds: The interval at which the Content Search daemon runs. Default is 300.</p> <p>Offset: A modifier for offsetting the start time of CS Index. Default is 150 seconds.</p>
Client threads	<p>Slow: The default number of Slow Client threads/processes to start. Default is 20.</p> <p>Medium: The default number of Medium Client threads/processes to start. Default is 0.</p> <p>Fast: The default number of Fast Client threads/processes to start. Default is 1.</p>
Admin threads	<p>Slow: The default number of Slow Admin threads/processes to start. Default is 1.</p> <p>Medium: The default number of Medium Admin threads/processes to start. Default is 0.</p> <p>Fast: The default number of Fast Admin threads/processes to start. Default is 1.</p>
Daemon threads	<p>Slow: The default number of Slow Daemon threads/processes to start. Default is 1.</p> <p>Medium: The default number of Medium Daemon threads/processes to start. Default is 1.</p> <p>Fast: The default number of Fast Daemon threads/processes to start. Default is 1.</p>
Auto archive delay	<p>Delays autoarchiving of versions following a checkin. May improve performance of some user interfaces that run on IDMDS by eliminating database update contentions. The integer value you enter is the number of seconds of delay. Default is 5.</p>
Max clients waiting	<p>The maximum number of clients allowed to wait in the worker queue. Default is 8.</p>

Field	Description
Max connects waiting	The maximum number of clients allowed to wait in the communications listening queue. Default is 5.
Shelf debug	If this box is checked, a special internal DEBUG flag is set for storage repository (shelf) processes to use. Default is cleared (off).
Enable test server	If this box is checked, additional debugging information is logged.
Secure Deletes	<p>These options control the IDMS Secure Document Delete feature. Refer to “Secure Document Delete” on page 323 for details.</p> <ul style="list-style-type: none"> • No secure deletes Ordinary delete operation is performed; files are not overwritten before being deleted. • One Scrub Files are overwritten with zeroes once before being deleted. This level corresponds to the <i>Clear</i> definition of the DOD 5220.22-M specification. • Three Scrubs Files are overwritten once with an arbitrary character, again by the character's complement, and finally by a random character before being deleted. This level corresponds to the <i>Purge</i> or <i>Sanitize</i> definition of the DOD 5220.22-M specification.

IDMDS Configuration Tool Replication Tab



You use the IDMDS Configuration Tool Replication tab to control replication configuration options for a library system. These configuration settings were stored in the repl.ini file in IDMDS versions 4.3 and earlier.

Field	Description
Error Alert To	<p>The computer name where an alert message is sent (using NetSendMessage) when an error occurs.</p> <p>The default is an empty field.</p>
Wakeup Seconds	<p>The approximate latency period (in seconds) the Replication Daemon uses before beginning to process replication requests for the associated Replication Services. The default is 30 seconds.</p> <p>Note You cannot set this value to 0, so that Replication Daemon runs continuously.</p>
Log File	<p>The name of the replication log file stored in the <code>\idmids\repl</code> subdirectory. The default file name is repl.log. If you do not enter a valid file name, the log file is not created.</p>
Max Size	<p>The maximum size (in kilobytes) of the replication log file. The default is 128.</p>
Truncate To	<p>The size (in kilobytes) used for truncating the replication log file when the On Startup or When Full options are set to TRUNCATE. The default is 16.</p>
Logons	<p>Determines whether login attempts to the library systems on this property server are automatically logged in the replication log file.</p> <p>Select one of the following values (default is 5):</p> <ul style="list-style-type: none"> • ALWAYS All login attempts are logged. • ERROR Only login attempts resulting in a failure are logged. • <i>N</i> All login attempts after the specified number (<i>N</i>) of consecutive failed login attempts are logged. The default is 5. • NEVER No login attempts are logged.

Field	Description
On Startup	<p>Determines the action the Replication Daemon performs when opening the replication log.</p> <p>Select one of the following values (default is APPEND):</p> <ul style="list-style-type: none"> • APPEND Adds the new log entries to the end of the current replication log file. • EMPTY Deletes the previous entries in the log. • TRUNCATE Removes the oldest entries in the log until the replication log is no greater than the size specified in the Truncate To option.
When Full	<p>Determines the action taken when the replication log file is full, based on the Max Size setting.</p> <p>Select one of the following values (default is TRUNCATE):</p> <ul style="list-style-type: none"> • EMPTY Deletes the previous entries and resumes logging. • STOP Ends replication logging. • TRUNCATE Removes the oldest entries in the log until the replication log is no greater than the size specified in the Truncate To option and resumes logging.
Full Alert To	<p>The computer name where an alert message is sent (using NetSendMessage) when the replication log file becomes full, based on the MaxSize parameter.</p> <p>The default is an empty list.</p>
Requests	<p>Determines whether the creation of work requests for the target libraries is automatically logged. Work requests are created on the original library.</p> <p>Select one of the following values (default is ERROR):</p> <ul style="list-style-type: none"> • ALWAYS All work requests are logged. • ERROR Only failed work requests are logged. • NEVER No work requests are logged.

Field	Description
Targets	<p>Determines whether the processing of work requests by the target libraries is automatically logged. Work requests are executed by the target library.</p> <p>Select one of the following values (default is ERROR):</p> <ul style="list-style-type: none"> • ALWAYS All work requests are logged. • ERROR Only failed work requests are logged. • NEVER No work requests are logged.
API	<p>Determines whether IDM Document Services SQL log messages are written to the replication log file.</p> <p>Select one of the following values (default is NEVER):</p> <ul style="list-style-type: none"> • ALWAYS All log messages are logged. Use this setting only when troubleshooting because it can expand the replication log file considerably. • NEVER No log messages are logged.
Library System	The name of the library system to be managed by the Replication Daemon. Select a library system from the drop-down list.
Property Server	Displays the name of the property server for the selected library system.
Remote Interval	<p>Specifies how often (in minutes) the Replication Daemon checks and updates replicas on this library system. The default is 5 minutes.</p> <p>Note You cannot set this value to 0, so that Replication Daemon runs continuously.</p> <p>This setting is used in conjunction with the time ranges specified using the Run Times button.</p>

Field	Description
Index Replicas	<p>Determines whether document replicas are indexed for content search on the target library system.</p> <p>Select one of the following values (default is ITEM):</p> <ul style="list-style-type: none"> • DEFAULT Use the Default Index Versions setting from the target library system to determine whether to index replicas. • ITEM Determines whether to index the replica based on the Index setting from the version being replicated. • NO Never index replicas on this library system. • YES ALWAYS index replicas on this library system.
Replica Online Limit	<p>Determines the online limits of document replicas on the target library system.</p> <p>Because replicas are exact copies of the original document, we recommend using the default setting of 1.</p> <p>Select one of the following values (default is 1):</p> <ul style="list-style-type: none"> • DEFAULT Use the Online Limit setting for this library system as the setting for replicas. • ITEM Use the Online Limit setting from the original document as the setting for replicas. • N Use this exact number as the Online Limit setting for document replicas.

Field	Description
Replica Index Limit	<p>Determines the index limits used for document replicas on this library system.</p> <p>Because replicas are exact copies of the original document, we recommend using the default setting of 1.</p> <p>Select one of the following values (default is 1):</p> <ul style="list-style-type: none">• DEFAULT Use the Index Version Limits setting for this library system as the setting for replicas.• ITEM Use the Index Version Limits setting from the original document as the setting for replicas.• N Use this exact number as the Index Version Limit setting for document replicas.

Field	Description
Item Title Format	<p>Determines the display text for the document title on the target library system. To help your end users identify the original library for a document, you can include the Library constant (%l) in the document title.</p> <p>The default (%t) displays the document title. You can specify one or more of the following constants in any combination:</p> <ul style="list-style-type: none"> • %l Inserts the name of the original library system for the original document. • %o Inserts the document ID of the original document. • %s Inserts the name of the property server for the library system in which the original document is located. • %t Inserts the title of the original document. Replication Services always appends this constant if it is not already specified in the format string. • %% Inserts a percent (%) character. This constant allows you to include a literal percent character in your format string. Replication Services treats any other characters not preceded by a percent character as literals. <p>Any additional characters you specify will also appear in the title.</p> <p>If quotes (single or double) appear at the beginning and end of the format string, a space is added to the beginning and end of the title.</p> <p>Examples:</p> <p>[%l]%t Displays as: [Library]Title</p> <p>[%s:%l]%t Displays as: [Server:Library]Title</p> <p>%t-> Replica Displays as: Title-> Replica</p> <p>Alt+0174%t (press the Alt key and type 0174 on the numeric keypad) Displays as: ®Title</p>

Field	Description
Folder Title Format	<p>Determines the display text for the folder title on the target library system. To help your end users identify the original library for a folder, you can include the Library constant (%) in the folder title.</p> <p>The default (%t) displays the folder title. You can specify one or more of the following constants in any combination:</p> <ul style="list-style-type: none"> • %l Inserts the name of the original library system for the original folder. • %s Inserts the name of the property server of the library system in which the original folder is located. • %t Inserts the title of the original folder. Replication Services will append this constant if it is not already specified in the format string. This action ensures that Replication Services cannot inadvertently create replicas having improper identification. • %% Inserts a percent (%) character. This allows you to include a literal percent character in your format string. Replication Services treats any other characters not preceded by a percent character as literals. <p>Any additional characters you specify will also appear in the title.</p> <p>If quotes (single or double) appear at the beginning and end of the format string, a space is added to the beginning and end of the title.</p> <p>Examples:</p> <p>[%l]%t Displays as: [Library]Title</p> <p>[%s:%l]%t Displays as: [Server:Library]Title</p> <p>%t-> Replica Displays as: Title-> Replica</p> <p>Alt+0174%t (press the Alt key and type 0174 on the numeric keypad) Displays as: ®Title</p>

Field	Description
Replicate Item ACLs	<p>Determines whether the access list (ACL) for a document replica is based on the access list of the original document. The default is Checked.</p> <p>Select one of the following values:</p> <ul style="list-style-type: none"> <p>Checked</p> <p>Inside an administrative domain, the access list for a document replica contains the ReplDeamon user with Owner access rights and the access list entries from the original document (with no entry having greater than Author access rights).</p> <p>Outside an administrative domain, a document replica receives an access list containing the ReplDaemon user with Owner access rights and the access list entries from the original document (with no entry having greater than Viewer access rights). However, the users and groups from the ACL of the original document must also exist on the target library system. If a user or group does not exist on the target library system, the user or group entry is not included in the document replica access list.</p> <p>Unchecked</p> <p>Inside an administrative domain, a document replica receives an access list containing the target library system's ReplDaemon user with Owner access rights and the ReplDaemon user's Default Item Access List entries. Using IDMS System Administration Tools, you can modify the default item access list in the ReplDaemon's User object profile. No document replica ACL will have greater than Author access rights.</p> <p>Outside an administrative domain, a document replica receives an access list containing the target library system's ReplDaemon user with Owner access rights and the ReplDaemon user's Default Item Access List entries. Using IDMS System Administration Tools, you can modify the default item access list in the ReplDaemon's User object profile. No document replica ACL will have greater than Viewer access rights.</p>

Field	Description
Replicate Folder ACLs	<p>Determines whether the access list (ACL) for a folder replica is based on the access list of the original folder. The default is Checked.</p> <p>Select one of the following values:</p> <ul style="list-style-type: none"> Checked Inside or outside an administrative domain, a folder replica receives an access list containing the ReplDaemon user with Owner access rights and the access list entries from the original folder (with no entry having greater than Author access rights). However, outside an administrative domain, the users and groups from the ACL of the original folder must also exist on the target library system. If a user or group does not exist on the target library system, the user or group entry is not included in the folder replica access list. Unchecked Inside or outside an administrative domain, a folder replica receives an access list containing the ReplDaemon user with Owner access rights and General Users with Viewer access rights. This setting provides view-only documents for broad use.
Replicate Storage Category	<p>Determines whether the storage category assigned to document replicas on the target library system is the same as the original document's storage category. The storage category must already exist on the target library system. It will not be replicated from the original library system.</p> <p>The default is Checked.</p> <p>If you uncheck this option, Replication Services uses the ReplDaemon user's default storage category for the replicas. Using IDMS System Administration Tools, you can modify the default storage category in the ReplDaemon's User object profile.</p>
Replicate Archive Category	<p>Determines whether the archive category assigned to document replicas on the target library system is the same as the original document's archive category. The archive category must already exist on the target library system. It will not be replicated from the original library system.</p> <p>The default is Checked.</p> <p>If you uncheck this option, Replication Services uses the ReplDaemon user's default archive category. Using IDMS System Administration Tools, you can modify the default archive category in the ReplDaemon's User object profile.</p>

Field	Description
Run Times	Click the Run Times button to specify the time range during which the Replication Daemon synchronizes replicas on this library system with the original objects. The default is the range 00:00-23:59 for each day of the week.

IDMDS Configuration Tool User Import Tab



This tab is available on property servers only (not on remote storage servers). It provides GUI controls for the User Import Tool, which you can use to enable one-way synchronization of your library system groups and users with your network domain groups and users.

User Import Overview

Caution Because the User Import tool can affect the accessibility and security of the data in your library systems, unless you are very familiar with Windows NT domains we recommend you use this tool only in single domain or simple multi-domain environment. If you wish to use it in a more complex domain configuration, we suggest you first run it thoroughly with your configuration in a test environment so that you understand how the User Import features can be used to dynamically add and delete users and groups.

The User Import Tool consists of a single program, **dirsync.exe**, which runs on the property server as a daemon under a selected library system's Storage Manager. When enabled, the daemon performs ongoing one-way synchronization of group and user information from selected network domains to a selected library system database; it does not propagate changes from the library system database back to the network domains.

For each network domain group that you select for processing, the User Import Tool first determines whether the group name already exists in the library system database.

Note The following changes to library system Group and User objects are subject to the setting of the Imported Group? and Imported User? properties (described below). These properties are described in the next topic.

- If the group name *does not* already exist in the library system, User Import adds it and processes its userid list as follows:
 - For userids that are new to the library system, the domain group being processed is assigned as the user's default group in the library system.
 - For userids that already exists in the library system, the name of the domain group being processed is added to the user's group list in the library system.
- If the group name *does* already exist in the library system, User Import merges the domain group's user list with the library system group's users list, processing userids as follows:
 - For userids that exist in the domain group but not in the library system, the user is added to the library system and the domain group being processed is assigned as the default library system group.
 - For userids that exist in the domain group and in the library system, their associated library system group list is updated.
 - For userids that exist in the library system group but not in the domain group, the user is removed from the library system group.

- For userids that exist in the library system group but not in the domain group or in the NT domain userid list, the user is deleted from the library system.

For details about what IDMDS group and user information the User Import Tool updates, and where it gets the update information, refer to [“User Import Preview Transaction File” on page 188](#).

The Imported Group? and Imported User? Properties

IDMDS Group and User objects each have a property that determines whether User Import will keep them synchronized with their respective network domain sources.

- The Group object **Imported Group?** property indicates whether the group's name and property information are imported from, and regularly synchronized with, the network domain group information. This property is initially set to Yes if the group is imported by the User Import tool and No if added and maintained manually via the IDMDS System Administration Tools. Refer to *IDMDS Explorer Online Help* for information about how you can change the value manually.
- The User object **Imported User?** property indicates whether the user's name and property information are imported from, and regularly synchronized with, the network domain user information. This property is initially set to Yes if the user is imported by the User Import tool and No if added and maintained manually via the IDMDS System Administration Tools. Refer to *IDMDS Explorer Online Help* for information about how you can change the value manually.

Note If this property is set to Yes for a user who was *not* imported from an NT domain userid list, IDMDS will delete that user from the library system. This property is not automatically set to Yes for the Administrator userid in the library system; it is left blank.

For guidelines on using these properties, refer to [“User Import Tool Usage Guidelines” on page 182](#). For instructions on how to change the value of these properties, refer to the *IDMDS Explorer Online Help*.

Passwords for Imported Users

The User Import Tool assigns each imported user an encrypted, unknown password. The imported users can then log on to the library system using the Network Logon option. Refer to [“Using Network Logons” on page 206](#) for information about this feature.

If your site does not use the Network Logon option, the password for each imported user must be changed immediately after import. As system administrator, you can do this manually by changing each User object's Password property, or you may instead want to run a Bulk Modify process to set the Password property to a known value or blank, and then notify all imported users to change their password to a unique value only they know. Refer to *IDMDS Administrative Tools Online Help* for procedures.

Using the User Import Tool

Note The following is the recommended procedure for using the User Import Tool. This procedure requires that you generate and review a preview transaction file before you import users and groups to your library system. The procedure also recommends that you disable the tool after you have finished importing users and groups.

While it is possible to have the User Import Tool continuously synchronize your library system and Windows NT domain users and groups, before you pursue such a strategy, you should thoroughly review this documentation to understand the implications and risks.

To configure and start or stop the User Import Tool:

1. Open the Windows Control Panel and start the IDMDS Configuration Tool.
2. Select the User Import tab.
3. In the Library System list box, select the name of the library system for which you want to set up NT Directory Synchronization.
4. In the Run interval field, specify how often (in seconds) you want the daemon to run. The default is to run hourly (every 3600 seconds). The ideal value for this field will depend on how you plan to use the tool. If you plan to synchronize users and groups and then disable the tool, as recommended by this procedure, you may want to specify a shorter interval (for example, 360 seconds). However, if you plan to continuously synchronize IDMDS and domain users and groups, you may want a higher interval (for example, 86,400 seconds so the daemon runs daily).

If you wish, you can enter an offset value (in seconds) to offset the daemon's starting time from other processes that run under the Storage Manager. Refer to ["IDMDS Configuration Tool Storage Manager Tab"](#) on page 166 for information about the other Storage Manager processes with configurable offsets.

5. You can specify any valid path and file name for the log this tool produces. The default log file is ***Drive:\Idmds\LibrarySystem\dirsync.log***.

If the specified file already exists, new logging information will be appended to it. Only changes made since the previous execution are logged.

6. Enter a maximum size for the log file.
7. Select the NT domain containing the groups and users you want to import into your library system. If the domain you want does not appear in the list, try typing in the domain name. If the selected domain's groups do not appear in the Available Groups box, try left-clicking in the box.

Note Groups belonging to a domain that does not have a trust relationship with the domain of your property server will not be available for selection. Refer to ["User Import Tool Usage Guidelines"](#) on page 182 for more information.

The list of domains that can be displayed here is truncated at the 62nd domain. However, you can enter any valid NT domain name manually.

8. In the Available Groups box, select the groups you want to import and click the right arrow to move them to the Selected Groups box. If the Selected Groups box already contains the names of groups you have previously imported, do not remove them from the Selected Groups box unless you want those groups deleted from the library system.

Caution Subject to the settings of the *Imported Group?* and *Imported User?* properties described in ["User Import Overview"](#) on page 179, the User Import tool will delete from the library system any domain groups that were imported using this tool and then removed from the Selected Group list for a subsequent execution of this tool.

9. Check the "Enable user import tool" box. Note that the daemon will not be started until you click Apply or OK.

Note The Storage Manager must be running for the daemon to execute.

10. In the Selected Groups box:

- a. To specify the default values the User Import tool will assign to group and user properties, highlight a group name and right mouse click.

Select Group Defaults and refer to [“Imported Group Defaults” on page 191](#) for information about setting default property values for the selected group.

Select User Defaults and refer to [“Imported User Defaults” on page 194](#) for information about setting default property values for users.

- b. To control the order in which groups are processed, you can highlight a group name and use arrow buttons to move the group up or down the list.

Note If you have multiple groups selected, the order of processing may be important. If the User Import tool assigns a default library system group (see conditions in [“User Import Overview” on page 179](#)) it will assign the group created for the first domain group processed.

11. Check the "Enable preview file" box to generate a preview transaction file without making any changes to the library system.

You can enter any valid path and file name for the preview transaction file the User Import Tool produces. By default, the preview file is written to **Drive:\Idmds\LibrarySystem\preview.log**. Refer to [“User Import Preview Transaction File” on page 188](#) for information about the file format and contents.

12. Once you have all of the options set the way you want them, click Apply. The preview log file will be generated when the daemon is run (as determined by the value you entered in the Run interval field).

13. After the User Import Tool has executed, review the preview transaction file to verify the changes that will be made to the library system database. Refer to [“User Import Preview Transaction File” on page 188](#) for a description of the file's content and format.

14. If you are satisfied with the changes outlined in the preview transaction log file, clear the Enable preview file box and click Apply. The next time the daemon runs, your library system users and groups will be synchronized with the selected Windows NT domain users and groups.

15. After the daemon has run and your library system has been updated, clear the Enable user import tool box and click Apply.

16. Review the dirsync.log file to verify that the desired users and groups were added to your library system.

17. Notify newly added users that they must immediately change their IDMDS user password. See [“Passwords for Imported Users” on page 180](#) for more information.

User Import Tool Usage Guidelines

- The User Import Tool is designed to run until it has, in a single pass, completely synchronized your library system group and user information with the selected domain group and user information. With each successive execution, User Import keeps the library system group and user information synchronized with the source domain information.

- The User Import Tool consists of a single program, **dirsync.exe**, which runs on the property server as a daemon under a selected library system's Storage Manager. To function correctly, this file must be located in the **Drive:\Idmids\LibrarySystem\pbin** directory.
- Before performing administrative tasks with the IDMDS Administration Tools, you should verify (via the IDMDS Configuration Tool) that the User Import Tool is disabled. You can then perform any necessary bulk add or administrative tasks, and then use the administrative tools to verify that your library system looks okay. Also, before you enable the User Import Tool to perform actual processing on your library system database, we highly recommend that you generate a Preview Transaction File to see what changes the daemon will make. If the Preview Transaction File reports errors or changes that you do not want to make, you should resolve them before enabling the User Import Tool for actual production processing. Additionally, the dirsync.log should be reviewed for potential issues which must be resolved prior to running the User Import Tool.
- Groups belonging to a domain that does not have a trust relationship with the domain of your property server are not available for selection. In other words, if the server you are configuring is in a different domain than the one you select in the Domain selection box, and if your server's domain does not have a trust relationship with the selected domain, you will not be able to see that domain's groups in the Available Groups list.

To enable the tool to import groups from "non-trusting" domains you can establish a two-way trust between the domains, or you can create a temporary trust by mapping a drive to the other domain's Primary Domain Controller share device.

- User Import's default execution interval is to run every hour. Be sure to set this interval to a value appropriate for your network. For example, you may want to set it to 86,400 seconds to run once a day.
- If you are also using replication services on the library system, the following order is recommended:
 - For new IDMDS installations, run the User Import Tool before enabling replication on the library system.
 - When upgrading an IDMDS library system, once the upgrade is complete you must rename all library system userids to match the userids in the NT domain. Next, enable replication before setting the User Import? property to YES, and activating the User Import Tool.
- If the same group name exists in multiple NT domains, User Import will treat the domain groups as the same group when determining a match with your library system group names. In other words, if a domain group name exists in multiple domains, and you select those domain groups for processing, User Import will treat them as a single group. This also holds true for userid's that exist in multiple domains; they are treated as the same userid.
- User Import does not synchronize passwords between the domain and the library system. Any attempt to do so would be a security breach.
- If your library system has an existing user named Admin, that user does *not* become a member of newly imported domain groups that also contain a user named Admin.
- A domain group userid list may contain userids that no longer exist in the domain userid list. This is because group lists and domain list are maintained in separate files. When a user is deleted from a domain, you as administrator, must be sure to remove that name from all group memberships the

user was associated with. If this is not done, you will see messages in the **dirsync.log** file about users that exist in a domain group but do not exist in the domain.

- If you need to rename a domain group and you are running the User Import Tool, turn off the User Import Tool daemon, rename the group on the domain and in the IDMDS system, then re-enable the User Import Tool daemon.
- User Import ignores domain userids that end with the dollar sign (\$) character. It also ignores userids that begin with:
 - IUSR_
 - VUSR_
 - SMS
 - SQL
 - IWAN_
- When a userid is deleted from a library system, all occurrences of the following are deleted:
 - a. The userid from the Access Control table
 - b. Owner and Holder for userid from Default Access table
 - c. Type 1 Search Requests for Owner of userid
 - d. Entries for userid from the Session Table
 - e. Entries in the ICON table for userid
 - f. The userid in the GRP_USR table (Cleanup Group entries)
 - g. Entries for userid in the MESSAGE table

Any documents that were AUTHOR / OWNER for the deleted user will still contain the userid in them. This allows you to locate the documents and assign them to a different user.

- The default location for the User Import log file is **Drive:\Idmids\LibrarySystem\dirsync.log**. You can specify a different directory or file name if you wish, but you should exercise caution if more than one library system is installed on the property server. Do not direct User Import logs for multiple library systems to a single location.
- When you add a user to a network domain, then add that user to a group, and then delete the user from the NT domain, the userid is NOT automatically deleted from the groups. You must manually delete the user from the groups.

Usage Guidelines for the Imported Group? and Imported User? Properties

- A primary purpose of the Imported Group? and Imported User? properties is to support "single-pass" types of usage cases for the User Import Tool. For example, in such a scenario you might:
 - a. Run a single pass of the User Import Tool to import a particular network domain group and its users (administrators, for example) into your library system.

- b. Shut down the User Import Tool.
 - c. You might then set the Imported Group? and Imported User? properties to No for the administrators group and its users, to specify that you will perform ongoing maintenance of them manually.
 - d. You may then want to enable the User Import Tool to import other groups/users and allow the daemon to continue running to maintain them automatically.
- Exercise caution when changing the value of the Imported Group? and Imported User? properties. For example:
 - For a library system group or user that was not added via the User Import Tool, if you set the Imported Group? or Imported User? property to Yes and the group or user in question *does not* exist in the network domain, next pass of the User Import daemon will delete it from the library system.
 - For a library system group or user that was not added via the User Import Tool, if you set the Imported Group? or Imported User? property to Yes and the group or user in question *does* exist in the network domain, next pass of the User Import daemon will overwrite its existing library system information with information from the network domain.
 - If the Imported User? property is set to Yes for a user who was *not* imported from the network domain, IDMDS will delete that user from the system. Also, this property is not automatically set to Yes for the Administrator user. It is left blank.
 - While a Group or User object's Imported Group? or Imported User? property is set to Yes, you should not delete or rename the group or user manually via the IDMDS System Administration tools. You should first set the property to No, then make the change. You can then, if you wish, change this property back to Yes to allow the User Import Tool to perform ongoing maintenance of the group or user.
 - Prior to running the User Import Tool, the IDMDS Desktop must be configured to enable the "Use operating system credentials for logon" property. The IDM Configure tool will enable this property for all existing libraries once you enable it on a single library.
 - It is not recommended to enable the Import User? property for any Administrator users.

Usage Example

The following is a simple usage scenario showing how a site might import certain groups and users from two network domains (SAMPLECO1 and SAMPLECO2) into a newly installed library system, and then keep the library system up to date as changes are made to the domain group and user information.

The composition of the two domains is:

SAMPLECO1 Domain	SAMPLECO2 Domain
FINANCE Group <ul style="list-style-type: none"> • LAtbrough • JSmithers • LBose 	FINANCE Group <ul style="list-style-type: none"> • CJohnson • GMathers • DJames
MANAGERS Group <ul style="list-style-type: none"> • CWhithers • LAtbrough 	MANAGERS Group <ul style="list-style-type: none"> • HAllman • CJohnson

The administrator installs a library system named FINANCE on server FINANCE1 in domain SAMPLECO1. The intent is to grant the members of the FINANCE and MANAGERS groups in both domains access to the FINANCE library system. To achieve this, the administrator sets up the User Import Tool for library system FINANCE, and selects these four domain groups for processing:

- SAMPLECO1\FINANCE
- SAMPLECO1\MANAGERS
- SAMPLECO2\FINANCE
- SAMPLECO2\MANAGERS

The first execution of the daemon creates two new library system groups:

```
FINANCE, Sampleco's two finance groups
MANAGERS, Sampleco's two manager groups
```

Also in the first execution, eight new library system users are created:

```
LAtbrough, Len Atbrough, Finance Manager, SAMPLECO1\LAtbrough, FINANCE,
MANAGERS
JSmithers, Julie Smithers, Company Finance Asst., SAMPLECO1\JSmithers,
FINANCE
LBose, Linda Bose, SAMPLECO1 Finance Asst., SAMPLECO1\LBose, FINANCE
CJohnson, Chris Johnson, Finance Manager, SAMPLECO2\CJohnson, FINANCE,
MANAGERS
GMathers, Greg Mathers, Finance Asst., SAMPLECO2\GMathers, FINANCE
DJames, Don James, Finance Asst., SAMPLECO2\Djames, FINANCE
CWhithers, Craig Whithers, SAMPLECO1 Boss, SAMPLECO1\CWhithers, MANAGERS
CJohnson, Chris Johnson, SAMPLECO2 Boss, SAMPLECO2\CJohnson, MANAGERS
```

The system administrator leaves the User Import Tool enabled, configured to maintain the FINANCE library system's group and user information.

Now, there's a minor reorganization in the SAMPLECO1 domain. Len Atbrough has quit and Craig Whithers has temporarily taken over as finance manager. The administrator makes the necessary

changes in the network domain and User Import then processes the new information and updates the library system:

- User Latbrough is removed from the library system
- User CWhithers is added to the library system's FINANCE group

The next change in the SAMPLECO1 domain comes as a result of Charles Henry being hired as the new finance manager. Craig Whithers now wants out of the FINANCE group. The administrator makes the necessary changes to the domain, and User Import then updates the library system:

- User CHenry is added to the library system and made a member of the FINANCE group and the MANAGERS group
- User CWhithers is removed from the library system FINANCE group

Example Log File

This log below illustrates how a new library system might look after a first-time run of the User Import Tool configured to process three domain groups:

- SRVDEVTEST\Domain Users
- SRVDEVTEST\TestGroup
- SRVDEVTEST\TestGroup2

```
15:43|30/Jun/1999|=====
15:43|30/Jun/1999|Session established on server LKLINE3, system idmds.
15:43|30/Jun/1999|Adding Group: Domain Users, All domain users.
15:43|30/Jun/1999|New User Administrator added for IDMDS Group Domain Users.
15:43|30/Jun/1999|New User bjones added for IDMDS Group Domain Users.
15:43|30/Jun/1999|New User bsmith added for IDMDS Group Domain Users.
15:43|30/Jun/1999|New User cthomas added for IDMDS Group Domain Users.
15:43|30/Jun/1999|New User dgates added for IDMDS Group Domain Users.
15:43|30/Jun/1999|New User jallen added for IDMDS Group Domain Users.
15:43|30/Jun/1999|New User jhancock added for IDMDS Group Domain Users.
15:43|30/Jun/1999|New User mtodd added for IDMDS Group Domain Users.
15:43|30/Jun/1999|New User rrandel added for IDMDS Group Domain Users.
15:43|30/Jun/1999|New User tcunningham added for IDMDS Group Domain Users.
15:43|30/Jun/1999|Adding Group: TestGroup, Lyle's Test Group.
15:43|30/Jun/1999|New User bjones added to IDMDS Group TestGroup.
15:43|30/Jun/1999|New User bsmith added to IDMDS Group TestGroup.
15:43|30/Jun/1999|New User cthomas added to IDMDS Group TestGroup.
15:43|30/Jun/1999|New User jallen added to IDMDS Group TestGroup.
15:43|30/Jun/1999|New User rrandel added to IDMDS Group TestGroup.
15:43|30/Jun/1999|New User tcunningham added to IDMDS Group TestGroup.
15:43|30/Jun/1999|Adding Group: TestGroup2, Lyle's Test Group #2 (GLOBAL).
15:43|30/Jun/1999|New User dgates added to IDMDS Group TestGroup2.
15:43|30/Jun/1999|New User rrandel added to IDMDS Group TestGroup2.
15:43|30/Jun/1999|New User tcunningham added to IDMDS Group TestGroup2.
```

```
15:43|30/Jun/1999|Session disconnected on server LKLINE3, system idmds.
15:43|30/Jun/
1999|=====
```

User Import Preview Transaction File

You can configure the User Import tool to generate a preview file, to see a sequential listing of the transaction it would perform if enabled for processing. Refer to “[IDMS Configuration Tool User Import Tab](#)” on page 179 for the procedure to generate this file. It is highly recommended that you generate and review a Preview Transaction File before importing users and groups. This is especially important if you are using this tool for the first time. In addition, review the dirsnc.log for any potential errors. If numerous errors occur, they must be resolved prior to running the User Import tool.

Example Preview Transaction File

A brief example of a preview transaction file might look like this:

```
AGRP, Domain Users, All Domain Users, Admin, , , , , LKLINE3, , DEFAULT, ,
English, YES,
UGRP, Domain Users, , , , , , LKLINE2, , , , ,
DGRP, Domain Users
AUSR, jsmith, John Smith, Manager, SRVDEVTEST\jsmith, Users, , YES, NO, NO,
Admin, , ,
AUGP, Domain Users, jsmith
DUGP, Domain Users, jjones
UUSR, jsmith, John Smith, Manager, , , , , , , , ,
DUSR, Ckline
```

Preview Transaction File Format

Each transaction entry begins with an operation code that identifies an action User Import would perform:

AGRP	Add Group
UGRP	Update Group
DGRP	Delete Group
AUSR	Add Userid
UUSR	Update Userid
DUSR	Delete Userid
AUGP	Add Userid to Group
DUGP	Delete Userid from Group

Field Definitions

Each operation has a fixed series of comma-delimited fields containing arguments. These are defined as follows:

- **Add Group (AGRP) operations**

AGRP, Domain Users, All Domain Users, Admin, , , , , LKLINE3, , DEFAULT, , English, YES,

Field	Source
Group Name	Domain directory
Group Comment	Domain directory
Group Owner Name	Registry defaults
Group Default File Category	Registry defaults
Group Default Dispose Category	Registry defaults
Group Default Checkout File Name	Registry defaults
Group Default Checkout File Extension	Registry defaults
Group Primary Server	Registry defaults
Group Apps	Registry defaults
Group CSI Default Index	Registry defaults
Group Access Domain	Registry defaults
Group Language	Registry defaults
Group Secure Search	Registry defaults
Group CSI Threshold	Registry defaults

- **Update Group (UGRP) operations**

UGRP, Domain Users, , , , , , , LKLINE2, , , , , ,

Update Group operations have the same fields as Add Group operations, but only changed fields are filled in. A minus sign (-) in a field indicates an entry that will be removed.

- **Delete Group (DGRP) operations**

DGRP, Domain Users

Update Group operations have only one field: Group Name

- **Add Userid (AUSR) operations**

AUSR, jsmith, John Smith, Manager, SRVDEVTEST\jsmith, Users, , YES, NO, NO, Admin, , ,

Field	Source
Userid	Domain directory
Full User Name	Domain directory
Userid Comment	Domain directory
Userid simplified login ID	Computed from domain directory
Default Group	Current active domain groupid
User Default Path	Registry defaults
User Privilege Add Items	Registry defaults
User Privilege Add Users	Registry defaults
User Privilege Add Groups	Registry defaults
User Owner Name	Registry defaults
User Status	Registry defaults
User Default Run App	Registry defaults

- **Update Userid (UUSR) operations**

`UUSR, jsmith, John Smith, Manager, , , , , , , , , , ,`

UUSR operations have the same fields as AUSR operations, but only changed fields are filled in. A minus sign (-) in a field indicates an entry that will be removed.

- **Delete Userid (DUSR) operations**

`DUSR, jsmith`

DUSR operations have only one field: Userid

- **Add Userid to Group (AUGP) operations**

`AUGP, Domain Users, jsmith`

AUGP operations have two fields:

Group Name
Userid

These actions always occur after the userid has been added, so the userid is always valid in the library system.

- **Delete Userid from Group (DUGP) operations**

`DUGP, Domain Users, jsmith`

DUGP operations have two fields:

Group Name
Userid

Imported Group Defaults

The Group Defaults dialog box allows you to set property values for new groups you are adding to your library system via the User Import tool.

Note Changing the values in this dialog box will not update the property values of existing library system groups.

To display this dialog box, highlight a group name in the Selected Group list on the User Import tab, then right mouse click and select Group Defaults. These settings allow you to control the default values for the Group object properties listed below. Refer to the "Objects and Properties Reference" in the *IDMS Explorer Online Help* for more information.

Field	Default Value	Definition
Default storage category	Documents	<p>Provides an initial value for the Storage Category property when new Item objects are added. When new items are added, the system checks the following objects in the order shown for this property value and uses the first value encountered as the storage category for the new Item:</p> <ol style="list-style-type: none"> 1. User object 2. User's active Group object 3. System object
Default archive category	Archive	<p>Provides an initial value for the Archive Category property when new Item objects are added. When new items are added, the system checks the following objects in the order shown for this property value and uses the first value encountered as the archive category for the new Item:</p> <ol style="list-style-type: none"> 1. User object 2. User's active Group object 3. System object

Field	Default Value	Definition
Primary server	Blank	<p>Indicates the Primary Storage Manager for the system to use first when handling an operational request generated by a member of this group (for example, check out or check in). The system checks the following objects in the order shown for this property value:</p> <ol style="list-style-type: none"> 1. User object 2. User's active Group object 3. System object <p>The library system attempts to use the first Primary Storage Manager value it finds. If this Storage Manager is unavailable, the system continues to check all the Storage Managers (in alphabetical order) until it finds one to handle the request.</p>
Access domain	Blank	<p>Controls the setting of the group's Access Domain property, which indicates the group affiliations to apply when determining the search results to return. Valid values are:</p> <ul style="list-style-type: none"> • Active Group: Sets search results access rights to the user's active group. • All Groups: Sets the search results on the highest access rights of all groups in which the user is a member. • Blank: Refers search results to the active System object. <p>The library system checks the Active Group object first and then the System object and accepts the first value it finds. However, the value is overridden by any value specified in the User's properties.</p>
Default display language	Blank	<p>Select English (default), French, or German from the drop-down menu.</p> <p>Before attempting to configure a non-English display language, please refer to the technical notice titled, <i>Installing IDMDS into Non-English Environments</i> available on the FileNET Worldwide Support web site.</p>

Field	Default Value	Definition
Content search threshold	Blank	Determines whether to do a content search or property search first, when both types of criteria are specified for a search. This threshold indicates that if the number of content search hits returned by a search is greater than the threshold value, the property-based search criteria are used first. If this value is less than or equal to the number of content search hits, the content search-based criteria are used first. If a Content Search Threshold property is not found, the default threshold value used is 100.
Secure searches	Blank	<p>This property indicates whether an active group member must have at least Viewer access rights to an item to have that item included in the results of a search. Select Yes, No, or Blank (the default) from the drop-down menu.</p> <ul style="list-style-type: none"> The <i>No</i> value indicates that all items meeting the search criteria will be returned for a search, regardless of the user's access rights to those items. (However, the user must still have at least Viewer access rights to an item to see its associated Item object.) The <i>Yes</i> value indicates that only those items to which a user has at least Viewer access rights will be returned in the results of a search. A <i>Blank</i> value defaults to the Secure Searches? property value in the System object.
Default index versions	Checked	<p>Specifies a value for the Default Index Versions? property, which indicates whether versions of an item are indexed by default.</p> <p>If this box is checked, this property is set to Yes for the imported Group object. If this box is cleared, the value of this property in the System object is used.</p>
Group enabled	Checked	<p>If this box is checked, users are enabled to change to this group or open a session using this group as their active group; if this box is cleared, they are not.</p>

Imported User Defaults

The User Defaults dialog box allows you to set property values for new users you are adding to your library system via the User Import tool.

Note Changing the values in this dialog box will not update the property values of existing library system users.

To display this dialog box, highlight a group name in the Selected Group list on the User Import tab, then right mouse click and select User Defaults. These settings allow you to control the default values for the User object properties listed below. Refer to the "Objects and Properties Reference" in the *IDMDS Explorer Online Help* for more information.

Field	Default Value	Definition
Default storage category	Documents	<p>Provides an initial value for the Storage Category property when new Item objects are added. When new items are added, the system checks the following objects (in the order shown) for this property value and uses the first value encountered as the storage category for the new Item:</p> <ol style="list-style-type: none"> 1. User object 2. User's active Group object 3. System object
Default archive category	Archive	<p>Provides an initial value for the Archive Category property when new Item objects are added. When new items are added, the system checks the following objects (in the order shown) for this property value and uses the first value encountered as the archive category for the new Item:</p> <ol style="list-style-type: none"> 1. User object 2. User's active Group object 3. System object

Field	Default Value	Definition
Primary server	Blank	<p>Indicates the Primary Storage Manager for the system to use first when handling an operational request generated by a member of this group (for example, check out or check in). The system checks the following objects (in the order shown) for this property value:</p> <ol style="list-style-type: none"> 1. User object 2. User's active Group object 3. System object <p>The library system attempts to use the first Primary Storage Manager value it finds. If this Storage Manager is unavailable, the system continues to check all the Storage Managers (in alphabetical order) until it finds a Storage Manager to handle the request.</p>
Default path	Blank	<p>The default value for the path where checked out or copied versions will be delivered.</p>
Access domain	Blank	<p>Controls the setting of the user's Access Domain property, which indicates the group affiliations to apply when determining the search results to return. Valid values are:</p> <ul style="list-style-type: none"> • Active Group: Sets search results access rights to the user's active group. • All Groups: Sets the search results on the highest access rights of all groups in which the user is a member. • Blank: Refers search results to the active System object. <p>The library system checks the Active Group object first and then the System object and accepts the first value it finds. However, the value is overridden by any value specified in the User's properties.</p>

Field	Default Value	Definition
Default display language	Blank	<p>Select English (default), French, or German from the drop-down menu.</p> <p>Before attempting to configure a non-English display language, please refer to the technical notice titled, <i>Installing IDMDS into Non-English Environments</i> available on the FileNET Worldwide Support web site.</p>
Content search threshold	Blank	<p>Determines whether to do a content search or property search first, when both types of criteria are specified for a search. This threshold indicates that if the number of content search hits returned by a search is greater than the threshold value, the property-based search criteria are used first. If this value is less than or equal to the number of content search hits, the content search-based criteria are used first. If a Content Search Threshold property is not found, the default threshold value used is 100.</p>
Add items	Checked	<p>If this box is checked, the imported users will be able to add items to the library system; if cleared they will not.</p>
Add users	Cleared	<p>If this box is checked, the imported users will be able to add new users to the library system; if cleared they will not.</p>
Add groups	Cleared	<p>If this box is checked, the imported users will be able to add new groups to the library system; if cleared they will not.</p>
Default index versions	Checked	<p>Specifies a value for the Default Index Versions? property, which indicates whether versions of an item are indexed by default.</p> <p>If this box is checked, this property is set to Yes for the imported User objects. If this box is cleared, the value of this property in the Group object is used.</p>

Field	Default Value	Definition
Secure searches	Blank	<p>This property indicates whether a user must have at least Viewer access rights to an item to have that item included in the results of a search. Select Yes, No, or Blank (the default) from the drop-down menu.</p> <ul style="list-style-type: none"> • A <i>No</i> value indicates that all items meeting the search criteria will be returned for a search, regardless of the user's access rights to those items. (However, the user must still have at least Viewer access rights to an item to see its associated Item object.) • A <i>Yes</i> value indicates that only those items to which a user has at least Viewer access rights will be returned in the results of a search. • A <i>Blank</i> value defaults to the Secure Searches? property value in the Group object.
Default application run	Cleared	<p>Controls the setting of the Default Run Application? property for imported user objects. For check out and copy functions, this property sets the default for the Run Application? option to Yes or No.</p> <p>If this box is checked, the property is set to Yes for the imported User objects. If this box is cleared, the system default is used.</p>
User enabled	Checked	<p>If this box is checked, users are enabled to open a session; if this box is cleared, they are not.</p>

Understanding Default Values and the Inheritance Path

Numerous properties in IDMDS (especially those in the Item object) have their initial values set according to an inheritance path from properties in other objects, including the System object. This inheritance path means, for example, that when a new protected item is added, the library system takes the following steps to determine some of the initial values for the new Item object:

1. Checks the User object of the person adding the item and applies any default values it finds to the Item object.
2. Checks the user's active Group object for any default values that were not found in the User object.
3. Checks the System object for any default values that were not found in either the User or Group object.
4. Uses the IDMDS program defaults for any default values that were not found in the User, Group, or System object.

For example, if a user named Bob, whose active group is Marketing, adds a new Item, the storage category for the new Item object will receive an initial value based on a check of the Default Storage Category properties in the following objects: (1) Bob's User object, (2) Marketing's Group object, and (3) the System object. The first of these properties to contain a value will provide the necessary default for the Item object. (In this case, the System object must contain a non-blank value, so the final check for an IDMDS program default is never required.)

The following table shows the properties in the Item object that are affected by this inheritance path method for applying defaults:

Inheritance Path Property	Item Property that Inherits
Default Archive Category	Archive Category
Default Storage Category	Storage Category
Default Checkout File Name	Default Checkout File Name
Default Item Access List	Access List
Default Index Versions?	Default Index Versions?

The following table shows properties that are not in the Item object but are affected by the same inheritance path method for applying defaults from the User, Group, and System objects:

Inheritance Path Property	Description
Primary Storage Manager	Applies when the library system must perform an operation requiring a Storage Manager. The first value found during this check determines the IDMDS server whose Storage Manager the library system will attempt to use to process a user's operational request (for example, checking out a version).

Inheritance Path Property	Description
Access Domain	<p>Applies when the library system must determine what portion of the total results of a search to display to a user. The first value found during this check determines whether the library system applies:</p> <ul style="list-style-type: none"> The user's active group access rights. The highest access rights of any of the groups the user belongs to. <p>Note This value cannot be left blank in the System object. Also, in some user interfaces, the user can set this value on a search-by-search basis.</p>
Secure Searches?	<p>Indicates whether a user must have at least Viewer access rights to an item (or object) to have that item (or object) included in the results of one of his or her searches.</p> <p>Note In some user interfaces, the user can set this value on a search-by-search basis.</p>
Display Language	<p>Determines in what language to display the library system's property names, field names, messages, and Yes/No values. If no value is specified, English is used by default.</p>

Users at some sites may find it useful to set these defaults in their User objects (for example, so that they can control what values will be used to describe the items they add). At other sites, group leaders can take the responsibility of setting these values in Group objects so that users do not have to be concerned with such matters. Likewise, many sites may find it best to set the defaults at the System object level so that all users have the same initial values placed in their Item objects or are using the same display language. Finally, many sites may determine the best level at which to set the defaults on a property-by-property basis.

Note Users will be able to change their User object defaults only if they have access to their User object (or the particular properties that control these defaults) through the chosen user interface. Because this kind of functionality is not supported by many user interfaces, you may prefer to leave the User object property blank and set the values in the Group object instead, since many user interfaces do provide a change-group feature.

Additional default values that you can set in the System object will affect Item objects more directly (there are no comparable properties in the User and Group objects). These defaults are:

System Property	Item Property that Directly Inherits
Default Online Limit	Online Limit
Default Indexed Version Limit	Indexed Version Limit

In all cases, users with Owner or Admin access rights to the item can change these values in the Item object at any time.

Setting Default Properties

The following are a few of the default properties that appear in the System object. For a more complete list of properties in the System object, refer to the *IDMDS Explorer Online Help*.

Default Index Versions?

When a user adds a new protected item to the library system, this property value provides an initial setting for the Default Index Versions? property in the Item object. If this property value is set to Yes, the current version of the item is automatically indexed for content searching when the item is added to IDMDS.

Default Item Access List

Like other objects in IDMDS, the Item object has an Access List property. The value of this property is a list of users and groups with associated access rights to that particular object. The Default Item Access List provides an initial set of access list entries for each new item that is added to the library system. The access list in the Item object can then be modified as necessary.

If the library system searches the Default Item Access List properties in the User, Group, and System object and finds that they are all empty, it inserts the IDMDS program default: the Added By User is granted Owner access rights. If this entry is included, the Item object's access list will receive the access rights assigned in the default item access list rather than those specified in the IDMDS program default.

For example, in the System object's default item access list, you could grant Viewer access rights to Anne Blanchard. Then, Anne would be granted Viewer access rights to all new Item objects that received values from the System object's default item access list, even if she added the item herself.

Note To deny general users any access, simply exclude the General Users group from the default item access list.

Any user with Owner or Admin access rights to an Item object can override the initial values in its access list. All administrators have Admin access to all items, regardless of what access rights they are assigned in a particular access list.

Sequential Item IDs?

The library system assigns an identifying number to each item that users add to the library system. The Item ID property in the Item object enables either sequential Item IDs (if the property is set to Yes) or non-sequential (date-based) Item IDs (if the property is set to No). If not specified, the property defaults to Yes (use sequential Item IDs).

Sequential Item IDs

When using sequential Item IDs, an algorithm is applied to avoid conflicts with existing, non-sequential Item IDs. Because non-sequential Item IDs use digits 3-5 of the 9 digit Item ID (numbering left to right, as in 123456789) to represent the day of the year, the numbers 000 through 366 in positions 3-5 are not used when generating a sequential Item ID.

For example, the first sequential Item ID is 003670000. This number is incremented sequentially until the Item ID equals 009999999. The next Item ID after 009999999 is 013670000, which is incremented

sequentially until 019999999. The next Item ID is 023670000 and so on until the maximum Item ID of 999999999 is reached.

Non-Sequential (Date-Based) Item IDs

Non-sequential Item IDs are based on Julian dates, where digits 1-2 represent the decade, 3-5 the day of the year, and 6-9 the sequence number.

A typical Julian date item ID might appear as:

972860079

where 9 is the decade, 7 is the year, 286 is the day of the year (October 13), and 0079 is the sequence number. This example indicates the item was the seventy-ninth item added on October 13, 1997.

Because there are only four digits reserved for the sequence number, date-based Item IDs can be applied only to the first 9,999 items added to a particular library system on a particular day. Sequential numbering is automatically enabled beginning with the 10,000th item added.

To avoid conflicts with existing sequential Item IDs (generated by versions 4.1.3 or earlier library systems), if digits 1-2 of the next sequential Item ID are greater than or equal to the current decade, sequential Item IDs will be used. (As in previous releases of IDM Document Services, if the number of items generated in a single day is greater than 9999, the system will automatically switch from non-sequential to sequential Item IDs.)

Note You will not be able to use non-sequential Item IDs in the year 2000 (the first two digits of the Item ID will always be greater than or equal to 00). In the year 2001, you will be able to use non-sequential Item IDs provided the next sequential Item ID is less than 010000000. Once sequential Item IDs reach 009999999, all items added to the library system in the year 2001 will have sequential Item IDs. In the year 2002, you will be able to use non-sequential Item IDs as long as the next sequential Item ID is less than 020000000.

Identifying the Primary Storage Manager

The Primary Storage Manager property indicates the IDMDS server whose Storage Manager the library system will attempt to use first to handle an operational request. For example, when you check in a version, the library system will attempt to use the primary Storage Manager to handle the logistics of getting the file from where it is stored on the network to the storage repository associated with the version's storage category.

There is a Primary Storage Manager property in all User objects, Group objects, and in the System object. Refer to [“Understanding Default Values and the Inheritance Path” on page 198](#) for details on how the values in these objects are applied.

If the Storage Manager on the IDMDS server indicated in this property is not available (or fails at some later time), IDMDS will use the Storage Manager on the next IDMDS server, in alphabetical order from the list of IDMDS servers identified in the library system. The library system will repeat this step as often as necessary to locate an available Storage Manager. Note that this is true only if a storage category is not assigned to a storage repository on the inaccessible server. For example, if a user is attempting to access a version associated with a storage category named Documents, and the Documents storage category is assigned to a storage repository on a downed server, the user will be notified that the operation cannot be completed.

You must have Admin access rights to the object (or be an administrator) to change the value of this property in the User and Group objects.

Limiting the Maximum Number of Active Sessions

The Max Number of Active Sessions property indicates the number of IDMDS sessions that can be open at the same time, regardless of what user interfaces are being used to access IDMDS. This value can be set to any integer up to 9999 (25 is the default entered during the IDMDS installation).

Suspended sessions are not counted against this value (sessions that are open but not active).

To ensure a reasonable level of system responsiveness, you may want to restrict the number of sessions that can be open at the same time, especially if those sessions represent users who are doing intense work (for example, constantly checking versions in and out). Users who try to access the library system after this concurrent-session limit has been reached will receive a message informing them that they cannot presently open a session but can try again later. If this message is displayed often to users and you do not want to degrade system performance by increasing the value of the Max Number of Active Sessions property, you may want to install at least one more IDMDS library system to handle a portion of the users at your site.

Caution Do not increase this property value beyond the limit set during the most recent IDMDS installation or reconfiguration procedure. If you require such an increase, reconfigure the library system and increase the number of allowable logons to the Property Manager's database engine. For details, refer to the ["Configuring IDMDS Databases" on page 253](#).

If increasing performance at your site cannot be accomplished by adding another library system or restricting the number of concurrent sessions, you may have to take other related steps (for example, adding more memory to, or increasing the processor speed of, the property server).

Setting Version Online Limits and Counts

To help ensure that the storage space for version files remains adequate, you will likely want to control how many versions can remain online for each protected item. IDMDS provides an automatic archiving feature that will move older versions offline as newer versions are created. To take advantage of this feature, you must make two decisions:

- What system-level limit for the maximum number of online versions is reasonable for the majority of the items created at your site?
- Should versions marked as Permanent be counted whenever this limit is checked (even though such versions cannot be moved offline by the automatic archiving process)?

The following properties in the System object enable you to determine initial values for controlling how online version counts are maintained.

Default Online Limit

The Item object's Online Limit property plays an important role in the library system by controlling the number of versions that are stored online. If adding a new version increases the number of online versions past the item's Online Limit property value, the "oldest" version that is available for archiving is selected for that purpose. (The "oldest" version is the version with the lowest version number.)

When a version is archived, IDMSD sets the Availability Status property in the Version object to Offline. It then moves the document version to the archive repository associated with the Archive Category property value in the Item object. This process, referred to as automatic version archiving, helps keep the amount of disk space occupied by the versions under control.

The Default Online Limit property in the System object provides an initial value for the Online Limit property in new Item objects. For example, suppose you set the value of the Default Online Limit property to 4. Then, whenever a user adds a new protected item, the Online Limit property in the new Item object would be set to 4 by default.

Note Increasing the value of the item's online limit does not automatically restore versions that have been moved offline.

Users with Owner or Admin access rights to the Item object can override the initial value of the Online Limit property, but it serves as a guideline. To make this guideline as effective as possible, look at the informational needs of the users and try to find out how many online versions are necessary to carry out day-to-day activities. For example, there may be no need for versions other than the current version to reside online for most items. In this case, you would set the Default Online Limit property value to 1. Then, users could override it on an item-by-item basis when necessary.

Permanent Versions in Limit?

The Permanent Versions in Limit? property determines whether versions marked as permanent are to be included in the online limit for a protected item. The default value for this property is Yes.

If you set the value of this property to No and a particular item is at its online limit, this item could exceed the limit if you were to change the value to Yes. In this situation, the library system would present the standard over-the-limit message to the next user who checks in a version.

Setting Version Index Limits and Counts

(For library systems with a Content Search Managers only.) Just as there is good reason to limit the number of versions stored online, there is equally good reason to limit the number of versions indexed for content searches: it will help to conserve disk space and improve performance. If too many versions are indexed, you will end up using more space and the library system will respond less quickly when searching for information.

The following properties in the System object enable you to set an initial indexed version limit for new items and indicate whether permanently indexed versions should be counted whenever this limit is checked.

Default Indexed Version Limit

The Default Indexed Version Limit property in the System object provides an initial value for the Indexed Version Limit property in new Item objects. The latter property, in turn, plays an important role in the library system by controlling the number of versions that can be indexed for content searching. If indexing a version increases the number of indexed versions past the item's Indexed Version Limit property value, the "oldest" indexed version is selected for deindexing. (The "oldest" version is the version with the lowest version number.)

For example, suppose you set the value of the Default Indexed Version Limit property in the System object to 4. Then, whenever a user adds a new protected item, the Indexed Version Limit property in the new Item object would be set to 4 by default.

Users with Owner or Admin access rights to the Item object can override the initial value of the Indexed Version Limit property, but it serves as a guideline. To make this guideline as effective as possible, look at the informational needs of the users and try to find out how many indexed versions are necessary to carry out day-to-day activities. For example, there may be no need for versions other than the current version of an item to be available for content searching. In this case, you would set the Default Indexed Version Limit property value to 1. Then, users could override it on an item-by-item basis when necessary.

Notes Currently, versions are not deindexed automatically when they are moved offline during the archiving process. Therefore, unless your users have a frequent need to search on the contents of offline versions, you should probably make sure that the Default Indexed Version Limit value is less than, or equal to, the Default Online Limit value. These coordinated settings will ensure that the content search indexes are no larger than they have to be, since versions will be deindexed before being automatically archived.

Setting an item's Indexed Version Limit to zero still keeps one item indexed.

Permanent Indexes In Limit?

The Permanent Indexes in Limit? property determines whether versions marked as permanently indexed for content searching in their Version objects are to be included in the indexed version limit for a protected item. The default value for this property is Yes.

If you set the value of this property to No and a particular item is at its indexed version limit, this item could exceed the limit if you were to change the value to Yes. In this situation, the library system would present the standard over-the-limit message to the next user who indexes a version.

Controlling Search Results

The following properties in the System object enable you to limit or broaden the results of a search by setting security, scope, and content searching.

Setting Secure Searches

The Secure Searches? property value in the System object indicates whether a user must have at least Viewer access rights to an item (or object) to have that item (or object) included in the results of one of his or her searches. A No value indicates that all items meeting the search criteria will be returned for a search, regardless of the user's access rights to those items. (However, the user must still have at least Viewer access rights to an item to open its associated Item object.) A Yes value indicates that only those items to which a user has at least Viewer access rights will be returned in the results of a search.

Like most inheritance path properties in IDMDS, a Secure Searches? property appears in User, Group, and System objects. Refer to ["Understanding Default Values and the Inheritance Path" on page 198](#) for details on how values are applied from these objects.

You may want to set this value to Yes if your library system is being used to store particularly sensitive material to which access must be strictly controlled. On the other hand, if you don't mind users having knowledge of (and copy access to) all system-controlled material and you want the added benefit of faster search operations, set the value to No.

The Secure Searches? property controls searches to all IDMDS objects having access lists. For example, because folders in IDM Desktop are controlled internally by Custom objects (which have access lists), if you set the Secure Searches? property to No, then all users will be able to see all folders, even if their access rights have been set to None. Those users having None access rights, however, will be unable to perform any folder operations other than viewing, as expected.

The library system provides a default value of blank in the User and Group objects and No in the System object, which you can override using the associated toggle button.

Note Some user interfaces to IDMDS may allow the Secure Searches? property to be set as part of the search itself. If this value is set to Yes in the Search object in this way, then a check of access rights will be applied when the search is run even though the setting from the User, Group, or System object indicates otherwise.

Setting the Access Domain

The library system returns search results based on the user's access rights to the returned items. These access rights may be assigned:

- Directly to the user.
- To one or more of the groups to which the user belongs.

In the case of group access rights, the Access Domain property controls whether the library system returns search results based on the access rights of the user's active group or on the highest access rights of any of the user's groups.

Like most inheritance path properties in IDMDS, an Access Domain property appears in User, Group, and System objects. Refer to [“Understanding Default Values and the Inheritance Path” on page 198](#) for details on how values are applied from these objects. The value in the User and Group object can be one of three values:

- Active Group
- All Groups
- Blank

The System object takes the same values, except that a blank value is not allowed.

Note Some interfaces to IDMDS may be designed to allow users to specify an access domain value when they create the search. If so, that value will override any default setting.

Enabling Content Searches

You can enable and disable the IDMDS content search feature by toggling the Content Search Enabled? property value in the System object. You may want to disable content searches when doing certain kinds of system maintenance, such as restoring the Content Search Manager or manually rebuilding lost content search repositories.

Minimum Item Delete Access Level

Administrators can control the access level required to delete item objects by setting the System object's Minimum Item Delete Access Level property to either Admin or Owner. If set to Admin (the default), only library system administrators can delete items.

Refer to *IDMDS Explorer Online Help* for information on how to edit the System object's Minimum Item Delete Access Level property.

Notes This is a change in behavior from earlier versions of IDMDS, in which item Owners were allowed to delete items.

If you change the value of the Minimum Item Delete Access Level property, active library system users must log off and log on again for this change to take effect.

Customizing Logon Procedures

When IDMDS is initially installed, the library system is configured so that users of IDM Desktop, IDMDS Explorer, or other client applications must provide their library system user name and password (if any) in order to open a session. There are two ways the logon feature can be customized:

- You can restrict logons to administrators only, to prevent users from accessing the library system while you perform administrative tasks.
- You can configure your library system to allow the IDMDS logon process to be bypassed altogether, so that a user's network logon name and password are used instead.

Restricting Logons to Administrators Only

As an IDMDS administrator, you will sometimes need to prevent users from opening sessions while you are working in the System object or otherwise doing maintenance on the library system. IDMDS provides the System object's Logons Enabled? property this purpose. At installation, the value of Logons Enabled? is set to Yes. When you set the value to No, you are prohibiting any users from opening sessions until you set the value back to Yes. The only exceptions are for administrators (whose default group is set to Administrators), and the user (by default) named Admin, who can still open sessions even when Logons Enabled? has a value of No.

Refer to *IDMDS Explorer Online Help* for information on how to edit the System object Logons Enabled property.

Using Network Logons

To enable a user to access a library system using network logon and password, the User object's Network Logon Name property must be set to **NetworkDomain-LogonName**. The value assigned to this property must uniquely identify the user on the network. For example, if your network is configured to allow user *jdancer* to log onto the ENGINEERING domain, then setting the library system User object's Network Logon Name property to ENGINEERING-jdancer enables that user to access the library system using network logon and password.

For details about using the Network Logon option in conjunction with the User Import tool, refer to ["IDMDS Configuration Tool User Import Tab" on page 179](#).

For information on how to edit User object properties (including the Network Logon Name property and the User Name property) refer to *IDMDS Explorer Online Help*.

Notes

Users added to a library system via the User Import tool must either use the Network Logon option, or you as system administrator must change their password immediately after import. Refer to “[IDMDS Configuration Tool User Import Tab](#)” on page 179 for more information.

Upgrade issues:

- The User object's Network Logon Name property must be updated to the current syntax.
- For library systems being upgraded from IDMDS 4.3, the syntax must be changed from **LogonName** to **NetworkDomain-LogonName**.
- For library systems being upgraded from IDMDS 5.0, the syntax must be changed from **NetworkDomain\LogonName** to **NetworkDomain-LogonName**.
- The User Import tool can be used to update this property to the current syntax, provided the User object's Imported User? property is set to Yes.

Assigning a Display Language

The Display Language property controls the user's display language for property names, field names, and messages (posted to the User object or the Administrators Group object). As with other inheritance path properties, the Display Language property appears in User, Group, and System objects. For details on how to set this value, as well as other values affected by the same inheritance path method, refer to “[Understanding Default Values and the Inheritance Path](#)” on page 198.

Note This Display Language property is usable only if your chosen user interfaces to IDMDS supports multiple language displays and if you have used an IDMDS installation program to install the language data files required to support a display language other than those currently supplied. This kind of language support is available only with direct FileNET supervision. Contact FileNET Technical Support for details.

Changing Operating System and Database Display Language

Note Refer to “[Installing IDMDS into Non-English Environments](#)” on page 95 before changing your operating system or database display language.

Use this procedure to change the display language of your operating system and database (for example, from English to French). If you are using Replication Services, make sure that all servers for the participating library systems use the same language.

To change your operating system and database language:

1. If you are performing this procedure during an upgrade, first upgrade your Property Manager, refer to “[Upgrading IDMDS](#)” on page 141.

2. Perform a complete backup of your library system. Refer to “[Backing Up the Library System](#)” on page 329.
3. Install the version of Microsoft Windows NT and service pack for the new display language.
4. Restore the library system property server. Refer to “[Restoring the Library System's Property Repository](#)” on page 334 in the *IDM Document Services Administration Guide* for the procedure. (Note that while carrying out this procedure, you should restore the database engine in the language you want to change to.) Once you have restored the property server, return to this procedure.
5. For any additional storage/content search servers, repeat this procedure and refer to “[Restoring Storage Managers](#)” on page 338.

Configuring for WANs and Firewalls

If you use a Wide Area Network (WAN) or a firewall that restricts port-level configurations, you can override IDMSD's dynamic port allocation by adding entries for the Storage Manager and Content Search Manager into the **services** file.

Configuring the Storage Manager's Port Number

The port number for the Storage Manager must be a number from 1024 to 65535 (inclusive) that is not already assigned in the services file. This port number is entered in the following location:

OS Platform	Location
Windows NT	<p>File: <code>\\%SystemRoot%\system32\drivers\etc\services</code></p> <p>Entry: <code>idmds\LibrarySystem\brserver port_number/ tcp</code></p>
UNIX	<p>File: <code>/etc/services</code></p> <p>Entry: <code>idmds/librarysystem/brserver port_number/ tcp</code></p>

Configuring the Content Search Manager's Port Number

The port number for the Content Search Manager must be a number from 1024 to 65535 (inclusive) that is not already assigned in the services file. This port number is entered in the following location:

OS Platform	Location
Windows NT	<p>File: <code>\\%SystemRoot%\system32\drivers\etc\services</code></p> <p>Entry: <code>idmds\LibrarySystem\fultext port_number/ tcp</code></p>
UNIX	<p>File: <code>/etc/services</code></p> <p>Entry: <code>idmds/librarysystem/fultext port_number/ tcp</code></p>

Controlling Library System Services

There are several ways to control library system services:

- The IDMDS Service Manager, installed on each server during IDMDS setup, allows you to start, stop, and view the status of library system services. Refer to “IDMDS Service Manager” on page 209.
- The Windows Control Panel Services Tool provides control over the database services as well as the library system services. Refer to “The Control Panel Services Tool” on page 212.
- Using the command-line utilities installed with IDMDS, you can start, stop, and view the status of library system services from a DOS command prompt. Refer to “Controlling IDMDS Services with Command-line Utilities” on page 213.

IDMDS Service Manager

The IDMDS Service Manager, which is automatically installed on each property server and remote storage server during IDMDS Setup, provides GUI controls and status display for starting, stopping, and monitoring library system services.

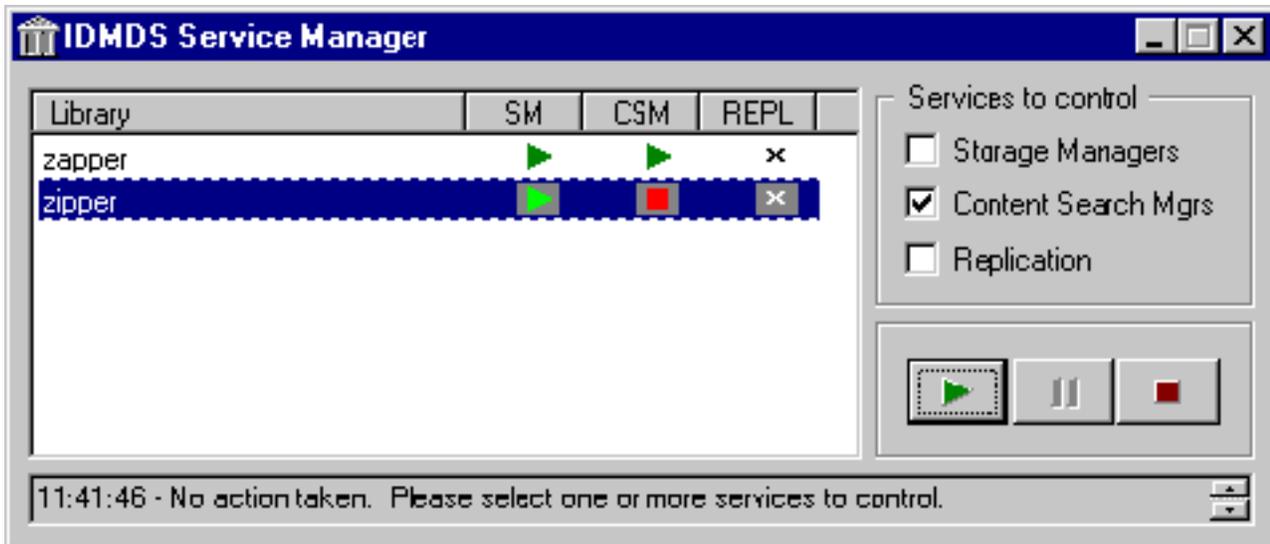
Note By default, the IDMDS Service Manager is available as an icon in the System Tray, at the far right of the Windows Taskbar. If you shut it down, you can restart it by clicking Start > Programs > Startup > IDMDS Service Manager, or by running **Drive:\idmids\dsstatus.exe**.

IDMDS Service Manager without Active Directory Support

For Windows NT-based library systems, or for Windows 2000-based library systems that have not been configured for Active Directory support, the IDMDS Service Manager can monitor and control local library system services only.

To use the IDMDS Services Manager:

1. Double-click the IDMDS Services Manager icon in the System Tray. The IDMDS Services Manager window is displayed, showing the status of each library system component installed on that server.



In this example, the Storage Manager and Content Search Manager for library system *zapper* are currently running. The Storage Manager for library system *zipper* is running, but the Content Search Manager is not. Components showing a status of "X" are not installed.

2. To control services:
 - a. Select the library system whose services you want to control. Or, to control the services of more than one library system at a time, you can hold down the shift key and select multiple library systems.
 - b. Select one or more check boxes to specify the type of service (or services) you want to control. In the above example, only *zipper's* Content Search Manager is selected for control.
 - c. Click the button for the action you want to perform.



Starts the selected service or services for all selected library systems.



Pauses the selected service or services for all selected library systems. (Storage Manager cannot be paused.)



Stops the selected service or services for all selected library systems.

Note The scrolling region at the bottom of the dialog box allows you to review the last 100 actions the Service Manager has performed.

IDMDS Service Manager with Windows 2000 Active Directory Support

For library systems installed on Windows 2000 servers, IDMDS Service Manager can use Active Directory to enable you to monitor and control library system services on other servers within the same Active Directory forest.

Note IDMDS does not support Active Directory on Windows NT 4.0.

To use the IDMDS Service Manager with Active Directory Support:

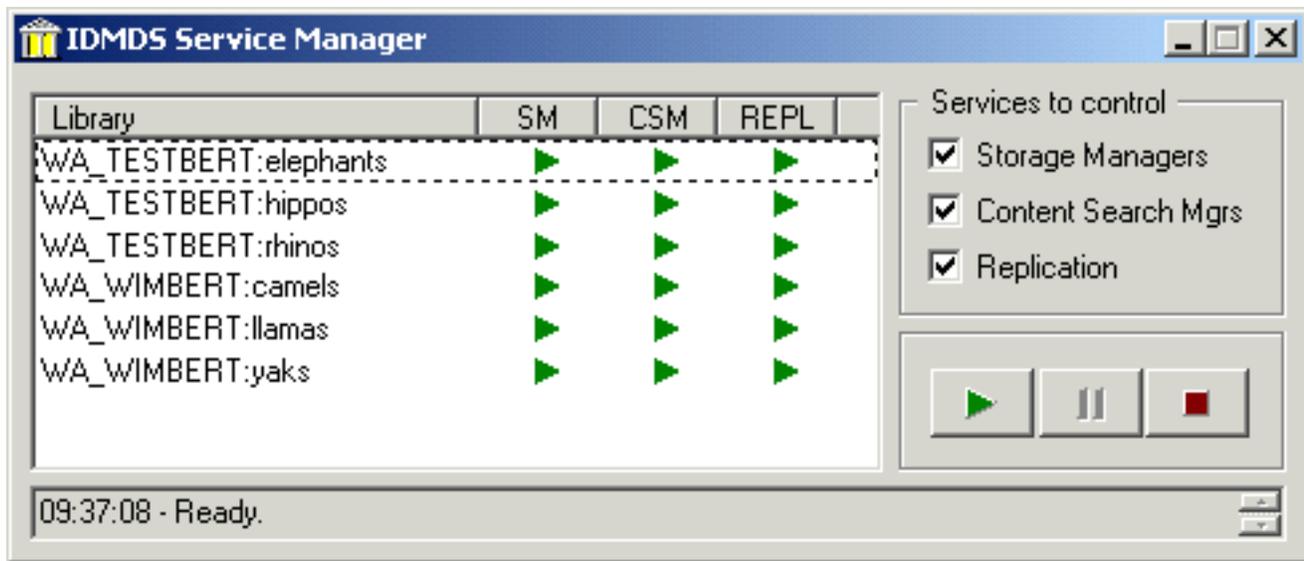
1. Install and configure all Windows 2000-based IDMDS servers within your Active Directory forest, as explained in:
 - “Installing a Library System on a Windows 2000 Server” on page 119
 - “Installing Additional IDMDS Components on a Windows 2000 Server” on page 131
 - “Migrating a Property Server to Windows 2000” on page 157
 - “Migrating a Remote Storage Server to Windows 2000” on page 160

Note To enable remote monitoring and control of IDMDS services, the Domain Admins and Enterprise Admins groups must belong to the local Administrators group on your IDMDS server.

2. Log on to the library system server that you want to use for centralized control of you IDMDS systems. The rights assigned to your User account will determine what library systems IDMDS Service Manager can monitor and control:

Members of	Can monitor and control
Local Administrators	Local library system services only.
Domain Admins	Library system services on all Windows 2000 servers in the Active Directory domain.
Enterprise Admins	Library system services on all Windows 2000 servers in the Active Directory forest.

3. Start the IDMDS Service Manager as explained above. The following example shows library systems on two servers: *elephants*, *hippos*, and *rhinos* are installed on WA_TESTBERT; *camels*, *llamas*, and *yaks* are installed on WA_WIMBERT. If the number of library systems exceeds the available space in the Service Manager window, a vertical scroll bar appears to allow you to scroll up and down the list.



4. You control library system services on remote servers just as you would on the local server (see “IDMDS Service Manager without Active Directory Support” on page 209) above. The Service Manager queues requests to start or stop services. If multiple start or stop requests are made, they are executed in the order received.

Note On a busy network, it's possible that changes in service status may be delayed. If that is the case, you may want to consider adjusting the replication interval between the Domain Controller and the Global Catalog to improve performance. Refer to the Windows 2000 documentation for details.

The Control Panel Services Tool

You can use the Windows Control Panel Services tool to start, stop, pause, or continue the Microsoft MSSQLServer service as well as the IDMDS library system services.

You can also set each service for automatic, manual, or disabled startup.

To control the services using the Windows Control Panel Services tool:

1. Open the Windows Control Panel (available from Start > Settings > Control Panel).
2. Start the **Services** tool.
3. If you are going to start IDMDS services, first verify that the **MSSQLServer** service is started. If it is not, select MSSQLServer and click Start.
4. Locate the IDMDS services for your library system. If IDMDS is correctly installed, you will see a service name for each component:
 - IDMDS Storage Manager - *LibrarySystem* (required)
 - IDMDS Content Search Manager - *LibrarySystem* (optional)
 - IDMDS Replication Manager - *LibrarySystem* (optional)

LibrarySystem is the name you assigned to your database and to your library system.

5. Select the service you want to control, then click **Start**, **Stop**, **Pause**, or **Continue** to put the selected service into the desired state.
6. For Microsoft SQL Server systems, to change a service's startup type:
 - a. Select the service.
 - b. Click **Startup** to display the Startup dialog box.
 - c. Select a startup type of Automatic, Manual, or Disabled, then click OK.

Controlling IDMDS Services with Command-line Utilities

Command-line utilities for starting, stopping, and checking the status of IDMDS services are installed on each library system server. To run these utilities, start a command prompt and change to the **Drive:\Idmds** directory, then enter the command.

Utility	Description
DSINFO	Displays the status of IDMDS services, as well as the Property Manager (database engine), for the specified library system. By default DSINFO displays status information on all IDMDS services for all library systems on the machine where it is run. Refer to “DSINFO” on page 380 for complete documentation.
DSSTRT	Starts IDMDS services for the specified library system. By default, DSSTRT starts all IDMDS services (except Replication) for all installed library systems on the machine where it is run. Refer to “DSSTRT” on page 384 for complete documentation.
DSSTOP	Stops IDMDS services for the specified library system. By default, DSSTOP stops all IDMDS services for all installed library systems on the machine where it is run. Refer to “DSSTOP” on page 382 for complete documentation.

Accessing Multiple Library Systems

IDMDS provides flexibility in how you can configure your library systems and how your users can access them.

Refer to:

- [“Multiple Library Systems With One Database Engine” on page 214](#) for information about installing multiple library systems on a single property server, using a single database engine
- [“Connecting a Client to Different Library System Platforms” on page 216](#) for information about allowing clients to communicate with library systems running on different servers with different database platforms

Multiple Library Systems With One Database Engine

Each IDMDS library system has an associated property repository. The property repository is a relational database that maintains information about the library system: the network configuration, the library system's users, and the files and other items that it manages (including the status, network location, and general descriptive properties for each item).

The database engine (for example, Microsoft SQL Server) is typically used by a single library system. However, the database engine can be shared by several library systems.

We recommend that no more than four library systems share a database on a single CPU. Additionally, the minimum memory requirements for up to four IDMDS library systems are:

Number of Library Systems	Memory Required
1	16 Mb
2	24 Mb
3	32 Mb
4	40 Mb

Note More than four library systems would require an SMP server or a different server platform.

FileNET certifies IDMDS for use with up to twelve library systems sharing a database engine on the same property server. Refer to [“Configuring IDMDS Databases” on page 253](#) for instructions on reconfiguring the library systems' database parameters to assign more memory to the database.

This type of multisystem configuration requires that the server on which this software is installed be able to handle this kind of load. It also assumes that you would want to locate the Catalog subsystem for multiple library systems on a single CPU - a configuration that can be economical of hardware

resources, but can sometimes complicate maintenance, backup/recovery, and even software update procedures. For example, if you have hardware failure on a server containing multiple library systems, more users are likely to be adversely affected than if you had spread the library systems over multiple servers so that some library systems could still be functioning. Recovery time is also going to be lengthened if you have to restore more than one library system per server.

Note You can always install multiple IDMDS library systems at your site, each with its own database engine. This configuration tends to be simpler to maintain, and these totally independent library systems can still be accessed from a single client with little trouble and minimal setup requirements.

Before You Install Additional IDMDS Systems

There is no simple way to ensure in advance that the server where the Catalog subsystem is to be installed for your various library systems has adequate resources. The actual requirements for your site will obviously depend on the operations being performed on the additional library systems: how many users will be working concurrently and how many files will be checked in on a daily basis.

Consider the following when setting up IDMDS in an environment where the database is to be shared by multiple library systems:

- For each additional Catalog subsystem on a single server, you will need at least:

Resource	Minimum Requirement for Each Catalog Subsystem
Disk space	90 MB (without Content Search Manager)
	95 MB (IDMDS for Microsoft SQL Server, with Content Search Manager and content search repository)
	95 MB (IDMDS for Oracle, with Content Search Manager and content search repository)

- Review the other hardware requirements. Refer to [“Server Hardware Requirements \(Windows NT\)” on page 97](#) and [“Server Hardware Requirements \(Windows 2000\)” on page 98](#).
- Refer to [“Managing Multiple Library Systems” on page 293](#) for details about configuring more than one library system at your site.

Adding a Library System

The following general guidelines assume that you are installing (not upgrading) an additional library system onto a server that already has a fully upgraded or newly-installed library system. The operating system and database software therefore already exists on servers and clients. Refer to [“Certified Server Software Requirements \(Windows NT\)” on page 99](#) and [“Certified Server Software Requirements \(Windows 2000\)” on page 101](#).

1. Refer to [“Before You Install Additional IDMDS Systems” on page 215](#) and verify that you have completed the necessary steps.

2. Create a new database for the new library system. Refer to “[Creating a Property Repository Database](#)” on page 107

The new library system will use your existing ODBC data source (DSN).

3. Install the new library system. Refer to “[Installing IDM Document Services](#)” on page 113 for installation instructions. Install additional Storage and Content Search Managers as required.

Note Installing an additional library to a property server shuts down the existing libraries. You will have to restart them manually.

4. Configure your IDMD Explorer to access the new library system.
5. Configure each client application on each client machine that will access the new library system.
6. Refer to “[Replication Services](#)” on page 464 for instructions if the new library system will be part of an existing replication domain.

Connecting a Client to Different Library System Platforms

IDMDS supports access from a single client to multiple library systems running on different database engines. In other words, you could set up a single client workstation to connect to a library system running against an HP Oracle database on one server, and to connect to a different library system running against an NT Oracle database on another server, and to yet another library system running against a Microsoft SQL Server database on a third server.

Code Pages

The configuration of code pages, or character sets, in your IDMDS servers and clients is very important to the functioning of your library system.

Refer to:

- [“Working with Code Pages” on page 217](#) for an introduction to code pages and usage notes for IDMDS servers and clients
- [“Supported Code Page Configurations” on page 218](#) for details about which code pages are supported
- [“Identifying Your Code Pages” on page 220](#) for procedures to identify the current settings for your OEM, ANSI, and database code pages
- [“Configuring Code Pages” on page 220](#) for procedures to change your code page configuration

Working with Code Pages

On a Windows NT platform with Microsoft SQL Server installed, you must consider the following code pages when installing and configuring your library system:

- OEM code page
- ANSI code page
- database code page

In addition to the three code pages, the following components have character translation settings that will affect your library system:

- ODBC Data Source
- DB Library

Background of Code Pages

The following topics contain important information about code pages and translation settings on library system servers and clients.

Server Notes

- The IDM Document Services Setup program will warn you if your OEM code page is 437, which doesn't support all the characters used in Western European languages. You can choose to ignore these warnings, but Setup will fail if you use extended characters when completing the Setup installation prompts.

- The default OEM code page for Window NT 4.0 is 437 for English, and 850 for French and German. If the OEM code page is set to 437, you will not be able to use extended characters in your library system.
- The default ANSI code page is 1252 for English, French, and German versions of Windows NT 4.0. You should not change this value.
- If you are upgrading your library system or if you are installing a new library system that will replicate to or from an upgraded library system, you must use the same database code page and sort order that your old library system used.

Note The certified sort order for library systems prior to version 4.3.x was "Strict compatibility with Version 1.x case-insensitive databases." This sort order will cause accented characters to be sorted after the letter z.

- After you install Microsoft SQL Server, changing the database code page or sort order is a major undertaking. Refer to the Microsoft SQL Server documentation for more information.

Client Notes

- The default OEM code page for Windows is 437 for English, and 850 for French and German. If the OEM code page is not 850, non-Windows applications may not translate extended characters correctly.
- The default ANSI code page is 1252 for English, French, and German versions of Windows. You should not change this value.
- The ODBC data source "Perform translation for character data" setting (or "Convert OEM to ANSI characters" in earlier versions of MDAC) on the client must be configured correctly for the data source of each library system the client will access. If the library system database engine uses a database code page of 850, the setting on the client should be *on*. If the database engine uses a database code page of 1252, the setting should be *off*. Refer to ["Configuring the ODBC Data Source" on page 222](#) for instructions on setting this option.

Supported Code Page Configurations

If your library system was installed according to the procedures in the IDM Document Services documentation, it should match one of the following configurations. Refer to ["Identifying Your Code Pages" on page 220](#) for instructions on how to identify what code pages you are using. Refer to ["Configuring Code Pages" on page 220](#) for instructions on how to change the various code pages and translation settings.

Note The ODBC Perform translation for character data setting described in the following table was labeled Convert OEM to ANSI characters in previous versions of the Microsoft ODBC Data Source Administration tool.

Setup Type	Configuration Settings
Upgrade (no extended character support)	<p>OEM Code Page: 437</p> <p>ANSI Code Page: 1252</p> <p>Database Code Page: 850</p> <p>Database Sort Order: Strict compatibility with Version 1.x case-insensitive databases</p> <p>ODBC Perform translation for character data: ON</p> <p>DB Library Automatic ANSI to OEM: ON</p>
Upgrade (extended character support)	<p>OEM Code Page: 850</p> <p>ANSI Code Page: 1252</p> <p>Database Code Page: 850</p> <p>Database Sort Order: Strict compatibility with Version 1.x case-insensitive databases</p> <p>ODBC Perform translation for character data: ON</p> <p>DB Library Automatic ANSI to OEM: ON</p>
New Install (no extended character support)	<p>OEM Code Page: 437</p> <p>ANSI Code Page: 1252</p> <p>Database Code Page: 1252</p> <p>Database Sort Order: Dictionary order, case-insensitive, accent-insensitive</p> <p>ODBC Perform translation for character data: OFF</p> <p>DB Library Automatic ANSI to OEM: OFF</p>
New Install (extended character support)	<p>OEM Code Page: 850</p> <p>ANSI Code Page: 1252</p> <p>Database Code Page: 1252</p> <p>Database Sort Order: Dictionary order, case-insensitive, accent-insensitive</p> <p>ODBC Perform translation for character data: OFF</p> <p>DB Library Automatic ANSI to OEM: OFF</p>

Identifying Your Code Pages

Use the following procedures to identify your OEM, ANSI, and database code pages.

OEM Code Page

To identify your OEM (active) code page, open a DOS command prompt and enter:

```
chcp
```

ANSI Code Page

Caution This procedure requires you to use the Windows NT Registry Editor, something only experienced system administrators should do. Making mistakes while editing the Registry can make your system unstable or worse!

To identify the ANSI code page, use **regedit** or **regedt32** to check the value of the following registry entry:

```
HKEY_LOCAL_MACHINE\System
  \CurrentControlSet
    \Control
      \Nls
        \CodePage
          \ACP=ansi_codepage
```

Database Code Page and Sort Order

To identify the database code page and sort order, use the Query Analyzer (SQL Server 7.0) or the ISQL utility (SQL Server 6.5) to execute a query containing the statement:

```
sp_helpsort
```

The query results will identify the database code page and sort order.

Configuring Code Pages

Changing the OEM Code Page

Caution This procedure requires you to use the Windows NT Registry Editor, something only experienced system administrators should do. Making mistakes while editing the Registry can make your system unstable or worse!

To change the OEM code page, using **regedit** or **regedt32**, change the string value for the following registry entries:

```
HKEY_LOCAL_MACHINE\System
  \CurrentControlSet
    \Control
      \Nls
        \CodePage
```

```
\OEMCP=oemcp_value
\OEMHAL=oemhal_value
```

For example, to change the OEM code page to 850, you would set OEMCP=850 and OEMHAL=vga850.fon.

Changing the ANSI Code Page

Caution This procedure requires you to use the Windows NT Registry Editor, something only experienced system administrators should do. Making mistakes while editing the Registry can make your system unstable or worse!

To change the ANSI code page, using **regedit** or **regedt32**, change the string value for the following registry entry:

```
HKEY_LOCAL_MACHINE\System
  \CurrentControlSet
    \Control
      \Nls
        \CodePage
          \ACP=acp_value
```

For example, to change the ANSI code page to 1252, you would set ACP=1252.

Configuring DB Library

For proper conversion and storage of text, MS-SQL Server must have the correct DB Library configuration setting.

MS-SQL Server 7.0

To configure SQL Server 7.0 DB Library:

1. Run the Client Network Utility (available from Start > Programs > Microsoft SQL Server 7.0).
2. Click the DBLibrary Options tab and check the setting:
 - If your database code page is 850 (that is, if your database code page is the same as your machine's OEM active code page), select the Automatic ANSI to OEM check box.
 - If your database code page is not 850, (that is, if your database code page is the same as your Windows ANSI code page), clear the Automatic ANSI to OEM check box.
3. Quit the Client Network Utility.

MS-SQL Server 6.5

Note Due to a bug in the French version of Microsoft SQL Server 6.5's SQL Server Client Configuration utility, French customers should not perform the following procedure. Instead, use **regedit** or **regedt32** to change the string value of the following registry entry to *on* if your database code page is 850 or *off* if your database code page is 1252.

```
HKEY_LOCAL_MACHINE
  SOFTWARE
```

```
Microsoft
  MSSQLServer
    Client
      db-lib
        AutoAnsiToOem=on_or_off
```

To configure SQL Server 6.5 DB Library:

1. Run the SQL Server Client Configuration utility (available from Start > Programs > Microsoft SQL Server 6.5).
2. Click the DBLibrary tab.
3. In the DB Library Configuration group box:
 - If your database code page is 850 (that is, if your database code page is the same as your server's OEM code page), select the Automatic ANSI to OEM check box.
 - If your database code page is 1252, (that is, if your database code page is the same as your ANSI code page), clear the Automatic ANSI to OEM check box.

Configuring the ODBC Data Source

To configure the ODBC data source code page translation on clients and servers:

1. Open the Control Panel and start the ODBC Data Source tool.
2. On the System DSN tab of the ODBC Data Source Administrator dialog box, select the DSN for your library system, then click Configure. The Microsoft SQL Server DSN Configuration wizard opens.
3. Verify that the dialog box displays the correct data source name and server name, then click Next. The next wizard screen opens.
4. Select the logon method you want to use:
 - If you select SQL Server authentication, enter the System Administrator (sa) user name and password, then click Next.
 - If you select Windows NT authentication, clear the check box for "Connect to SQL Server for the default settings for additional configuration options" and click Next.
5. The next wizard screen opens. Click Next.
6. Verify the setting of the "Perform translation for character data" check box, then click Finish:
 - If your library system database is using code page 850 (that is, if your database code page is the same as your server's OEM code page), check this box.
 - If your library system database is using code page 1252, (that is, if your database code page is the same as your ANSI code page), clear this box.
7. Click Test Data Source to verify that the DSN is correctly configured.

Database Code Page and Sort Order

After you install Microsoft SQL Server, changing the database code page or sort order is a major undertaking. Refer to the Microsoft SQL Server documentation for more information.

Client Library Files

The IDMDs Client Library Files are automatically installed with all FileNET IDMDs client software (such as IDM Desktop). In most cases, you will not need to install these files as a separate procedure. The information in this section is provided only for sites that have a custom IDMDs client interface, or for instances where a Client Library Files installation has been damaged or lost and must be reinstalled.

Refer to:

- The client application documentation, if you are installing the Client Library Files as part of a client application installation
- [“Installing Client Library Files” on page 225](#) if you want to install these files interactively, using Setup in GUI mode
- [“Installing Client Library Files Unattended” on page 226](#) if you want to install these files unattended, using Setup with a **Clisetup.ini** file
- [“Installing Client Library Files via MS-SMS” on page 235](#) if you want to install these files using Microsoft Systems Management Server

Client Library Files Overview

Note Except where clearly noted, this topic applies to Windows clients only. Refer to [“All UNIX Clients” on page 236](#) for information about installing the UNIX shared client library files.

For a client application to access an IDMDs library system, database-specific Client Library Files must be installed on the client machine. These files include the client files required by IDMDs, system DLLs such as **msvcrt.dll**, database client files, and ODBC files.

The required client libraries are included with all FileNET IDM client distributions (such as IDM Desktop) and are installed automatically when you install the client application. However, independent installation of the Client Library Files is sometimes required because this software has a product life cycle of its own and can be distributed independently. You can run the Client Library Files Setup program independently, to upgrade an existing client installation, replace a damaged installation, or complete the installation of a non-FileNET client application that does not include the client libraries.

Client Library Files Setup

The client libraries are most often installed as part of a larger installation process, such as when you install IDM Desktop. In this scenario, the client application's installation program calls Client Library Files Setup to run in the background. In addition to installing the necessary libraries, Client Library Files Setup:

- Sets path statements
- Enters information in the Windows Registry

- Installs the necessary ODBC components and creates Data Source Names
- Tests (on next restart) the connection to the library system database

Client Library Files Setup can be run as a stand-alone program. It can accept input values either from direct user input, via its user interface, or from an input file. It can also produce a descriptive output file. Refer to “[Client Library Files Setup Input File](#)” on page 229 and “[Client Library Files Setup Output File](#)” on page 232 for details.

Installing Client Library Files

To install the Client Library Files:

1. Refer to “[Certified Client Software Requirements](#)” on page 103 to verify that your client machine is in compliance with the requirements.
2. Refer to “[Release Notes](#)” on page 23 for information about this release.
3. Run **Drive:\Client.Lib\ Language\Setup.exe** on the *IDMDS System Administration* CD-ROM.
4. In the Select Components dialog box, select the version of the Client Library Files you want to install, then click Next.
 - Select ver. 5.1.x if this client needs to connect to IDMDS 5.1 library systems only.
 - Select ver. 4.3.x -- 5.1.x if this client needs to connect to both IDMDS 4.3.x and 5.1 library systems.
5. In the Server Connections dialog box, select Add to configure the client to connect to a specific library system. Complete the Server Connection Entry dialog box as follows, then click OK.

System Name	Enter the name of the library system you want to access.
Server Name	Enter the host name of the property server where the library system is installed.
Protocol	Select TCP/IP from the pull-down menu.
Database Server Type	Select from the pull-down menu the type of database engine you will be accessing (Microsoft SQL Server or Oracle).
Port	Enter the port number you will use to connect to the database server. Leave the field blank if your database engine is configured to use the default port number.

Oracle SID If your database server type is Oracle, enter the ORACLE_SID value for the Oracle database instance where the library system property repository is installed. The default ORACLE_SID value is:

- saro for library systems originally installed prior to version 4.2
- orcl for new installations or for library systems originally installed at version 4.2 or later

You can find the SID (or Community Name) on the property server in \$ORACLE_HOME\network\admin\listener.ora.

6. Review the information in the Database Summary dialog box. When you are satisfied with your inputs, click Next.
7. In the Choose Destination Location dialog box, click Next to accept the default (or click Browse if you want to specify a different target directory).

Note If a previous installation of the Client Library Files is detected, Setup will use that location for the default.

8. Setup will install and configure the Client Library Files. In the Setup Complete dialog box, click Finish to exit.
9. Make sure the ODBC data source code page translation setting is configured correctly. Refer to [“Configuring the ODBC Data Source” on page 222](#).
10. Check the output file for information about the installation. By default, Setup writes an output file to **Drive:\Temp\Setupout.ini**. Refer to [“Client Library Files Setup Output File” on page 232](#).

Installing Client Library Files Unattended

You can run Client Library Files Setup from a command line (using the a **Clissetup.ini** file and a **Setup.iss** file) to perform *unattended* or *silent* client installation. Before you begin the installation:

- Verify that your client machine is in compliance with the requirements. Refer to [“Certified Client Software Requirements” on page 103](#).
- Review the release notes. Refer to [“Release Notes” on page 23](#).

Preparing a Clissetup.ini File

To perform unattended Client Library Files installation, you must first prepare an initialization file to provide input to Setup. You can prepare an initialization file either by editing the provided **Clissetup.ini**, or by running Setup with the `-ADMCFG:filename` parameter (refer to [“Client Library Files Setup Command-line Options” on page 227](#)).

To edit the provided Clissetup.ini file:

1. Copy **Drive:\Client.Lib\Language\Clissetup.ini** from the *IDMDS System Administration* CD-ROM to a location accessible to the machine on which you will run Setup.

2. Edit **Clisetup.ini** with a text editor. Refer to “Client Library Files Setup Input File” on page 229 for format and content requirements.
3. You can now use your initialization file to install Client Library Files.

Note You can name the initialization file anything you wish. You will specify the file to use by including `-IN:filename` on the Setup command line.

Performing a Silent Installation of Client Library Files

Once you have prepared a **Clisetup.inf** file, as explained above, you are ready to run Setup to perform a client installation.

To install Client Library Files using Clisetup.ini:

1. Start a DOS command prompt and enter a command to perform the installation. For example:

```
setup -ADDLIB:MSSQL -IN:Clisetup.ini -s -fl Setup.iss
```

This command will install the client libraries according to the setup parameters in **Clisetup.inf**. Command prompts will not be displayed. Refer to “Client Library Files Setup Command-line Options” on page 227.

2. Check the output file for information about the installation. By default, setup writes an output file to **Drive:\Temp\Setupout.ini**. Refer to “Client Library Files Setup Output File” on page 232.
3. Make sure the ODBC data source code page translation setting is configured correctly. Refer to “Configuring the ODBC Data Source” on page 222.

Client Library Files Setup Command-line Options

The Client Library Files Setup program supports the following command-line options. Options can appear in any order on the command line, provided the InstallShield options appear after all other options. Avoid using spaces in filenames.

Option	Required/Optional	Description
<code>-IN:filename</code>	Optional in UI mode; Required in non-UI mode	Tells Setup to perform the installation using the installation parameters contained in <i>filename</i> . Refer to “Client Library Files Setup Input File” on page 229.
<code>-OUT:[filename]</code>	Optional	Tells Setup to write information about the installation to <i>filename</i> . If you omit this option, Setup writes the output to Drive:\Temp\Setupout.ini . Refer to “Client Library Files Setup Output File” on page 232. Note If the <code>-OUT:</code> option is used without a filename, output is suppressed.

Option	Required/Optional	Description
-ADMCFG: <i>filename</i>	Optional.	Tells Setup to capture your input values and write them to <i>filename</i> . This file can then be used as an input file (using the -IN: command-line parameter) for further client installations. Note The -ADMCFG: <i>filename</i> option cannot be used in silent mode installations.
-LOCATION: <i>dir</i>	Optional	Target directory for the client libraries installation. If you omit this option, the default value is used. For Web installations the default is the Windows System folder. For Desktop installations, the default is Drive:\Program Files\FiletNET\Shared . If the client libraries have previously been installed, this value is ignored and the location of the previous installation is used.
-AGGREGATE:	Optional	Tells Setup that the client libraries installation is a part of another process. Welcome and Finish dialogs are suppressed. This option has no effect in silent mode.
-ADDLIB: <i>list</i>	Optional	Forces Setup to install client software for the databases specified in <i>list</i> , even if the user has not entered alias information for the databases. The list must be a semicolon-delimited string of keywords (for example, MSSQL;ORACLE). Case is insignificant. No spaces are allowed in the list body.
-OLDCLIENT	Optional	Specifies backward compatibility. This causes additional files to be installed, enabling connection to earlier versions of IDMDS. Equivalent to using backward=1 in the [General] section of the input file.
-SMS	Optional	(Microsoft SQL Server databases only) Provides support for installations via Microsoft Systems Management Server (SMS). Specifically, this flag causes the installer to spawn processes synchronously rather than asynchronously, so when the parent process (task) terminates, SMS can be assured that the entire installation has finished.
-s	Optional	Specifies silent mode. Refer to Microsoft InstallShield documentation for details.

Option	Required/Optional	Description
-f1 <i>filename</i>	Optional	Calls <i>filename</i> (a setup file) to be used during silent mode installation. A sample setup file is provided in Drive:\Client.Lib\Language\Setup.iss on the <i>IDMDS System Administration</i> CD-ROM. Refer to Microsoft InstallShield documentation for details.

Usage examples

Note Flags in bold are required, and the order is significant. The *.iss file is required by InstallShield to run in silent (non-UI) mode. Refer to the InstallShield documentation for details.

You want to ...	Command-line example
Install in UI mode, to let the user control the installation process	<code>setup -IN:params.ini</code>
Run the installation as a part of another process, in non-UI mode	<code>setup.exe -AGGREGATE: -IN:myfile.ini -s -f1 setup.iss</code>
Make sure the Installer will install Microsoft SQL Server client regardless of user input	<code>setup -ADDLIB:MSSQL</code>

Client Library Files Setup Input File

IDM Document Services Client Library Files Setup can read an input file if it is specified on the command-line. The Input file provides a way for the calling application, which could be a program you created yourself, to configure the installation and run it in batch mode without user interaction. This is called unattended or silent mode.

The Input file is a standard Windows initialization (*.ini) file, which can be located in any read-accessible location. Use the command-line parameter -IN to specify the exact location. For example:

```
setup.exe -IN: path\infile.ini -LOCATION: target-path -s -f1 path\ setup.iss
```

The Input file has three main sections: [General Options], [Database Options], and [Alias-*n*].

The [General Options] Section

Entry	Values	Description
InstallFileVersion	2	Required. Indicates the version of the input file. Due to some significant changes in the file structure, the installer version 2 doesn't accept files created for installer version 1.

Entry	Values	Description
SkipMDAC	0 or 1	<p>Optional. Default is 0. If set to 1, the MDAC installer will not be called. Note that the installer will skip execution of MDAC automatically if current or newer MDAC components already exist on the system. It is only necessary to use this option if you want to force MDAC to be skipped.</p> <p>If set to 1 and ODBC does not exist, the IDM Document Services Client Library Files Setup will fail.</p>
UpgradeDBMS	0 or 1	<p>Optional. Default is 0.</p> <p>If set to 1, Client Library Files Setup will upgrade any old or incompatible database client files it finds.</p> <p>The default is to fail the silent mode installation and report old or incompatible database client software.</p>
Backward	0 or 1	<p>Optional. Default is 0. If set to 1, additional files are installed to allow for connectivity to earlier versions of IDMDS. Takes precedence over the -OLDCLIENT parameter.</p>
TargetDirectory	Any legal path	<p>Optional. The target installation directory for the Common Files group.</p> <p>TargetDirectory takes precedence over the -LOCATION:<i>dir</i> command-line parameter.</p> <p>To prevent multiple installations of the Client Library Files in different locations on the same machine (which can cause DLL conflicts), TargetDirectory is ignored if the following registry key exists:</p> <pre>HKEY_LOCAL_MACHINE\Software\FileNET \IDM Document Services Client Libraries\version\InstallPath</pre> <p>This registry key indicates that Client Library Files have been installed at least once. The value of InstallPath will then be used as the target directory for any subsequent Client Library File installations.</p>

The [Database Options] Section

Entry	Values	Descriptions
NumberOfAliases	An integer greater than or equal to 0	Optional. Specifies how many aliases Setup should create.
PingConnections	0 or 1	Optional. Default is 1. 0 tells Setup not to ping the database connection on the next reboot. 1 tells Setup to ping the database connection on the next reboot.
PingSilent	0 or 1	Optional. Default is 0. 0 tells Setup to show a progress dialog box. 1 tells Setup not to show a progress dialog box.
OracleHome	Any valid path	Optional. The location where Oracle database client files should be installed.

The [Alias-n] Section

Numbering of the Alias sections begins with zero.

Entry	Values	Descriptions
SystemName	Any legal database alias name	Required. The name of library system residing on the host server.
Host	Any valid server name	Required. The server's host name (computer name).
Protocol	TCP/IP	Required. Specifies what protocol will be used to connect to this server.
Port	Any valid port	Optional. What port should be used (TCP/IP only). If you do not provide a value, the default port will be used.
Database	MSSQL ORACLE	Required. Specifies the database type the alias will be bound to.
SID	Any valid Oracle SID string	Required for Oracle aliases only. Denotes the database SID for the alias. Refer to Oracle documentation for information about defining and using SID.

Note Inputs in the Alias-n section that are described above as required, are required for ODBC Data Source Name configuration purposes only. If omitted, or entered as null values, the Client Library Files are installed, but the DSN is not created.

The application installer that supplied the input file is responsible for cleaning up any temporary or intermediate input files when IDM Document Services Client Library Files Setup completes.

Client Library Files Setup Output File

The Client Library Files setup program always generates an output text file, unless you suppress output by using the **-OUT:** command-line option without a filename. The default location where the output is written is **Drive:\Temp\Setupout.ini**. Refer to “[Client Library Files Setup Command-line Options](#)” on [page 227](#) for more information.

Note Refer to “[Client Library Files Setup Error Messages](#)” on [page 233](#) for a list of the potential error codes and messages that could be reported in the output file.

An output file can have the following entries.

Section	Entry	Description
[Result]	ReturnCode	Completion Code: 0 = OK 2 = Essential steps OK, but some problems occurred 4 = A fatal error has occurred 12 = Cancelled by user (incomplete)
	Warnings	Might not appear. A number of warnings are possible.
	ErrorCode	Might not appear. An error code for fatal error (if a fatal error occurred).
	errorcode	Might not appear. Error message for error above.
	MustReboot	0=User may reboot later 1=Some important functionality will take effect only after reboot
[Warning- <i>nnn</i>]	ErrorCode	Might not appear. An error code for each warning.
	errorcode	Might not appear. Warning message for the code above.
[PingResults]	ConnectionsNumber	Might not appear. Indicates how many connections have been tested.
[Connection- <i>nnn</i>]	SystemName	Might not appear. The name of library system residing on the host server. (<i>nnn</i> is an integer between zero and ConnectionsNumber minus one.)
	Host	Might not appear. The server's host name (computer name).

Section	Entry	Description
	Ping Status	Might not appear. Result code received from spiSessionLogin call. (See the FileNET IDM Document Services API Manual for details.)
[Path Conflicts]	TotalPaths= <i>n</i>	The total number of paths where path conflicts (described below) were detected.
	Path <i>n</i> = <i>pathname</i>	Path <i>n</i> numbering begins with Path1. The pathnames listed here are paths where srs3mapi.dll, srs3dbcf.dll, or srs3odcf.dll were detected in locations <i>other than</i> the location where setup was trying to install the Client Library Files.

Client Library Files Setup Error Messages

The following is a list of the error codes and messages that may be reported during the Client Library Files installation process. Note that some errors might be fatal or non-fatal depending on the context. For addition IDMDS error codes, see the [“Status Codes” on page 442](#).

Error code	Message and meaning
5000	The "5000" code means "General Error" and most likely could be caused by an internal InstallShield problem, such as media corruption or memory leak. Rare.
5001	An error occurred during the data move process. Rare.
5002	Internal component(s) error. Most likely that you have a broken installation. Rare.
5010	Install couldn't create an internal list. Most likely, you ran out of memory. Very rare.
5012	Error while adding/updating an internal list. Very rare.
5020	Install couldn't load external DLL. Most likely, the installation was corrupted. Rare.
5030	This program requires Windows'95 or Windows NT.
5040	Invalid command line.
5042	You cannot use these command line options together
5050	Could not create or append the file.
5055	Cannot access the directory for write/append
5056	Could not create the directory

Error code	Message and meaning
5060	Could not find the file
5061	Couldn't find the command file - the file specified by the -INCMD flag doesn't exist or cannot be accessed.
5062	Directory doesn't exist
5063	Sqlnet.ora was not found.
5065	The target folder doesn't have enough space
5070	Uninstaller setup failed to initialize. You may not be able to uninstall this product. In some cases might be caused by memory or registry related problems. Rare.
5080	No supported database software has been found on your system.
5090	Could not initialize some custom dialog box resources. Most likely, the installation was corrupted. Rare.
5092	Internal error while showing a custom dialog box. Very rare.
5100	Error accessing Registry
5105	Error updating Registry
5110	Invalid input value. Some specific entry in the input file is invalid.
5111	Invalid Input file version - the input file doesn't have version key or the version is less than 2.
5120	Could not create MS SQL server alias. Very rare.
5121	Could not create MS SQL server alias - this error has the same text as the previous one but slightly differs in meaning. This error means that the Installer couldn't access the Registry entry and check the alias status. Very rare.
5122	Couldn't remove MS SQL Server alias. Very rare.
5123	Couldn't access the Oracle SQL Server configuration file. Rare.
5124	Couldn't update the Oracle SQL Server configuration file. Rare.
5125	Couldn't create backup copy of the Oracle SQL Server configuration file - most likely your temporary folder is full or inaccessible. Very rare.
5126	Couldn't access the Oracle SQL*Net configuration file
5127	Couldn't update the Oracle SQL*Net configuration file
5130	Couldn't install the support library that is required for un-Installation - Not used in this release.

Error code	Message and meaning
5140	Error accessing Oracle home - Installer has detected that Oracle is installed on the system but couldn't access the home directory where the Oracle files reside. Rare.
5150	Error while getting product version - Not used in this release.
5165	Can't install the ODBC drivers
5170	Couldn't complete self-registration process
5175	Couldn't install ODBC Translator
5180	Can't configure ODBC Data Source
5190	Please be advised that in order to perform this installation you must have Administrator privileges. NT only.
5200	Error accessing environment - Installer couldn't get some environment variable(s) settings. Very rare.
5205	Error updating environment. Very rare.
522x	Older DBMS client found. The last digit determines which older DBMS is found; it is a logical OR'd value, where: 1 = old MS SQL Server, 4 = old Oracle, and 5 = both (1+4).
5300	MDAC Installer failed.
5302	DCOM Not Found (Win95 only).
5303	One or more sets of conflicting IDMDS Client Library Files were found via the PATH.
5304	Read-only files were found (silent-mode warning).
5307	DBMS client libraries were upgraded (silent-mode warning).
5308	Install path overridden by registry stored path. Client Libraries being installed in: <i>dir</i> .

Installing Client Library Files via MS-SMS

You can use Microsoft Systems Management Server (SMS) to perform silent installation of the Client Library Files.

Note A second copy of Client Library Files **Setup.exe** named **Setup_.exe** is provided for use with SMS. Using the renamed Setup program allows SMS to install the Microsoft Data Access Components (MDAC) as a part of the Client Library Files installation.

To install IDMDS Client Library Files using MS-SMS:

1. Copy **\Client.Lib\Language** from the IDMDS System Administration CD to a location accessible to the SMS server and all computers on which Client Library Files are to be installed.

2. Using SMS, create a distribution package for the installation. As a starting point for the content of your package, you can import `\Client.Lib\Language\Clisetup.pdf`. Refer to the Microsoft SMS documentation as necessary.
3. Choose the **ClientSetup** command.
4. Edit the command line as necessary. For example, the following command will install the IDMS Client Library Files and the library files required for Microsoft SQL clients. The command options contained in **C:\Clisetup.ini** will be used, and results will be written to **C:\Clisetup.out**.

```
setup_ -ADDLIB:MSSQL -in:c:\clisetup.ini -out:c:\clisetup.out -SMS -s -fl
setup.iss
```

Refer to “[Client Library Files Setup Command-line Options](#)” on page 227 for details about editing the command line.

Refer to “[Client Library Files Setup Input File](#)” on page 229 for details about editing **Clisetup.ini**.

5. Use SMS to create a job and schedule the installation. Note that once the job is created, it may take quite awhile (an hour or more) for it to arrive at the computer where it is to be run.
6. On the computer where the Client Library Files are to be installed, execute the job to run the distribution package.

When the installation completes, the SMS Administrator will show the status.

Also check the output file (**C:\clisetup.out** in the example above) for information about the installation. Refer to “[Client Library Files Setup Output File](#)” on page 232.

All UNIX Clients

The shared Client Library Files for UNIX clients have their own install program, which can allow for easier intermediate updates of UNIX client libraries without requiring recompiles of the entire UNIX client application. If you need (or want) to run the install program interactively to update client libraries on particular UNIX clients (say, for third-party client applications), do the following:

1. Determine/create an installation directory on the UNIX client.
2. Mount the *IDMS System Administration Tools* CD-ROM.
3. On the CD-ROM, change to the subdirectory for your UNIX platform:

```
/client.lib/unix_platform
```

where *unix_platform* is hpux.

4. Type:


```
./install
```
5. Answer the prompts for:
 - a. Path to which to copy the shared libraries.
 - b. The database type (Oracle).

Property Server Problem Solving

If you encounter problems on IDMDS servers, either during installation or routine usage , refer to:

- “Property Server Problem Solving” on page 237
- “Remote Storage Server Problem Solving” on page 239

Property Server Problem Solving

If the installation of the initial library system services appears to complete successfully but the library system will not run, review the following log files to check for error messages:

Log	Description
creatusr.log	Contains results of a validity check done by the IDMDS installation program, as well as a record of all SQL statements that are executed. Located in the \IDMDS directory.
Dssetup.log	Installation errors. Located in the \IDMDS directory.
errorlog.n	Database errors detected when you start the library system. Located in the Microsoft SQL Server installation directory (... \log).

The following problems may also occur while you are setting up the initial library system services. If a problem does occur, follow the recommended action to solve it.

Problem	Possible Cause/Solution
Insufficient disk space	The initial IDMDS services require a minimum of 95 MB of free storage space on the server disk. If an error message indicates inadequate disk space, you must either remove old files or install the initial IDMDS services on a disk with more available space.

Problem	Possible Cause/Solution
Insufficient memory	<p>This error message indicates that the IDMDS host has no more available RAM. If you receive an error message indicating a lack of RAM, you should:</p> <ul style="list-style-type: none"> • Check to see if other applications on the server are running. Make sure they are in an idle state or, preferably, shutdown before trying the installation of IDMDS again. • Check to see that database engine is currently configured for the correct amount of RAM. • Check to see that all the available RAM is accessible and error free. • Add more memory.
Cannot log in to database	<p>This error message indicates that the Storage Manager cannot communicate with the installed database. If you receive this error message, do the following:</p> <ul style="list-style-type: none"> • Make sure that you have properly installed the network adapter card and any required drivers. • Make sure the name for any server on which library system software is installed is included in the \\system32\drivers\etc\hosts file. This file will also include the IP address for each server. • Run the PING utility to ensure that the network communications are functioning properly. • Check whether you can still log in to the property server over the network using a database client tool (for example Query Analyzer for MS SQL Server databases or a remote installation of Oracle Enterprise Manager for Oracle databases).
Power interruption	<p>If power to the property server is interrupted during installation, start the IDMDS installation from the beginning.</p>
Storage Manager fails to bind socket	<p>This error condition can result when you attempt to restart a Storage Manager soon after a shut down. If you receive this error (226), wait at least five minutes and then try to start the Storage Manager again</p>

Remote Storage Server Problem Solving

If problems occur while you are installing a Storage Manager, refer to the following table for information on the possible cause and solution.

Problem	Possible Cause/Solution
Insufficient disk space	A Storage Manager requires a minimum of 25 MB (16 MB for NT Oracle) of disk space on the server disk. If an error message indicates inadequate disk space, you must either remove old files or install the Storage Manager on a disk with more space available.
Insufficient memory	<p>This error message indicates that the library system host has no more available RAM. If you receive an error message indicating a lack of RAM, you should:</p> <ol style="list-style-type: none"> 1. Check whether other applications on the server are running. Make sure they are in an idle state (or preferably shutdown) before trying the IDMDS installation again. 2. Check whether the IDMDS server is currently configured for a sufficient amount of RAM. 3. Check whether all the available RAM is accessible and error free (for example, use the vendor-supplied setup program for the server hardware). 4. Configure the network operating system to use as little memory as possible without adversely affecting its performance. 5. Add more memory.

Problem	Possible Cause/Solution
Cannot talk to network	<p>This error message indicates that the server containing the Storage Manager cannot communicate with the network. If you receive this error message, do the following:</p> <ol style="list-style-type: none"> 1. Make sure that you have properly installed the network adapter card and any required drivers. 2. Make sure the name for any server on which IDMDS software is installed is included in the %SystemRoot%\system32\drivers\etc\hosts file. This file will also include the IP address for each server. 3. Run the PING utility to ensure that the network communications are functioning properly. 4. Check whether you can still log in to the property server over the network using a database client tool (for example Query Analyzer for MS SQL Server databases or a remote installation of Oracle Enterprise Manager for Oracle databases).
Power interruption	<p>If power to the server is interrupted during installation, start the Storage Manager installation from the beginning. It is <i>not</i> necessary to reinstall the entire system.</p>
Cannot contact the Property Manager	<p>This error message indicates that the Storage Manager cannot communicate with the Property Manager. Make sure that the network is properly configured and is working correctly, that the initial IDMDS server is running, and that you specified the correct names for the IDMDS library system and the property server during the Storage Manager installation.</p>
Storage Manager fails to bind socket	<p>This error condition can result when you try to restart a Storage Manager soon after a shut down. If you receive this error (226), wait at least five minutes and then try to start the Storage Manager again using the Windows Control Panel Services tool.</p>

Refer to:

- [“Uninstalling IDMDS” on page 241](#) to uninstall a library system using the Windows Control Panel Add/Remove Programs tool
- [“Uninstalling IDMDS Unattended” on page 242](#) to uninstall a library system using the Dsuninst program
- [“Uninstalling IDMDS via MS-SMS” on page 242](#) to uninstall a library system using Microsoft Systems Management Server
- [“Uninstalling Client Library Files” on page 243](#) to uninstall the Client Library Files using the Windows Control Panel Add/Remove Programs tool
- [“Uninstalling Client Library Files via MS-SMS” on page 243](#) to uninstall a library system using Microsoft Systems Management Server

Uninstalling IDMDS

The procedure described below completely removes a library system from a specified property server. Only the specified library system is uninstalled; any other library systems residing on the same server are left intact.

To retain the library system data stored in the database, use your database tools to do a full backup and save your backup files, the files from your storage repositories, your content search repositories, and your content search data files to a new location. Refer to your database documentation on backing up and to [“Backing Up the Library System” on page 329](#).

Note When uninstalling a Windows 2000-based library system that is configured for Active Directory support (i.e., the IDMDS 5.1.1 Service Pack has been applied), be sure to log on as a user with Domain Admin rights or higher. This enables the uninstall program to remove the library system's Active Directory objects from the domain controller. If you do not log on with at least Domain Admins rights, the Active Directory objects for the library system you are uninstalling will not be deleted from the domain controller and the library system will continue to be listed in the IDMDS Service Manager with an "X" status indicator for all components. In that case, to remove all reference to the deleted library system from the IDMDS Service Manager, you would have to use a special tool (such as Microsoft ADSI Edit) to manually delete the library system's Active Directory objects.

To remove an IDMDS installation:

1. On the property server from which the library system is to be removed, open the Windows Control Panel and start the Add/Remove Programs tool.
2. While the Add/Remove dialog box is displayed, close the Control Panel window. This is necessary so that your `\\winnt\system32\Dsproperties.cpl` can be deleted.

3. On the Install/Uninstall tab, select **FileNET IDM Document Services** and click Add/Remove.
4. On the IDMDS Uninstall dialog box, select the library system you want to uninstall and enter your password for the Microsoft SQL Server system administrator (SA) account..
5. After the uninstallation is complete, you can manually delete the dsuninst program and log file from the **ldmids** directory, and then remove the directory.

Caution In this version of IDMDS, uninstalling a library system deletes the stacks directory and all of its contents (i.e., all documents in the library system). In previous versions of IDMDS, uninstalling left the stacks directory and its contents intact.

Note Uninstalling a library system does not remove the property repository database files.

Uninstalling IDMDS Unattended

Note When uninstalling a Windows 2000-based library system that is configured for Active Directory support (i.e., the IDMDS 5.1.1 Service Pack has been applied), be sure to log on as a user with Domain Admin rights or higher. This enables the uninstall program to remove the library system's Active Directory objects from the domain controller. If you do not log on with at least Domain Admins rights, the Active Directory objects for the library system you are uninstalling will not be deleted from the domain controller and the library system will continue to be listed in the IDMDS Service Manager with an "X" status indicator for all components. In that case, to remove all reference to the deleted library system from the IDMDS Service Manager, you would have to use a special tool (such as Microsoft ADSI Edit) to manually delete the library system's Active Directory objects.

The syntax for running dsuninst unattended is:

```
dsuninst -i LibrarySystem [-w sa_password]
```

Note The optional `-w sa_password` parameter specifies the password for your Microsoft SQL Server sa account. If this option is not included in the command line, dsuninst will prompt you for a password. If the `-w` parameter is included but no `sa_password` value is supplied, dsuninst will assume that the sa password is NULL.

Uninstalling IDMDS via MS-SMS

You can use Microsoft Systems Management Server (SMS) to perform silent uninstallation of IDM Document Services.

To uninstall IDMDS using MS-SMS:

1. Using SMS, create a distribution package for the uninstallation. As a starting point for the content of your package, you can import **Drive:\ldmids\Dssetup.pdf**. Refer to the Microsoft SMS documentation as necessary.
2. Choose the **IDMDSUninstall** command.
3. Edit the command line as necessary to perform the uninstallation. For example, the following command will uninstall the *engspecs* library system.

```
ldmids\dsuninst -i engspecs
```

Note If you do not include the `-w password` option to specify your SQL Server sa password, you will be prompted for it. If you include the `-w` option without including the password value, a NULL sa password will be assumed.

4. Use SMS to create a job and schedule the uninstallation. Note that once the job is created, it may take quite awhile (an hour or more) for it to arrive at the computer where it is to be run.
5. On the server where IDMDS is to be uninstalled, execute the job to run the distribution package. When the uninstallation completes, the SMS Administrator will show the status.

Uninstalling Client Library Files

To uninstall FileNET's Client Library Files:

1. Open the Control Panel and start the Add/Remove Programs tool.
2. In the Install/Uninstall tab, select FileNET IDM DS Client Libraries 5.1.
3. Click Add/Remove.

Uninstall Notes

This uninstall procedure does not remove Microsoft ODBC, OLE DB, ActiveX Data Objects, and Remote Data Services files. Although these files were installed by Client Library Files Setup, they may be required by other applications that were installed after the Client Library Files. Refer to your database documentation for the correct uninstallation procedure, or contact Microsoft.

If you uninstall an IDMDS library system and then uninstall the Client Library Files (which is the correct order) the directory in which the Client Library Files were installed will still be present and will still contain several DLL files. You can delete these if you wish.

Uninstalling Client Library Files via MS-SMS

You can use Microsoft Systems Management Server (SMS) to perform silent uninstallation of the Client Library Files.

To uninstall Client Library Files using MS-SMS:

1. Using SMS, create a distribution package for the uninstallation. As a starting point for the content of your package, you can import ***Drive:\Client.Lib\Language\Clisetup.pdf***. Refer to the Microsoft SMS documentation as necessary.
2. Choose the **ClientUninstall** command.
3. Edit the command as necessary to perform the uninstallation. In the following example, a batch file named **DSUninst.bat** is called to perform the actual uninstallation.

```
DSUninst
```

Note The ***Drive:\Client.Lib\Language\DSUninst.bat*** file contains the following command line, which will uninstall Client Library Files from the default location:

```
isuninst.exe -y -a -f"c:\program files\FileNET\Shared\DsUn.isu" -mDSClient  
-c"c:\Program Files\FileNET\Shared\Srs3UnIs.dll" -sl:"c:\Program  
Files\FileNET\Shared\DsUn.isc"
```

You can edit this batch file as necessary to perform your uninstallation.

4. Use SMS to create a job and schedule the uninstallation. Note that once the job is created, it may take quite awhile (an hour or more) for it to arrive at the computer where it is to be run.
5. On the computer where IDMDS is to be uninstalled, execute the job to run the distribution package. When the uninstallation completes, the SMS Administrator will show the status.

Administration Guide

For information on:

An overview of library system administrative and maintenance tasks

Reconfiguring database parameters to improve system performance

Adding, modifying, or moving the repositories where your documents are stored, or setting up direct-access storage repositories

Adding or modifying categories or groupings of documents with common storage requirements

Moving item versions offline, reclaiming those versions when necessary and adding, modifying, or moving repositories where your documents are archived.

Adding or modifying categories or groupings of documents with common archiving requirements

Adding, modifying, or moving the repositories where your content searches are stored

Adding or modifying custom properties, which can be used (in addition to the standard properties) to identify, locate and retrieve documents

Working with User objects

Working with Group objects

Setting up and managing multiple library systems at your site

Refer to:

“IDMDS Configuration And Maintenance” on page 247

“Configuring IDMDS Databases” on page 253

“Storage Repositories” on page 257

“Storage Categories” on page 261

“Archive Repositories” on page 263

“Archive Categories” on page 271

“Content Search Repositories” on page 274

“Custom Properties” on page 280

“User Objects” on page 285

“Group Objects” on page 289

“Managing Multiple Library Systems” on page 293

For information on:	Refer to:
Performance considerations for your search queries	“Optimizing Search Queries” on page 297
Using the IDMDS Audit Logging feature to audit library system usage	“Audit Logging” on page 314
Using the Secure Document Delete feature to ensure that deleted documents cannot be accessed with disk recovery tools	“Secure Document Delete” on page 323
Deleting outdated or inactive sessions	“Deleting Sessions” on page 326
Performing regular backups of your library system's database and repositories	“Backups” on page 329
Restoring the database that serves as a library system's property repository	“Restoring the Property Repository Database” on page 334
Restoring IDMDS software or library system repositories	“Restoring Storage Managers” on page 338 “Restoring Content Search Managers” on page 341 “Restoring Repositories” on page 344

IDMDS Configuration And Maintenance

The library system Catalog subsystem, like the storage repositories that are linked to it, has the potential of using up the storage space that you assign to it. For this reason, the library system is designed to assist you in monitoring and managing the Property Manager's storage space. You should pay special attention to system-generated warnings concerning disk space usage. In response to these messages, you can use your database utilities to avert and, in some cases, recover from disk space problems that could otherwise cause suspension of normal operations for your users.

Storage Space and Catalog Subsystem Overflow

The Catalog subsystem can overflow its assigned disk space in the following ways:

- (MS-SQL databases) Transaction data fills up the disk space assigned to the transaction log.
- Object property data fills up the disk space assigned to the property repository.
- A content search repository can reach its maximum allotted size.

The library system is set up to warn you of impending disk-space problems before they become critical enough to affect user operations. The property repository and (for Microsoft SQL Server databases) the associated transaction log is assigned two thresholds, one to warn you of pending disk-space overflow (initially set at 80% full) and the other to indicate that a critical "full" condition has been exceeded (initially set at 90% full). These thresholds are monitored by the reclaim daemon that runs automatically on each library system server. This daemon normally runs every five minutes as part of the version reclaim process. In addition, it checks the property server to see how much of the allotted disk space has been used by the property repository and (for Microsoft SQL Server databases) its transaction log.

Refer to [“Avoiding Property Repository Overflow” on page 248](#) for details on how to set the thresholds for the property repository and (for Microsoft SQL Server databases) the transaction log.

When the reclaim daemon finds that the property repository or (for Microsoft SQL Server databases) transaction log has reached the first threshold, the library system generates a warning message that is displayed on each library system server monitor. This message will be updated and displayed every time the reclaim daemon runs until more disk space is made available. A similar message is sent once to the message queue in the Administrators Group object and is also displayed on the administrative console each time an administrator opens an IDMDS Explorer session.

If you do not respond to these threshold warning messages, the property repository or (for Microsoft SQL Server databases) transaction log may fill up until it reaches its "full" threshold, at which time the library system generates another message. Like the warning messages, the full threshold message is displayed on the monitor of each library system server that detects the condition, is sent to the Administrators Group object, and is also displayed on the administrative console each time an administrator opens an IDMDS Explorer session. This time, however, each library system service is also *internally* suspended. When the services on a library system server are internally suspended, *Running* will still be the value of the Status property in the Storage Manager object, but all file-related operations,

except those that you will need to clear more disk space, will be disallowed (for example, versions cannot be checked in or checked out, but you can back up the library system). Users will not be able to do any further work in the library system until you free additional disk space for the property repository (and if necessary, for Microsoft SQL Server transaction log).

Some library system operations that do not access the Storage Manager (such as adding users or groups) may fill up the allotted disk space for the property repository beyond this "full" threshold before the appropriate message is actually displayed.

Avoiding Property Repository Overflow

To avoid error conditions caused by a full property repository or (for Microsoft SQL Server databases) transaction log, you can do the following:

1. Use IDMDS Explorer regularly to check the System object and determine how much of the allotted disk space has been used by the property repository and (for Microsoft SQL Server databases) the transaction log.

2. Perform backups on a regularly scheduled basis.

(For Microsoft SQL Server databases) You can usually avoid filling up the transaction log by regularly running backups of the library system database engine. Each backup operation empties the transaction log and moves its contents into a backup file.

3. Modify the threshold settings in the System object.

Depending on your site's operational procedures, the default settings of 80% and 90% may not ensure adequate notification. For example, if procuring a larger server takes a long time at your site, you may want to lower the initial warning threshold so that you have plenty of advance notice that the property repository is filling up.

(For Microsoft SQL Server databases) You may want to lower the values of the Log Warning Threshold and Log Full Threshold. For example, if you have a small property repository but a large number of daily transactions, you may want to lower the thresholds for the transaction log so that you have plenty of time to respond and plenty of disk space remaining to perform the backup operations required to clear out the log.

If any of the threshold settings are exceeded, you (and all other administrators) will receive a warning message the next time you open a session.

If you type in a value of 0 for any one of these parameters, you will disable the associated threshold and no messages will appear for it. To avoid an unanticipated suspension of library system operations, you should use this 0 setting with great care.

4. Respond as soon as possible to threshold warning messages in one or more of the following ways:
 - (For Microsoft SQL Server databases) Perform a backup of the library system database engine to empty the transaction log (move its contents to a backup file).
 - Assign more storage space to the property repository.
 - (For Microsoft SQL Server databases) Assign more storage space to the transaction log.

If you do not have additional device space that you can assign on the property server, contact FileNET Support about other options, such as moving the Property Manager to a larger device or server.

5. To ensure that content search repositories do not reach their capacity, set the Default Indexed Version Limit in the System object to "No."

Managing Storage Space

Because the library system enables you to store and access multiple versions of files over an extended period of time, a large amount of disk space may be required on the network servers. To ensure that the library system functions correctly, you should regularly monitor the available disk space. Since the library system is probably not the only application storing files on the network, you should devise methods for logging network traffic and storage requirements that are appropriate to your site. It makes no difference whether it is the library system itself or the other applications that use up the space on a particular disk. Once a network server is full, it becomes impossible for the library system to store new version files on the storage repositories that are mapped to that disk, and library system users will encounter error conditions.

Storage Space and Storage Repository Overflow

A *storage repository overflow* occurs when no further version files can be added to the storage categories that are assigned to storage repositories on a particular library system server.

Storage repository overflow can occur in the following ways:

- A storage repository resides on a library system server that has become too full to accept a checked-in version file.
- An archive repository resides on a library system server that has become too full to accept an archived version file that is moving offline to make room for a newly checked-in version.
- A storage repository resides on a library system server that has become too full to accept a newly reclaimed version file from a reclaim repository.

Such overflow conditions can occur either because no more disk space is available or because the storage repository (directory) has reached its maximum number of files. Under Windows NT, you should not exceed 10,000 documents in a single NT folder, or directory; severe performance degradation occurs if this limit is exceeded.

In the first case, the library system will simply inform the user attempting to check in the version that the operation cannot be completed because there is insufficient disk space. Upon acknowledging this message, the user is returned to the display from which the checkin was begun. The Checkout object is unaffected and the file remains wherever it was located (on the user's local disk).

In the second case, the checkin completes and the version file is stored in the appropriate storage category on the assigned storage repository. However, the existing version file that was to be moved offline to accommodate the item's online limit remains on the storage repository because the server containing the archive repository is full. The user will receive a message indicating that there is insufficient disk space on the library system server containing the archive repository. If this problem is

not addressed, the storage repository can also become so full that the disk space on its server is used up, causing another storage repository overflow condition.

In the third case, the library system will send the user a message indicating that the reclaim operation could not be completed because of insufficient disk space. The library system leaves the version file on the reclaim repository and periodically retries the reclaim operation until it can be completed.

Avoiding Storage Repository Overflow

A *storage repository overflow* occurs when no further version files can be added to the storage categories that are assigned to storage repositories on a particular library system server.

To avoid an overflow of stored files in a storage repository or archive repository you can take the following steps:

1. Monitor storage space. Check the storage space used by the library system on a regular basis.

One way to monitor storage space is to set up a log and periodically check the storage space on each device that the library system accesses. You can run a check every day, week, or month, depending on the level of activity at your site.

If you choose to take this approach, you can get the server node and device names from the Storage Repository objects and you can find out how many bytes are free each week using the appropriate operating system command.

2. Archive regularly. Regularly remove (store, archive, or destroy) the versions in the archive repository.

To avoid archive repository overflow, you must have your own tools and methods for removing versions from the archive repositories. For example, you can store the repository files on tape, print them, or destroy them. It is also a good idea to monitor the storage space used by the archive repositories.

3. Adjust storage requirements. Adjust the configuration of the Storage Managers whenever necessary to better handle the version files created by your users.

Preparing for a Possible Repository Failure

The library system has several built-in features that will help you recover from hardware and software failure. However, there are always cases where the loss of some element of the library system will adversely affect your stored data in ways that the library system cannot directly prevent or correct. For example, even though all version files are designated as Read Only in storage repositories and archive repositories, there is always the possibility that these files could be destroyed or corrupted beyond repair due to problems outside of the library system.

Preparing for a Storage Repository Failure

After a storage repository failure, you will usually have the following major concerns:

- Responding quickly so that the library system is not down for a long period of time.
- Replacing the damaged hardware and software.
- Recovering any lost version files.

To increase the speed with which you can recover from a storage repository failure and to take better advantage of the capabilities already built into the library system, we recommend that you take the following precautionary actions:

1. Always keep an appropriate replacement disk formatted and available.
2. Perform frequent library system backups of each storage repository. Obviously, the amount of work being done at your site will affect how often you must do backups. However, you should also consider how much data you can afford to lose and how long you can take to recover it in the event of a disk failure.
3. Create your own tool for restoring from your backup media any storage repository files that are missing after a storage repository is restored.

Preparing for an Archive Repository Failure

Although the version files lost from a failed or destroyed archive repository are typically those that are being removed permanently from online library system control, there may be cases where the versions need to be recovered (for example, because backup copies of the versions were never archived). To improve your ability to fully recover from an archive repository failure, we recommend that you take the following precautionary actions:

1. Keep a record of where the archived version files are located in your backup storage medium (for example, on which tape). Without such a record you will have to manually search through the archive medium for the missing files. It is up to you to recover the files themselves and ensure that your records are consistent with the Property Manager.
2. Archive as quickly as possible those versions that have been moved to reclaimable archive repositories. Preventing a large number of version files from accumulating on the archive repositories will mean a quicker and easier recovery in the event of a disk crash.

Adjusting Storage Manager Configurations

As the library system and storage requirements expand, you may need to change the current repository configurations.

There are a number of methods (combinations of methods) you can use to do this, depending upon which is most appropriate to your site and circumstances:

1. Modify one or more storage categories to link to a storage repository on a server having more storage space available. This should spread the repository files more evenly across the network resources.
2. Create a new storage repository, assigning it to any available network server, and modify as many storage categories as necessary to link to this new storage repository.
3. Add a new or larger device to a library system server, create a new storage repository that is mapped to the new device, and modify one or more storage categories to link to this new storage repository.

Make sure that you map new storage repositories to a disk that can be used by the library system indefinitely.

4. Install a larger storage device to replace the one on which the storage repository is currently located. You must manually move the repository files on the existing device to a safe storage location on another device while the new, larger device is being installed. Then, return the storage repository files to the newly installed device (making sure to maintain the same directory tree on the same server for each repository file).
5. Change the Default Storage Category property in the System object. This will not affect where the versions for existing documents are being stored, but it will affect where the versions of new documents are stored, assuming that most users cannot override this default value.

Configuring IDMDS Databases

IDMDS library system performance, affecting both servers and clients, is dependent on timely access to the database used by the Catalog subsystem. The factors determining this access can change when one or more of the following conditions exists:

- User activity on the library system has significantly increased.
- The availability of database memory space allocated for the Catalog subsystem has increased or decreased.
- The library system is incorrectly configured (for example, during the library system installation).

Reconfiguring database parameters requires shutting down and restarting both the database and the library system services in order for the changed settings to be used.

Refer to the following topics for guidelines about administering your library system database. Before you reconfigure database parameters, also refer to the documentation for your database.

- [“Setting the Database Connections” on page 253](#)
- [“Setting Memory Allocation” on page 254](#)
- [“Setting the DB Library Parameters” on page 256](#)

Setting the Database Connections

Both library system clients and library system services require database-allocated connections (MS-SQL Server) or processes (Oracle). As the level of library system activity increases (generally as new groups and users are added to the library system), you may find that you need to increase the maximum number of concurrent, active client connections supported for the Property Manager.

For UNIX systems, increasing the number of connections/processes may also require increasing settings for kernel parameters. Refer to the *IDM Document Services Installation Guide* for information regarding any applicable parameters.

You will need to ensure that enough connections remain for library system services (such as a Storage Manager), as well as the possibility of multiple library system sessions for a single client. In addition, Microsoft SQL Server customer-supplied databases may have other applications requiring database connections, and you will need to account for these also.

This is controlled by the following database-specific parameter:

Database Platform	Parameter Name
Microsoft SQL Server	user connections

Database Platform	Parameter Name
Oracle	processes

If system resources are at a minimum and the default number of client connections is more than adequate for the library system, you could decrease this number. An example of where this may be appropriate is when the total number of Storage Manager processes/threads available is less than the number of client connections allowed, and you do not have the servers available to add more Storage Managers.

You can also control the number of client connections by using the Max Number of Active Sessions property in the System object. However, do not increase this property value above the current setting for the database parameter.

To set the maximum database connections supported for Microsoft SQL Server databases:

1. Open Microsoft SQL Server Enterprise Manager.
2. Locate the *user connections* parameter and increase this as necessary.
3. Increase the memory space available. Refer to the "Setting Memory Allocation" topic for more information.
4. Shut down all library system services.
5. Shut down and restart the database.
6. Restart all library system services.

To set the maximum processes supported for the library system database instance on Oracle databases:

1. Using a text editor, open your **ORACLE_SID.ora** file.
2. Locate the processes parameter and increase this based on the values recommended in the commented text.
3. Increase the memory space available, if necessary. Refer to ["Setting Memory Allocation" on page 254](#) for more information.
4. Shut down all library system services.
5. Shut down and restart the library system database.
6. Restart all library system services.

Setting Memory Allocation

Each time a library system client or service accesses the Catalog subsystem, a certain amount of memory is required on the property server to handle the client connection or service request. For this reason, whenever you increase the setting for the number of database connections supported, you should also verify that enough memory is available to the Catalog subsystem.

Note For information about RAM requirements, refer to “[Server Hardware Requirements \(Windows NT\)](#)” on page 97 or “[Server Hardware Requirements \(Windows 2000\)](#)” on page 98.

Note By default Microsoft SQL Server dynamically controls its own memory usage and will automatically acquire the memory it needs as client connection or service requests are received. In this configuration, as the number of client connections and service requests increase, so will SQL Server's memory usage, which can be seen to consume a large amount of physical memory and then fluctuate. This memory usage is normal and generally, the default configuration works well for IDMDS library systems. However, if you have additional applications running on your server, which have heavy memory requirements (IDMDS services do not), or if the MSSearch service is used (IDMDS does not use it) you may need to adjust SQL Server's maximum memory allowance, either out of necessity or to improve performance by avoiding excessive page faults. Refer to "Server Memory Options" and "Memory Architecture" in *Microsoft SQL Server Books on Line* for more information.

The way memory allocation is controlled is database-specific.

Database Platform	Memory Control
Microsoft SQL Server	Memory tab of SQL Server Properties Dialog Box
Oracle	shared_pool_size parameter

To set Microsoft SQL Server’s memory configuration:

1. Shut down all library system services. Refer to “[Controlling Library System Services](#)” on page 209 for information about stopping, starting, and checking the status of services.
2. Start Enterprise Manager.
3. Expand the Microsoft SQL Servers tree and the SQL Server Group.
4. Under SQL Server Group, select your property server, right-mouse click and select Properties.
5. On the Memory tab of the SQL Server Properties dialog box, adjust your server's memory allowance as necessary. Refer to *Microsoft SQL Server Books on Line* for information on using these features.
6. Shut down and restart the database.
7. Restart all library system services.

To set the shared memory space supported for Oracle databases:

1. Using a text editor, open your **ORACLE_SID.ora** file.
2. Locate the **shared_pool_size** parameter and increase this based on the values recommended in the commented text.
3. Shut down all library system services.
4. Shut down and restart the library system database.
5. Restart all library system services.

Setting the DB Library Parameters

For proper conversion and storage of text, MS SQL Server must have the correct DB Library configuration setting.

To view or edit the DB Library parameters for Microsoft SQL Server 7.0:

1. Run the Client Network Utility (available from Start > Programs > Microsoft SQL Server 7.0).
2. Click the DB Library Options tab and check the setting:
 - If your database code page is 850 (that is, if your database code page is the same as your server's OEM active code page), select the Automatic ANSI to OEM check box.
 - If your database code page is not 850, (that is, if your database code page is the same as your Windows ANSI code page), clear the Automatic ANSI to OEM check box.

Refer to [“Code Pages” on page 217](#) for more information.

3. Quit the Client Network Utility.

Storage Repositories

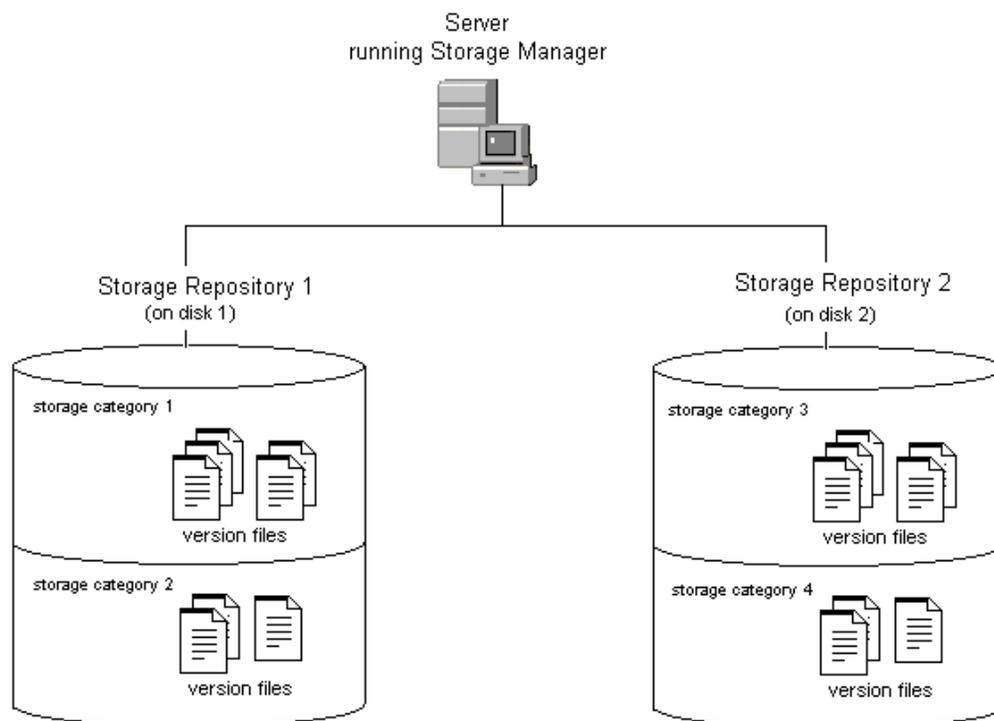
Storage repositories are the directories or partitions you create for storing documents added to a library system.

When a storage repository is added to a library system, a corresponding Storage Repository object instance is created. It contains several descriptive properties, including the system-assigned storage repository ID, the directory path, and the network name of the server on which the storage repository resides.

The Storage Repository object also contains a list of the storage categories that are assigned to the storage repository. Each document version is checked in to the library system according to a storage category that is assigned to the associated Item object. This storage category is mapped to a storage repository directory that will receive and store the file. A single storage repository may contain any number of storage categories, and each storage category may contain the versions of any number of documents.

In addition to a Storage Category property, each Item object contains an Online Limit property that controls how many versions of a document can be stored on the storage repository. When this online version limit is reached, a subsequent checkin will prompt the library system to remove an appropriate older version from the storage repository to make room for the newer version being created. The version that is moved out of the storage repository is stored in an archive repository, where it will remain until you remove it for final archiving or destruction outside of the library system.

The following illustration shows the relationship of the storage repositories to the Storage Manager and the storage categories and how these elements work together to control and track your versions.



Storage Manager, Repositories, and Categories

Because the value of the Storage Category property is modifiable in the Item object, it is conceivable that different versions of a document could be stored under different storage categories and, in some cases, on more than one storage repository. The Online Limit value will always control the total number of versions of the document that are stored online, regardless of the storage category assigned.

During the process of installing the initial components for a particular library system, Storage Repository 1 (**shelf001**) is created automatically. An initial storage category (the default is Documents) is also created and assigned to Storage Repository 1. You will probably add other storage repositories during the initial configuration process. You can also add them later to meet growing storage demands and to designate storage areas on additional library systems.

After a storage repository has been added, you can modify its object directly only by entering new descriptive data to more clearly identify its size or purpose. You cannot delete the storage repository or its object, although you can assign some or all of its storage categories to other storage repositories.

Adding a Storage Repository

To add a storage repository:

Note For tool-specific instructions on how to add a storage repository, refer to the *IDMDS Explorer Online Help*.

1. Determine the network name of the library system server and device to which you want to add the storage repository.

2. (UNIX servers only) Recommended: Create a dedicated partition for each storage repository you want to add to ensure the availability of adequate disk space for the version files that will be stored.
3. Navigate to the storage repositories for this library system.
4. Add a storage repository.
5. Enter property values for the new storage repository. Required properties include:
 - Device
 - Server
6. Save your changes.
7. If a message indicates that disk space is not available for the new storage repository, you must do one or more of the following:
 - Delete (or store offline) some of the files or directories from the current disk.
 - Obtain a larger disk.
 - Add the storage repository to a different existing library system server (specify a different value for the Server and/or Device property).
 - Set up an additional Storage Manager on another server.

Modifying a Storage Repository

To modify a storage repository:

Note For tool-specific instructions on how to modify a storage repository, refer to the *IDMDS Explorer Online Help*.

1. Navigate to the storage repositories for this library system.
2. Select the storage repository you want to change.
3. Modify the property values you want to change. Modifiable properties include:
 - Comment
 - Device (Refer to [“Moving a Storage Repository”](#) on page 260 for instructions on how to modify this property.)
 - Network Path
 - Server

You can also access storage categories from the Storage Repository object. Refer to [“Modifying a Storage Category”](#) on page 262 for details.

4. Save your changes.

Moving a Storage Repository

To move a storage repository:

Note For tool-specific instructions on how to move a storage repository, refer to the *IDMDS Explorer Online Help*.

1. Put the library system in single-user mode. A library system is in single-user mode when:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.
2. On the target device, recreate the directory path that contains the storage repository files. The storage repository files can be found in:

OS Platform	Location
Windows NT	Drive:\Idmds\LibrarySystem\Stacks\Shelfxxx
UNIX	\$IDMDS_HOME/librarysystem/stacks/shelfxxx

3. Move the storage repository files from the original device to the target device.

Note You must delete the storage repository files from the original device. Failure to do so may cause unexpected results.

4. Modify the Device property for the storage repository to point to the new target device.
5. Enable logons by setting the Logons Enabled? property in the System object to Yes.

Storage Categories

Storage categories are groupings of documents that have common storage requirements. You define the storage categories that will best suit a particular library system. For example, if you are administering a library system largely oriented to word-processing, you could define its storage categories as Documents, Graphics, and Memos. On the other hand, if you are administering a library system oriented to financial data, you could define its storage categories as Spreadsheets, Charts, Schedules, and Miscellaneous.

Your job is to link the storage categories to the appropriate storage space, as represented by the storage repositories you assign. For example, if you were administering the word-processing library system mentioned above, you could assign the Documents and Graphics storage categories to a storage repository on a device with a large amount of space, and assign the Memos storage category to a storage repository on a device with less space allocated.

You'll need to estimate the size of the storage repositories associated with each storage category. One approach is to see how much space, collectively, is presently used for each document category. Your space estimate must accommodate the potential growth of each storage category. The best approach to this problem is to study the past storage requirements of the users. While doing this, you may find that you want to change the names you decided on for the storage categories or add some different ones.

If your library system has a Content Search Manager, you will also assign a content search repository to some storage categories. Documents in those storage categories can be indexed for content searching based on the Assigned Content Search Repository property value in the Storage Category object. By default, new storage categories are assigned content search repository 001, unless you specify otherwise.

To reduce network traffic during indexing processes, we suggest that, whenever possible, content search repositories be assigned to storage categories associated with storage repositories existing on the same host as the Content Search Manager.

When a document is added to a library system, a default storage category is assigned to it. However, an administrator can change the assigned storage repository for a storage category at any time. New versions of the documents using that storage category are then stored in the newly assigned storage repository.

You can add as many storage repositories and assign as many storage categories as appropriate for the library system, thereby giving you full control over how you distribute the document storage load across available hardware resources and individual library systems.

Each storage category has its own object instance with Storage Category (name), Comment, and Assigned Storage Repository properties. You provide values for these properties when you add the storage category to a library system. Most sites begin by adding an initial set of storage categories and then add more as needed. Although you can add new storage categories at any time and have as many as you want, you cannot remove or rename them. This restriction is enforced because an existing storage category may have been used in many places throughout the library system.

When users add a document to the library system, they simply select a category that best describes that document. If you find over time that particular storage categories require more or less storage space, you can reassign them to different storage repositories, adjusting the network load as you see fit.

Adding a Storage Category

To add a storage category:

Note For tool-specific instructions on how to add a storage category, refer to the *IDMDS Explorer Online Help*.

1. Navigate to the storage categories for this library system.
2. Add a storage category.
3. Enter property values for the new storage category. Required properties include:

- Storage Category (name)

Double-check the spelling of the storage category name. Once the storage category has been added to the system, you cannot modify the name.

- Assigned Storage Repository

If you do not specify a content search repository, the system will assign storage repository 1 by default.

Note If a storage category has no index associated and an index request is made, index 1 is used by default.

4. Save your changes.

Modifying a Storage Category

To modify storage categories:

Note For tool-specific instructions on how to modify a storage category, refer to the *IDMDS Explorer Online Help*.

1. Navigate to the storage categories for this library system.
2. Select the storage category you want to change.
3. Modify the property values you want to change. Modifiable properties include:

- Assigned Content Search Repository
- Assigned Storage Repository
- Comment

4. Save your changes.

Archive Repositories

Since each document in a library system has one or more versions, the amount of data in a system's storage repositories could eventually grow beyond reasonable limits. Each library system uses parameters you establish to begin the process of moving offline some (or all) document versions.

Archive repositories are the directories or partitions you create to temporarily store the versions that are moved offline by the archiving process. You can manually archive versions, or you can specify an online version limit and let the library system handle the process for you automatically. In most cases, the result is that the versions are transferred to archive repositories, directories that you create to temporarily hold these files before you delete or move them to offline storage.

Note You can also create archive repositories that delete versions immediately as they are archived. You should apply this feature carefully: once archived, the versions assigned to such archive repositories will not be reclaimable.

In many cases, these archived versions, if not destroyed, can be reclaimed to their online status: the files can be moved back into the library system and accessed by authorized users. To facilitate this reclaim process, the library system creates the following additional directories when you add an archive repository to a library system:

- The reclaim command repository contains text command files that are created to identify versions whenever users submit version reclaim requests.
- The reclaim repository is where you place copies of the offline versions that you have located in your backup media.

Refer to [“Reclaiming Offline Versions” on page 266](#) for further details on how versions are reclaimed.

When an archive repository is added to a library system, a corresponding Archive Repository object is created in the associated library system. It contains several descriptive properties, including the system-assigned archive repository ID, the directory path, and the network name of the server on which the archive repository resides.

The Archive Repository object also contains a list of the archive categories that are assigned to the archive repository. Each version that is taken offline (transferred from the storage repository) is moved according to an archive category. This category determines which archive repository (dflexxx directory) will receive and temporarily store the file as it awaits final offline archival or (manual) deletion. Any number of archive categories may be linked to a single archive repository.

Files that are to be archived or placed in offline storage are reclaimable, because they may be retrieved and returned to online library system control. These files will be moved offline through archive categories that are assigned to reclaimable archive repositories. Other files that will eventually be destroyed are nonreclaimable, because they cannot be easily retrieved (if at all) for return to online library system control. They are moved offline through archive categories that are assigned to nonreclaimable archive repositories. You can set up nonreclaimable archive repositories to immediately delete, rather than

temporarily store, versions archived to it, but to do so you must set the Delete Upon Archive? property value to Yes when you first add the archive repository to the system.

Archive Repository 1 is created automatically during the process of installing the initial services for a particular library system. This archive repository is intended for reclaimable versions. An initial archive category (Trash) is also created and assigned to it. You will probably add other archive repositories during the initial configuration process. You can also add them later to meet changing file-storage demands and to designate storage areas on additional servers that may be installed at your site.

After an archive repository has been added, you cannot remove it. You can, however, modify its Comment property by entering new descriptive data to more clearly identify its size and purpose.

Moving Versions Offline

Versions can be moved offline onto archive repositories in two ways:

- **Automatic Archiving.** Occurs according to the online version limit set by the user for a particular document. When the checkin of a new version causes the online version limit to be exceeded, the "oldest" version (based on lowest version number) is moved offline. This automatic archiving can affect a version only if the Permanent Version? property in its Version object has a value of No. For any particular document, the latest version is also exempt from automatic archiving.

Note Although versions marked Permanent cannot be moved offline during automatic archiving, they may be counted against the online version limit if the value of the Permanent Versions In Limit? property in the System object is set to Yes.

- **Manual Archiving.** Occurs when any user with at least Owner access rights to the Item object chooses the Archive command to request that a version be moved offline. The value of the Permanent Version? property in the Version object does not affect manual archiving.

The archiving process affects only the versions themselves, not the associated object instances. All Version objects remain online at all times, regardless of the status of the version they describe.

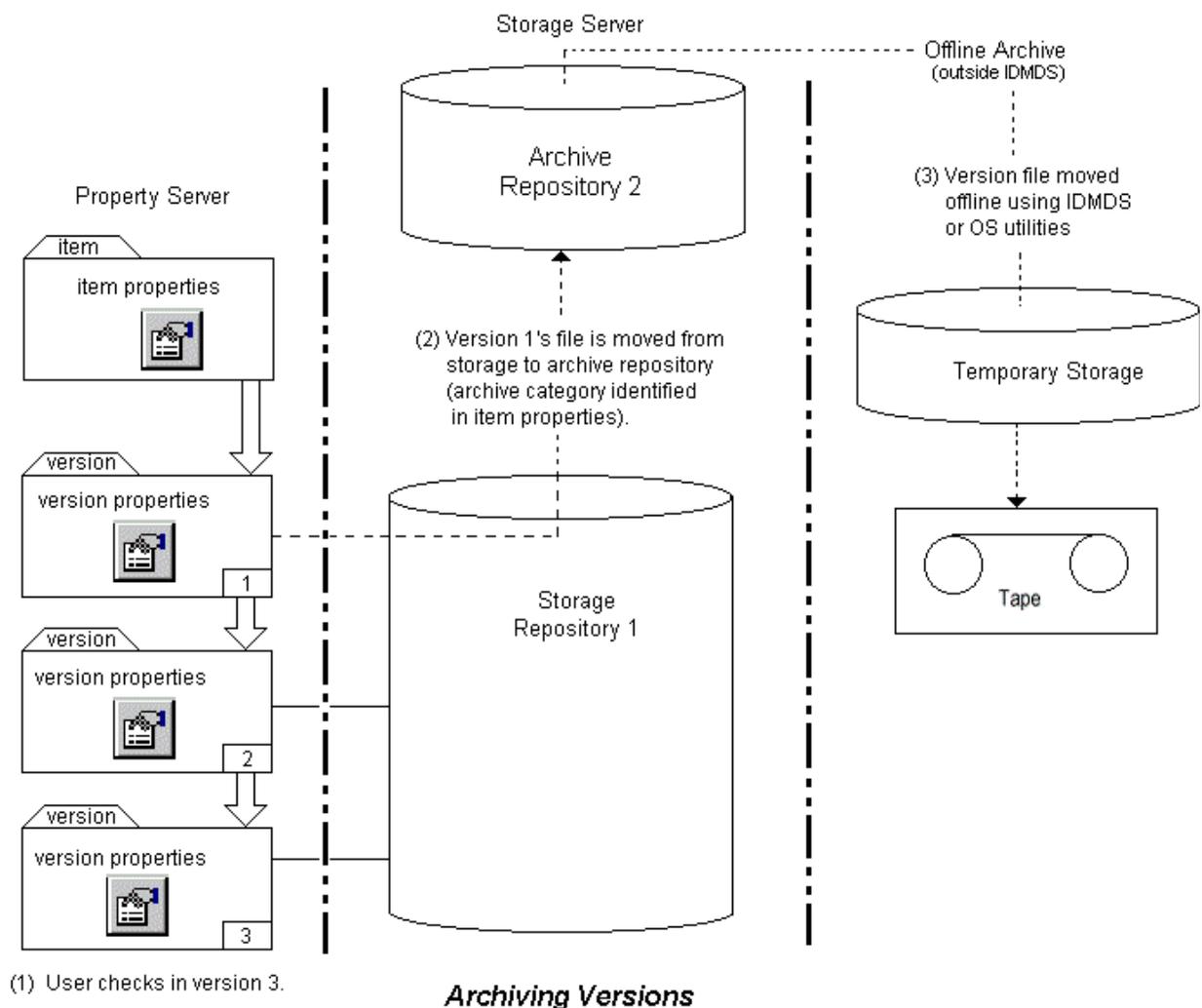
The following sequence of events takes place during version archiving:

1. Whenever an automatic or manual archiving request is issued, the library system removes the appropriate version from the storage repository, leaving only the Version object in the property repository as a historical record.
2. The library system uses the Storage Repository ID and Encrypted File Name properties in the Version object to identify the storage repository number and the system-generated file name for the version.
3. The library system identifies the correct archive category for the version (for example, Archive To Magnetic Tape) by reading the value from the Item object. Each archive category is assigned to a particular archive repository.
4. Using the information obtained in steps 2 and 3, the library system moves the version from the storage repository to the correct archive repository and changes the value of the version's Availability Status property to Offline (Reclaimable) or Offline (Nonreclaimable), depending on the type of archive repository used. Also, the library system updates the Archive Date property in the Version object to reflect the date of the archiving and the archive repository ID to reflect the archive

repository used. Although the version is now offline from the user's standpoint, it still must be stored, or destroyed.

Since a library system moves the version only as far as the archive repository and does not interact physically with archiving or disposal media, you must use your normal network maintenance tools and procedures to move the file totally offline and out of the library system's control. You can specify the offline location by entering the tape/disk label or other identifying number as the value of the Offline Location property in the Version object.

The following figure illustrates the steps in the archiving process for moving versions offline automatically. The document in this example has an online version limit of 2, and versions 1 and 2 are flagged as not permanent.



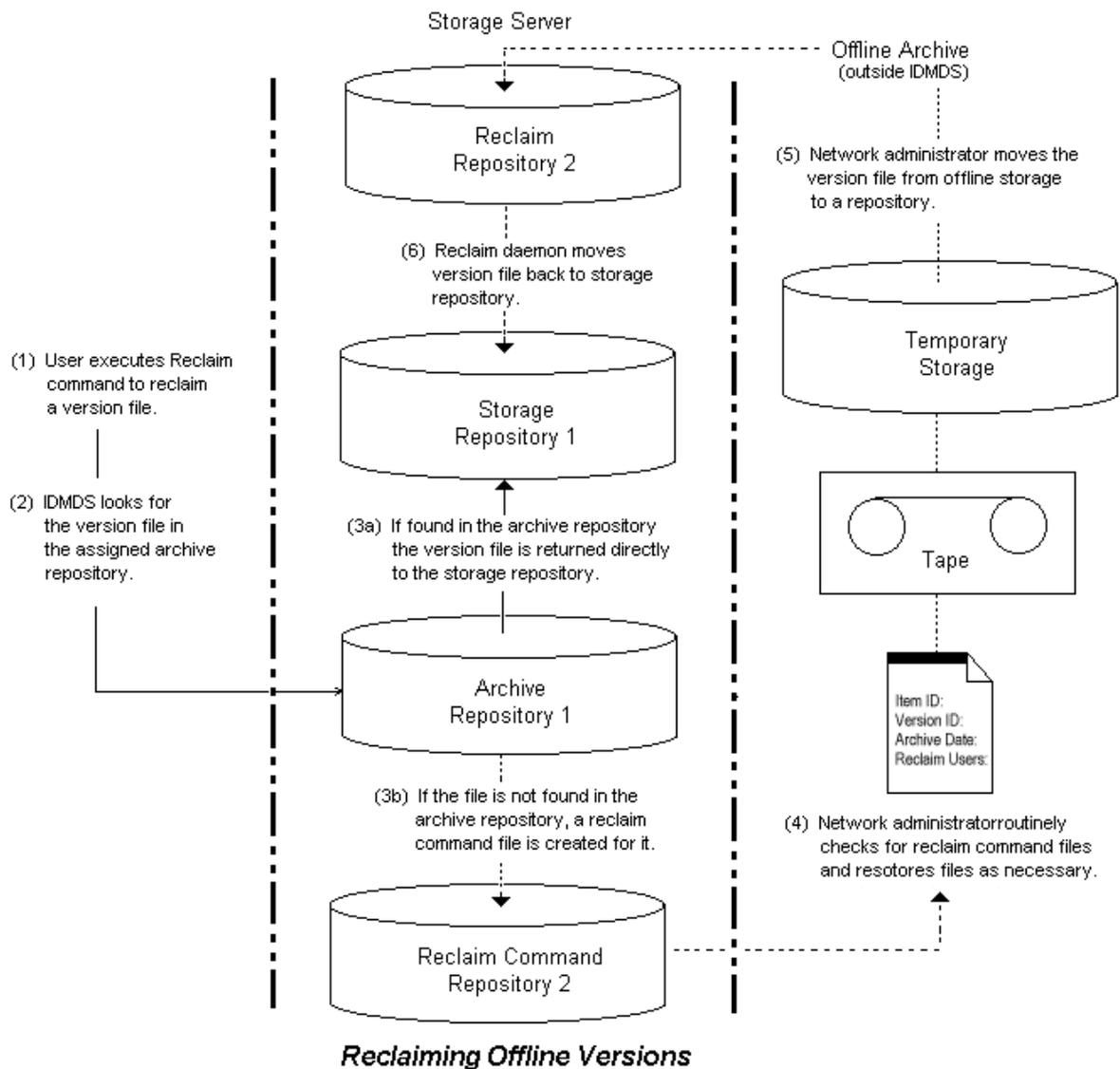
Reclaiming Offline Versions

As mentioned earlier, each time you add an archive repository (dfilexxx), the library system creates two corresponding directories for reclaiming versions for a particular library system:

- A reclaim command repository (rcmdxxx) for holding descriptions of the requested versions.
- A reclaim repository (rfilexxx) for temporarily holding versions immediately after they are reclaimed.

As an example of how a version is reclaimed using these various directories, let's assume that a version found on storage repository 1 (**shelf001**) was flagged for automatic archiving, moved onto archive repository 2 (**dfile002**), and then transferred out of the archive repository with your local tools onto offline storage medium (for example, magnetic tape).

The following figure illustrates the steps in the version reclaim process. Once this process begins, the version is either immediately reclaimed from the archive repository (step 2a) or the file must be retrieved from the offline storage medium (steps 2b through 5).



Processing a User's Reclaim Request

To reclaim an offline version, a user must have the necessary access rights to the version's parent item. The setting of the Min Reclaim Access Level property in the System object controls what access rights are required for a user to reclaim a version. If the user's access rights are adequate, the reclaim request is accepted. You must then assist in processing it to ensure that the version is brought back online.

To process a user's reclaim request:

1. After a user has requested that a version file be reclaimed, the library system responds by checking the archive repository assigned to the version and performing one of the following steps:
 - If you have not yet removed the version's file from its assigned archive repository (for example, **dfile002**), the library system copies it back to storage repository (for example, **shelf001**) as indicated by the item's storage category. The library system takes this step even if the archive

repository is identified as nonreclaimable. It also changes the Availability Status property in the Version object from Offline to Online (indicating to the user that the version is once again available) and sets the Permanent Version? property to Yes.

This ends the reclaim process for any version file that has not been removed from its archive repository. The remaining steps apply only to a version file that has been removed from its respective archive repository.

- If you have removed the version's file from the archive repository, the library system places a command file in the associated reclaim command repository (for example, **rcmd002**) and changes the value of the Reclaim Pending? property in the Version object to Yes.
2. To process the reclaim requests for versions that have been removed from the archive repository, you must routinely check the reclaim command repositories (**rcmdxxx**) and read the text command files that may be stored there. The command file contains information such as the version ID, item ID, file name, archival date, date of the reclaim request, and name of the requesting user.

If you have already deleted the file because it was assigned to a nonreclaimable archive repository, you should inform the user who requested the reclaim.

3. Using your own network tools, retrieve the requested version file from offline storage and copy it from the backup medium onto the correct reclaim repository (in this example, **rfile002**). Retrieving the version may be fairly simple if a value has been entered in the Offline Location property in the Version object to identify the tape or disk on which the file is stored.
4. The library system reclaim daemon tool scans the reclaim repository looking for reclaimable files. Within minutes after the file is put onto the reclaim repository, the library system moves the file to the version's storage repository and deletes the command file from the reclaim command repository.

The library system also modifies the Version object, changing the value of the Availability Status property to Online, the value of the Reclaim Pending? property to No, and the value of the Permanent Version? property to Yes. In addition, a message indicating that the version file is now reclaimed and available is added to the Messages property in the User object of the person who requested the reclaim. The reclaimed version is marked as a permanent version, exempting it from future automatic archiving. If a reclaimed version causes the item's online version limit to be exceeded, the library system will attempt to move two versions offline during the next check in of a version.

Adding an Archive Repository

The following procedure shows you how to add an archive repository. This procedure is usually performed immediately following installation, but it can be used whenever archival and retrieval requirements change.

When adding a new archive repository, you can specify whether it will handle reclaimable or nonreclaimable files. You can use this feature to indicate whether versions moved offline through a particular archive repository can be easily reclaimed from their offline locations. Archive Repository 1, which is added during the installation of a library system, is considered a reclaimable archive repository.

After the archive repository is added to the system using the following procedure, the only change you can make to the object is to modify the text for the Comment property. To modify this property, use the procedure described in the "Modifying Archive Repositories" topic.

To add an archive repository:

Note For tool-specific instructions on how to add an archive repository, refer to the *IDMDS Explorer Online Help*.

1. Determine the name of the library system server and the name and storage capacities of available library system server directories to which you want to add archive repositories.
2. Navigate to the archive repositories for this library system.
3. Add an archive repository.
4. Enter property values for the new archive repository. Required properties include:
 - Delete Upon Archive?
 - Device
 - Reclaimable?
 - Server

Do not add an archive repository to removable media, such as a floppy disk.

5. Save your changes.

This step adds the archive repository to the library system and creates the corresponding reclaim command repository (**rcmdxxx**) and reclaim repository (**rfilexxx**) for use during reclaim operations.

6. If a message indicates that disk space is not available for the new archive repository, you must do one or more of the following:
 - Delete (or store offline) some of the files or directories from the current disk.
 - Obtain a larger disk.
 - Add the archive repository to a different existing library system server (specify a different value for the Server and/or Device property).
 - Set up an additional Storage Manager on another server.

Modifying an Archive Repository

To modify an archive repository:

Note For tool-specific instructions on how to modify an archive repository, refer to the *IDMDS Explorer Online Help*.

1. Navigate to the archive repositories for this library system.
2. Select the archive repository you want to change.
3. Modify the property values you want to change. Modifiable properties include:
 - Comment

- Device (Refer to “Moving an Archive Repository” on page 270 for instructions on how to modify this property.)
- Network Path
- Server

You can also access archive categories from the Archive Repository object. Refer to “Modifying Archive Categories” on page 273 for details.

4. Save your changes.

Moving an Archive Repository

Note For tool-specific instructions on how to move an archive repository, refer to the *IDMDS Explorer Online Help*.

To move an archive repository:

1. Put the library system in single-user mode. A library system is in single-user mode when:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.
2. On the target device, recreate the directory path that contains the archive repository files. The archive repository files are located in:

OS Platform	Location
Windows NT	Drive:\Idmds\LibrarySystem\Stacks\Dfilexxx
UNIX	\$IDMDS_HOME//librarysystem/stacks/dfilexxx

3. Move the archive repository files from the original device to the target device.

Note You must delete the archive repository files from the original device. Failure to do so may cause unexpected results.
4. Modify the Device property for the Archive Repository to point to the new target device.
5. Enable logons by setting the Logons Enabled? property in the System object to Yes.

Archive Categories

Like storage categories, archive categories determine where a library system moves the archived document versions. For each library system, you can assign the archive categories unique names appropriate to the offline storage capabilities of that library system. For example, for a library system that archives files onto tape, sends them to a printer, or simply deletes them, you might set up archive categories named: Tape Archive, Print Archive, and Delete Without Backup. For another library system you could assign names such as Six-Month Hold, Old Docs, and Trash.

Whether or not a user can reclaim (to online status) the document versions handled by these archive categories depends on the needs and limitations of the particular library system. You can designate each archive repository as reclaimable or nonreclaimable. A library system also provides an option for the archive process to immediately delete versions from specified nonreclaimable archive repositories.

During the installation of a library system, Archive Repository 1 (**dfile001**) is automatically created, for each particular library system, to handle reclaimable files: files that can be brought back online after being archived. An archive category (the default is Trash) is also created and assigned to this reclaimable archive repository.

Note If you want to use Trash as an archive category for nonreclaimable files, you must first create a nonreclaimable archive repository, and then reassign Trash to it.

Storage space requirements for archive categories may be similar to those of storage categories, but it is more likely that many of the versions moving offline will be stored only for a short time, compressed for archiving, or even destroyed immediately.

It will be important for you to determine the archive/reclaim requirements of your users before you add archive categories to the system. Keeping only a few versions of any given document online may seem to be a good tactic, but if you plan to archive most of the older versions, you will need adequate network resources outside of the library system to do so. Likewise, you will need an efficient maintenance schedule to deal with any associated long-term storage requirements.

Many archive categories may be linked to one archive repository, but you cannot link an archive category to more than one archive repository at the same time. Each archive category is flagged as reclaimable or nonreclaimable according to the archive repository that it is currently linked to. Archive categories are linked to archive repositories in the same way that storage categories are linked to storage repositories.

When a document is added to a library system, a default archive category is assigned to it. An authorized user, however, can change this initial value in the Item object.

You can change the assigned archive repository for an archive category at any time. Thereafter, any versions of documents that are moved offline using this archive category will be stored on the newly assigned archive repository. Such a change is often useful in controlling the distribution of files across network disk space.

Care should be taken when assigning a new archive repository, however, because the Reclaimable? property value from the new archive repository will be applied to the archive category. Although the

Reclaimable? property is informational only, you will want to avoid the confusion that may be caused by moving reclaimable files onto nonreclaimable archive repositories, and vice versa.

Also, if you add an archive category to a nonreclaimable archive repository, be sure to note whether the archive repository is set up to immediately delete, rather than temporarily store, archived versions. That is, check the value of the Delete Upon Archive? property in the Archive Repository object.

Caution We recommend you name carefully those archive categories that point to archive repositories from which files will be immediately deleted. Names such as Quick Delete or No Reclaim will remind users and yourself that files, once archived in this way, are not reclaimable.

Each archive category has its own object instance with Archive Category (name), Comment, and Assigned Archive Repository properties. You provide values for these properties when you add the archive category to the library system. Most sites begin by adding an initial set of archive categories and add more as needed. Although you can add new archive categories at any time and have as many as you want, you cannot remove or rename them. This restriction is enforced because each existing archive category may have been used in many places throughout the library system.

Manual archiving is a slightly different case, since the user may override the document's archive category for particular versions and assign archive categories that are more appropriate. However, the library system still handles the actual transfer of the versions from storage repositories to archive repositories. The user does not have to be concerned about the disk space used or the actual network locations of the stored versions.

Adding an Archive Category

To add an archive category:

Note For tool-specific instructions on how to add an archive category, refer to the *IDMDS Explorer Online Help*.

1. Navigate to the archive categories for this library system.
2. Add an archive category.
3. Enter property values for the new archive category. Required properties include:

- Archive Category (name)

Double-check the spelling of the archive category name. Once the archive category has been added to the system, you cannot modify the name.

The specified name should clearly indicate to users whether version files assigned to this archive category will be reclaimable once they are moved offline. The archive repository you assign to this archive category will determine whether the files are reclaimable or not and whether they will be immediately deleted as they are archived.

- Assigned Archive Repository

If you do not specify an archive repository, the system will assign archive repository 1 by default.

4. Save your changes.

Modifying Archive Categories

To modify an archive category:

Note For tool-specific instructions on how to modify an archive category, refer to the *IDMDS Explorer Online Help*.

1. Navigate to the archive categories for this library system.
2. Select the archive category you want to change.
3. Modify the property values you want to change. Modifiable properties include:
 - Assigned Archive Repository
 - Comment
4. Save your changes.

Content Search Repositories

Content Search Managers index files that users want to be able to find later based on the contents of the current versions of those files. Content search functionality is an optional component of a library system.

The Content Search Manager contains the necessary executables and program files to enable use of content searches, as well as an initial content search repository for that service. A content search repository keeps track of the contents of the files that users tag for content search purposes. You can have as many as 22 content search repositories per library system.

To allow files to be indexed for content searches, the library system provides several file filters that will convert the file formats to ASCII. If no filter is available for a file's format, that file will not be indexed. For details on the file formats supported, refer to [“Content Search Filters” on page 300](#).

The library system is configured so that you can avoid having content search repositories filled up with extremely common words that users are not likely to search on (for example, articles such as *a*, *an*, or *the*). Such words are referred to as stopwords, which are text strings in the versions that:

- Are not indexed.
- Cannot be searched for.
- Are counted in the specified distances between terms in phrase searches.

The **Fultext.stp** file contains the list of stopwords and is located on each server where you have installed a Content Search Manager:

OS Platform	Location
Windows NT	<i>Drive:\Idmds\LibrarySystem\Content\Data\Fultext.stp</i>
UNIX	<i>\$IDMDS_HOME/librarysystem/content/data/fultext.stp</i>

For a complete list of the English stopwords that are supplied by default with a Content Search Manager, refer to [“Content Search Stopwords” on page 307](#).

Caution You can add or delete from this stopwords list using any text editor, but you must make these changes before you enable content searches at your site. Otherwise, you will have to reindex all existing indexed versions so that the new stopwords list is applied. You must type each stopword on its own line and save the fultext.stp file in text-only format.

When users index files for content searches (or deindex such files), they are actually submitting requests, which are added to a queue. At specified intervals, which you can configure, the Storage Manager starts an indexing daemon. The indexing daemon processes the files in the queue through the Content Search Manager. The daemon will run until it has processed the number of bytes specified in the Content Search Repository object or until it reaches the last file in the queue.

Where you install the Content Search Manager (and its repositories) can affect the amount of traffic on your network, especially in complex library systems having numerous library systems and servers. Versions are indexed in the content search repositories based on their assigned storage categories. Storage categories are, in turn, assigned to particular storage repositories. Therefore, to reduce the flow of network traffic, try to place the Content Search Manager and its repositories on the same server as those storage repositories having storage categories that are most likely to be indexed for content-based searches.

To add a content search repository, you must know the name of the server on which the Content Search Manager is installed. You must also know on which device or drive you want the repository placed.

After you have added the content search repository, you should make sure the following values are set appropriately for your site.

Setting	Description
CS Index	The maximum number of seconds you want the system to wait before attempting to restart the indexing daemon (the default is 300). Refer to “IDMDS Configuration Tool Storage Manager Tab” on page 166 for information about setting this value.
Max Repository Size	The maximum allowable size of the repository. The installation program initially sets this value to 0 (unlimited).

By adjusting the indexing interval value (CS Index), you can control how often the indexing daemon runs to process the queue. The best settings for your site will depend on the number and size of files being indexed/deindexed. For example, if you or your users notice that queued indexing requests are not being processed quickly enough, you can reduce the Indexing Interval value so that indexing is done more often.

By specifying a particular value for the Max Repository Size property, you can control the amount of disk space the repository can take up. FileNET recommends that you leave free at least 50% more disk space than the maximum size of each content search repository. This additional disk space is used for temporary files that are created whenever the indexing daemon processes queued indexing actions and updates the size and contents of the repository.

After you add the content search repository, you must also decide which storage categories you want to assign to it. Using IDMDS Explorer, you can assign a content search repository in each affected Storage Category object, as follows:

Storage Category Object Setting	Description
Assigned Content Search Repository	The content search repository that will handle the indexed files from this storage category.

Note The system automatically assigns Content Search Repository 1 to the initial storage category (the default name is Documents). You must assign a content search repository to other existing storage categories. If you add more content search repositories, you can change the assigned content search repository for any storage category.

Once the Content Search Manager is installed and its repositories are created, you can enable and disable content searches system-wide by toggling the value of the Content Search Enabled? property in the System object.

You can also establish settings that will provide a default behavior for indexing, or not indexing, new documents and versions for content searches when they are added to the system. This behavior is controlled by the Default Index Versions? property in User, Group, and System objects.

When you install a Content Search Manager, the library system installation program creates a content directory on the installation device you specify (for example, under UNIX, **\$IDMDS_HOME/librarysystem/content**). Required content search executables and program files are added to the bin and data subdirectories in this path. A third subdirectory, **index**, contains the content search repository.

If you place the content search repository on the same device as the Content Search Manager, the index subdirectory will appear with the bin or data subdirectories. Otherwise, it will appear in its own path under a separate content directory. It will contain the content search repository files and the two log files described in the following list (where x is the content search repository ID):

Content Search Logfile	Description
index00x.log	Tracks the size of the content search repository and the volume of processed data.
csi00x.log	Provides useful information about content search indexing operations on the server (such as, when indexing has started and stopped, and indexing failures).

Note The library system allows these indexing logs to grow to as large as 250 kilobytes. When this limit is reached, the log files are emptied and the contents are saved to index00x.lsv and csi00x.lsv. These .lsv files are overwritten each time this process occurs. If you are having problems with content search software, the information in the csi00x.log (or csi00x.lsv) file may provide valuable information to you and FileNET Technical Support.

Adding a Content Search Repository

To add a content search repository:

Note For tool-specific instructions on how to add a content search repository, refer to the *IDMDS Explorer Online Help*.

1. Make certain that a Content Search Manager has been installed on the same server on which you plan to add the content search repository.

For best performance, we recommend adding only one content search repository to each Content Search Manager.

No more than 22 content search repositories can be added to a single system.

2. Navigate to the content search repositories for this library system.
3. Add a content search repository.

4. Enter property values for the new content search repository. Required properties include:
 - Server
 - Device

You cannot add a content search repository to removable media such as a floppy disk.
5. Save your changes.
6. If a message indicates that disk space is not available for the new content search repository, you must do one or more of the following:
 - Delete (or store offline) some of the files or directories from the current disk.
 - Obtain a larger disk.
 - Add the Content Search Manager and repository to a different library system server (new or existing).
7. In one or more Storage Category objects, assign the content search repositories you have added. Versions in these storage categories, if indexed for content searches, will be tracked in the assigned content search repository.
8. Stop and restart the Content Search Manager on the library system server to which you added the content search repository. Refer to [“Controlling Library System Services” on page 209](#) for information about stopping, starting, and checking the status of services.

Modifying a Content Search Repository

To modify a content search repository:

Note For tool-specific instructions on how to modify a content search repository, refer to the *IDMDS Explorer Online Help*.

1. Navigate to the content search repositories for this library system.
2. Select the content search repository you want to change.
3. Modify the property values you want to change. Modifiable properties include:
 - Bytes of Working File
 - Bytes of Working Memory
 - Device (Refer to [“Moving a Content Search Repository” on page 278](#) for instructions on how to modify this property.)
 - Hour of Day to Merge
 - Logging Search Server SQL?
 - Max Immediate File Size
 - Max Repository Size

- Network Path
 - Server
4. Save your changes.

Moving a Content Search Repository

To move a content search repository:

Note For tool-specific instructions on how to move a content search repository, refer to the *IDMDS Explorer Online Help*.

1. Put the library system in single-user mode. A library system is in single-user mode when:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.
2. On the target device, recreate the directory path that contains the content search repository files. The content search files can be found in:

OS Platform	Location
Windows NT	Drive:\Idmds\LibrarySystem\Content\Index
UNIX	\$IDMDS_HOME//librariansystem/content/index

3. Move the content search repository files from the original device to the target device. The original device may contain files for several content search repositories, so make sure you only select the files for the content search repository you want to move (for example, **index002.***).

Note You must delete the content search repository files from the original device. Failure to do so may cause unexpected results.

4. Modify the Device property for the content search repository to point to the new target device.
5. Edit the *SSLibrarySystem* data source FULSEARCH parameter to set the path to the new location for the Index directory.
 - a. Open the Windows Control Panel and start the ODBC Data Sources tool.
 - b. On the System DSN tab, select the *SSLibrarySystem* data source name and click Configure.
 - c. On the SearchServer Setup dialog box, edit the FULSEARCH to reflect the correct path, then click OK. For example, you might change:

```
c:\idmds\zipper\content\index
to:
d:\idmds\zipper\content\index
```

6. Enable logons by setting the Logons Enabled? property in the System object to Yes.
7. Stop and restart the Content Search Manager service. Refer to “[Controlling Library System Services](#)” on [page 209](#) for information about stopping, starting, and checking the status of services.

Custom Properties

All documents that are added to a library system are described with an extensive set of properties that allow users to quickly identify, locate, and retrieve them. Additional properties can be added to Item, Version, and Checkout objects and assigned customized names and purposes. These additional properties are referred to as custom properties.

Custom properties can be single-value or multivalued. Single-value custom properties can accept a *single* string, integer, or date and time value. Multivalued custom properties can accept *multiple* values of a *single* data type (either string, integer, or date and time). Up to 100 single-value and 10 multivalued custom properties can be created per Item, Version, or Checkout object.

Internal Custom Properties

The following internal custom properties are created during IDMS installation or upgrade. They are for internal use only. DO NOT open them, edit them, or attempt to delete them. Any changes to these internal custom properties can result in system failure.

- DocumentClass
- IdmAnnotation
- IdmCDBehaviorID
- IdmFilterQuery
- IdmPublish
- idmSearch

Characteristics of a Custom Property

You can set up each custom property to have the following characteristics:

- (Required) Have a name customized for the particular system.
- (Required) Have a parent object type (Item, Version, or Checkout).
- (Required) Accept a string, integer, or date and time value.
- (Required) Have a set maximum value length.
- (Required) Be single-value or multivalued.
- (Optional) Have a default value.
- (Optional) Be a required user entry.

- (Optional) Have different display names.
- (Optional) Have a quick list enabled to allow faster display of selectable values.
- (Optional) Have indexing of the custom property's values enabled (which may improve search performance if the quick list is enabled or the custom property has few distinct values).

The other properties in the Custom Property object (for example, Date Added and Comment) are provided by the library system. Before adding your own custom properties, you should review the names and purposes of these properties to avoid creating duplicates.

Adding Custom Properties

Note For tool-specific instructions on how to add a Custom Property, refer to the *IDMDS Explorer Online Help*.

Caution Several internal custom properties are created during IDMDS installation or upgrade. Although these custom properties are displayed in IDMDS Explorer, you must not attempt to delete them or modify them in any way. Refer to [“Internal Custom Properties” on page 280](#) for details.

Consider the following suggestions and recommendations when adding custom properties:

- **Check your user interface requirements first.** Be aware that some interfaces to a library system will create a number of custom properties as they are installed. Before you add custom properties, check the interface requirements and the property names assigned.
- **Pre-determine departmental or system-wide needs.** Keep in mind that the names of the custom properties are system-wide and apply to the documents added by all users in all groups. A unique name that makes sense to one department may not be applicable in another department. A custom property can be defined as an optional entry, but if the company has many such dissimilar departments and property requirements, it may be a good idea to have more than one library system. Each library system can then have its own set of custom properties. However, if you are installing FileNET Replication, you will likely need some identical custom properties in each participating library system, so that the replicated documents can be commonly identified during a search.
- **Determine display order ahead of time.** Custom properties will be displayed in Item, Version, and Checkout object properties in IDMDS Explorer in the order in which you add them. If you want the custom properties to be displayed in a particular order, be sure to plan ahead before you begin adding them to any library systems at your site. This could mean that you add the custom properties from the most important (or most frequently used) property to the least important property. But it could also mean that you add the properties in a logical order (for example, Name, Street Address, City, State, Zip Code).
- **Determine maximum value lengths.** For all types of multivalue custom properties (string, integer, integer string, and date/time), you can set a maximum value length of 1 to 200 characters.

A maximum of 100 single-value custom properties can be defined.

(For Oracle only) There is no byte limit on single-value custom properties.

(For Microsoft SQL Server only) The byte limits of single-value custom properties depend on the type of parent object:

- Item parent = 7200 bytes maximum
- Version parent = 5400 bytes maximum
- Version Checkout parent = 6800 bytes maximum

You may also want to keep some space available for future use. Use the following table to assign maximum value lengths and determine sizes for single-value custom properties.

Property Type	Length	Size
string	1 to 254 characters	254 bytes (defined by Property Length property of Custom Property object)
integer	10 digits	4 bytes
integer string	10 digits	10 bytes
date/time	32 characters	10 bytes

Note With integer property type you can use integers only, without leading zeroes. With integer string property type, you can use leading zeroes. For example, if you define an integer custom property and an integer string custom property, and put a value of 00123 in both, the database will store the values as:

123 for the integer

00123 for the integer string

- **Assign meaningful characteristics.** Before deciding on names for the custom properties, analyze how the future users of the library system currently look for the objects with which they work. For example, if they search for file folders by an invoice number under a particular client name, then it would make sense to provide properties called Invoice Number and Client Name. Although you will be able to rename custom properties, you will not be able to delete them or change several of their characteristics (for example, maximum value length or property type).
- **Keep properties for future use.** You can add no more than 100 single-value and 10 multivalue custom properties. Because it is not possible to delete a custom property from the system, it is a good idea to keep several custom properties in reserve to allow for evolving user needs.

Note Most sites add a starter set right away and add more from time to time, as dictated by the evolving needs of the users. Documents that are added before a particular custom property has been added will have no value for that property in their Item or Version objects. But, a user with Owner or Admin access rights to the Item or Version object can supply a value for the new property at any time.

- **Assign access rights carefully.** Be careful about assigning access rights to the custom properties, especially if you assign access rights of None. We recommend against assigning access rights of None to a required-entry custom property, especially for users who can add documents. For example, if you were to assign None access rights to the Owner Privileges property in the Custom

Property object, any user adding a document would be required to enter a value for the custom property but could not see that property thereafter on the Item object.

- **Index a property.** We recommend you allow the values for a custom property to be indexed if either of the following is true:
 - You designate a quick list of values for the property.
 - You commonly perform searches that use the operators =, <, >, or "starts with."

Otherwise, you should change the Indexed? property to No. Be aware, too, that system performance can be adversely affected if more than three or four custom properties are indexed. You will have to experiment at your site to determine the optimum number of indexes for the operational demands placed on your systems.

- **Assign display names for special use.** We strongly recommend that you assign custom property names that are unique from any other custom or system-generated property names. You may have reason at your site to assign one or more display names based on support for different national languages provided by particular user interfaces. However, you may also want to add display names that mask the actual custom property names that you use as administrative identifiers. For example, you might add a custom property named Finance Subject, (so that you know its exact nature) but want the name displayed simply as Subject to the users of the library system that controls the Finance Department's data.

Modifying Custom Properties

For tool-specific instructions on how to modify a custom property, refer to the *IDMDS Explorer Online Help*.

Caution Several internal custom properties are created during IDMDS installation or upgrade. Although these custom properties are displayed in IDMDS Explorer, you must not attempt to delete them or modify them in any way. Refer to [“Internal Custom Properties” on page 280](#) for details.

To modify custom properties:

1. Navigate to the custom properties for this library system.
2. Select the custom property you want to change.
3. Modify the property values you want to change. Modifiable properties include:
 - Author Privileges
 - Comment
 - Indexed?
 - Owner Privileges
 - Property Length

Note You cannot decrease the length of a custom property; you can only increase it.

- Property Name

- Viewer Privileges
- Quick List?

You can also access display names from the Custom Property object.

4. Save your changes.

User Objects

Before someone can open a session and begin using a library system, his or her name must be added to the internal list of users maintained by the system. Generally, an administrator adds an initial number of users and groups, and then, may delegate the authority to add new users and groups to one or more of these users.

Note Administrators always have the right to add users, groups, and documents to the library system, regardless of properties settings in their User object.

Every user has a User object that contains descriptive properties. Some of these properties provide default values. For example, the Default Group property can be set to the group in which the user does the most work. Then, each time the user opens a session, his or her active group will be set to this group automatically.

Other properties allow or deny the user certain privileges, such as adding documents to the library system.

Working with User Objects

Note For tool-specific instructions on adding, modifying, renaming, or deleting User objects, refer to the *IDMDS Configuration Tool User Import Tab*.

Also see “[IDMDS Configuration Tool User Import Tab](#)” on page 179 for information about importing users from your network domain to your library system.

Adding a User Object

When you add a user to a library system, the system enters your name as the value of the Added By User property in the new User object. This user (you) is also added to the new User object access list with Admin access rights. (The name of the new user is added to the access list with Owner access rights.)

Giving Admin access rights to the person who adds the user allows that person to maintain all user-modifiable properties in the new User object. The following properties are modifiable only by users with these Admin access rights:

- Add Items?
- Add Users?
- Add Groups?
- Enabled?
- Password
- Primary Storage Manager

- User Name
- Secure Searches?

After you add a new user to the library system, you will want to make the new user a member of one or more groups. This must be done from the Group object in the particular library system. You can then use FileNET Replication Services to replicate user and group objects to other participating library systems.

Renaming a User Object

An administrator can change the User Name of any library system user except Admin. IDMDS will not allow you to:

- Rename the Admin user
- Assign an existing user name
- Assign blank name value to a user

Deleting a User Object

Over time, some users in the library system may leave your company or transfer to different sites. In such cases, you may want to delete their associated User object from the library system. With IDMDS Explorer, an administrator can delete a User object from a library system while retaining all existing references to that user (for example, in Item and Version objects).

When you delete a User object, that object is removed from the library system. Also, the user is deleted from all access lists and group membership lists. The user's name, however, will remain in single-value properties, such as the Added By User property in Item objects, which ensures that this value can still be used in searches.

Assigning and Modifying Values in a User Object

The following topics describe some of the most important properties in the User object. For additional property information, refer to *IDMDS Explorer Online Help*.

Specifying the User's Primary Storage Manager

The Primary Storage Manager property is used to indicate the Storage Manager that a particular library system will attempt to use first to handle an operational request. By providing a value for this property at the User object level, that Storage Manager will process the majority of requests for the user. This is one way you can load-balance activity across servers.

Enabling a User to Add Items, Users, or Groups

The Add Items, Add Users, and Add Groups properties determine what a particular user can add to the library system. (The exception to this rule is that all administrators can add users, groups, and documents to the library system even when the associated properties in their User objects are set to No.)

By default, the library system withholds from all new users the authority to add documents, users, and groups. However, you will probably want to change the Add Items value to Yes when you add a new user to a particular library system. Withholding the authority to add documents typically makes sense only to

support an online service where a small number of users create and maintain information for a larger group of users who only need to view the information in the library system.

Since the library system allows an unlimited number of administrators, the need to delegate the authority to add users and groups to people who are not administrators may not be obvious. In fact, at some sites, the authority to add users and groups is not delegated beyond simply adding more administrators. At other sites, however, there may be only a part-time administrator, and it may be inappropriate to have more than one individual with this level of access rights. In this case, it makes sense to delegate the authority to add users and groups to several users who are not administrators.

Enabling/Disabling a User's Access to the System

The Enabled? property determines whether a user can access the library system (whether he or she is currently allowed to open a session). When the user is first added to a particular library system, the value for this property is set to Yes by default. However, if you want to completely restrict a user's access to the library system (typically, for an extended period of time, such as during a long leave of absence), you can simply set this Enabled? value to No.

If you are storing particularly sensitive information, you can use this feature to protect not only that information, but also the user's own data and access integrity. Let's say a site has automated the library system logons (for example, basing them on network workstation ID's) so that normal library system logon procedures are bypassed. At such a site, setting this Enabled? property to No would prevent unauthorized personnel from gaining access to the library system at a user's vacant workstation.

Modifying the User Object Access List

As mentioned earlier, each time a new user is added to the library system, the person who added the user is granted Admin access rights to the object and the new user is granted Owner access rights. This person can then add, change, or remove any entries from the access list.

Setting User Default Values

While working with a User object, you need to be aware of how the library system handles default values. The User, Group, and System objects each have a Default Archive Category, Default Storage Category, Default Checkout File Extension, Default Checkout File Name, Default Item Access List, and Default Index Versions property. However, even though these three objects have properties with the same names, the properties are still completely independent of each other and can be given different values in each object.

Note If you delete or disable a user's default group and that user opens a session, the active group will be the General Users group rather than the group specified in the Default Group property.

When a user adds a document to a library system, the system uses these default properties to supply some of the initial values in the new Item object.

Controlling the User's Search Results

The following two properties control what results are returned for users' searches.

Property	Description
Access Domain	The Access Domain property controls whether a user's access rights to search results are based on the access rights of his or her active group or on the highest access rights of any of the groups to which the user belongs. The Access Domain property appears in User, Group, and System objects.
Secure Searches?	The Secure Searches? property controls whether the user must have at least Viewer access rights to a document (or object) to have that document (or object) included in the results of a search that he or she runs. Only users with Admin access to the User object can modify this property. The Secure Searches? property appears in User, Group, and System objects.

Setting Logon Values

The Network Logon Name property in the User object plays a key role in automating the logon process. For details, refer to the *IDMDS Explorer Online Help*.

Assigning a Different Display Language

The Display Language property controls the user's display language for property names, field names, and messages (posted to the User object or the Administrators Group object). Like the default properties mentioned in a previous topic, the Display Language property appears in User, Group, and System objects.

Group Objects

A library system predefines two special groups: General Users and Administrators. When a user is added to a library system, he or she is automatically made a member of the General Users group. Therefore, all users have access to any document that grants the General Users group some kind of access rights. Of course, the General Users group can be granted access rights of None or even deleted from the document's access list altogether. The General Users group's access rights in most library systems are restricted to Viewer.

The users who are members of the Administrators group are referred to as administrators. When they designate this group as their active group, these users have universal Admin access rights to all objects in the affected library system. In addition, administrators always have the right to add users, groups, and documents to the library system (even if the corresponding properties in their User objects are set to No), and administrators can always cancel another user's checkout.

Generally, you use the formal organization of the company to identify potential groups and control access with them. But with a library system, you also have the opportunity to establish additional groups that do not exist in the actual organization in any form. This capability allows you to create groups for people who work together informally across the formal organizational boundaries.

For example, suppose that a particular library system was company wide. In addition to the various departmental based groups, there could be groups for the Employee Recreational Committee, the Capital Equipment Approval Board, and so on.

The existence of groups makes access control within the library system straightforward. There can be many groups in the library system, and a user may belong to more than one group. (A group, however, cannot be a member of another group.) While working in the library system, a user must designate one group as his or her active group. The active group determines what documents can be accessed by the user. A user may designate a different group as his or her active group at any time during a session, as long as that user is already a member of that group.

One advantage to setting up the library system with groups that match the way the users actually work together is that the users can readily relate to the structure. They do not have to learn an entirely new way of working.

Before adding any groups to the library system, observe the people who will be using the system and the way they are presently working together. Determine natural groupings of these people based on their common access requirements to the files (or information) that will eventually be added to the library system.

Working with Group Objects

Note For tool-specific instructions on adding, modifying, renaming, or deleting Group objects, refer to the *IDMDS Explorer Online Help*.

Also see “[IDMDS Configuration Tool User Import Tab](#)” on page 179 for information about importing groups from your network domain to your library system.

Adding a Group Object

When you add a new group to the library system, your name becomes the value for the Added By User property in the new Group object, and you are granted Owner access rights in the access list of the new object. Of course, as an administrator, you also have Admin access rights to this object.

The following properties can be modified only by a user with Admin access rights to the Group object:

- Enabled?
- Group Name
- Primary Storage Manager
- Secure Searches?

You can use FileNET Replication Services to replicate group objects to other participating library systems.

Renaming a Group

An administrator can rename the Group object assigned to any group that has been added to the library system. IDMDS will not allow you to:

- Rename the General Users group
- Rename the Administrators group
- Assign an existing group name
- Assign a blank name value to a group

Deleting a Group Object

Undoubtedly, there will be times when groups no longer have viable functions in your organization. You will probably want to remove these groups from the library system at some point, but without removing all references to them on documents that group members added to the library system or on versions of documents that these members may have created during the course of their work.

An administrator can delete a Group object from the library system while retaining all existing references to that group. When you delete a group, the associated Group object is removed from the library system. Also, the group is deleted from all access lists. The group's name, however, will remain in single-value properties, such as the Added By User's Group property in Item objects, which ensures that this value can still be used in searches.

Assigning and Modifying Values in a Group Object

At some sites, Group objects are administered by managers or lead members of a work group or company organization. The library system administrator may have little reason to be involved in the day-to-day modifying and updating of the Group objects for a particular library system. Depending on how your library system is set up, the person who adds the group to the system may or may not be the person who updates the Group object.

The following topics describe some of the most important properties in the Group object. For additional property information, refer to the *IDMDS Explorer Online Help*.

Specifying a Group's Primary Storage Manager

The Primary Storage Manager property is used to indicate the Storage Manager that particular library system will attempt to use first to handle an operational request. By providing a value for this property at the Group object level, that Storage Manager will process the majority of requests for all active members of this group. This is one way you can load-balance activity across servers.

Enabling/Disabling a Group's Status

The Enabled? property determines a group's status (that is, whether users are currently allowed to open a session under or become an active member of this group). When a group is first added to the library system, the value for this property is set to Yes by default. However, if you want to completely restrict a group's access to the library system for an extended period of time, you can simply set this Enabled? value to No.

Note If a group is disabled and a user has this group specified as his or her default group, the library system will still allow the user to open a session, but only as a member of the General Users group. Other user interfaces to the library system may or may not work this way.

If you are storing particularly sensitive information, you can use this feature to protect not only that information, but also the data and access integrity of the group's members. For example, you could choose to disable a group for a period of time to investigate breaches of security or to close down the activities of a group that has been temporarily moved off site.

Modifying the Group Object Access List

Each time a new group is added to the library system, the person who adds the group is granted Owner access rights to the object and the General Users group is granted Viewer access rights. As the adding user, then, you can add, change, or remove entries from the access list.

Setting Group Default Values

While working in the Group object, you need to be aware of how the library system handles default values. The User, Group, and System objects each have a Default Archive Category, Default Storage Category, Default Checkout File Extension, Default Checkout File Name, Default Item Access List, and Default Index Versions? property. However, even though these three objects have properties with the same names, the properties are still completely independent of each other and can be given different values in each object.

When a user adds a document to a library system, the system uses these default properties to supply some of the initial values in the new Item object. As a library system administrator, you should probably not alter any of the values the group leader has assigned to these default properties in the associated Group object.

Controlling the Group's Search Results

The following two properties control what results are returned for group members' searches:

Property	Description
Access Domain	The Access Domain property controls whether a group member's access rights to search results are based on the access rights of his or her active group or on the highest access rights of any of the groups to which the user belongs. The Access Domain property appears in User, Group, and System objects.
Secure Searches?	The Secure Searches? property controls whether group members must have at least Viewer access rights to a document (or object) to have that document (or object) included in the results of a search that they run. Only users with Admin access rights to the Group object can modify this property. The Secure Searches? property appears in User, Group, and System objects.

Setting Up or Modifying the Administrator's Group

Any user can be an administrator. The only requirement is membership in the Administrators group. If you are a member of the Administrators group and the Administrators group is your active group, then you have Admin access rights to any object, including the System object.

Typically, the initial set of administrators are in a position within a company to understand what the users need. They understand the flow of work between users, the work-group structures, and the flow of work between work groups. They know what kind of information needs to be shared. And, as a general rule, they are proficient users of other software tools.

There are two reasons to add members to the Administrators group:

- The workload demands it.
- You need backup during absences.

Caution The number of library system administrators is best kept to the minimum required. The data within the library system is a valuable company resource. Its integrity and security are difficult to maintain if there are too many administrators or if care is not used in their selection. Also, most sites remove the user named Admin from the Administrators group after they have added other users to the Administrators group.

Assigning a Different Display Language

The Display Language property controls the language used for displaying property names, field names, and messages (posted to the User object or the Administrators Group object). The Display Language property appears in User, Group, and System objects.

Managing Multiple Library Systems

Some sites may require more than one library system (that is, multiple Property Managers and associated Storage Managers) to manage their information. To determine the number of library systems your site will need as well as the overall configuration of servers and clients, consider the following:

- How many users will be registered?
- How many users will be active on the library system at any time?
- Are users dispersed over multiple geographically located sites?
- What types of applications are being used to generate the stored files?
- What versions of operating systems are being used?
- Do some work groups require customized configuration settings?
- Will all users require the ability to search for files based on file contents as well as descriptive properties?
- Can additional application servers be made available and what are the configurations (for example, disk sizes, CPU speed, available RAM)?
- Will users require the ability to replicate identical document, user, group, and property data into multiple systems?

Some sites may want to set up multiple library systems for customization and organizational reasons, rather than solely performance. Sites with departments that require different sets of custom properties or special configuration may prefer multiple library systems.

For example, if you have one large accounting department that requires its own set of fifteen custom properties, you will be left with only five of these properties for all other customization needs. In this case, you might consider setting up an entirely separate library system for the accounting department and adding the remainder of the users to another library system.

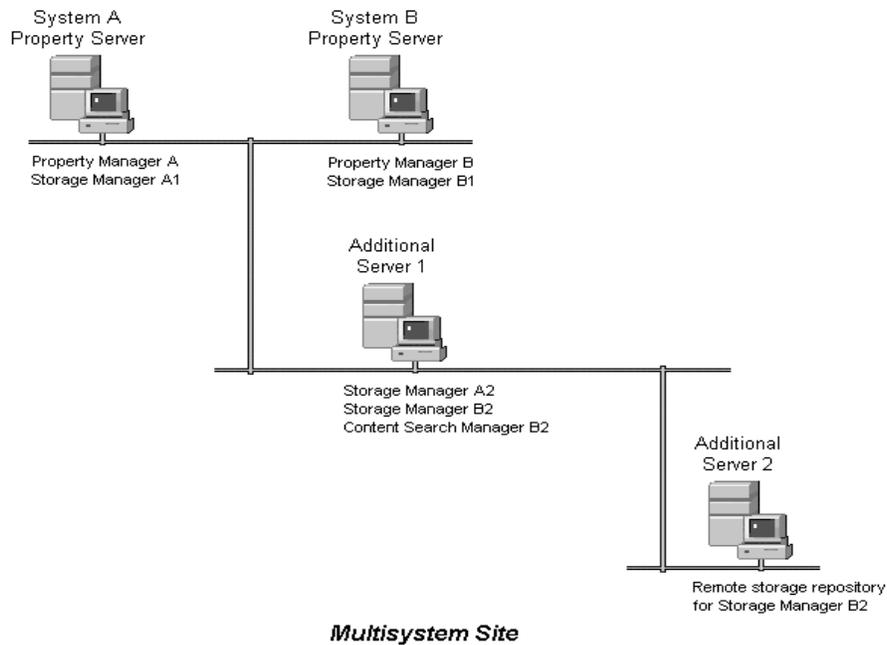
Note Refer to the [“Installation Guide” on page 93](#) for information on how to install a library system and to [“Restoring a Library System to a Different Server” on page 336](#) for details on how to move a library system to a different server.

Sharing Servers and Disk Space

You can install Property Managers for multiple library systems on the same server, however all Property Managers on the server must share a single database engine. Placing multiple Property Managers on a machine requires large amounts of memory, available disk space, and processing speed.

Storage Managers can share the same server with other Storage Managers, as long as each Storage Manager is associated with a different library system.

The following illustration shows some of the common configuration features of a multisystem site:



In this illustration, systems A and B each have an additional Storage Manager, both of which have been installed on the same remote server. Also on that remote server, a Content Search Manager has been installed for system B.

Storage repositories assigned to a Storage Manager can be redirected to other machines, thus spreading the disk space requirements across the network.

In the illustration above, one of the storage repositories created for Storage Manager B2 has been placed on a network server. Thus, assigning remote storage repositories is one way of expanding the disk space available for storing library system controlled versions, especially if you cannot dedicate more machines to library system services.

If you install an optional Content Search Manager, you must take into account its disk space requirements, especially in multisystem configurations. If large numbers of online version files are indexed for content searches, the repositories themselves can become quite large.

Accessing Other IDMS Library Systems

Having multiple systems at a site may be a way to restrict access to particular users, departments, or groups. On the other hand, if your purpose is simply to spread the library system's load or to accommodate special configuration requirements over multiple systems, you may still want some or all of the users to have access to information in more than one library system.

Users who need to access multiple library systems must first be added to each library system. When the user changes sessions, his or her working environment changes accordingly to reflect the new library system name, access settings, etc. The effect is to suspend (but not close) the current session and activate a new session.

The Change Session command provides two possibilities:

- Allows the current user to open a second session against a different library system.
- Allows a second user to open a session against any recognized library system without requiring the current user to leave the client application.

To enable users to change library systems as part of a change-session operation, you must create an Other System object instance for each library system in which users may want to work. You must also add those users to each library system they want to access.

For example, let's say there are three library systems at your site, named Records, Accting, and Words. The first library system, Records, contains primarily view-only documents from which all users may extract information. The second library system, Accting, contains accounting and financial documents (for example, Excel spreadsheets and charts), which are under strict access control. The third library system, Words, contains the bulk of the text documents created for the site by a small word-processing department.

In such an arrangement, certain word processors in the Words library system may constantly need specific file information from the other two library systems for the documents they create for their upper-level managers. For this reason, you might access the Words library system and create Other System object instances for Records and Accting. Selected users can then start their library system client application as usual and change sessions whenever necessary to access specific information from the other library systems.

Enabling Users to Access Other Library Systems

The following procedure explains how to create an Other System object, which enables users who have sessions open on a particular library system to change sessions and access another available library system without closing their current sessions.

Once the Other System object is added to the system, only the Comment property is modifiable.

To enable users to access other library systems:

Note For tool-specific instructions on how to create an Other System object, refer to the *IDMDS Explorer Online Help*.

1. Navigate to the Other System objects for this library system.
2. Add an Other System object.
3. Enter property values for the new custom property. Required properties include:
 - System Name
 - Property Server
4. Save your changes.
5. Make sure the appropriate users have been added to the system for which you just added the Other System object.

If you have a User object in the other system, you can access that other system from IDMDS Explorer. You can then add the other appropriate users.

Optimizing Search Queries

The IDM library system provides better performance for particular kinds of searches. This is due partly to the requirements of content search functionality, and partly to optimization of the search processing that contains Keyword property search criteria.

Using Indexed Properties

The object properties in the following lists are indexed in the library system's database tables. To improve the response time for searches, you should build the search criteria with indexed properties whenever possible. Search performance will improve regardless of which search operators are used. For most of these objects, the indexed properties include, but are not limited to, those properties that make up the object's key (uniquely identifying an object or object instance).

Those objects having more than one indexed property use a composite index for the listed properties:

Object	Property Name
Access Control Object	Parent Object Name User or Group Name User or Group Type Parent Object Type
Application Object	Application Name Parent Object Parent Name Application Name
Archive Category Object	Archive Category
Archive Repository Object	Archive Repository ID
Checkout Object	Item ID Version ID Checked Out By User
Content Search Repository Object	Content Search Repository ID
Content Search Manager Object	Server
Custom Object	ISV ID Object Type Object Key

Object	Property Name
Custom Property Object	Property Number Property Name
Default Item Access Control Object	Source Object Type Source Object Name User or Group Type User or Group Name Object Type
Group Object	Group Name
Group Member Object	Group Name User Name
Item Object	Item ID Date Added Current Version Date Added By User Added By Group Original File Name Current Version Author All custom properties
Keyword Object	Item ID Keyword
Message Object	Message ID
Other System Object	System Name
Property Manager Object	System Name
Search Object	Search Name Search Type Search Reference
Session Object	Session Number
Storage Category Object	Storage Category
Storage Repository Object	Storage Repository ID
System Object	System Name
User Icon Object	User Name Object Type Object Key
User Object	User Name Network logon Name
Version Object	Version ID Item ID

Custom properties can be indexed, depending upon the setting for the *Indexed?* property in the instance of the Custom Property object.

The LIKE Operator

Avoid using the LIKE operator and, wherever possible, use the following search operators instead:

- EQUALS, as in:

```
Added By User = John Doe
```

- GREATER THAN / LESS THAN combinations, as in:

```
Date Added > January 1, 1997
```

and

```
Date Added < March 1, 1997
```

Use wildcard characters with the LIKE operator only as follows:

- Use a wildcard character only at the end of a value on which you are searching (for example, John%). This LIKE search will be nearly as fast as an EQUAL search.
- Avoid beginning a value with a wildcard character (for example, %son).
- Avoid beginning and ending a value with a wildcard character (for example, %son%).

Using Secure Searches

If the Secure Searches? property is set to Yes in the System object, a user or group must have at least Viewer access rights to all the results returned for any search. This requirement means that the library system must do access checking as part of the search procedure, which slows response time.

Therefore, unless your site specifically needs secure searches (or unless its users often run content searches), we suggest you disable this feature by setting the Secure Searches? property value to No in the System object. If needed, you can then use the Secure Searches property of the User, Group, or Search object to enable secure searches in more restrictive, or highly specific cases.

With secure searches *enabled*, content search performance may actually improve, especially on system-wide searches for a particular word or phrase. This is because the number of files searched would be limited to those to which the user has at least Viewer access rights.

Specifying Keywords in Searches

- Avoid creating a complex set of search criteria statements connected by ANDs and ORs.
- Do not overuse particular Keyword property values (avoid assigning and searching on keywords that describes a large percentage of your items).

Using Content Search Criteria

In any search containing *content* search criteria, try to make the associated *property* search criteria as specific as possible to limit the number of results returned.

Remember, however, that when contents and property search criteria are combined, the property search tends to be the faster portion of the search.

When only content values (and no property values) are specified for a search, an optimized search algorithm is applied. Depending on the environment, a content-only search may be a viable choice for best performance.

Content Search Filters

When a request is submitted to index a file, the Content Search Manager determines the file's format by examining the contents of the file. If a filter is available for the format, the file is converted to ASCII. If a file is recognized as being in text format already, it will be indexed as is (that is, as if it were already ASCII). If the format is not recognizable or a filter is not available, the file is not indexed.

Note If you need to index a file type not on this list, and if you have a filter for that file type, contact FileNET Technical Support for assistance in setting it up for use.

Word Processing - Generic

Format	Versions
HTML	Versions through 3.0 (some limitations)
IBM FFT	All versions
IBM Revisable Form Text	All versions
Microsoft Rich Text Format (RTF)	All versions

Word Processing - DOS

Format	Versions
DEC WPS Plus (DX)	Versions through 4.0
DEC WPS Plus (WPL)	Versions through 4.1
DisplayWrite 2 & 3 (TXT)	All versions
DisplayWrite 4 & 5	Versions through Release 2.0
Enable	Versions 3.0, 4.0 and 4.5

Format	Versions
First Choice	Versions through 3.0
Framework	Version 3.0
IBM Writing Assistant	Version 1.01
Lotus Manuscript	Versions through 2.0
MASS11	Versions through 8.0
Microsoft Word	Versions through 6.0
Microsoft Works	Versions through 2.0
MultiMate	Versions through 4.0
Navy DIF	All versions
Nota Bene	Version 3.0
Office Writer	Version 4.0 to 6.0
PC-File Letter	Versions through 5.0
PC-File+ Letter	Versions through 3.0
PFS:Write	Versions A, B, and C
Professional Write	Versions through 2.1
Q&A	Version 2.0
Samna Word	Versions through Samna Word IV+
SmartWare II	Version 1.02
Sprint	Versions 1.0
Total Word	Version 1.2
Volkswriter 3 & 4	Versions through 1.0

Format	Versions
Wang PC (IWP)	Versions through 2.6
WordMARC	Versions through Composer Plus
WordPerfect	Versions through 6.1
WordStar	Versions through 7.0
WordStar 2000	Versions through 3.0
XyWrite	Versions through III Plus

Word Processing - International

Format	Versions
JustSystems Ichitaro	Versions 5.0, 6.0, 8.0, 9.0, and 10.0

Word Processing - Windows

Format	Versions
AMI/AMI Professional	Versions through 3.1
Corel WordPerfect for Windows	Versions through 9.0
JustWrite	Versions through 3.0
Legacy	Versions through 1.1
Lotus WordPro (Win16 and Win32 / Intel platforms)	SmartSuite 96, 97 and Millennium
Microsoft Windows Works	Versions through 4.0
Microsoft Windows Write	Versions through 3.0
Microsoft Word 97	Word 97

Format	Versions
Microsoft Word 2000	Word 2000
Microsoft Word for Windows	Versions through 7.0
Microsoft WordPad	All versions
Novell WordPerfect for Windows	Versions through 7.0
Professional Write Plus	Version 1.0
Q&A Write for Windows	Version 3.0
WordStar for Windows	Version 1.0

Word Processing - Macintosh

Format	Versions
Microsoft Word	Versions 4.0 through 6.0
Microsoft Word 98	Word 98
WordPerfect	Versions 1.02 through 3.0
Microsoft Works	Versions through 2.0
MacWrite II	Version 1.1

Spreadsheets Formats

Format	Versions
Enable	Versions 3.0, 4.0 and 4.5
First Choice	Versions through 3.0
Framework	Version 3.0
Lotus 1-2-3 (DOS & Windows)	Versions through 5.0
Lotus 1-2-3 for SmartSuite	SmartSuite 97 and Millennium

Format	Versions
Lotus 1-2-3 Charts (DOS & Windows)	Versions through 5.0
Lotus Symphony	Versions 1.0, 1.1 and 2.0
Microsoft Excel 97	Excel 97
Microsoft Excel 2000	Excel 2000
Microsoft Excel Macintosh	Versions 3.0 through 4.0, 98
Microsoft Excel Windows	Versions 2.2 through 7.0
Microsoft Excel Charts	Versions 2.x through 7.0
Microsoft Multiplan	Version 4.0
Microsoft Windows Works	Versions through 4.0
Microsoft Works (DOS)	Versions through 2.0
Microsoft Works (Mac)	Versions through 2.0
Mosaic Twin	Version 2.5
QuattroPro for DOS	Versions through 5.0
QuattroPro for Windows	Versions through 9.0
PFS:Professional Plan	Version 1.0
SuperCalc 5	Version 4.0
SmartWare II	Version 1.02
VP Planner 3D	Version 1.0

Databases Formats

Format	Versions
Access	Versions through 2.0

Format	Versions
dBASE	Versions through 5.0
DataEase	Version 4.x
dBXL	Version 1.3
Enable	Versions 3.0, 4.0 and 4.5
First Choice	Versions through 3.0
FoxBase	Version 2.1
Framework	Version 3.0
Microsoft Windows Works	Versions through 4.0
Microsoft Works (DOS)	Versions through 2.0
Microsoft Works (Mac)	Versions through 2.0
Paradox (DOS)	Versions through 4.0
Paradox (Windows)	Versions through 1.0
Personal R:BASE	Version 1.0
R:BASE 5000	Versions through 3.1
R:BASE System V	Version 1.0
Reflex	Version 2.0
Q&A	Versions through 2.0
SmartWare II	Version 1.02

Standard Graphic Formats

Format	Versions
DXF (Binary and ASCII) AutoCAD Drawing Interchange Format	Versions through 14

Format	Versions
EPS Encapsulated PostScript	If TIFF image is embedded in it
FMV - FrameMaker graphics	Vector and raster format through Version 5.0
GDF - IBM Graphics Data Format	Version 1.0
JFIF (JPEG not in TIFF format)	All versions
JPEG - Joint Photographic Experts Group format	All versions
PNG - Portable Network Graphics Internet Format	Version 1.0
Progressive JPEG	No specific version
SRS - Sun Raster File Format	No specific version
TIFF	Versions through 6
TIFF CCITT Group 3 & 4	Fax Systems
Visio (page preview mode only for version 4)	Versions 4, 5, 2000

High-End Graphics Formats

Format	Versions
DWG - AutoCAD Native Drawing Format	Versions 12 through 14
PDF - Portable Document Format	Acrobat version 2.1, 3.0, 4.0

Presentation Formats

Format	Versions
Corel Presentations	Version 8.0 and 9.0
Novell Presentations	Versions 3.0 and 7.0
Harvard Graphics for DOS	Versions 2.x & 3.x
Harvard Graphics	Windows versions
Freelance 96	Freelance 96
Freelance for Windows 95	SmartSuite 97 and Millennium

Format	Versions
Freelance for Windows	Version 1.0 and 2.0
Freelance for OS/2	Versions through 2.0
Microsoft PowerPoint for Windows	Versions through 7.0
Microsoft PowerPoint 97	PowerPoint 97
Microsoft PowerPoint 2000	PowerPoint 2000
Microsoft PowerPoint for Macintosh	Version 4.0, 98

Compressed and Encoded Formats

Format	Versions
Microsoft Binder	Version 7.0, Binder 97

Other

Format	Versions
MSG (text only)	Microsoft Outlook mail format

Content Search Stopwords

Stopwords for content searches are words in the version files that:

- Are not indexed
- Cannot be searched for
- Are counted in the specified distances between terms in phrase searches

The following list contains the stopwords that are supplied for the content search engine used by an English-language library system.

after	between	of	there	whether
also	but	or	these	which
an	by	other	this	with
and	for	out	those	within
as	from	since	to	without

at	however	such	under
be	if	than	upon
because	in	that	when
before	into	the	where

Editing the Stopword List

You can add to or delete from this list by modifying the stopwords file on each server on which a Content Search Manager is installed. The stopwords file is located in

Drive:\Idm\LibrarySystem\content\data\fultext.stp. This file must contain one stopword per line.

Note If you want to edit the stopwords file, be sure to do so before you enable content searches. If you edit this file after enabling content searches, you will have to reindex all the indexed versions to apply the new stopwords list.

Localized Stopword Files

Localized stopwords files for the supported languages are provided in the same directory as the English stopwords file. To use one of the localized stopwords files, you can edit it to contain the stopwords you want. Do not change the name of the file. IDMS will use the stopwords file for the language you have installed your library system.

The Variants Facility

With the IDMDS Variants Facility, you can create a set of typographical rules to control the way the Content Search Manager behaves with respect to spelling or language-dependent variations in the content of files being searched.

Refer to:

- “Variants Files” on page 309 for an overview of variants files
- “Creating a Variants File” on page 310 for details about how to use variants files

Variants Files

A variants file is an ASCII text file containing a set of typographical rules for spelling or language-dependent variations. The Content Search Manager uses these rules to find typographical variants of existing words in a content search repository.

The word "catalog," for example, may also be spelled "catalogue." By creating a variants rule that accounts for the "ue" suffix, your content search queries can find occurrences of both "catalog" and "catalogue."

A few terms used in this discussion may be unfamiliar:

Root	The simplest form (basis) of a word.
Stem	The part of an inflected word that is unchanged by variations in number, case, tense, etc.
Suffix	An ending applied to a word stem.
Synonym	A word that has the same or nearly the same meaning as another word.
Search term	The original term input (or anticipated to be input) as the term to search on.

IDMDS setup installs a sample variants file (and the additional data files described below) in the directory **Drive:\Idmids\LibrarySystem\Content\Data**.

fultext.ftl	The FileNET variants file. You must use this name for your variants file in order for the Content Search Manager to find it. You can edit this file to add new variant rules, or create a new variants file.
-------------	--

The **fultext.ftl** file installed by IDMDS is in English. However, you will also find localized samples of this file with the .ftl extension in this same location. To use a localized file, change its name to **fultext.ftl**.

fultext.fts	The source file for the FileNET thesaurus. This is currently used only with the FileNET Software Development Kit for IDMDS.
fultext.fth	The compiled thesaurus file used by IDMDS. This is currently used only with the FileNET Software Development Kit for IDMDS.

Creating a Variants File

The default variants file **fultext.ftl** is supplied with IDMDS. You can back up this file, then edit it to add new variant rules or create an additional variants files. IDMDS will always use the single fultext.ftl file by default.

Note If the Content Search Manager cannot read the variant file, it will attempt the content search query with word-variant generation disabled.

How Variant Rules are Applied

A variant rule is applied on the basis of a specified target substring and variant substring. This can be formulated as:

For all occurrences of: *target_substring*
substitute: *variant_substring*
and perform search.

where:

<i>target_substring</i>	Is a substring contained in the original search term.
<i>variant_substring</i>	Is a substring that will be contained in the variant form of the search term.

Each of these substrings can be a maximum of 4 characters. A variants file may contain two types of rules:

Suffix rule	Specifies that the variant substring is to be substituted only at the end of a word.
Context-free rule	Specifies that the variant substring is to be substituted anywhere the target substring occurs in a word.

The Content Search Manager differentiates the target substring according to case (mixed case is not supported). Therefore, you may need to specify a variant rule for both uppercase and lowercase versions of a target substring. The variant substring is unaffected, since it is normalized for case prior to searching.

When a search term is input, Content Search Manager cycles through each variant rule for a possible target string match. A variant rule is applied for each target string match found in the original search term. There may be multiple target string matches for a single search term. A variant form of the search term is generated as the result of each variant rule applied.

For example, the variant rules "%y ies" and ":ai ae" would each be applied to the original search term "fairy" to generate the resulting variant forms "fairies," "faery," and finally, "faeries."

The original search term is retained throughout the variant generation process and it is always this term that is used by a variants rule to find a target string match (a variant form is never used as the input value for a subsequent variants rule).

A search is performed for each variant form generated, as well as the original search term. In the example of the search term "fairy" and the variant rules "%y ies" and ":ai ae", four context searches would be performed, resulting in a list of all occurrences of "fairy," "fairies," "faery," or "faeries." If more than a few hundred such variant forms are generated for a single search term, search performance will be significantly degraded.

There can be no more than 40 rules in a single variants file. A maximum of 30 variant forms may be generated for a single word, as opposed to a single search term.

The variant rules are also applied to any words existing in the stopword file (.../content/data/*.stp). However, literal terms (enclosed in quotes, such as "term") are excluded from use by the variant rules.

In summary, variant rules:

- Are not applied to literal terms.
- Are only applied to the original or expanded term.
- May be a suffix or context-free rule.
- Have target and variant substrings with a maximum of four characters each.
- Differentiate the target substring by case.
- May have multiple target string matches for a single search term.
- Are applied by the Content Search Manager to find each variant form generated plus the original search term.
- Use the search term (not a previously generated variant form) to find a target string match.
- Are applied to the stopword file.
- May be up to 40 variant rules per variants file.

Context-Free Rules

1. The operator for a context rule is the : (colon) character.
2. Context-free rules are applied to the stem of a word found to contain a match for the target substring. An example of a word stem match might be "readable," where "read" is the stem.

A hyphenated word is treated as two distinct terms, with a stem derived for each. The stems for compound words (such as "uppercase" and "sidewalk") are derived for each stem member. "Sidewalk," for example, would include the word stems "side" and "walk."

3. The target substring can occur anywhere in the word stem. An example of a context-free substitution might be using the variant substring "ou " to replace the target substring "o," as shown in brackets in:

lab[o]r

to generate the variant form "labour."

4. Target substrings cannot be empty for context-free substitution.

Suffix Rules

1. The operator for a suffix rule is the % (percent) character.
2. Suffix rules are applied to search terms, not to word stems.
3. Suffix rules are applied only at the end of a word. For example, the variant substring "g " (with two spaces) would replace the target substring "gue," as shown in brackets in:

catalogue]

to generate the variant form "catalog."

Suffix rules identify the target substring as occurring within the last four characters of a term. This is also true if the term is a compound word. The suffix rules apply only to the last word of hyphenated terms.

4. A term must be at least two characters. Suffix substitution cannot be used for single-character terms.
5. The target substring can be empty. In this case, the variant substring is applied to generate a variant form for every term. This type of substitution is useful for generating plural and possessive forms.
6. The Content Search Manager does not generate possessive forms automatically (the default operation) when variants usage is enabled. This prevents occurrences of double suffixes.

The Syntax for Variant Rules

Each variant rule consists of 10 undelimited characters in the following syntax:

operator target_substring variant_substring end_of_rule

The parameters are described below:

Parameter	Character Position	Characters	Description
<i>operator</i>	1	:	Context-free substitution
		%	Suffix substitution
<i>target_substring</i>	2-5	ASCII set	The substring to find and substitute with the specified variant substring. If the substring is less than four characters, spaces must be added at the end to create a length of four characters (that is, the variant_substring that follows must start at the sixth character in the rule).

Parameter	Character Position	Characters	Description
<i>variant_substring</i>	6-9	ASCII set	The substring to substitute for the specified target substring. If the substring is less than four characters, spaces must be added at the end to create a length of four characters.
<i>end_of_rule</i>	10	LF, NL, EOF	A line-feed (LF), new-line (NL), or end-of-file (EOF) character indicating the end of a single rule.

Example of a Suffix Rule

Using the following suffix rule, a search for "catalog" would also find the variant form "catalogue."

```
%g  gue
```

Example of a Context-Free Rule

Using the following context-free rule, a search for "labor" would also find the variant form "labour."

```
:o  ou
```

Note In both preceding examples, spaces are added after all substrings to create lengths of four characters. Both examples must end with a line-feed, new-line, or end-of-line character.

Making a Variants File Available to Users

Once you have created your variants file, you must copy it into the **Drive:\Idmds\LibrarySystem\Content\Data** directory on all servers that have Content Search Manager installed, so that users can access it during searches.

Audit Logging

The Audit Logging feature allows administrators to capture data on all usage-related IDMDS events. Library system auditing can capture all processes that users run from their desktop, regardless of the application. This means that auditing can capture IDM Desktop, IDM Web, and IDMDS Explorer user activities.

The audit data may help to determine potential attempts to breach library system security. Using the audit log information, you can:

- Audit suspect activities.
- Monitor specific library systems and the activities within them.
- View the audit trail by accessing the database tables directly, using your own SQL report generating software.

The audit log includes information on:

- Who initiated an action.
- The client workstation used.
- The date and time of the action.
- The specific action taken.
- The object acted upon (if any).
- The result of the action (success or failure).
- Additional information specific to the operation performed.

Audit Logging also works with the SLU Reporting feature to provide tracking information on site license usage. A FileNET technician may request that you enable Audit Logging and SLU Reporting.

Notes

Audit Logging monitors only library system events. Events such as document printing are not under the control of library system services software, and therefore cannot be monitored by library system Audit Logging.

The library system auditing feature is different from the auditing features provided by Oracle and MS-SQL Server. The databases' auditing features capture SQL events; library system auditing captures document management events and stores them in Audit Event objects, which can be logged to provide an immediately useful record of how users are interacting with library system.

The library system database schema documentation is available in a Technical Notice from the FileNET web site at <http://www.css.filenet.com> (choose the link for Documentation).

For tool-specific instructions on using Audit Logging, refer to the *IDMDS Explorer Online Help*.

Audit Logging Features

With the library system Audit Logging feature you can:

- Turn auditing on and off globally.
- Turn individual events on and off.
 - Log events that succeed.
 - Log events that fail.
 - Never log an event.
 - Clear some or all of the audit log based on date or set number.
- Turn SLU Reporting on and off to track site license compliance.

The library system Audit Logging feature monitors these events:

Add Object	Suspend Session
Get Object	Resume Session
Delete Object	Add Item
Modify Object	Checkin Version
Check Object Existence	Checkout Version
Get Object Access Info	Cancel Checkout
Rename Object	De-index Version
Modify Password	Archive Version
Logon	Index Version
Logoff	Reclaim Version
Change Group	Search

You can specify which audit events to monitor by modifying the Audit Events object. For tool-specific instructions on using Audit Logging, refer to the *IDMDS Explorer Online Help*.

Each time a user performs an audited operation, an audit log entry is made. Because the audit log can grow quite large, it is best to carefully select the events to audit for your library system.

Note When any of the audit settings are changed, the changes affect subsequent user sessions. Any currently active user sessions (including the administrative session) do not reflect the audit changes.

Setting Up and Managing Auditing

When Audit Logging is enabled, the database can grow quite large. You may need to allocate additional space for the database (and for the transaction log). The amount of disk space required depends on:

- Which user events you choose to audit.
- The total number of user events audited.
- How many users are actively using the system.
- How long you plan to keep the audit log online before clearing it.

After turning auditing on, you should monitor the growth of the system for a few days to get an idea of your additional space requirements.

Auditing is constrained by database row and column size limits. The event data that is logged is truncated if the data captured for that event exceeds the set limit. The audit feature appends an ellipsis at the end of the strings that were truncated.

Turning Auditing Logging On or Off

Audit Logging can be turned on or off for an entire library system, and individual audit event items can be set to log on success, to log on failure, or to not log at all. For instructions on how to turn auditing on and off, refer to the *IDMDS Explorer Online Help*.

Viewing the Audit Log

You can view the audit log from IDMDS Explorer, or you can use SQL utilities to create your own view of the audit log.

- For instructions on viewing the audit log, refer to the *IDMDS Explorer Online Help*.
- For an explanation of the audit log entries, refer to “[Audit Log File Format](#)” on page 316.
- For instructions on clearing audit log entries and creating audit log sets, refer to “[Managing the Audit Log File](#)” on page 319.
- For instructions on creating audit log reports using SQL utilities, refer to “[Audit Log Reports](#)” on page 320.

Audit Log File Format

The Audit log data is formatted as follows.

Log Item	Description
Audit Event ID	The specific event which occurred.
Object ID	(Optional) The type of object acted upon.

Log Item	Description
Object Key	(Optional) The unique identifier that differentiates the object acted upon.
Param 1	Operation specific parameters and values. Refer to “Event Parameters” on page 317 for details.
Param 2	A list of operation specific parameters and values. Refer to “Event Parameters” on page 317 for details.
Param 3	A list of operation specific parameters and values. Refer to “Event Parameters” on page 317 for details.
Param 4	A list of operation specific parameters and values. Refer to “Event Parameters” on page 317 for details.
Search Request Start Key	(Searches only) The start key.
Search Request Direction	(Searches only) Search direction.
Search Request Count	(Searches only) The hit count.
Date Time	The date and time of the action.
User	The user who initiated the action.
Status	The status code, where 0 = success.
Workstation	The network node name of the client workstation where the action originated.
Elapsed Time	Duration of the operation, in milliseconds.
Set Number	The logical set number which this set belongs to. For more information on audit log sets, refer to “Managing the Audit Log File” on page 319 .
Process ID	The ID of the client process which initiated the action.
Flags	(Optional) Flags specified for the operation.
Filename	(Optional) The source or destination filename passed to the operation.

Event Parameters

Library system functions that add or modify objects create event parameters in the audit log. The event parameters are stored as a parallel list of attributes and values. Parameters 1 and 3 contain a list of each attribute name, separated by commas. Parameters 2 and 4 contain the corresponding values, separated by commas.

The parallel list is structured like this example:

Param 1	Current Version Checked Out?,	Protected?,	Allow Secondary Version Lines?,	...
Param 2	No,	Yes,	Yes,	...
Param 3	Permanent Version?,	Checked Out?,	Check In By User,	...
Param 4	No,	No,	georgew,	...

This information is displayed in the audit log as follows:

Param 1	Current Version Checked Out?,Protected?,Allow Secondary Version Lines?,...
Param 2	No,Yes,Yes,...
Param 3	Permanent Version?,Checked Out?,Check In By User,...
Param 4	No,No,georgew,...

To minimize the size of the Audit Log, event parameters **may not** contain duplicate information if that information appears elsewhere. For example, information contained in the Object Key is not duplicated in the event parameter.

Sample Audit Log Entry

Audit Event - Add Item

Audit Event ID	Add Item
Object ID	Item
Object Key	003670007
Param 1	Current Version Checked Out?,Protected?,Allow Secondary Version Lines?,Storage Category,Archive Category,Default Checkout Filename,Online Limit,Online Version Control,Online Disk Space,Current Version ID,Current Version Author,Last Accessed...
Param 2	No,Yes,Yes,Documents,Trash,7016.txt,5,1,1035,1,georgew,General Users,Yes,0,1
Param 3	Permanent Version?,Checked Out?,Check In By User,Checked In By Group,Last Access User,Last Access Group,Availability Status,Secondary Version Line Count,Merge-Source Version ID,Merge-Destination Version ID,File Size,Storage Repository,La...
Param 4	No,No,georgew,General Users,georgew,General Users,Online,0,0,0,1035,1,Yes,Index Pending,No
Search Request Start Key	
Search Request Direction	
Search Request Count	

Date Time	1999-07-04T09:55:57,607
User	georgew
Status	0
Workstation	martha
Elapsed Time	640
Set Number	44
Process ID	5911
Flags	16
Filename	7016.txt

Managing the Audit Log File

The rate of audit log growth depends on library system usage and the number of events being audited. To effectively manage auditing, you can separate events into distinct sets, and delete old sets after carefully reviewing their contents. You establish the conditions that determine when a new set begins. Each audit log entry is stamped with the current set number when it is added.

For example, you may decide to group all events in a single day into a set and to increment the set number at 6:00 pm each working day. You can then review the set for the day while events are logged to the next set. After you have analyzed the events in a given set, you can delete the set to conserve disk space.

Alternatively, you can retain a set indefinitely and delete old entries based on their date. For example, you can delete log entries at the end of the month.

Note FileNET recommends that you enable Audit Logging for only those events which require monitoring and that you delete old audit log entries when no longer needed. Otherwise, the audit log may become unwieldy.

IDMDS provides three stored procedures to delete audit log entries and to increment the set number:

- **stpTruncAuditLog**
- **stpTruncAuditByDate**
- **stpIncrementSet**

There is no IDMDS Explorer interface for these stored procedures. You must run them from a standard SQL tool such as Query Analyzer or SQL Plus.

To copy the audit log data to a file, use a SQL utility such as **bcp**. For more information, refer to “[Audit Log Reports](#)” on page 320.

stpTruncAuditLog

This stored procedure deletes all audit entries having a set number less than or equal to the specified set number. The number of rows deleted will be displayed.

Any entries having a set number greater than the *current* set number will also be deleted. This situation would occur if the set number rolled over. See **stpIncrementSet** for more information.

MSSQL	If no set number is specified, the current set number is incremented and all previous audit entries will be deleted.
Oracle	A set number must always be specified. Use a set number of zero (0) to indicate that all current entries should be deleted and the set number incremented. No row count or messages will be returned.

stpTruncAuditByDate

This stored procedure deletes all audit log entries prior to the specified date, and displays the number of rows deleted. To prevent simultaneously occurring transactions from being deleted, the specified date must be prior to the current date.

MSSQL	MS SQL Server allows a variety of date formats to be used for the date parameter. If you enter an incorrect date format, an error message is displayed.
Oracle	The actual parameter passed to Oracle is a string which is converted inside the stored procedure to a date in the format MM-DD-YY.

stpIncrementSet

This stored procedure increments the current set number without taking any other action. Use this stored procedure if you wish to differentiate between groups of transactions without deleting any entries. At a later date, you can use **stpTruncadtTopAll** to delete the transactions in set order. To delete only entries with a given set number while retaining entries with lower set numbers, use direct SQL commands.

Audit Log Reports

You can view the audit log with the IDMDS Explorer, or you can use your database utilities to create reports. For smaller library systems running MSSQL Server, you can use the **bcp** utility to export the audit information into a spreadsheet for simple analysis. For a high-volume library system, you can use SQL database audit report utilities to analyze the log data.

To use the bcp utility:

Change to the **Drive:\Mssql\Binn** directory and enter the following command:

```
bcp librarysystem audit_log out filename -U password -N
```

where:

librarysystem is the library system name
filename is the output filename for the report
password is the system administrator password for the database.

To create the SQL view of the audit log:

Internally each audit log record contains only a numerical ID indicating the event represented. IDMDS displays a text string referenced by this numerical ID. You can use the following database view to generate reports that display the more useful event description instead of a cryptic ID.

Define the database view using the following SQL statement. Enter all the text on one line: it is presented here on several lines for easier reading.

```
create view AuditLog as select
EVENT_ID = NLS_TEXT,
OBJECT_ID = AL_OBJECT_ID,
OBJECT_KEY = AL_OBJECT_KEY,
EVENT_PARAM1 = AL_EVENT_PARAM1,
EVENT_PARAM2 = AL_EVENT_PARAM2,
EVENT_PARAM3 = AL_EVENT_PARAM3,
EVENT_PARAM4 = AL_EVENT_PARAM4,
SR_START_KEY = AL_SR_START_KEY,
SR_DIRECTION = AL_SR_DIRECTION,
SR_COUNT = AL_SR_COUNT,
DATETIME = AL_DATETIME,
USR = AL_USER,
STATUS = AL_STATUS,
  WORKSTATN_ADDR = AL_WORKSTATN_ADDR,
ELAPSED_TIME = AL_ELAPSED_TIME,
SET_NUMBER = AL_SET_NUMBER,
PROCESSID = AL_PROCESSID,
FLAGS = AL_FLAGS,
FILENAME = AL_FILENAME from nls_data,
audit_log where NLS_MODULE_ID = 63999 and
NLS_STRING_ID = AL_EVENT_ID + 64 and
NLS_LANGUAGE_ID = (select L_LANGUAGE from library
```

You can customize the display order of the column names, but the referenced column names and the rest of the view definition syntax must be exactly as shown in the list above. Do not insert carriage returns in the view definition.

SLU Reporting

The SLU Reporting feature tracks site license usage for IDMDS libraries. A FileNET technician may request that you run SLU Reporting to gather usage statistics.

SLU Reporting requires that you enable Audit Logging for the library. You configure and run the report from an administrative client running IDMDS Explorer.

Note For tool-specific instructions, refer to the *IDMDS Explorer Online Help*.

To enable SLU Reporting

1. Use IDMDS Explorer to log into the desired library system as a member of the Administrators group.
2. Turn on Audit Logging for the library.
3. Turn on Audit Logging for these events:
 - Login, Log on Success
 - Logoff, Log on Success
4. Configure the SLU Reporting options, such as the interval for checking usage. Refer to the *IDMDS Explorer Online Help* for instructions.
5. Allow the system to collect report data for about 24 hours, then view the report or summary information.
 - To view the report, click the View Report button in the SLU Reporting dialog box.
 - To view the summary information, click the Summary button in the SLU Reporting dialog box.
6. After carefully reviewing the report, be sure to turn off Audit Logging for the library. If you leave Audit Logging turned on indefinitely, the log files can grow very large and affect system performance.

The report is saved in ***drive:\idmds\slureport.txt***.

Secure Document Delete

The Secure Document Delete feature, when enabled, will scrub a version file on the storage server during a delete operation, as well as during such common operations as automatic or ordinary archiving, reclaim daemon operations, and indexing. When documents are removed using Secure Document Delete, they are deleted permanently from those repository directories with no possibility of recovery via disk recovery tools.

Scrubbing means that the file's entire content is overwritten by a byte pattern before the file is actually deleted.

Secure Document Delete does not delete files from client machines. To ensure secure delete functionality on servers containing IDMS components, do not install client interfaces (such as IDM Desktop) on those servers.

Neither Replication Services nor Web Services scrub files during add, checkin, and checkout operations. For simple delete operations as may be desired during a "purge" process however, Secure Document Delete is applied on all servers that have this feature turned on.

Using Secure Document Delete

You can configure the Secure Document Delete feature by selecting one of the options described below.

Refer to ["IDMS Configuration Tool Storage Manager Tab"](#) on page 166 for configuration procedures.

Level	Description
No Secure Deletes	Ordinary delete. Files are not overwritten before being deleted.
One Scrub	Files are overwritten with zeroes once before being deleted. This level corresponds to the Clear definition of the DOD 5220.22-M specification.
Three Scrubs	Files are overwritten once with an arbitrary character, again by the character's complement, and finally by a random character before being deleted. This level corresponds to the Purge or Sanitize definition of the DOD 5220.22-M specification.

Which Files are Scrubbed

Secure deletes are carried out only in the places that move or delete files being managed by a Storage Manager, or subsets of information about these files. For example:

- When delete item is called, the target file is scrubbed.
- When versions are archived from the storage repositories, the source is scrubbed.
- When lost versions are moved into the lost+found directory, the source is scrubbed.

- When files are indexed any temporary copy files, and filtered files (temporary or otherwise) that have completed their lifetime are scrubbed.
- The reclaim daemon scrubs the rcmd, rfile, and dfile directories during a reclaim of a version file from offline storage.

Which Files are Not Scrubbed

Library files created on, copied to, or left behind on a client machine are not controlled by Secure Document Delete. Files will be insecurely deleted on the client, for example, during checkin. You must manage the secure deletion of these files using your own tools.

Turning on Secure Document Delete does not clean up directories containing files that have already been deleted.

When files are moved for archiving, the source file is scrubbed. Once files are archived, however, their secure deletion from archive repositories (dfile directories to which archived document versions are moved) is the responsibility of the system administrator. That is, you must use your own tools to securely delete those files as they permanently archive, reclaim, or dispose of them from archive repositories.

During de-index operations, the entry is marked for deletion from the index, but the indexed words are not removed until the next merge occurs.

Content Search Repositories going through indexing rebuilds or deletes are not scrubbed. Administrators must delete securely the old index using their own tools prior to rebuilds.

During a content search indexing merge (a regular internal operation), the indexing software does not scrub its own temporary files, including the old immediate file during the shrinking of this file. However, such files are encoded in binary form and the contents are not discernible.

Any file contained on a backup is insecure and is not controlled by Secure Document Delete. You must manage the long-term secure retention of these backups using your own tools.

The REPCHECK utility, after checking repository consistency with the library system database, securely moves orphaned files to the lost+found directory. You must use your own tools to securely delete those files as you permanently archive, re-add, or dispose of them. Because of possible loss of consistency between the files in the repositories and the records in the database, we strongly recommend that you run the REPCHECK utility periodically. Refer to [“REPCHECK” on page 410](#) for more information.

Running the csindex, csmerge, or csfilter executables directly does not scrub the temporary files unless they are run with the correct command-line parameters. Contact FileNET Technical Support for assistance in doing this.

Secure Document Delete Limitations

On UNIX platforms, files larger than 2 Gbytes will not be overwritten and must be scrubbed using special tools. On Windows NT platforms, files will be scrubbed securely up to the full Windows NT 64-bit limit.

Secure Document Delete does not scrub property data in the database; this remains the job of the database administrator and the database itself. Microsoft SQL Server and Oracle do not scrub database data during row or table deletion.

You cannot obtain Secure Document Delete functionality on compressed disks or files. Do not use defragmentation tools on the disk containing the stored document files. Such tools move the files on the disk without pre-scrubbing them, making secure deletes unsupportable.

Some database metadata (such as file names, Item IDs, Version IDs) are not scrubbed in subtle places. For example, when a search query is performed, even on the server, a temp file is used to store the results. When the query ends, the temp file is deleted (but not securely). Database metadata is generally insecure; even Microsoft SQL Server and Oracle databases cannot do secure metadata deletes.

The Windows NT pagefile and UNIX swap files may include memory images that need to be paged to disk, and the memory image may include the files you are copying or writing. The Secure Document Delete functionality cannot scrub these files.

Reformatting a hard disk may not overwrite data on the disk. If you reformat a disk containing storage repositories, you should use other tools to scrub the disk clean of file data.

The uninstall command (dsuninst.exe) does not scrub storage or index repository files.

Activities such as the actions of the executable files that perform during installs and upgrades, the use of tools, and utilizing configuration code, do not carry out secure deletes. For example when DLLs are copied to a temp directory, they are not scrubbed when they are removed.

IDMDS Secure Document Delete does not work on Hierarchical Storage Manager extended drives. HSM controls access to files on media and cannot guarantee scrubbing in the process of a move or purge.

Deleting Sessions

In a library system, an *active* session is the open session that a user is currently working in. A *suspended* session is a user session that is open but not considered active by the library system. Only one active session at a time is permitted at a client workstation, but any number of suspended sessions may exist at the same time at the same client workstation. For example, when a user changes sessions while working in IDMDS Explorer, the previous session is suspended rather than closed. Because a user can take this action many times without leaving IDMDS Explorer, several suspended sessions may be created from a single client workstation.

If a power outage should occur, a user's active session and all the suspended sessions could remain in the library system as outdated sessions until you, the administrator, remove them (or at least until the workstation is rebooted). Given enough time, these unused sessions will normally be deleted automatically by the library system, either when workstations are rebooted or whenever you stop and restart the library system. But unless you are stopping and restarting the library system services on a regular basis, you should ensure that the client workstations are set up correctly so that the majority of outdated sessions are automatically deleted during the course of the users' regular work flow.

Once you have properly set up users' workstations, they should operate more efficiently and require less intervention from an administrator. But no matter how carefully you may have set things up, there will still be times when you will need to manually delete user sessions from the library system. For example, if you want to perform an operation that requires the library system to be in single-user mode (to rename a group, for instance) and there are sessions open even after all known users have left the library system, you would have to shut down the library system with these unused sessions still open.

To find out what sessions are open in a particular library system and to see whether these sessions are active or suspended, you can check the status of the Sessions object.

Note For tool-specific instructions on how to view the status of a session, refer to the *IDMDS Explorer Online Help*.

Deleting Outdated Active Sessions

You cannot delete an active session from within IDMDS Explorer, even if the session is outdated or was created at a workstation that is no longer running. Instead, you must stop and restart the IDMDS library system services.

Before you delete a session that has a value of Active in the Status property, it is a good idea to contact the user who opened the session. The User Name, Active Group, and the Client Workstation properties of the Session object will help you identify the user in question.

To delete an outdated active session:

Do one of the following:

- Go to the workstation identified in the outdated session's Client Workstation property. If the application that was used to open the outdated session is still running, shut it down; if that application is not still running, reboot the workstation.
- Go to the property server for the library system on which you want to delete an active session. Stop and restart that library system services.

Deleting Suspended Sessions

There may be times when you will have to delete a suspended session manually from the library system (for example, when you can't get to the workstation on which the session was created). It is also possible that applications that access library system services may be set up in ways that do not clean up old suspended sessions. Using IDMDS Explorer, you can manually delete suspended sessions from a library system. However, to avoid disrupting legitimate, active users, we suggest you take one or more of the following actions before you delete sessions manually:

- Check the Number of Suspended Sessions property in the System object to determine how many suspended sessions exist.
- Determine whether each session is active or suspended.
- Determine how old the session is, using the Start Date property in the Session object.
- Determine when the session was suspended using the Suspension Date property in the Session object.
- When in doubt, contact the user who works at the client workstation indicated by the Client Workstation Address property value in the Session object.

To delete a suspended session manually:

Note For tool-specific instructions on how to delete a suspended session, refer to the *IDMDS Explorer Online Help*.

1. Navigate to the Session properties for this library system.
2. Delete the suspended session.

Resetting the Session ID

The library system maintains a unique session ID for each library system session. The session ID is incremented each time a user opens a new session. Over time, it is possible to exceed the limit of approximately 2 billion (2^{31}) session IDs.

To avoid an overflow condition, we recommend that you periodically check the value of the Session Number property in a Session object (the value of this property is the session ID). When the value of the Session Number property approaches 2 billion, you should reset the session ID to 0.

To reset the session ID:

1. Stop the library system and database services.

2. Restart the database services.
3. Using your SQL query tool (**SQL Server Query Analyzer** for SQL Server or **sqlplus** for Oracle), reset the session ID to 0.

- For SQL Server enter:

```
use system_name  
go  
delete from session  
go  
update numid set se_id_num=0  
go
```

- For Oracle enter:

```
delete from system_name.session;  
update system_name.numid set se_id_num=0
```

4. Restart the library system services.

As a library system administrator, you are responsible for backing up the library systems using your own backup and restore tools. From the backups, you can restore a library system in the event that:

- Hardware failure occurs on one or more library system server.
- The property repository becomes corrupted.
- Files in any of the storage repositories become lost or inaccessible.
- A user loses a version file.
- The content search repositories are corrupted or lost.

To accomplish a safe level of backup, you will need to create and regularly schedule automated backup routines that back up the following information:

- The database components that contain library system property information.
- Version files and the names and locations of version files stored in the storage repositories.
- All storage repository directories.
- Content search repository files and index data.
- All reclaimable archive repository directories.

Note To maintain correct synchronization of replicas and their source objects under all circumstances (including failure of a library system's property server), be sure to schedule backup operations so that all library systems participating in replication are backed up at the same time. This ensures that you will be able to synchronize restore operations on all these library systems, and thereby maintain cross-system data integrity. Refer to [“Replication Services” on page 464](#) for more information.

Backing Up the Library System

Backing Up Property Repositories

Use the tools supplied with your database engine (or whatever third-party tools you have available) to perform regular backups of your library system's property repository database. Many library system administrators do daily incremental backups and weekly full backups.

Refer to [“Backing Up the Property Repository Database” on page 331](#) for database-specific procedures.

- Microsoft SQL Server installations must include both the database and its transaction logs whenever doing a full backup. An incremental backup is simply a backup of the transaction log.

- Oracle installations wishing to perform incremental, or partial, backups must operate in ARCHIVELOG mode. Because an archived redo log is present, the data files restored from a partial backup can be made consistent with the rest of the database during recovery procedures.

Backing Up Storage Repositories

Use your own tape backup software to back up the storage repository files located in the following directories.

Platform	Location
Windows NT	<i>Drive:\ldm\LibrarySystem\Stacks\Shelfxxx</i>
UNIX	<i>\$IDMDS_HOME/librarysystem/stacks/shelfxxx</i>

Backing Up Archive, Reclaim, and Reclaim Command Repositories

Use your own tape backup software to back up the archive repository files located in the following directories.

Platform	Location
Windows NT	<i>Drive:\ldm\LibrarySystem\Stacks\dfilexxx</i>
	<i>Drive:\ldm\LibrarySystem\Stacks\rfilexxx</i>
	<i>Drive:\ldm\LibrarySystem\Stacks\rcmdxxx</i>
UNIX	<i>\$IDMDS_HOME/librarysystem/stacks/dfilexxx</i>
	<i>\$IDMDS_HOME/librarysystem/stacks/rfilexxx</i>
	<i>\$IDMDS_HOME/librarysystem/stacks/rcmdxxx</i>

Backing Up Content Search Repositories

Use your own tape backup software to back up the files located in the following directories. (These directories exist only if you have installed a Content Search Manager.)

Platform	Location
Windows NT	<i>Drive:\ldm\LibrarySystem\Content\Index</i>
UNIX	<i>\$IDMDS_HOME/librarysystem/content/index</i>

Make sure the **csmerge** utility is not scheduled to run at the same time as your backup. The Hour of Day to Merge property in the Content Search Repository object controls when csmerge is run.

Planning the Backup

For each library system, identify and make note of all of its components and where they reside. There are 5 main questions you need to answer before you create backup scripts:

1. For each library system, how many Storage Managers, Archive Managers, and Content Search Managers are there?
2. Where are these components? What are the names of the servers on which they reside?
3. Which component is located on which server?
4. What are the specific file locations and directory structures of those components. (Use IDMS Explorer to find the various directories.)
5. What is your backup strategy (daily, full, incremental, differential). Remember that your backup strategy should be based on your restore process.

Using this information, you can now write your backup script files, which you should schedule to be run regularly.

Housekeeping

You may want to perform the following database housekeeping functions at the same time as your scheduled database backup:

- Use the CAT_STAT utility to update usage statistics in the Property Manager. Refer to “CAT_STAT” on page 366 for more information.
- Use the REPCHECK utility to report and fix inconsistencies between information in the property repository and the storage and content search repositories. Refer to “REPCHECK” on page 410 for more information.
- Use your own database tools to run a consistency check against the property repository. (MS-SQL users can use the *dbcc* facility.)
- Create a log of the files being backed up and store the log in the library system as an indexed file (to enable a content search for it). Then, when you need to restore a file:
 - a. Determine the encrypted file name using IDMS Explorer. Each Version object has an Encrypted File Name property that indicates the name under which the file is stored on the storage repository.
 - b. Search the library system for the file name. The search should return the log file that identifies the backup saveset where the file is located.

Backing Up the Property Repository Database

If your database engine is Microsoft SQL Server, you can use Enterprise Manager to back up your property repository. Refer to *SQL Server Books Online* for more information.

SQL Server 7.0

To back up a SQL Server 7.0 database:

1. Start Enterprise Manager (available from Start > Programs > Microsoft SQL Server 7.0> Enterprise Manager).

2. Check your database:
 - a. Select SQL Server Query Analyzer from the Tools menu.
 - b. Select your library system database from the drop-down list.
 - c. Execute the following commands individually:
 - DBCC checkdb
 - Checkpoint
 - d. If any errors are reported, refer to *SQL Server Books Online* for troubleshooting information and correct the problem before proceeding with the backup.
 - e. Close the SQL Query tool.
 3. Verify the Truncate log on checkpoint setting:
 - a. In Enterprise Manager's left pane, expand the tree and open the Databases folder for your property server.
 - b. Right click the icon for your library system database and select Properties from the popup menu.
 - c. On the Options tab, verify that the Truncate log on checkpoint option is not checked.
 - d. Close the Properties dialog box.
 4. From the Tools menu, choose Backup Database.
 5. Select your library system database from the drop-down list.
 6. In the Backup section of the dialog box, select the option to backup the complete database.
 7. In the Destination section of the dialog box, select the backup device for your library system database.
- Note** If no backup device has been created for your library system database, create one. Refer to [“Creating a Property Repository Database” on page 107](#).
8. Click OK to begin the backup.

SQL Server 6.5

To back up a SQL Server 6.5 database:

1. To start SQL Enterprise Manager, select Start > Programs > Microsoft SQL Server 6.5 > SQL Enterprise Manager.
2. In the Server Manager window expand the tree for your property server, then select the database for your library system.
3. To check your database before performing a backup, select SQL Query from the Tools menu and execute the following commands individually:
 - DBCC checkdb

- Checkpoint

If any errors are reported, refer to the Microsoft SQL Server documentation.

4. Close the SQL Query tool.
5. With the database for your library system selected, select Databases from the Manage menu.
6. In the Manage Databases dialog box, select the Edit Database icon.
7. In the Edit Database dialog box, select the Options tab and verify that the Truncate Log Checkpoint box is *not* checked. Exit the Edit Database and Manage Databases dialog boxes.
8. From the **Tools** menu, choose **Database Backup/Restore**.
9. If a backup device has not already been created, click **New** in the **Backup/Restore** dialog box, then complete the **New Backup Device** dialog box as follows and click **Create**:
 - **Name:** Enter a name for the new backup device (for example, IDMDS_DUMP).
 - **Location:** Enter the desired location (or accept the default).
 - **Type:** Select the device type (disk or tape).
10. To start the backup, on the **Backup** tab of the Database Backup/Restore dialog box, select the backup device for this database, then click Backup Now. If you are using a new backup device, you should also select the **Initialize Device** check box.
11. Exit the Database Backup/Restore dialog box.

Restoring the Property Repository Database

Restoring the database that acts as a library system's property repository enables you to reinstall one or more of the following components on the property server to a known previous state:

- Restore the library system's property repository and Storage Manager.
- Reinstall the Content Search Manager executables.
- Restore or rebuild the content search repositories for the Content Search Manager.

Restoring the Library System's Property Repository

Note Refer to “[Installation and Restoration Templates](#)” on [page 110](#) for a set of forms you can print and fill out prior to restoring a library system. Some of the installation options may require resources or configurations that are difficult or impossible to supply if attempted during the restore operation. The form will give you the necessary time to organize this information and make a record of the settings used.

If you want to restore a library system to a new server with a different host name, refer to “[Restoring a Library System to a Different Server](#)” on [page 336](#).

To restore the library system's property repository:

1. If the library system you want to restore is still operable:
 - a. Put the library system in single-user mode. A library system is in single-user mode when the following conditions are met:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.
 - b. Shut down all library system services.
 - c. Log out of the library system.
2. If necessary, reinstall the database engine. Refer to “[Installing the Database Engine](#)” on [page 105](#).

If you reinstall Microsoft SQL Server, be sure to set the following just as they were in your original library system:

- character set
- sort order
- database name

- database and transaction log sizes (must be at least as big as your original library system)
3. Use Microsoft SQL Server Enterprise Manager to restore your property repository database from backup.
 - a. In the left pane of the Enterprise Manager window, select your server.
 - b. From the Tools menu, select Database Restore.
 - c. Complete the Database Restore dialog box and click OK.

Note If you are restoring the backup to a new installation of Microsoft SQL Server, the Enterprise Manager will have no record of previous backups, and you will have to restore the database from a backup file. Refer to *Microsoft SQL Server Books Online* for procedures.

4. Reinstall the library system.

Refer to “Installing a Library System on a Windows NT Server” on page 118 or “Installing a Library System on a Windows 2000 Server” on page 119 for the procedure.

Refer to “IDMDS Installation Settings” on page 113 for information about the input you will need to provide.

Note Do not reinstall the property server's Content Search Manager as part of this option unless it too has been lost or corrupted.

5. If you have lost all library system components and files on the property server (or if you are restoring a library to a different server), restore the storage, archive, and content search repositories from backup. (Make sure to recreate the exact directory structures required. For example, for the second storage repository, you would have to create: **Drive:\Idmds\LibrarySystem\stacks\shelf002**.)

Note You can recreate the directories manually, or you can start Storage Manager and let it create them automatically.

6. Start the library system services. Refer to “Controlling Library System Services” on page 209 for information about stopping, starting, and checking the status of services.
7. If you have restored repositories to a new location (new server or different drive on the same server), use IDMDS Explorer to remap the repositories. Locate the newly-restored Storage, Archive, and Content Search Repositories and remap them to the correct location. Refer to *IDMDS Explorer Online Help* for procedures.
8. If you are restoring the library system on a new server, use IDMDS Explorer to delete the old server name from the Storage Manager and Content Search Manager objects. Refer to *IDMDS Explorer Online Help* for procedures.
9. Stop and restart the library system services. Refer to “Controlling Library System Services” on page 209 for information about stopping, starting, and checking the status of services.
10. For every storage and content search repository that you have restored, run the REPCHECK utility to report on any inconsistencies that might exist between the database and the repositories. Refer to “REPCHECK” on page 410 for procedures.

11. Check to see whether REPCHECK moved any files to the **lost+found** directory (located one directory up from storage repository directory). You must take the appropriate action to address each file that appears in the **lost+found** directory. For example, as administrator you may need to add the file to the appropriate storage repository or you may need to delete the file.
12. When you are ready to allow users to begin using the library system again, use IDMDS Explorer to set Logons Enabled? to Yes.

Restoring a Library System to a Different Server

If you want to restore a library system to a new server with a different host name, there are some additional steps you must perform.

Caution For library systems that participate in replication, FileNET strongly recommends that you NOT restore IDMDS components to a different server (i.e., a server with a different host name). If you attempt to restore a library system to a server with a name other than that of the server on which the library system was originally installed, Replication Services will not install and the following error message will be displayed:

```
Setting up replication daemon on Drive
A replication daemon is already installed for
library LibrarySystem on server ServerName.
No replication change at this time
```

To restore a library system onto a new server with a different host name:

1. Restore the property repository on the new property server as explained in [“Restoring the Library System's Property Repository” on page 334](#) or [“Migrating a Property Server to Windows 2000” on page 157](#), depending on the task you are performing, but do not yet start the services or run REPCHECK.
2. Restore any associated remote Storage Managers and Content Search Managers, making sure to reference the new property server. Refer to [“Restoring Storage Managers” on page 338](#) and [“Restoring Content Search Managers” on page 341](#).
3. Restore all storage, content search, and archive repositories from backup. Refer to [“Restoring Repositories” on page 344](#).
4. On all client machines, use the IDM Desktop Configure utility (available via the Windows Start menu) to delete and re-add the library system server name.
5. Modify the Server and Device properties in the storage, archive, and content search repository objects to reflect the new server name and device.
6. Use IDMDMS Explorer to delete Storage and Content Search Managers that are associated with the old server name. You cannot do this step without completing step 3 for all associated repositories.
7. Start the library system services.

8. For every storage repository and content search repository that you have restored, run the REPCHECK utility to report on any inconsistencies between the database and the storage repositories or content search repositories. Refer to [“REPCHECK” on page 410](#).
9. Check to see whether REPCHECK moved any files to the **lost+found** directory (located one directory up from storage repository directory). The library system administrator must take the appropriate action to address each file that appears in **lost+found**. For example, you may need to add the file to the appropriate storage repository (making the necessary modifications to the Property Manager) or you may need to delete the file.
10. Rerun this entire procedure to restore each additional library system.
11. Use IDMS Explorer to:
 - a. Delete the Other System objects for the library systems that are associated with the old server name.
 - b. Re-add the Other System objects for those same library systems using the new server name.

If you are moving any additional Storage Managers (and Content Search Managers) for the relocated library system to new servers, refer to [“Restoring a Storage Manager to a Different Server” on page 339](#) and [“Restoring a Content Search Manager to a Different Server” on page 342](#).

Restoring Storage Managers

To fully recover from the loss of a Storage Manager caused by hardware or software failure, you will likely have to reinstall the Storage Manager software, then locate and manually replace the repository files that were lost from the associated storage repositories. You may also have to restore or reinstall any content search components that were on the storage server, if they were also lost or damaged.

Caution Because losing the storage repositories on a library system server may potentially affect your most recently created and modified documents, we urge you to perform frequent system backups and to keep complete backup records on other media. Such precautionary actions can save you and your users hours of recovery time, and help you avoid the loss of your most valuable current data. For details on other steps you can take to prepare for a storage repository failure, refer to [“Preparing for a Possible Repository Failure” on page 250](#).

Restoring a Storage Manager

The procedure for restoring a Storage Manager assumes the library system server, including the associated storage repository files and the Storage Manager program files, has been lost. Several different operations are required to make the Storage Manager operational again.

To restore a Storage Manager:

1. Put the system in single-user mode. A system is in single-user mode when the following conditions are met:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.
2. Log out of the library system.
3. If you've also lost the Property Manager, restore it first. Refer to [“Restoring the Property Repository Database” on page 334](#) for details and procedures.
4. If the storage server device is corrupted, replace the device.

Note If you know you have lost one or more storage repositories but do not know on which server they are located, use IDMDS Explorer to display the Storage Repositories property values for the System object, and check the Server property assignment for each storage repository.

5. Run **Drive:\Setup\Setup.exe** on the *IDM Document Services* CD-ROM.

Refer to [“Installing Additional IDMDS Components on a Windows NT Server” on page 130](#) or [“Installing Additional IDMDS Components on a Windows 2000 Server” on page 131](#) for the installation procedure.

Refer to “[Installation Settings for Additional Components](#)” on page 126 for information about the input you will need to provide.

- Restart the Storage Manager. This will recreate the associated repositories.
- Restore the associated repository files (if any). Refer to “[Restoring Repositories](#)” on page 344 for details and procedures.
- For every storage repository or content search repository that you have restored, run the REPCHECK utility to report on any inconsistencies between the database and the storage repositories or content search repositories. Refer to “[REPCHECK](#)” on page 410 for information.
- Check to see whether REPCHECK moved any files to the **lost+found** directory (located one directory up from storage repository directory). The library system administrator must take the appropriate action to address each file that appears in the lost+found directory. For example, the administrator may need to add the file to the appropriate storage repository (making the necessary modifications to the Property Manager) or may need to delete the file.
- Set the Logons Enabled? property value in the System object to Yes, and notify users that library system sessions can be opened again.
- If you have Storage Managers for other library systems on the same server, repeat this entire procedure as required.

Restoring a Storage Manager to a Different Server

If you want to restore a Storage Manager to a new server with a different host name, there are some additional steps you must perform.

Caution For library systems that participate in replication, FileNET strongly recommends that you NOT restore IDMDS components to a different server (i.e., a server with a different host name). If you attempt to restore a library system to a server with a name other than that of the server on which the library system was originally installed, Replication Services will not install and the following error message will be displayed:

```
Setting up replication daemon on Drive
A replication daemon is already installed for
library LibrarySystem on server ServerName.
No replication change at this time
```

To restore a Storage Manager onto a new server with a different host name:

- Restore the Storage Manager on the new server as explained “[Restoring a Storage Manager](#)” on page 338 or “[Migrating a Remote Storage Server to Windows 2000](#)” on page 160, depending on the task you are performing, but do not yet run REPCHECK.
- Modify the Server and Device properties in the storage, archive, and content search repository objects to reflect the new server name and device.
- Use IDMDS Explorer to delete Storage and Content Search Managers that are associated with the old server name. You cannot do this step without completing step 2 for all associated repositories.

4. Start the library system services.
5. For every storage repository and content search repository that you have restored, run the REPCHECK utility to report on any inconsistencies between the database and the storage repositories or content search repositories. Refer to [“REPCHECK” on page 410](#) for information.
6. Check to see whether REPCHECK moved any files to the **lost+found** directory (located one directory up from storage repository directory). The library system administrator must take the appropriate action to address each file that appears in the **lost+found** directory. For example, you may need to add the file to the appropriate storage repository (making the necessary modifications to the Property Manager) or you may need to delete the file.
7. Perform this entire procedure to restore each additional Storage Manager.

Restoring Content Search Managers

If you lose a Property Manager or Storage Manager due to hardware or software failure, you may have to replace the Content Search Manager (if installed) along with other library system software on that server. This operation is done as part of the reinstallation of either a property server or remote storage server.

During the restore procedure, you can reinstall the Content Search Manager program files.

Use the [“Installation and Restoration Templates”](#) on page 110 to record the settings you intend to use when reinstalling the IDMS components.

Restoring a Content Search Manager

To restore a Content Search Manager, you must restore the Content Search Manager program files and/or the files for the associated content search repositories.

Note If you are restoring a Content Search Manager and its associated Property Manager, refer to [“Restoring the Library System's Property Repository”](#) on page 334 for details. If you are restoring a Content Search Manager and a Storage Manager, refer to [“Restoring Storage Managers”](#) on page 338.

To restore a Content Search Manager:

1. Put the library system in single-user mode. A library system is in single-user mode when the following conditions are met:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.
2. Log out of the library system.
3. (Recommended) Run an appropriate operating system command to verify access and data integrity of the locations where you intend to restore/reinstall library system software.
4. Run ***Drive:\Setup\Setup.exe*** on the *IDM Document Services* CD-ROM.

Refer to [“Installing Additional IDMS Components on a Windows NT Server”](#) on page 130 or [“Installing Additional IDMS Components on a Windows 2000 Server”](#) on page 131 for the installation procedure.

Refer to [“Installation Settings for Additional Components”](#) on page 126 for information about the input you will need to provide.

Note If you move the Content Search Manager to another drive and you want to keep any existing custom thesaurus, variants, or stopword files, you must move (or copy from backup) the

Old_Drive:Idmds\LibrarySystem\Content\Data directory and its contents to **New_Drive:Idmds\LibrarySystem\Content\Data**.

5. Restart the library system services.
6. For every storage repository and content search repository that you have restored, run the REPCHECK utility to report on any inconsistencies between the database and the storage repositories or content search repositories. Refer to [“REPCHECK” on page 410](#) for information.
7. Check to see whether REPCHECK moved any files to the **lost+found** directory (located one directory up from storage repository directory). The library system administrator must take the appropriate action to address each file that appears in the **lost+found** directory. For example, you may need to add the file to the appropriate storage repository (making the necessary modifications to the Property Manager) or you may need to delete the file.
8. Rerun this entire procedure to restore each additional Content Search Manager.

Restoring a Content Search Manager to a Different Server

If you want to restore a Content Search Manager to a new server with a different host name, there are some additional steps you must perform.

Caution For library systems that participate in replication, FileNET strongly recommends that you NOT restore IDMDS components to a different server (i.e., a server with a different host name). If you attempt to restore a library system to a server with a name other than that of the server on which the library system was originally installed, Replication Services will not install and the following error message will be displayed:

```
Setting up replication daemon on Drive
A replication daemon is already installed for
library LibrarySystem on server ServerName.
No replication change at this time
```

To restore a Content Search Manager onto a new server with a different host name:

1. Perform the procedure described in [“Restoring a Content Search Manager” on page 341](#) or [“Migrating a Remote Storage Server to Windows 2000” on page 160](#), depending on the task you are performing.
2. After restoring all content search repositories from backup, modify the Server and Device properties in the Content Search Repository object to reflect the new server name and device.
3. Use IDMDS Explorer to delete the Content Search Managers that are associated with the old server name. You cannot do this step without completing step 2 for all associated repositories.
4. Start the library system services.
5. For every repository that you have restored, run the REPCHECK utility to report on any inconsistencies between the database and the storage repositories or content search repositories. Refer to [“REPCHECK” on page 410](#) for information.

6. Check to see whether REPCHECK moved any files to the **lost+found** directory (located one directory up from storage repository directory). The library system administrator must take the appropriate action to address each file that appears in the **lost+found** directory. For example, you may need to add the file to the appropriate storage repository (making the necessary modifications to the Property Manager) or you may need to delete the file.
7. Rerun this entire procedure to restore each additional Content Search Manager.

Restoring Repositories

To recover from the loss of a storage, archive, or content search repository caused by hardware or software failure, you will have to locate and manually replace the repository files that were lost.

Depending on the nature of the failure, you may need to replace hardware components, reinstall the database engine and restore the property repository database, and reinstall IDMS software before restoring repositories. Refer to the following topics as appropriate:

- [“Restoring the Property Repository Database” on page 334](#)
- [“Restoring Storage Managers” on page 338](#)
- [“Restoring Content Search Managers” on page 341](#)

For procedures on restoring the repositories, refer to:

- [“Restoring a Storage Repository” on page 344](#)
- [“Restoring an Archive Repository” on page 346](#)
- [“Restoring a Content Search Repository” on page 347](#)

Restoring a Storage Repository

If the Property Manager is not affected by the storage repository failure, you can rely on the Property Manager's records to help you replace the storage repository files for each restored storage repository, and to reconcile the differences between those restored files and the current data in the Property Manager.

Caution Because a lost storage repository may potentially affect your most recently created and modified items, we urge you to perform frequent system backups and to keep complete backup records on other media. Such precautionary actions can save you and your users hours of recovery time and help you avoid the loss of your most valuable current data. For details on other steps you can take to prepare for a storage repository failure, refer to [“Preparing for a Possible Repository Failure” on page 250](#).

To restore a storage repository:

1. Put the system in single-user mode. A system is in single-user mode when the following conditions are met:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.

2. If the storage server device is corrupted, replace it.

Note If you know you have lost one or more storage repositories but do not know on which server they are located, use IDMDS Explorer to display the Storage Repositories property values for the System object, and check the Server property assignment for each storage repository.

3. If you replaced the storage server device, or if the Storage Manager program files have been corrupted, restore the Storage Manager.

Refer to “[Restoring Storage Managers](#)” on page 338 for instructions and details and supply the requested information as prompted.

If you answer Yes to the prompt to restore a Content Search Manager on this storage server, you will be prompted for further information. Refer to “[Restoring Content Search Managers](#)” on page 341 for descriptions of these settings.

4. Restart the library system services.

This will recreate the associated storage repositories and archive repositories.

5. Copy the appropriate repository files to the restored storage repository. Using your own network tools, you can perform this step in one of the following ways.

- a. If you were able to determine exactly which versions must be replaced, copy only these versions to the restored storage repository.
- b. If you have no specific list of versions that must be replaced, copy all the most recently backed up versions associated with the restored storage repository.

If the storage repository fills up during this copy operation, do the following:

- i. Run the REPCHECK utility for the storage repository. Refer to “[REPCHECK](#)” on page 410 for instructions.
- ii. Based on the report from REPCHECK, remove the versions that should not be in the storage repository.
- iii. Copy as many more of the remaining versions to the storage repository as you can.
- iv. Repeat these actions until all the backed up versions have been copied into the storage repository.

6. Run the REPCHECK utility on the storage repository you are restoring. Respond to any discrepancies found in the REPCHECK utility report log. Refer to “[REPCHECK](#)” on page 410 for instructions.
7. We recommend that you reassign the (Read-Only) privileges for all restored storage repository files using the appropriate command for your operating system. The library system automatically marks the storage repository files as Read-Only when the files are created to prevent client applications from inadvertently changing or deleting these files.
8. Set the Logons Enabled? property value in the System object to Yes, and notify users that library system sessions can be opened again.

Restoring an Archive Repository

If you lose an archive repository, you will also lose the repository files that were awaiting final archiving after leaving the library system's control. This data loss may not be a problem if the archive repository is for nonreclaimable versions. However, if the lost versions were to be archived and possibly reclaimed by users, you must determine which archived versions were lost and how you can recover them.

Caution Because a lost archive repository may affect files that would potentially need to be reclaimed at a later date, we urge you to keep track of where archived versions are located in your backup storage medium, and archive as quickly as possible those versions that have been moved to reclaimable archive repositories.

The library system tracks the archived versions as far as the archive repository and records the archiving date (and time) in the library system. With this information, it may be possible for you to recover most of the lost files from your backup media, assuming that the archived versions (or similar earlier versions) were stored on that media. However, you will need a method of determining exactly which repository files must be replaced.

The following procedure enables you to restore an archive repository and recover the repository files that were lost before they could be archived.

To restore an archive repository:

1. Put the library system in single-user mode. A library system is in single-user mode when the following conditions are met:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.

2. If the server device for the archive repository is corrupted, replace it.

Note If you know you have lost one or more archive repositories but do not know on which server they are located, use IDMS Explorer to display the Archive Repositories property values for the System object, and check the Server property assignment for each archive repository.

3. If you replaced the storage server device, or if the Storage Manager program files have been corrupted, restore the Storage Manager.

Refer to [“Restoring Storage Managers” on page 338](#) for instructions and details and supply the requested information as prompted.

If you answer Yes to the prompt to restore a Content Search Manager on this storage server, you will be prompted for further information. Refer to [“Restoring Content Search Managers” on page 341](#) for descriptions of these settings.

4. Restart the library system services.

This will recreate the associated storage repositories and archive repositories.

5. Determine which repository files were lost with the archive repository. Do the following:

- a. Determine which documents may have had versions archived since you last copied versions from the archive repositories to the storage media.

Each Item object instance contains an Archive Category property that may help you make this preliminary determination, since archive categories are assigned to a particular archive repository.

- b. For each document that may have had a version archived, check the Versions property of the Item object for the Archive Date value.
 - c. Determine which archived versions of each document were possibly on the archive repository when it was lost. The value of the Archive Repository ID property will identify the archive repository, and the value of the Archive Date property will provide the exact date and time when the version was placed in that archive repository.
6. Copy the archived versions that were lost with the archive repository to the archive or storage media as follows:
 - a. (Optional) Retrieve the versions that were copied to backup media before they were lost with the archive repository. Do this only if you want to store final archive copies of the versions in a different location from the backup copies. You can copy these files to the archive repository first or directly to your storage media.
 - b. Have users recreate the files for the archived versions that were not recoverable from other media. For example, users may have to recreate the archived versions that had never been backed up. Generally, users will need to modify other existing versions to recreate such files.
 7. Set the Logons Enabled? property value in the System object to Yes, and notify users that library system sessions can be opened again.

Restoring a Content Search Repository

To restore a content search repository:

1. Put the system in single-user mode. A system is in single-user mode when the following conditions are met:
 - The Administrators group is your active group.
 - The Logons Enabled? property in the System object is set to No.
 - No other session but yours is open.
2. If you replaced the storage server device, or if the Content Search Manager program files have been corrupted, reinstall the Storage Manager and the Content Search Manager at the same time. Refer to [“Restoring Storage Managers” on page 338](#) and [“Restoring Content Search Managers” on page 341](#).
3. Restart the library system services. This will recreate repository directories that reside on the same drive as their associated manager. For any repositories that reside on a different drive, you will have to manually recreate the directory structure. Refer to [“Backing Up the Library System” on page 329](#) for information about the required directories.

4. Using your own network tools, copy the appropriate repository files to the restored repository.
5. Run the REPCHECK utility. Respond to any discrepancies found in the REPCHECK utility report log. Refer to “REPCHECK” on page 410 for instructions.
6. Stop and restart the library system services.
7. When your library system is completely restored, set the Logons Enabled? property value in the System object to Yes and notify users that library system sessions can be opened again.

Renaming a Property Server

Caution For library systems that participate in replication, FileNET strongly recommends that you NOT rename servers. If you attempt to rename a library system server, Replication Services will not install and the following error message will be displayed:

```
Setting up replication daemon on Drive
A replication daemon is already installed for
library LibrarySystem on server ServerName.
No replication change at this time
```

If it becomes necessary or desirable to change the host name of your IDMDS property server, perform the following operations in the order shown:

1. Change the host name of the property server, using the appropriate operating system tools and methods. Refer to your operating system documentation for details.
2. Make the necessary database-specific changes. Refer to [“Database-specific Operations when Renaming a Property Server” on page 349](#).
3. Restore the library systems on the newly named property server. Refer to [“Restoring a Library System on a Renamed Property Server” on page 350](#).

Database-specific Operations when Renaming a Property Server

Prior to restoring a library system onto the same property server with a new host name, there are some database-specific operations you must perform:

1. Using Microsoft SQL Enterprise Manager, remove the property server's old server name from the SQL Server Group.
2. Using Microsoft SQL Enterprise Manager, register the new name of the property server.
3. Run the following SQL commands against the master database:

```
sp_dropserver old_servername
sp_addserver new_servername , LOCAL
```

4. Re-install Microsoft SQL Server 7.0 and choose Yes to the upgrade option.

Restoring a Library System on a Renamed Property Server

After performing the database-specific operations to change the name of a library system's property server, do the following:

1. Restore the library system from backup. Refer to [“Restoring the Library System's Property Repository” on page 334](#).
2. On all remote storage servers and client machines, update the ODBC DSN to point to the new property server:
 - a. Open the Windows Control Panel and start the ODBC Data Source tool.
 - b. Go to the System DSN tab.
 - c. Select the DSN for your library system and click Configure.
 - d. Edit the server name to point to your new property server.
 - e. Click Finish.
3. Use IDMDS Explorer to modify the Server and Device properties in the storage, archive, and content search repository objects to reflect the new server name and device.
4. Use IDMDS Explorer to delete Storage and Content Search Managers that are associated with the old server name. You cannot do this step without completing the previous step for all associated repositories.
5. Start the library system services.
6. For every storage repository and content search repository that you have restored, run the REPCHECK utility to report on any inconsistencies between the database and the storage repositories or content search repositories. Refer to [“REPCHECK” on page 410](#) for information.
7. Check to see whether REPCHECK moved any files to the **lost+found** directory (located one directory up from storage repository directory). The library system administrator must take the appropriate action to address each file that appears in **lost+found**. For example, you may need to add the file to the appropriate storage repository (making the necessary modifications to the Property Manager) or you may need to delete the file.
8. Repeat this procedure for each library system whose database resides on the renamed server.

Document Classes and CVLs



Each document in a library system can be of a specific type or *Document Class*. For example, contracts or engineering specifications might each be a different Document Class in your library system. You can assign each Document Class its own set of standard and custom properties. A Document Class of Contracts might have a custom property for the lawyer's name, while a Document Class of Engineering might have a custom property for the project name. Other standard library properties, such as Title and Added by User, might be properties of several or all of your Document Classes. Once a Document Class is assigned to a document by a user, it can be changed by an administrator using the IDMD System Administration tools or by users running IDM Desktop.

Controlled Vocabulary Lists (CVLs) allow you to set up a list of valid entries for a custom property. You can also make CVL lists unique for particular Document Classes. For example, suppose you have two Document Classes: Programming Projects and Building Maintenance. You might want to set up both Document Classes to contain a custom property called Engineering Specifications. However, because two different sets of users will utilize the two Document Classes, you can make two different CVLs for the Engineering Specifications custom property, one for the Programming Projects Document Class and one for the Building Maintenance Document Class. This arrangement gives you a way to provide different sets of value selections appropriate for the two different kinds of users.

The System Administration tool for working with Document Classes and CVLs is available via the IDMD Explorer Tools menu. Refer to the *DocClass and CVL Online Help* for usage details.

System Messages

To ensure the functional efficiency of a library system and its associated user interfaces, such as IDMDS Explorer, you must pay special attention to system-generated messages. The Messages property in the Administrators Group object is used to log error messages that are of particular interest to administrators. These logged messages provide a record of configuration discrepancies, disk-space and network-communications problems, and related system information.

To monitor what is happening in your library system, you should check these messages regularly. While some of the messages are primarily informational in nature, others will require your immediate attention to ensure that the system continues to function properly. Each Message contains properties such as From, Date, and Type, enabling you to easily determine which messages need immediate attention.

One type of message notifies you that an operation has completed. For example, when you retrieve an archived version file and place it back online for a user who has initiated a reclaim request for it, the system issues a message indicating that the operation has completed.

Another common type of message notifies you that an operation could not be completed. For example, suppose a user attempts to check in a version and the storage repository for that document's storage category is full. Not only does the library system notify the user at the time the problem occurs, it also sends a message to the Administrators group. You would probably respond immediately to this type of message by reconfiguring network resources. Then you could create one or more new storage categories and add them to the library system.

A third type of message informs you when the property repository or transaction log for a particular Property Manager reaches configurable capacity thresholds. For example, you may receive a warning message telling you that the property repository is now 80% full and you should assign more storage space to it as soon as possible to ensure that it continues to function normally. Refer to [“IDMDS Configuration And Maintenance” on page 247](#) for details on how to respond to such threshold messages.

Only asynchronous system messages are displayed in the Messages property. Other types of messages may be displayed directly to you and other users as you work (for example, in IDMDS Explorer).

Note For tool-specific instructions on how to view the message log, refer to the *IDMDS Explorer Online Help*.

Suspending a Storage Manager

Suspending Storage Manager operation makes the Storage Manager, and the storage repositories assigned to it, unavailable to general users while allowing the library system administrator to perform maintenance tasks such as backups. While the Storage Manager is suspended, you can use any commands controlled by the System object. For example, you can add storage repositories, archive repositories, storage categories, and archive categories.

Once you have completed the administrative tasks, you can resume Storage Manager operation to make the library system available to users again. Or, if you shut down and restart the server on which a Storage Manager has been suspended, the Storage Manager's status automatically changes from Suspended to Running.

It's important to keep in mind that when you suspend a Storage Manager, no message is sent to alert the users that are logged on to the library system. To avoid problems (such as not being able to complete file operations in progress) you should email users to alert them of the upcoming suspension.

Note Procedures for suspending and resuming Storage Manager operation are provided in *IDMDS Explorer Online Help*.

The following command-line utilities are included with IDM Document Services.

“ARCHDATE” on page 356	Archives versions that were last accessed before a specified date.
“CAT_INDX” on page 361	Repairs indexes in the database tables for the property repository.
“CAT_PROC” on page 364	Deletes and redefines stored procedures in a Property Manager for a particular Catalog subsystem.
“CCAT” on page 367	Loads data files containing scripts that update your property repository database tables.
“CAT_STAT” on page 366	Updates usage statistics in the Property Manager for a particular Catalog subsystem.
“CDLIST” on page 368	Utility for upgrading from 4.3 to 5.x. Lists compound documents that, in their current state, cannot yet be migrated to support IDM Desktop/Web 3.x or IDMD5 5.x services.
“CDMIG” on page 371	Utility for upgrading from 4.3 to 5.x. Migrates pre-IDMD5 5.0 (custom property based) compound document relationships to IDMD5 5.1 relationships.
“COPY_CP” on page 375	Copies one or more custom properties from one library system to another.
“CSADMIN” on page 377	Rebuilds, starts, and stops content search repositories.
“DCFIX” on page 379	Scans Document Classes for any references to the obsolete Default Checkout File Name property (SPI_ITEM_CURVER_TRUNC_FILE), and replaces them with a File Name property (SPI_VERS_FILE_NAME) reference.
“DSINFO” on page 380	Displays the status of library system services.
“DSSTOP” on page 382	Stops library system services.
“DSSTRT” on page 384	Starts library system services.
“DTCVLCHK” on page 387	Detects Document Class or CVL (Controlled Vocabulary Lists) collisions between two or more library systems.
“DTCVLMIG” on page 394	Migrates Document Classes and CVLs between two or more library systems.
“FILE2ID” on page 401	Generates the associated item ID and version ID for the version file.

“ID2FILE” on page 402	Generates the encrypted file name for a version.
“INDXDATE” on page 403	Indexes for content search versions last accessed before a specified date.
“INDXFIX” on page 407	Searches for and queues for indexing all versions with an indexing status of "filter failed" or "index failed".
“REPCHECK” on page 410	Reports on or fixes links between the property repository and the storage or content search repositories.
“REPLKICK” on page 414	Forces users, groups, Document Classes, and CVLs to replicate throughout a replication domain. It is run against the domain master and is used to synchronize library systems after an upgrade from IDMDS 4.3 to IDMDS 5.1.
“SPISTAT” on page 417	Prints the program-defined value for a specific error code.
“SRDELETE” on page 418	Deletes items found by a given search.
“SRLIST” on page 420	Utility for upgrading from IDMDS 4.3 to 5.1. Lists Saros Document Manager (SDM) smart folders and IDMDS stored searches created with user interfaces other than IDM Desktop.
“UPDAFTER” on page 424	UPDAFTER must be run after upgrading IDMDS 5.0 systems to IDMDS 5.1 in order to maintain the relationship between existing compound documents.
“UPDBEFORE” on page 425	UPDBEFORE must be run before upgrading IDMDS 5.0 systems to IDMDS 5.1 in order to maintain the relationship between existing compound documents.
“USGRPCHK” on page 426	Detects User or Group collisions between two or more library systems.
“USGRPMIG” on page 434	Migrates Users and Groups between two or more library systems.
“VUPDATE” on page 440	Updates version file names.

ARCHDATE

ARCHDATE enables you to archive versions that were last accessed (that is, checked out, checked in, or copied) before a specified date.

Usage

```
archdate      /username= /password= /propertyserver= /systemname=  
              /date=  
              /itemsearch= /keepmainline= /forcearchcat= /  
              substitutearchcat=  
              /listonly= /logfile= /inputfile=
```

Parameters and Switches

/username=	The user name of the person archiving versions. Only versions to which this user has at least Owner access rights can be moved to archive repositories.
/password=	The password, if any, for the user identified with the username parameter. If you use a batch file, we suggest that you not include the password parameter in your script (it can be read by anyone who can view the contents of that file). Instead, you should allow the utility to prompt you for this value (your response will be masked on the screen as you type it).
/propertyserver=	The name of the server where the Property Manager is installed.
/systemname=	The name of the IDM library system.
/date=	The identifying archiving date. Versions that were last accessed before 12:00 a.m. of this date will be flagged for possible archiving. This date must appear in the format mm/dd/yyyy (for example, 01/21/1990).
/itemsearch=	(Optional) The name of a pre-existing item search. Note that ARCHDATE will produce inaccurate results if any search type other than an item search is specified for this parameter. Only versions of items returned by this search may be archived (based on the /date= parameter).
/keepmainline=	<ul style="list-style-type: none">• Yes. All versions last accessed before a specified date (except the current mainline version) are archived.• No. All versions last accessed before a specified date (including the current mainline version) are archived. This behavior matches the behavior in previous releases.

<code>/forcearchcat=</code>	<ul style="list-style-type: none">• Yes. The system archives all versions to the substitute archive category (set with the <code>substitutearchcat</code> parameter). Remember, the substitute archive category must always be one that is assigned to a <i>reclaimable</i> archive repository.• No. The system archives versions to the substitute archive category (set with the <code>substitutearchcat</code> parameter) only if the Default Archive Category in the Item object is assigned to a <i>nonreclaimable</i> archive repository. This behavior matches the behavior in previous releases.
<code>/substitutearchcat=</code>	The substitute archive category that ARCHDATE will use to archive versions <i>only</i> if the default archive category in the version's parent Item object is linked to a nonreclaimable archive repository. This substitute archive category must be associated with a <i>reclaimable</i> archive repository. This parameter is required to ensure that archived versions are immediately reclaimable.
<code>/listonly=</code>	A Yes/No value to indicate whether you want to run the utility in list mode only (the default value is Yes).
<code>/logfile=</code>	<p>The name of the file to which you want the log of the ARCHDATE results sent. This log will identify the item ID and version ID of the versions that were removed, the last access date of each of these versions, the number of bytes freed per version, and the archive category used.</p> <p>You can specify a value for this parameter in one of three ways:</p> <ul style="list-style-type: none">• Accept the default value, archdate.log. (If this file already exists, the new information will be appended to it.)• Specify a different log file name. (If the file already exists, the new information will be appended to it.)• Use <code>con</code> as the parameter value to indicate that you want the log printed to your monitor rather than to a file (for example, <code>logfile=con</code>).
<code>/inputfile=</code>	The name of the file containing prompt-response values for the command line parameters.

Usage Notes

- On the command line, you must include a forward slash (/) before each parameter and a blank space between parameter statements. No space should appear between the parameter and its value; however, the parameter values themselves may contain blank spaces.

For example, you might type (on one line):

```
archdate /username=John Braughn  
/propertyserver=01 /systemname=MZ1 /date=06/11/1995
```

and press Enter to start the utility. If you leave any parameters out (as in this example), you will be prompted for them individually.

- The versions to be archived will be identified according to a last-access date that you specify. This date will be compared to the Last Access Date property value in each Version object.
- The stored search request specified by ARCHDATE using the itemsearch parameter must be saved at the system level.
- If you do not use the itemsearch parameter when running ARCHDATE, all Item versions in the database that were last accessed before the specified date will be archived.
- The stored search request specified by ARCHDATE must have the "order by item id" clause set. Note that the first property from your search is the default sort order setting. (An exception to this is the keyword property which cannot be used to sort search results.) If item ID is not the first property in your stored search, you must change the sort order. Refer to *IDMDS Explorer Online Help* for details.
- The ARCHDATE utility also allows you to:
 - a. Archive versions based on a specified search as well as a last access date.
 - b. Run in list mode, enabling you to verify the results of a potential archive operation before you actually run it.
- To ensure that the archived versions are immediately *reclaimable*, this utility will archive versions to reclaimable archive repositories only. After the system determines that the user running the utility has at least Owner access rights to a version and that the version was last accessed before the date specified, the utility will archive the version in one of the following ways:
 - a. If the default archive category in the version's parent Item object is linked to a reclaimable archive repository, then the version is sent to that archive repository.
 - b. Otherwise, the version will be sent to a reclaimable archive repository that is linked to a substitute archive category (as specified by the required substitutearchcat parameter).

Because no version is ever sent to a nonreclaimable archive repository, there is less likelihood that you will inadvertently destroy a version.
- You can run ARCHDATE using either of the following:
 - a. Executing the utility from the command line.
 - b. Create a batch file and a corresponding prompt-response file from which you run ARCHDATE. This method allows you to start up the batch file (during low-usage times, for example) and let ARCHDATE archive versions based on the values you specify in the prompt-response file.

Procedures

To run ARCHDATE from the command line:

1. Review the ARCHDATE *Comments* topic.
2. If you want to use a search to identify the versions to archive, you must create that search (and save it at the System access level) before running the ARCHDATE utility. Use IDMDS System Administration Tools or any other interface to the library system.
3. On the property server, access the directory containing the archdate executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldm\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir/ldm\librarysystem/util</i>

4. On the command line, enter:

```
archdate
```

and, optionally, one or more of the associated parameters. You will be prompted for any parameters that you did not include on the command line.

The search, if any, is run first, followed by the archival operations. The results are displayed or printed to the log file.

To run ARCHDATE from a batch file:

1. Review the ARCHDATE *Comments* topic.
2. If you want to use a search to identify the versions to archive, you must create that search (and save it at the System access level) before running ARCHDATE. Use IDMDS System Administration Tools or any other interface to the library system.
3. Create a batch file with the following line in it:

```
archdate /inputfile=archdate.res
```

We recommend against including your library system password in the batch file. (Instead, allow the system to prompt you for it.) However, if you prefer to include the password so that this operation can be run completely unattended, replace the preceding batch file command with:

```
archdate /password=value /inputfile=archdate.res
```

If you do not have a library system password set, omit the password value:

```
archdate /password= /inputfile=archdate.res
```

4. Create the **archdate.res** file. In this file, type in your values for the command line parameters, excluding password and inputfile, in the correct order as shown in the following example. Include a space before and after equal signs (=) and separate each command line parameter with a carriage return.

```
username = John Doe
propertyserver = server01
systemname = docsrvr
date = 12/31/1995
forcearchcat = no
substitutearchcat = long term
itemsearch = archdate search
keepmainline = yes
listonly = no
logfile = archdat1.log
```

5. When you are ready to run ARCHDATE, start the batch file.

The search, if any, runs first. Then, as the archival operations take place, the results are either displayed on your monitor or printed to the specified log file. When all the identified versions have been moved to their appropriate archive repositories, you are returned to the command prompt.

CAT_INDEX

CAT_INDEX repairs corruptions that affect the indexes in the database tables for the Catalog subsystem's property repository. With this utility, you can rebuild one index, the indexes for a particular table, or the indexes for an entire property repository.

Note CAT_INDEX verifies that at least 30% of the total system tablespace is free before it starts any index rebuilding. If less than 30% of the total system tablespace is free, CAT_INDEX issues a message recommending that you increase the tablespace size.

Usage

```
cat_index propertyserver librarysystem tablename sa_password
```

Parameters and Switches

<i>propertyserver</i>	The name of the server where the Property Manager is installed.
<i>librarysystem</i>	The name of the IDM library system.
<i>tablename</i>	The database table (or database object ID) that identifies which indexes must be rebuilt. You can specify the indexes you want to rebuild by entering one of the values shown in the following list: all Rebuild indexes in all tables. <i>tablename</i> Rebuild indexes for this table. (Note: A database object ID may be used instead of the table name.) <i>tablename.index</i> Rebuild the specified index in the specified table. If you specify a <i>tablename.index</i> and the index is one that would exist in the schema but for some reason does not exist in your database, CAT_INDEX will re-create it. Note An index ID may be used instead of the index name. This ID is published in the errorlog file as INDID=x.
<i>sa_password</i>	The Microsoft SQL Server sa password (for the System Administrator account).

Usage Notes

- Because this utility can potentially affect the future availability of your stored information, we recommend you use it only after thoroughly reading through this documentation or checking with FileNET Technical Support.
- Typically, CAT_INDEX is used to rebuild indexes that have row-length problems.

Procedures

To prepare to run CAT_INDX:

1. Notify all users to close their library system sessions.
2. Make sure the Logons Enabled? property in the System object is set to No.
This allows only one user from the Administrators group to open a library system session.
3. Run and process a full system backup (selecting the Consistency Check option to allow the CAT_FIX utility to run).
4. Shut down the Property Manager.
5. Make sure the directory containing the **catservr** file is backed up to a different location (for example, a safe network path or tape drive).

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldmms\catservr</i>
UNIX	<i>StorageManagerInstallDir/ldmms/catservr</i>

6. Restart the Property Manager.

To run CAT_INDX:

1. On the property server, access the directory containing the **cat_indx** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldmms\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir/ldmms/librarysystem/util</i>

2. On the command line, enter:

```
cat_indx
```

and, optionally, one or more of the associated parameters. You will be prompted for any parameters that you did not include on the command line.

As the utility runs, it will display a message indicating the index that is being built for the specified table. If an error occurs, an appropriate message will be displayed.

3. When the utility finishes, set the value of the Logons Enabled? property in the System object to Yes. This allows other users to access the library system.

Examples

- If you wanted to rebuild the index I12 in the Element (that is, item) table for the system Lib1 on the server Sys1, you would type the following command on the command line:

```
cat_indx sys1 lib1 element.i12
```

- If you had only the database object ID (for example, 97849382) instead of the table name and the index ID (for example, 14) instead of the index name, you could type:

```
cat_indx sys1 lib1 97849382.14
```

CAT_PROC

CAT_PROC enables you to delete and redefine the stored procedures (that is, precompiled Property Manager operations) in a Property Manager for a particular Catalog subsystem.

Usage

```
cat_proc propertyserver librarysystem
```

Parameters and Switches

propertyserver The name of the server where the Property Manager is installed.

librarysystem The name of the IDM library system.

Usage Notes

- Because this utility can potentially affect the future availability of your stored information, we recommend you use it only after thoroughly reading through this documentation or checking with FileNET Technical Support.
- You can run CAT_PROC only on a property server. If you run CAT_PROC on another library system server, it will not find the necessary configuration file and will display the error: "Failed to read dsconf.ini."
- CAT_PROC can be useful in those rare cases when one or more stored procedures in the Property Manager are damaged. Such damage may be indicated when a particular library system operation, without explanation, fails to complete successfully. For example, if the stored procedure for checking in versions were damaged, then each time the user attempted this operation, he or she would typically receive a general internal system error.
- CAT_PROC uses an internal source file to reload the stored procedures. You must have at least 4000 kilobytes of free space in the transaction log to run this utility.

Procedures

To prepare to run CAT_PROC:

1. Notify all users to close their library system sessions.
2. Make sure the Logons Enabled? property in the System object is set to No.

This allows only one user from the Administrators group to open a library system session.

To run CAT_PROC:

1. On the property server, access the directory containing the **cat_proc** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldm\LibrarySystem\Util</i>

OS Platform	Location
UNIX	<i>StorageManagerInstallDir\idmds\librarysystem\util</i>

2. On the command line, enter:

```
cat_proc
```

and, optionally, one or more of the associated parameters. You will be prompted for any parameters that you did not include on the command line.

3. When the utility finishes, set the value of the Logons Enabled? property in the System object to Yes. This allows other users to access the library system.

CAT_STAT

CAT_STAT enables you to update usage statistics in the Property Manager for a particular Catalog subsystem.

Note CAT_STAT is available only for the Microsoft SQL Server edition of IDMDS.

Usage

```
cat_stat propertyserver librarysystem
```

Parameters and Switches

propertyserver	The name of the server where the Property Manager is installed.
librarysystem	The name of the IDMDS library system.

Usage Notes

- Usage statistics that CAT_STAT updates can affect the accuracy of the system's estimates of warning and full thresholds.
- You can run CAT_STAT manually from the command line, or you can allow the system to run it automatically during full system backups.
- Typically, you will allow the system to run this utility as part of a full backup. This automatic running of the utility is usually adequate to keep Property Manager usage statistics up to date.

Procedure

To run CAT_STAT:

- Review the CAT_STAT *Comments* topic.
- On the property server, access the directory containing the **cat_stat** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\Idmds\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir\idmds\librarysystem\util</i>

- On the command line, enter:

```
cat_stat
```

and, optionally, one or more of the associated parameters. You will be prompted for any parameters that you did not include on the command line.

CCAT

CCAT loads data files (*.dat) containing scripts that update your system's database tables.

Note CCAT is not a general purpose tool; it should generally be used only with the assistance of FileNET Technical Support.

Usage

```
ccat -S propertyserver -U librarysystem -D librarysystem -x filename.dat
```

Parameters and Switches

<i>propertyserver</i>	The name of the server where the Property Manager is installed.
<i>librarysystem</i>	The name of the IDMDS library system.
<i>filename</i>	Name of the FileNET-supplied data file; include the path to the file if necessary.

Procedure

To run CCAT:

1. Inform all users to close their library system sessions.
2. On the property server, access the directory containing the **cat_stat** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldm\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir/ldm\librarysystem/util</i>

3. On the command line, enter:

```
ccat -S propertyserver -U librarysystem -D librarysystem -x filename.dat
```

4. A series of SQL statements will scroll on the screen. If no error codes are returned the script file has been loaded successfully.
 - a. Repeat steps 1 through 4 for any other library systems whose database tables need to be updated.
 - b. Re-enable non-administrative logins on each library system.

CDLIST

CDLIST creates a list of IDMDS 4.3 compound documents that are checked out or unavailable. In order to maintain existing compound document relationships when upgrading to IDMDS 5.1, you must check in the documents identified in the list before you upgrade to IDMDS 5.1.

Notes IDMDS 5.1 introduces an improved method of maintaining compound document relationships (using Relationship objects rather than Custom objects). IDM Desktop and Web 3.x use this new method exclusively, while the Saros Document Manager (SDM) client used the older method.

The CDLIST utility is included in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to “IDMDS 5.1.1 Service Pack” on page 13.

Usage

```
cdlist property_server library_system user_name password
```

Parameters and Switches

<i>property_server</i>	The name of the server where the database and initial library system services are installed for the 4.3 library system that contains compound documents.
<i>library_system</i>	The name of the IDMDS 4.3 library system that contains compound documents.
<i>user_name</i>	An IDMDS library system user who is a member of the Administrators group.
<i>password</i>	The password for the specified user.

Usage Notes

- You can run CDLIST multiple times on the same library system.
- You must run CDLIST for each library system that participates in replication services and contains compound documents.

Log Output

CDLIST generates a log file **cdlist.log** that indicates the following information for the affected compound document components.

Note Some compound document components may be entered more than once because IDMDS keeps track of the relationships for all versions of each document. However, in most cases, you must take the recommended action below only once per component.

Status

- **16393** - Operation failed. **Cause:** This status typically does not occur unless a process or component of the library system is not running or shuts down unexpectedly. **Action:** Verify that your library system components are running and that the documents logging this status exist, and then re-run CDLIST.

- **16399** - Document is checked out. **Action:** Check in the document and re-run CDLIST. **Caution:** If you do not check in checked out documents before running the IDMDS 5.1 upgrade, it will be necessary to cancel the checkout of these documents after the upgrade. CDMIG will be able to migrate these documents *only* after the checkout has been cancelled. If you happen to check in rather than cancel the checkout of the listed documents after the IDMDS 5.1 upgrade, the compound document relationships will be lost. In this case, you will have to redesign the compound document from scratch using IDM Desktop/Web.
- **16418** - Version file is not online. **Cause:** The compound document component has been archived. **Action:** Reclaim the version of the document and re-run CDLIST. If the document has been permanently deleted, you will have to re-add the document and/or redesign the compound document from scratch.
- **16422** - Version is not reclaimable. **Cause:** The compound document component has been archived to a nonreclaimable archive repository. Therefore, the document version may not be reclaimable. **Action:** Reclaim the version if possible and re-run CDLIST. If you cannot reclaim the version, you may want to redesign the entire compound document from scratch using IDM Desktop/Web. If the document has been permanently deleted, you will have to re-add the document and/or redesign the compound document from scratch.
- **16451** - Version file is missing from the storage server. **Cause:** The version file for the compound document component is missing from the storage repository. **Action:** Run the REPCHECK utility to verify the Lost Online status of the version file. Note the encrypted file name provided by REPCHECK and retrieve a copy of the file from your archive media. Replace the file on the storage repository and re-run REPCHECK and CDLIST. If the document has been permanently deleted, you will have to re-add the document and/or redesign the compound document from scratch. Refer to [“REPCHECK” on page 410](#).
- **16452** - Version file exists but there is no version information available. This status will typically not be returned, since compound document relationships are maintained based on the document's Version object information.

Relationship

- **P** - Parent component of a compound document.
- **C** - Child component of a compound document.

Item ID

The item ID of the compound document component.

Version ID

The version ID of the compound document component.

Checkout date

The date the compound document component was last checked out.

Checkout user name

The user who most recently checked out the compound document component.

Version file name

The name of the compound document component, as specified in the File Name property in the document's Version object.

Procedure

To run CDLIST:

1. Notify all users to close their library system sessions.
2. On the command line, enter:

```
cdlist
```

and, optionally, one or more of the parameters or switches specified above. Then press RETURN.

3. After CDLIST runs, open the **cdlist.log** file and respond to the status codes returned.

For example, open the log file in Excel and sort on the item ID to determine if there are multiple entries for particular documents. These documents would be those appearing in multiple compound documents, either as parent or child components. Then check the status codes documented above for details on what actions to take.

4. After running CDLIST and checking the **cdlist.log** file, do the following:
 - a. Check in, or otherwise process, existing compound documents so they are ready to be migrated.
 - b. Migrate any existing SDM clients to IDM Desktop/Web.
 - c. Upgrade IDMD5 to 5.1.
 - d. Run CDMIG to migrate existing compound documents. Refer to [“CDMIG” on page 371](#).

Example

The following command produces a report (**cdlist.log**) and then stops (it does not migrate any compound documents):

```
cdlist mybox biglib99 admin secretpwd
```

CDMIG

CDMIG migrates pre-IDMDS 5.x compound documents to support IDMDS 5.1 or later. After upgrading IDMDS 4.3 to version 5.1, you must run CDMIG to migrate compound documents that were created using Saros Document Manager (SDM).

Note IDMDS 5.1 introduces an improved method of maintaining compound document relationships (using Relationship objects rather than Custom objects). IDM Desktop and Web 3.x use this new method exclusively, while the Saros Document Manager (SDM) client used the older method.

The CDMIG utility is included in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to “[IDMDS 5.1.1 Service Pack](#)” on page 13.

Usage

```
cdmig property_server library_system user_name password [/MIGRATE[:nnnn]]
```

Parameters and Switches

<i>property_server</i>	The name of the server where the database and initial library system services are installed for the library system in which you want to migrate compound documents.
<i>library_system</i>	The name of the IDMDS library system in which you want to migrate compound documents.
<i>user_name</i>	An IDMDS library system user who is a member of the Administrators group.
<i>password</i>	The password for the specified user.
/MIGRATE	Causes CDMIG to begin migrating. If run without this switch, CDMIG operates in "list-only mode" (that is, it merely reports the changes it would make if actually migrating).
/MIGRATE: <i>nnnn</i>	If the /MIGRATE switch is qualified by a count (for example, /MIGRATE:2000) CDMIG will migrate only that many links and then stop. This feature can be used for performing multiple staged migrations.

Usage Notes

- We recommend you run the CDLIST utility on your IDMDS 4.3 library systems *before* you upgrade to IDMDS 5.1 or migrate completely to IDM Desktop clients. Remember, SDM is not supported as of IDMDS 5.0, and you may need that SDM client application to make the changes required to migrate certain compound documents. If you fail to run CDLIST prior to upgrading to IDMDS 5.1, you can rely on CDMIG and its **cdmigfail.log** file to provide you with the same information on failed compound document migrations. However, you may have to use IDM Desktop or IDM Web to completely reconstruct some compound documents relationships.
- You can run CDMIG multiple times on the same library system.
- If you run CDMIG without any parameters or switches (that is, if you execute CDMIG alone on the command line), the utility displays usage information but performs no other actions.

- You must run CDMIG for each library system that participates in Replication Services and contains compound documents.

Log Output

CDMIG generates two log files:

- The **cdmigrate.log** file contains a list of successfully migrated compound document relationships.
- The **cdmigfail.log** file contains a list of unsuccessfully migrated compound document relationships.

Note In each log file, some compound document components may be entered more than once because IDMDS keeps track of the relationships for all versions of each document. However, in most cases, you must take the recommended action below only once per component.

Status

- **0** - Migration succeeded.
- **16393** - Operation failed. **Cause:** This status typically does not occur unless a process or component of the library system is not running or shuts down unexpectedly. **Action:** Verify that your library system components are running and that the documents logging this status exist, and then re-run CDMIG.
- **16396** - Version file does not exist. **Cause:** The version file for the compound document component is either missing from the storage repository or the document no longer exists (for example, was deleted). **Action:** Run the REPCHECK utility to verify the status of the version file. If a file is marked Lost Online, note the encrypted file name provided by REPCHECK and retrieve a copy of the file from your archive media. Replace the file on the storage repository and re-run REPCHECK and CDMIG. Refer to “REPCHECK” on page 410.
- **16399** - Document is checked out. **Action:** Cancel the checkout and re-run CDMIG. CDMIG will create a top-level folder called **Compound Docs pending migration** which will contain icons representing all checked out documents in the IDMDS library system. You will be able to perform a cancel checkout from this folder.
- **16418** - Version file is not online. **Cause:** The compound document component has been archived. **Action:** Reclaim the version of the document and re-run CDMIG. If the document has been permanently deleted, you will have to re-add the document and/or redesign the compound document from scratch.
- **16422** - Version is not reclaimable. **Cause:** The compound document component has been archived to a nonreclaimable archive repository. Therefore, the document version may not be reclaimable. **Action:** Reclaim the version if possible and re-run CDMIG. If you cannot reclaim the version, you may want to redesign the entire compound document from scratch using IDM Desktop/Web. If the document has been permanently deleted, you will have to re-add the document and/or redesign the compound document from scratch.
- **16451** - Version file is missing from the storage server. **Cause:** The version file for the compound document component is missing from the storage repository. **Action:** Run the REPCHECK utility to verify the Lost Online status of the version file. Note the encrypted file name provided by REPCHECK and retrieve a copy of the file from your archive media. Replace the file on the storage repository and re-run REPCHECK and CDMIG. If the document has been permanently deleted, you

will have to re-add the document and/or redesign the compound document from scratch. Refer to [“REPCHECK” on page 410](#).

- **16452** - Version file exists but there is no version information available. This status will typically not be returned, since compound document relationships are maintained based on the document's Version object information.

Relationship

- **P** - Parent component of a compound document.
- **C** - Child component of a compound document.

Item ID

The item ID of the compound document component.

Version ID

The version ID of the compound document component.

Checkout date

The date the compound document component was last checked out.

Checkout user name

The user who most recently checked out the compound document component.

Version file name

The name of the compound document component, as specified in the File Name property in the document's Version object.

Procedure

To run CDMIG:

1. Prior to running CDMIG, do the following:
 - a. Run CDLIST on the IDMDS 4.3 systems you intend to upgrade to determine whether any older style compound documents are in state that will not allow migration.
 - b. Open the **cdlist.log** file and respond to the status codes returned.

For example, open **cdlist.log** in Excel and sort on the item ID to determine if there are multiple entries for particular documents. These documents would be those appearing in multiple compound documents, either as parent or child components. Then check the status codes documented for CDLIST for details on what actions to take.

Refer to [“CDLIST” on page 368](#).

- c. Upgrade to IDMDS 5.1.
2. Notify all users to close their library system sessions.

3. On the command line, enter:

```
cdmig
```

and, optionally, one or more of the parameters or switches specified above. Then press RETURN.

4. After CDMIG runs, open the **cdmigfail.log** file and respond to the status codes returned.

For example, open **cdmigfail.log** in Excel and sort on the item ID to determine if there are multiple entries for particular documents. These documents would be those appearing in multiple compound documents, either as parent or child components. Then check the status codes documented above for details on what actions to take.

5. Re-run CDMIG to migrate the remaining compound documents.

Examples

- This command displays usage examples and then stops:

```
cdmig
```

- This command produces a report and then stops; it does not migrate any compound documents:

```
cdmig mybox biglib99 admin secretpwd
```

- This command migrates all compound documents in library system biglib99 on server mybox:

```
cdmig mybox biglib99 admin secretpwd /MIGRATE
```

- This command migrates 9999 compound documents in library system biglib99 on server mybox, then stops:

```
cdmig mybox biglib99 admin secretpwd /MIGRATE:9999
```

COPY_CP

COPY_CP enables you to copy one or more custom properties from one library system to another, thereby ensuring that documents and stored searches are replicated properly between library systems.

Caution Once you add a custom property to any library system, it cannot be removed.

Note COPY_CP is currently available only for Windows NT, however, the Windows NT version can be used with UNIX library systems. A copy of COPY_CP is available on the *IDMDS System Administration* CD-ROM. If you are running Replication on UNIX servers and do not have at least one Windows NT server to run this utility, you will have to manually create/duplicate any necessary custom properties on the various library systems participating in replication services.

Usage

copy_cp

Usage Notes

- You may create custom properties (instances of the Custom Property object) as document properties, which users can then use to identify, or create searches to find, the documents in the library system. The *value* of a custom property will be replicated with the associated document or stored search, but only if you have already created a custom property of the same name and type on the target library system. FileNET Replication will not replicate custom properties automatically, since they may not exist, or may have different values on other library systems participating in replication services.
- The custom property utility copies one or more custom properties from a source library system to a destination library system. It will not overwrite any matching custom properties on a library system. Additionally, once the maximum of number of custom properties allowed per library system is reached (refer to “[Custom Properties](#)” on page 280), the utility will copy no further custom properties.
- There are no parameters for the custom property utility.

Prerequisites

- For any library system to which you intend to copy custom properties, you must perform a full backup operation before running the custom property utility.
- You must run the custom property utility *before* enabling replication services for the library system in question.
- You must run the custom property utility from the FileNET Replication installation directory.
- You must have Administrators access rights to both the source and destination library systems specified for the custom property utility.

Procedure

To copy custom properties:

1. On the property server, access the directory containing the **copy_cp.exe** utility:

Drive: \ldmms\Rep\Util

2. Start the copy_cp utility.
3. Answer the following prompts:
 - Source/Destination server name
 - Source/Destination system name
 - Source/Destination Administrators user name
 - Source/Destination Administrators password

4. When prompted, specify:

Yes	Confirm each copy
No	Proceed without confirmation for the displayed property only
All	Copy all custom properties without confirmation
Quit	Exit without copying

CSADMIN

CSADMIN rebuilds, starts, and stops content search repositories.

Caution For Microsoft SQL Server databases, running CSADMIN in rebuild mode has the potential to fill up your transaction log. One way to avoid this problem is to enable the "Truncate log on checkpoint" feature before running CSADMIN (and then disable it afterward if desired). This option is available in Enterprise Manager, on the Options tab of the database properties sheet. Another way to avoid the problem is to configure the transaction log file to auto-grow. This option is available in Enterprise Manager, on the Transaction Log tab of the database properties sheet. If you use this method, you should monitor the process to ensure that the transaction log file does not fill up your disk. Refer to *SQL Server Books Online* for more information about these database features.

Usage

```
csadmin propertyserver librarysystem -i -r -s -t -v
```

Parameters and Switches

<i>propertyserver</i>	The name of the server where the Property Manager is installed.
<i>librarysystem</i>	The name of the library system.
-i	(Optional) Resets the status of the indexing daemon to idle. It will then start at the next scheduled indexing interval.
-r	(Optional) Rebuilds the content search repositories. You are prompted how to rebuild the content search repositories: <ul style="list-style-type: none">• From a full backup A consistency check is performed on the content search repository between the last full backup and the current content search repositories.• From the last fully restored backup of repository files.• From scratch.
-s	(Optional) Suspends the indexing daemon after the indexing operation being done on the current version file has completed. If a series of files were being processed, the first file in the series would be completed before the repository would shut down.
-t	(Optional) Terminates content search indexing.
-v	(Optional) Verifies the content search server contains indexes.

Usage Notes

- We recommend you use CSADMIN only after thoroughly reading through this documentation or checking with FileNET Technical Support.
- Command line switches are all case insensitive.

- On average, indexing 1000 versions will consume 70 MB of transaction log space. We recommend setting your log full threshold to 80% or less and indexing versions in increments so that the log does not fill to capacity.

Examples

To rebuild a content search repository for a library system named corporate on server corp1, you would enter the following command and then respond to the CSADMIN prompts.

```
csadmin corp1 corporate -r
```

Procedure

To run CSADMIN:

1. Review the CSADMIN *Comments* topic.
2. On the content search server, access the directory containing the **csadmin** executable.

OS Platform	Location
Windows NT	<i>CSMInstallDrive:\Idmds\LibrarySystem\Content\Bin</i>
UNIX	<i>CSMInstallDir/idmds/librarysystem/content/bin</i>

3. On the command line, enter:

```
csadmin propertyserver librarysystem switches
```

and respond to the CSADMIN prompts.

DCFIX

DCFIX fixes errors that occur on IDMDS library systems that have been upgraded from 4.3 to 5.1 and have Document Classes containing the system property Default Checkout File Name. The utility scans Document Classes for any references to the obsolete property Default Checkout File Name (SPI_ITEM_CURVER_TRUNC_FILE), and replaces them with a File Name (SPI_VERS_FILE_NAME) reference.

Note The DCFIX utility is included in the **drive:\AdminUtil** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to “[IDMDS 5.1.1 Service Pack](#)” on page 13.

To run DCFIX:

1. From a command prompt enter:

```
dcfix
```

2. Fill in the requested information as prompted. This includes:

- Server Name
- System Name
- User Name
- Password

A list of updated Document Classes is displayed in the DOS console.

3. Restart your IDMDS services.

DSINFO

Description

DSINFO displays the status of one or more components for one or more library systems on the server where it is run.

Usage

```
dsinfo -h  
dsinfo -i librarysystem -c components
```

Flags and Parameters

-h	Causes help text to be displayed. Cannot be used with other flags.
-i	Must precede the <i>librarysystem</i> parameter.
<i>librarysystem</i>	The name of the library system. If you do not specify a name, dsinfo displays the status of the specified services for all library systems on the server where it is run.
-c	Must precede the <i>components</i> indicators.
<i>components</i>	You can include one or more of the following indicators to specify the components for which you want to see a status report. R Replication Service RA All Replication Services S Storage Manager SA All Storage Managers T Content Search Manager TA All Content Search Managers

Usage Notes

- If you do not specify any component values, dsinfo provides status information for all services for the specified library system.
- If a service is not running, you may find that it is either shut down or suspended.
- Because flags are used to identify each parameter, you can type the parameters in any order, as long as the correct flags are included.

Procedure

To run dsinfo:

1. On the property server or remote storage server, access the directory containing the **dsinfo** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldmms</i> <i>StorageManagerInstallDrive:\ldmms\LibrarySystem\Util</i> (for backward compatibility)
UNIX	<i>\$IDMDS_HOME</i> <i>StorageManagerInstallDir/ldmms/librarysystem/util</i> (for backward compatibility)

2. On the command line, enter:

```
dsinfo
```

and the desired parameters and flags. If you do not enter any flags or parameters, you will not be prompted. Status information is displayed on your monitor.

Examples

Refer to “[DSSTRT](#)” on page 384 for examples of how to use dsinfo. The dsinfo, dsstop, and dsstrt utilities have identical parameters and flags.

DSSTOP

DSSTOP stops one or more services for one or more library systems on the server where it is run.

Note DSSTOP will remove all current active and inactive IDMDS sessions. Keep this in mind when writing or working with custom applications (for example, if you plan to use DSSTOP in a backup script).

Usage

```
dsstop -h  
dsstop -i librarysystem -c components
```

Flags and Parameters

-h	Causes help text to be displayed. Cannot be used with other flags.
-i	Must precede the <i>librarysystem</i> parameter.
<i>librarysystem</i>	The name of the library system. If you do not specify a name, dsstop stops the specified services for all library systems on the server where it is run.
-c	Must precede the <i>components</i> indicators.
<i>components</i>	You can include one or more of the following indicators to specify services you want to stop. R Replication Service RA All Replication Services S Storage Manager SA All Storage Managers T Content Search Manager TA All Content Search Managers

Usage Notes

- If you do not specify any component values, dsstop stops all services for the specified library system.
- Because flags are used to identify each parameter, you can type the parameters in any order, as long as the correct flags are included.

Procedures

To run dsstop:

1. On the property or storage server, access the directory containing the **dsstop** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldmms</i> <i>StorageManagerInstallDrive:\ldmms\LibrarySystem\Pbin</i> (for backward compatibility)
UNIX	<i>\$IDMDS_HOME</i> <i>StorageManagerInstallDir/ldmms/librarysystem/pbin</i> (for backward compatibility)

2. On the command line, enter:

```
dsstop
```

and the desired parameters and flags. You must enter the parameters and flags on the command line (that is, you will not be prompted). This step stops the appropriate services.

Examples

For examples of how to use `dsinfo`, refer to the examples in “[DSSTRT](#)” on page 384 (`dsinfo`, `dsstop`, and `dsstrt` have identical parameters and flags.)

DSSTRT

DSSTRT starts one or more services for one or more library systems on the server where it is run.

Usage

```
dsstrt -h  
dsstrt -i librarysystem -c components
```

Parameters and Switches

-h	Causes help text to be displayed. Cannot be used with other flags.
-i	Must precede the <i>librarysystem</i> parameter.
<i>librarysystem</i>	The name of the library system. If you do not specify a name, dsstrt starts the specified services for all library systems on the server where it is run.
-c	Must precede the <i>components</i> indicators.
<i>components</i>	You can include one or more of the following indicators to specify services you want to start. R Replication Service RA All Replication Services S Storage Manager SA All Storage Managers T Content Search Manager TA All Content Search Managers

Usage Notes

- If you do not specify any component values, dsstrt starts all services for the specified library system.
- Because flags are used to identify each parameter, you can type the parameters in any order, as long as the correct flags are included.

Procedure

To run dsstrt:

1. On the property or storage server, access the directory containing the **dsstrt** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldmms</i> <i>StorageManagerInstallDrive:\ldmms\LibrarySystem\Pbin</i> (for backward compatibility)
UNIX	<i>\$IDMDS_HOME</i> <i>StorageManagerInstallDir/ldmms/librarysystem/pbin</i> (for backward compatibility)

2. On the command line, enter:

```
dsstrt
```

and the desired parameters and flags. You must enter the parameters and flags on the command line (that is, you will not be prompted). This step starts the appropriate services, which may take several minutes to complete.

Examples

The following lists contain examples of `dsstrt` as it might be used to start library system services in a single or multi-system configuration. Using the same parameter syntax shown, you can use `dsstop` to stop library system services or `dsinfo` to get the status of those services.

Single-system Site

On machines that contain library system services for a single library system, you can use `dsstrt` to start system services, as shown in the following example list.

Type this command:	To do this operation:
<code>dsstrt</code>	Start all system services (except Replication) on the machine where the utility is run.
<code>dsstrt -i Acctng -c R</code>	Start only the Replication service for the Acctng library system on the machine where the utility is run. (Note: You must specify the <code>-i</code> flag followed by the system name.)
<code>dsstrt -c S</code>	Start only the Storage Manager on the machine where the utility is run.
<code>dsstrt -c T</code>	Start only the Content Search Manager on the machine where the utility is run.
<code>dsstrt -c ST</code>	Start the Storage Manager and Content Search Manager on the machine where the utility is run.

Multisystem Site

On machines that contain library system services for two or more library systems, you can use `dsstrt` to start system services, as shown in the following example list.

Type this command:	To do this operation:
dsstrt	Start all services (except Replication) for all library systems on the machine where the utility is run.
dsstrt -i Acctng	Start all services (except Replication) for a system (Acctng) on the machine where the utility is run.
dsstrt -i Acctng -c R	Start the Replication service for a system (Acctng) on the machine where the utility is run.
dsstrt -i Acctng -c S	Start the Storage Manager for a system (Acctng) on the machine where the utility is run.
dsstrt -i Acctng -c T	Start the Content Search Manager for a system (Acctng) on the machine where the utility is run.
dsstrt -c RA	Start all Replication services on the machine where the utility is run.
dsstrt -c SA	Start all Storage Managers on the machine where the utility is run.
dsstrt -c TA	Start all Content Search Managers on the machine where the utility is run.

DTCVLCHK

DTCVLCHK detects potential Document Class or CVL (Controlled Vocabulary List) collisions between two or more IDMDS library systems in an administrative (i.e., replication) domain. See [“Administrative Domains” on page 476](#) for more information.

DTCVLCHK is a read-only utility. It does not modify any part of the database, and it is safe to run while the replication daemon is running. For the most accurate results, DTCVLCHK should not be run when any Document Class or CVL replication requests are pending. If it is run while such requests are pending, the only undesired result would be a message about the affected objects not existing or not matching.

Note IDMDS 4.3 documentation refers to *DocTypes* or *Document Types*. The term for these objects in IDMDS 5.1 is *DocClasses* or *Document Classes*.

You can use DTCVLCHK to detect problems in any of the following situations:

- Before they occur when bringing a new library system into an existing replication domain.
- After upgrading an IDMDS 4.3 replication domain to 5.1 (see [“Upgrading Replication-enabled Systems” on page 141](#) for information about when to run DTCVLCHK in the upgrade procedure).
- To monitor an IDMDS 5.1 replication domain for Document Classes or CVLs being created on incorrect machines.

DTCVLCHK produces the following output:

Note Refer to [“Definition of Terms for USGRPCHK” on page 428](#) for the criteria USGRPCHK uses to determine whether objects are considered *effectively identical* for replication purposes.

- For each library in the domain, DTCVLCHK:
 - Creates a list of source and replica DocTypes.
 - Creates a list of source and replica CVLs.
 - Attaches a list of values to each CVL. Reports any values which do not have a corresponding CVL object (each CVL is represented by a unique CVL object in IDMDS).
- Checks all source DocTypes against each other, looking for duplicates by name. If the duplicate found is the DOCTYPE_CONTROL_OBJECT, reports whether they are not effectively identical. Otherwise, reports a duplicate DocType and indicates whether the duplicate source DocTypes are effectively identical or not.
- Checks all source CVLs against each other, looking for duplicates by name. Reports duplicates and indicates whether the duplicate source CVLs are effectively identical or not.
- For every replica DocType, extracts the source library system and checks for a matching source object on the indicated library system. Warns if the indicated library system doesn't exist, if the replica is not effectively identical to the source, or if there is no matching source DocType object.
- For every replica CVL:

- Extracts the source library system and checks that there is a matching source on the indicated library system. Warns if the indicated library system does not exist, if the replica is not effectively identical to the master, or if there is no matching master.
- Checks all the CVL values. Warns if the value is a source, or is a replica from a library system that is not the CVL's source library system.
- For every source DocType (that isn't DOCTYPE_CONTROL_OBJECT) and CVL, checks that every library system has a replica of the same name (except the library system that contains each master object). Displays a warning if no replica is found.
- Reports a list of DocTypes sourced on each library, for reference.

Note The DTCVLCHK utility is included in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to “IDMDS 5.1.1 Service Pack” on page 13.

Usage

In all modes, DTCVLCHK requires Admin access to at least one library system. You can provide the administrative user name and password on the command line or be prompted for them. DTCVLCHK is a DOS command-line utility and can be invoked with any of the following options, depending on what information about the replication domain you want to see.

The following command lists all library systems in the administrative domain to which the specified library system belongs.

```
dtcvlchk -L domain_master_library domain_master_server [admin_user  
admin_pwd]
```

The following command performs collision and inconsistency detection among all reachable library systems in the administrative domain to which the specified library system belongs. It logs the output to *logfile*. The *-v* switch displays logged output on the screen as well. While running, the program will prompt for an admin username and password for the other library systems in the domain.

```
dtcvlchk -D [-v] domain_master_library domain_master_server logfile  
[admin_user admin_pwd]
```

The following command performs collision detection only between the two library systems. The *logfile* parameter and *-v* switch function are described above. This is the mode you would use when bringing a new library system into an existing administrative domain.

```
dtcvlchk [-v] domain_master_library domain_master_server new_library  
new_library_server logfile [admin_user1 admin_pwd1 admin_user2 admin_pwd2]
```

Parameters and Switches

- | | |
|----|--|
| -D | Performs collision detection between all reachable library systems in the replication administrative domain to which <i>domain_master_library</i> belongs. If used with the <i>-v</i> switch, <i>-D</i> must precede <i>-v</i> . |
|----|--|

<code>-L</code>	Lists all library systems in the replication administrative domain to which <i>domain_master_library</i> belongs.
<code>-v</code>	Displays logged output on the screen. Note Parameters are order-specific when using the [-v] option; the -D parameter must precede the -v.
<code>logfile</code>	A text file containing a report of the collisions, inconsistencies, and missing replicas among the various Document Class and CVL objects.
<code>domain_master_library</code>	The name of the domain master library system for the replication administrative domain. Refer to “Replication Services Overview” on page 465 for more information.
<code>domain_master_server</code>	The computer name of the server where the domain master library system's database is installed.
<code>new_library</code>	The name of the library system you are adding to the replication administrative domain.
<code>new_server</code>	The computer name of the server where the new library system's database is installed.
<code>admin_user</code> and <code>admin_pwd</code>	The user name and password for the IDMDS Admin account. DTCVLCHK requires Admin access to the designated administration library system. You can specify the administrative user name and password on the command line; if you do not, DTCVLCHK will prompt you for them. Note The <i>admin_user</i> and <i>admin_pwd</i> parameters must be used as a pair; neither can be used on the command line without the other. Do not attempt to use these parameters on the command line if <i>admin_pwd</i> is null. The parameters <i>admin_user1</i> and <i>admin_pwd1</i> represent the user name and password for the first library system specified on the command line, and <i>admin_user2</i> and <i>admin_pwd2</i> represent the user name and password for the second library system specified on the command line.

Definition of Terms for DTCVLCHK

Effectively Identical Document Classes

Document Classes are *effectively identical* if the following are the same:

- Name
- Property Details
 - Property

- CVL Name
- Req'd (Required: Yes/No)
- Default Value

Note To compare these values, use the Document Class and CVL Administration Tool, available via the IDMDS Explorer Tools menu.

The property lists for Document Classes present special challenges when you try to compare them because they can contain standard properties (that have the same IDs in all library systems) and custom properties (that have potentially different IDs that must be mapped to one another across library systems). So, it is entirely possible to have the "same" custom property on multiple library systems with a different ID on each. For properties on two library systems to be identical:

- They must both reference the same property, whether it be a standard property with the same ID in both lists or a custom property that matches by ID mapping. System properties are always the same across library systems, but custom properties with the same name and mapped IDs are only considered *effectively identical* if they match in terms of:
 - Type
 - Length
 - Parent object (that is, whether it is an Item, Version, or Version Checkout)
 - Multivalue setting (Yes/No)

Note If you have custom properties of the same name that differ in the above attributes, to make them match you must rename one of them (both the custom property name and its language-specific display name), copy or create a new custom property that effectively matches the one on the other library system, and then modify the Document Class to reference the new custom property.

- They must both reference the same CVL, or not reference a CVL.
- They must both be required or not required.
- They must both have the same default value, or no default value.

Effectively Identical CVLs

CVLs are *effectively identical* if the following are the same:

- CVL Name
- CVL Data Type
- CVL Data

Note To compare these values, use the Document Class and CVL Administration tool, available via the IDMDS Explorer Tools menu. Select a CVL Name and click Edit CVL to display the CVL Information.

DocType/CVL Object Collision

An object collision occurs when two DocType or CVL objects on different library systems have the same name and are *effectively identical* as defined above.

DocType/CVL Object Inconsistency

An object inconsistency occurs when two DocType or CVL objects on different library systems have the same name but are not *effectively identical* as defined above.

Procedure

You can run DTCVLCHK on a 32-bit Windows machine that has the appropriate database client software and IDMDS Client Library Files installed and configured to connect to the necessary library systems associated with the replication administrative domain.

Note It will generally be most convenient to run DTCVLCHK on a server within the domain, since such a machine should have the correct IDMDS Client Library Files and configuration.

To run DTCVLCHK:

1. Insert the IDMDS 5.1.1 Service Pack CD-ROM.
2. Change to the **drive:\Admin\Util** directory on the CD-ROM.
3. If you are using DTCVLCHK to monitor an existing IDMDS 5.1 replication administrative domain, skip ahead to the next step.

If you are using DTCVLCHK to detect potential problems during the upgrade of a replication administrative domain from IDMDS 4.3 to 5.1, be sure to follow the procedure in [“Upgrading Replication-enabled Systems” on page 141](#).

4. From a DOS command prompt, execute DTCVLCHK using one of the command options described in the "Usage" topic.
5. Review the logfile and use the IDMDS System Administration Tools to reconcile any reported problems. Refer to the *IDMDS System Administration Tools Online Help* for procedures on changing property values.

DTCVLCHK Messages

Note In the following error messages:

- The term *option* is equivalent to *switch*.
- The term *master object* is equivalent to *source object*.
- The term *mastered* is equivalent to *sourced*.
- There are references to options (switches) that are intended for internal FileNET purposes only. Do not use any switches or parameters that are not listed in the "Parameters and Switches" topic.

-D mode

- SYSTEM OBJECT: DOCTYPE_CONTROL_OBJ is effectively identical between libraries *system1* on *server1* and *system2* on *server2*.
- SYSTEM OBJECT: DOCTYPE_CONTROL_OBJ is different between libraries *system1* on *server1* and *system2* on *server2*.

DOCTYPE_CONTROL_OBJECT holds certain pieces of information: the custom property ID used on items to hold their Document Classes, and the default DocType (Document Class) for new items. Even though the IDs of the custom properties may differ, that should be concealed by the custom property mapper. Generally, they should be identical except when different default DocTypes have been set for the two library systems, which is a legitimate and harmless difference.

- DUP MASTER: DocClass *name* is mastered on library *system1* on *server1* and on library *system2* on *server2*. The two masters are effectively identical.
- DUP MASTER: DocClass *name* is mastered on library *system1* on *server1* and on library *system2* on *server2*. The two masters differ.

This message also applies to CVLs. These messages will be common in upgraded library systems. Since neither DocTypes nor CVLs could be replicated in an IDMDS 4.3 library system, it was necessary to create them on each system. As a consequence, when the domain is upgraded, there will be duplicate masters. On a newly installed 5.1 library system, or an upgraded library system after migration has been completed, this will usually mean that someone has created an object on the wrong library system. It could also mean that a migration failed during the movement of an object.

- HYBRID CVL: CVL *name* is mastered on library *system1* on *server1*, but value value within that CVL is a replica from library *system2*.
- HYBRID CVL: CVL *name* is mastered on library *system1*, but value value within that CVL is mastered on library *system2* on *server2*.

Hybrids occur when CVLs with the same name but differing values are created on two different library systems; the replication daemon merges the values. There will be no hybrid CVLs during the upgrade from an IDMDS 4.3 library system because hybrids can only appear after CVLs have been replicated (which was not allowed in IDMDS 4.3).

- MISSING MASTER: The replica of DocClass *name* found on library *system1* on *server1* claims to be mastered on *system2*, but there is no such library in the domain.

This message also applies to CVLs. This is not likely to occur unless the database has been altered, or the database has become corrupted. This will not be seen during an upgrade because there is no such thing as a replica Document Class or CVL on an IDMDS 4.3 library system.

- WARNING: The replica of DocClass *name* found on library *system1* on *server1* claims to be mastered on *system2*, which we could not connect to. Cannot verify this DocClass.

This message also applies to CVLs. Occurs when the source library system for this DocType or CVL cannot be reached, so there is no way to check whether the replica is valid. This will not be seen during an upgrade since there is no such thing as a replica Document Class or CVL on an IDMDS 4.3 library system.

- CORRUPT REPLICAS: The replica of DocClass *name* found on library *system1* on *server1* does not match its master on library *system2*.

This message also applies to CVLs. This could be due to replication failure or database corruption but it can likely be fixed by forcing the object to replicate again. This will not be seen during an

upgrade because there is no such thing as a replica Document Class or CVL on an IDMDS 4.3 library system.

- **MISSING MASTER:** The replica of DocClass *name* found on library *system1* on *server1* claims to be mastered on *system2*, but there is no such DocClass on that library.

This message also applies to CVLs. This message indicates a serious problem. This message will also appear if *system2* has a replica of a DocClass or CVL object. Ideally, another master of the object can be located somewhere in the domain. This will not be seen during an upgrade because there is no such thing as a replica Document Class or CVL on an IDMDS 4.3 system.

- **MISSING REPLICA:** There is no replica of DocClass *name* (mastered on library *system1* on *server1*) on library *system2* on *server2*.

This message also applies to CVLs. DTCVLCHK checks that for every source object, every other library system in the domain has a replica by the same name. It does not, however, check the replica's source library system because that has already been done elsewhere. This message will be seen frequently during upgrades because there are no existing replicas of any DocType or CVL.

Two-library Mode

- **SYSTEM OBJECT:** DOCTYPE_CONTROL_OBJ is effectively identical on the two libraries.
- **SYSTEM OBJECT:** DOCTYPE_CONTROL_OBJ is different on the two libraries.

DOCTYPE_CONTROL_OBJECT holds the following pieces of information: the custom property ID used on items to hold their Document Classes, and the default DocType (Document Class) for new items. Even though the IDs of the custom properties may differ, that should be concealed by the custom property mapper. Generally, they should be identical except when different default DocTypes have been set for the two systems, which is a legitimate and harmless difference.

- **SYSTEM OBJECT:** DocTypes CVL is effectively identical on the two libraries.
- **SYSTEM OBJECT:** DocTypes CVL is different on the two libraries.

The CVL named "DocTypes" is a system object that lists the names of all DocTypes on that library system. Within an administrative domain, it should be identical on each library system. For library systems that are *not* in the same domain, it is okay for lists to be different. If DTCVLCHK is run during an upgrade, the lists may also differ because DocTypes were not replicated in IDMDS 4.3, and all of them may not have been created on all library systems in the domain.

- **DUPLICATE:** DocClass *name* is effectively identical on both libraries.
- **DUPLICATE:** DocClass *name* appears on both libraries but differs between them.

This message also applies to CVLs.

DTCVLMIG

DTCVLMIG migrates Document Classes and CVLs between two or more library systems. It is used to consolidate Document Class and CVL administration on one machine within a replication domain (which is the recommended configuration for IDMDS 5.1). The utility is required when upgrading an IDMDS 4.3 domain to 5.1, and can also be used to fix an IDMDS 5.1 domain that was configured incorrectly.

DTCVLMIG does minimal consistency checking. It assumes that you have run DTCVLCHK and cleaned up any problems. If the system is in an inconsistent state, running DTCVLMIG can greatly exacerbate the problem.

DTCVLMIG makes changes to the states of Document Classes and CVLs. The order in which the changes are made has been carefully chosen such that inadvertent interruption of the program, loss of network connectivity, and other errors should leave the system in a functional state with regard to Document Classes and CVLs. It may not be in a consistent state, but the system should be able to function while the administrator investigates and decides what actions to take. For example, running DTCVLCHK to determine the state of the library system.

If not specified, DTCVLMIG will prompt the user for the required admin user names and passwords. In all modes, DTCVLMIG requires Admin access rights to at least one library system.

For a given source object on library system A, there are seven possible cases that can occur on library system B (as described below). The number of each case corresponds to numbered options (or switches).

- 0 There is no object of the same name.
- 1 There is an identical source object of the same name.
- 2 There is a non-identical source object of the same name.
- 3 There is an identical replica object of the same name.
- 4 There is a non-identical replica object of the same name.
- 5 There is an identical replica object of the same name, but it has another library system (not library system A) as its source library system (that is, a "foreign" replica).
- 6 There is a non-identical replica object of the same name, but it has another library system (not library system A) as its source library system (that is, a "foreign" replica).

Note DTCVLMIG supports case 0 and 1. You cannot use DTCVLMIG to address cases 2 through 6. The DTCVLMIG utility is included in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to "IDMDS 5.1.1 Service Pack" on page 13.

Usage

Warning DTCVLMIG contains some switches that are intended for internal FileNET purposes only. Do not deviate from the following usage examples or use any switches or parameters that are not listed in the "Parameters and Switches" topic.

To list all library systems in the replication domain to which the specified library system belongs:

```
dtcvlmig -L domain_master_library domain_master_server [admin_user  
admin_pwd]
```

To add objects in the *current_home_library* to the *domain_master_library* and make the source object a replica of the new object in the *domain_master_library*:

```
dtcvlmig [-v] [-x] -0a current_home_library current_home_server  
domain_master_library domain_master_server logfile [admin_user1 admin_pwd1  
admin_user2 admin_pwd2]
```

To demote objects in the *current_home_library* to be replicas of objects in the *domain_master_library*:

```
dtcvlmig [-v] [-x] -1d current_home_library current_home_server  
domain_master_library domain_master_server logfile [admin_user1 admin_pwd1  
admin_user2 admin_pwd2]
```

Parameters and Switches

-0a	Adds the object to the target library system and makes the source object a replica of the new target object.
-1d	Demotes the source object to be a replica of the target object.
-L	Lists all library systems in the replication domain.
-v	Displays logged output on the screen.
-x	Causes DTCVLMIG to migrate objects. If the -x switch is not specified, a listing of objects to be migrated is produced, but no migration is performed.
	Caution You may want to initially run this utility without the -x switch to check for anomalous messages and errors.
<i>admin_pwd</i>	Administrative user password for the specified library system.
<i>admin_pwd1</i>	Administrative user password for the first library system specified on the command line.
<i>admin_pwd2</i>	Administrative user password for the second library system specified on the command line.
<i>admin_user</i>	Administrative user name for the specified library system.
<i>admin_user1</i>	Administrative user name for the first library system specified on the command line.
<i>admin_user2</i>	Administrative user name for the second library system specified on the command line.

<i>current_home_library</i>	A library system other than the domain master where the Document Classes and/or CVLs are currently source objects instead of replicas.
<i>current_home_server</i>	A library system server other than the domain master server where the Document Classes and/or CVLs are currently source objects instead of replicas.
<i>domain_master_library</i>	The name of the domain master library system for the replication administrative domain. Refer to “Replication Services Overview” on page 465 for more information.
<i>domain_master_server</i>	The computer name of the server where the domain master library system's database is installed.
<i>logfile</i>	The name of a text file that contains the command's output.

Procedure

You can run DTCVLMIG on a 32-bit Windows machine that has the appropriate database client software and IDMDS Client Library Files installed and configured to connect to the necessary library systems associated with the replication administrative domain.

Note It will generally be most convenient to run DTCVLMIG on a server within the domain, since such a machine should have the correct IDMDS Client Library Files and configuration.

To run DTCVLMIG:

1. Insert the IDMDS 5.1.1 Service Pack CD-ROM.
2. Change to the **drive:\Admin\Util** directory on the CD-ROM.
3. From a DOS command prompt, execute DTCVLMIG using one of the command options specified in the "Usage" topic.
4. Review the logfile and use the IDMDS System Administration Tools to reconcile any reported problems. Refer to the *IDMDS System Administration Tools Online Help* for procedures.

DTCVLMIG Messages

You may see one or more of the following error messages when IDMDS is in two-library system mode:

Note In the following error messages:

- The term *homelib* is equivalent to *source library*.
- The term *option* is equivalent to *switch*.
- The term *master object* is equivalent to *source object*.
- There are references to options (switches) that are intended for internal FileNET purposes only. Do not use any switches or parameters that are not listed in the "Parameters and Switches" topic.
- *Library1* and *library2* must be different!

- Library *system* on *server* is not part of a domain. Both libraries must be part of a domain. Aborting.
- Library *source_system* on *source_server* is not in the same domain as library *target_system* on *target_server*. Both libraries must be in the same domain. Aborting.
- Moving master DocClasses from library *source_system* on *source_server* to library *target_system* on *target_server*.

Displayed when the `-d` switch is specified.

- Moving master DocClasses and CVLs from library *source_system* on *source_server* to library *target_system* on *target_server*.

Displayed when the `-d` or `-c` switch is specified.

- Moving master DocClasses and CVLs and CVL values from library *source_system* on *source_server* to library *target_system* on *target_server*.

Displayed when the `-d`, `-c`, `-a`, or no switch is specified.

- Moving master DocClasses and CVL values from library *source_system* on *source_server* to library *target_system* on *target_server*.

Displayed when the `-d` or `-a` switch is specified.

- Moving master CVLs from library *source_system* on *source_server* to library *target_system* on *target_server*.

Displayed when the `-c` switch is specified.

- Moving master CVLs and CVL values from library *source_system* on *source_server* to library *target_system* on *target_server*.

Displayed when the `-c` or `-a` switch is specified.

- Moving master CVL values from library *source_system* on *source_server* to library *target_system* on *target_server*.

Displayed when the `-a` switch is specified.

- Running in TEST mode. No objects will be moved.

The `-x` switch was not specified.

- Running in EXECUTE mode! Objects will be moved!

The `-x` switch was specified.

- DocClasses have been modified.

CVLs have been modified.

CVL values have been modified.

At least one object has been successfully or partially migrated.

- Replication triggers of *system* on *server* successfully disabled.
- Migrating DocClasses from *source_system* on *source_server* to *target_system* on *target_server*.

A similar message is displayed for CVLs and CVL values.

- Replication triggers of *system* on *server* successfully re-enabled.
- WARNING: DocType *name* does not exist on the target library. It will be added.

Displayed when no options are specified (the default). A similar message is displayed for CVLs and CVL values.

- WARNING: DocType *name* does not exist on the target library. No action will be taken for this DocType.

Displayed when the *-0n* option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: An identical master of DocType *name* exists on the target library. The source will be made into a replica of the existing target.

Displayed when the *-1d* option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: An identical master of DocType *name* exists on the target library. The source will overwrite the target.

Displayed when the *-1o* option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: An identical master of DocType *name* exists on the target library. No action will be taken for this DocType.

Displayed when *-1n* or the default option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: A differing master of Doctype *name* exists on the target library. The source will be made into a replica of the existing target.

Displayed when the *-2d* option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: A differing master of DocType *name* exists on the target library. The source will overwrite the target.

Displayed when the *-2o* option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: A differing master of DocType *name* exists on the target library. No action will be taken for this DocType.

Displayed when the default option is specified. A similar message is displayed for CVLs and CVL values.

- An identical replica of DocType *name* exists on the target library. Normal migration.

Displayed when the default option is specified. A similar message is displayed for CVLs and CVL values.

- An identical replica of DocType *name* exists on the target library. No action will be taken for this DocType.

Displayed when the `-3n` option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: A differing replica of DocType *name* exists on the target library. The source will overwrite the target.

Displayed when the `-4o` option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: A differing replica of DocType *name* exists on the target library. No action will be taken for this user.

Displayed when the default option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: An identical replica of DocType *name* exists on the target library, but the replica's homelib (*system*) is not the source library. The source will be made into a replica with the same homelib as the target.

Displayed when the `-5d` option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: An identical replica of DocType *name* exists on the target library, but the replica's homelib (*system*) is not the source library. The source will overwrite the target.

Displayed when the `-5o` or `-h` switch is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: An identical replica of DocType *name* exists on the target library, but the replica's homelib (*system*) is not the source library. No action will be taken for this DocType.

Displayed when the default option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: A differing replica of DocType *name* exists on the target library, but the replica's homelib (*system*) is not the source library. The source will be made into a replica with the same homelib as the target.

Displayed when the `-6d` option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: A differing replica of DocType *name* exists on the target library, but the replica's homelib (*system*) is not the source library. The source will overwrite the target.

Displayed when the `-6o` option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: A differing replica of DocType *name* exists on the target library, but the replica's homelib (*system*) is not the source library. No action will be taken for this user.

Displayed when the default option is specified. A similar message is displayed for CVLs and CVL values.

- WARNING: Bad internal type for DocType *name*! No action will be taken for this DocType.

Internal DTCVLMIG program error.

- Some custom properties are missing on the target library. Cannot add this DocType.

DTCVLMIG scans the source DocType's property list looking for custom properties and attempts to map them to custom properties on the target library system, in the same way that the replication daemon does when replicating DocTypes. This message means that it could not map all of the custom properties found in the source's property list, so this DocType (which does not exist on the target) will not be added there.

- Some custom properties are missing on the target library. Cannot move this DocType.

Same description as the previous message, except the DocType did exist on the target and will be overwritten.

- DocType's added-by user *source_user* does not exist on target, changing to *target_admin_user*.

DocType's owner *source_user* does not exist on target, changing to *target_admin_user*.

These messages mean the same thing. Similar messages are displayed for CVLs and CVL values.

- Cannot move matching CVLDATA for DocType *name* because it does not exist on source library.

DTCVLMIG couldn't add the CVLDATA to the target library system because it couldn't find it on the source library system.

When a DocType does not exist on the target library system, DTCVLMIG adds the DocType and the CVLDATA in CVL "DocTypes." If DTCVLMIG did not do this, the Document Class and CVL Administration tool would add them, which would result in multiple masters or other undesirable situations.

- Error: Cannot migrate CVL value *value* in *CVLname* to target library because CVL *CVLname* does not exist on target!

Trying to migrate a CVL value, but there is no appropriate CVL object on the target.

- Error: Cannot migrate CVL value *value* in *CVLname* to target library because CVL *CVLname* on target library has differing datatype.

Trying to migrate a CVL value, but the CVL object on the target has a different datatype.

FILE2ID

Using the specified encrypted file name for a version, this utility generates the associated item ID and version ID for the version file.

Usage

```
file2id encrypted_filename
```

Parameters and Switches

encrypted_filename The specified encrypted file for a version, as identified in the storage repository.

Usage Notes

Use ID2FILE to do the opposite operation of FILE2ID, that is, to generate the version's encrypted file name from that version's item ID and version ID.

Procedure

To run FILE2ID:

1. On the property server, access the directory containing the **file2id** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldm\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir/ldm\librarysystem/util</i>

2. On the command line, enter:

```
file2id encrypted_filename
```

This example displays the item ID and version ID of the version on your monitor.

ID2FILE

ID2FILE uses the specified item ID and version ID for a given version file to generate the encrypted file name for that version.

Usage

```
id2file item_id version_id
```

Parameters and Switches

<i>item_id</i>	The item ID used to generate the encrypted file name.
<i>version_id</i>	The version ID used to generate the encrypted file name.

Usage Notes

Use FILE2ID to do the opposite operation of ID2FILE, that is, to generate the version's item ID and version ID from that version's encrypted file name.

Procedure

To run ID2FILE:

1. On the property server, access the directory containing the **id2file** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\Idmds\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir\idmds\librarysystem\util</i>

2. On the command line, enter:

```
id2file item_id version_id
```

This example displays the encrypted file name of the version on your monitor.

INDXDATE

Description

INDXDATE indexes for content search those versions that were last accessed (that is, checked out, checked in, or copied) before a specified date.

Usage

```
indxdate /username= /password= /propertyserver=  
/librarysystem= /date= /indextype= /itemsearch=  
/listonly= /logfile= /inputfile=
```

Parameters and Switches

/username=	The user name of the person indexing the versions. Only versions to which this user has at least Owner access rights can be indexed. To avoid potential access violations, this utility should in most cases be run by the Admin user.
/password=	The password, if any, for the user identified with the <i>username</i> parameter. If you use a batch file, we suggest that you not include the <i>password</i> parameter in your script (it can be read by anyone who can view the contents of that file). Instead, you should allow the utility to prompt you for this value (your response will be masked on the screen as you type it).
/propertyserver=	The name of the server where the Property Manager is installed.
/librarysystem=	The name of the IDMDS library system.
/date=	The identifying version date. Versions that were last accessed before 12:00 a.m. of this date will be flagged for indexing. This date must appear in the format <i>mm/dd/yyyy</i> (for example, 06/11/1995).
/indextype=	The type of indexing operation to perform: I Index R Reindex D Deindex
/itemsearch=	The name of a pre-existing item search. Note that INDXDATE will produce inaccurate results if any search type other than an item search is specified for this parameter. Only versions of items returned by this search may be archived (based on the /date= parameter).
/listonly=	A Yes/No value to indicate whether you want to run the utility in list mode only (the default value is Yes).

`/logfile=` The name of the file to which you want the log of the INDXDATE results sent. This log will identify the following information of the versions that were indexed: Item ID, Version ID, Last access date, and number of bytes freed per version.

You can specify a value for this parameter in one of three ways:

- Accept the default value, **indxdate.log**. (If this file already exists, the new information will be appended to it.)
- Specify a different log file name. (If the file already exists, the new information will be appended to it.)
- Use `con` as the parameter value to indicate that you want the log printed to your monitor rather than to a file (for example, `logfile=con`).

`/inputfile=` The name of the file containing prompt-response values for the command line parameters.

Usage Notes

- On the command line, you must include a forward slash (/) before each parameter and a blank space between parameter statements. No space should appear between the parameter and its value, however, the parameter values themselves may contain blank spaces.

For example, you might type (on one line):

```
indxdate /username=John Braughn  
/propertyserver=01 /librarysystem=MZ1 /date=06/11/1997  
/itemsearch=mysrch /listonly=n
```

and press Enter to start the utility. If you leave any parameters out (as in this example), you will be prompted for them individually.

- You must run INDXDATE from a property server or storage server.
- The first property from your search is the default sort order setting. (An exception to this is the keyword property which cannot be used to sort search results.) If item ID is not the first property in your stored search, you must change the sort order.
- (MS-SQL only) On average, indexing 1000 versions will consume 70 MB of transaction log space. We recommend setting your log full threshold to 80% or less and indexing versions in increments so that the log does not fill to capacity. After you run INDXDATE, we suggest you perform a full system backup to save the content search repositories and to clear the log.

Procedure

To run INDXDATE from the command line:

1. If you want to use a search to identify the versions to index, you must create that search (and save it at the System access level) before running INDXDATE. Use IDMDS Explorer or any other interface to the library system.

2. On the property server, access the directory containing the **indxdate** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldmms\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir/ldmms/librarysystem/util</i>

3. On the command line, enter:

```
indxdate
```

and, optionally, one or more of the associated parameters. You will be prompted for any parameters that you did not include on the command line.

The search, if any, is run first. Then, as the index operations take place, the results are either displayed on your monitor or printed to the specified log file.

To run INDXDATE from a batch file:

1. If you want to use a search to identify the versions to index, you must create that search (and save it at the System access level) before running INDXDATE. Use IDMDS Explorer or any other interface to the library system.

2. Create a batch file with the following line in it:

```
indxdate /inputfile=indxdate.res
```

We recommend against including your library system password in the batch file. (Instead, allow the system to prompt you for it.) However, if you prefer to include the password so that this operation can be run completely unattended, replace the preceding batch file command with:

```
indxdate /password=value /inputfile=indxdate.res
```

If your library system does not have a password, type in instead:

```
indxdate /password= /inputfile=indxdate.res
```

3. Create the **indxdate.res** file. In this file, type in your values for the command line parameters, excluding password and inputfile, in the correct order as shown in the following example. Include a space before and after equal signs (=) and separate each command line parameter with a carriage return. For example:

```
username = John Doe
propertyserver = server01
librarysystem = system01
date = 06/11/1995
indextype = I
itemsearch = indxdate search
listonly = no
logfile = indxdate.log
```

4. When you are ready to run INDXDATE, start the batch file.

The search, if any, is run first. Then, as the index operations take place, the results are either displayed on your monitor or printed to the specified log file.

INDEXFIX

INDEXFIX searches for and queues for indexing all versions with an indexing status of "filter failed" or "index failed". The search is created by INDEXFIX as a search for all versions in the database.

INDEXFIX should be run whenever you install new indexing filters or whenever problems with a Storage Manager are suspected of causing indexing failures.

Note The utility REPCHECK does not repair index failures or filter failures.

Usage

```
indxfix /username= /password= /propertyserver=  
/systemname= /currentversiononly= /listonly= /logfile=  
/inputfile=
```

Parameters and Switches

/username=	The user name of the person indexing the versions. Only versions to which this user has at least Owner access rights can be indexed. To avoid potential access violations, this utility should in most cases be run by the Admin user.
/password=	The password, if any, for the user identified with the <i>username</i> parameter. If you use a batch file, we suggest that you not include the <i>password</i> parameter in your script (it can be read by anyone who can view the contents of that file). Instead, you should allow the utility to prompt you for this value (your response will be masked on the screen as you type it).
/propertyserver=	The name of the server where the Property Manager is installed.
/systemname=	The name of the IDMDS library system.
/currentversiononly=	A Yes/No value to indicate whether you want to index only the current version or all versions up to the indexed version limit.
/listonly=	A Yes/No value to indicate whether you want to run the utility in list mode only (the default value is Yes).
/logfile=	The name of the file to which you want the log of the INDEXFIX results sent. This log will identify the following information of the versions that were indexed: Item ID, Version ID, Last access date, and number of bytes freed per version.

You can specify a value for this parameter in one of three ways:

- Accept the default value, **indxfix.log**. (If this file already exists, the new information will be appended to it.)
- Specify a different log file name. (If the file already exists, the new information will be appended to it.)
- Use con as the parameter value to indicate that you want the log printed to your monitor rather than to a file (for example, logfile=con).

`/inputfile=` Optional: The name of the file containing prompt-response values for the command line parameters.

Usage Notes

- On the command line, you must include a forward slash (/) before each parameter and a blank space between parameter statements. No space should appear between the parameter and its value, however, the parameter values themselves may contain blank spaces.

For example, you might type (on one line):

```
indxfix /username=John Braughn /propertyserver=01 /systemname=MZ1 /  
currentversiononly=y /listonly=n
```

and press Enter to start the utility. If you leave any parameters out (as in this example), you will be prompted for them individually.

- You must run INDXFIX from a property server or storage server.
- On average, indexing 1000 versions will consume 70 MB of transaction log space. We recommend setting your log full threshold to 80% or less and indexing versions in increments so that the log does not fill to capacity. After you run INDXFIX, we suggest you perform a full system backup to save the content search repositories and to clear the log.

Procedure

To run INDXFIX from the command line:

- On the property server, access the directory containing the **indxfix** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\Idmds\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir/idmds/librarysystem/util</i>

- On the command line, enter:

```
indxfix
```

and, optionally, one or more of the associated parameters. You will be prompted for any parameters that you did not include on the command line.

INDXFIX runs a version search to find all the versions with indexing status of "filter failure" or "index failure". Then, for each version found to be indexed, the results are either displayed on your monitor or printed to the specified log file.

To run INDXFIX from a batch file:

- Review the INDXFIX *Comments* topic.
- Create a batch file with the following line in it:

```
indxfix /inputfile=indxfix.res
```

We recommend against including your library system password in the batch file (rather, allow the system to prompt you for it). However, if you would prefer to include the password so that this operation can be run completely unattended, you must replace the preceding batch file command with the following line:

```
indxfix /password=value /inputfile=indxfix.res
```

To indicate that you have no password, type in instead:

```
indxfix /password= /inputfile=indxfix.res
```

3. Create the **indxfix.res** file. In this file, type in your values for the command line parameters, excluding password and inputfile, in the correct order as shown in the following example. Separate each command line parameter with a carriage return.

```
username = John Doe  
propertyserver = server01  
systemname = system01  
currentversiononly = yes  
listonly = no  
logfile = indxfix.log
```

4. When you are ready to run INDXFIX, start the batch file.

As the index operations take place, the results are either displayed on your monitor or printed to the specified log file.

REPCHECK

REPCHECK verifies that the logical links between the property repository (database) and the storage or content search repositories are intact. REPCHECK can either report inconsistencies or attempt to fix them.

Caution For Microsoft SQL Server databases, running REPCHECK in fix mode has the potential to fill your transaction log. When you run REPCHECK in fix mode, be sure to use a well-defined limit on the max number of errors to fix. Also, you may need to adjust your transaction log configuration in SQL Server. One way to avoid this problem is to enable the "Truncate log on checkpoint" feature before running REPCHECK (and then disable it afterward if desired). This option is available in Enterprise Manager, on the Options tab of the database properties sheet. Another way to avoid the problem is to configure the transaction log file to auto-grow. This option is available in Enterprise Manager, on the Transaction Log tab of the database properties sheet. If you use this method, you should monitor the process to ensure that the transaction log file does not fill up your disk. Refer to *SQL Server Books Online* for more information about these database features.

Usage

```
repcheck property_server librarysystem repository_type  
repository_id max_errors check_mode log_path
```

Parameters and Switches

<i>property_server</i>	The name of the server where the Property Manager is installed.
<i>librarysystem</i>	The name of the IDMDS library system.
<i>repository_type</i>	The kind of repository. The options are: <ul style="list-style-type: none">c Content Search Managers Storage Manager
<i>repository_id</i>	The ID number of the storage repository or the content search repository (as identified in the Storage Repository or Content Search Repository object).
<i>max_errors</i>	The maximum number of errors that will be fixed or reported before the tool will stop and exit.
<i>check_mode</i>	The repcheck operation mode: <ul style="list-style-type: none">r Report onlyf Fixc Create New Index and Fix (content search repository only)
<i>log_path</i>	The directory path where the log file will be written. This parameter is optional. The default location is the directory where the utility is located.

Usage Notes

- We recommend that you periodically run REPCHECK and check for files in the **lost+found** directories.

For the library system to work properly, the integrity of the links between the storage and content search repositories, and the Property Manager (database) must be strictly maintained. Over time, however, discrepancies may arise. For example, users may receive error messages indicating that the library system cannot find a version file or that a file has been found that does not have a corresponding object in the property repository. Such conditions may be caused by power outages during particular operations or by internal software problems.

- Because fixing a large number of inconsistencies may take a long time, we recommend running REPCHECK in the Report mode first. You can then use the *max_errors* parameter to adjust the number of inconsistencies that will be fixed each time REPCHECK is run.
- When running REPCHECK in the Fix mode against a storage repository, REPCHECK will not attempt to fix items that have been in the storage repository less than 10 minutes. However, it will report any inconsistencies found in the new items. This feature prevents REPCHECK from attempting to fix items that are in the process of being added to a library system.
- REPCHECK must be run from the library system property server, and the library system services must be running. On Windows NT platforms, REPCHECK must have access to the 32-bit client DLLs.
- REPCHECK can be run in the following modes:
 - Report only: Creates a report.
 - Fix: Creates a report and attempts to fix any inconsistencies.
 - Create New Index and Fix: Only applies to content search repositories. Creates a report, creates a new index (if required), and attempts to fix any inconsistencies.
- When the repository type is Storage Manager, REPCHECK will create a report named **stmgrxxx.log** (where **xxx** is the repository ID) in the directory containing the **repcheck** executable or in the directory specified by the *log_path* parameter. The log file (for example, **stmgr001.log**) will contain the run date and time, the check mode, and a table identifying any inconsistencies. The table will contain the following columns:
 - Condition: A code identifying the type of inconsistency. See below for code descriptions.
 - Item/Version: The item ID and version ID of the affected item and version.
 - Filename: The name of the affected shelf file (as identified in the **shelfxxx** directory).
 - User: The name of the user who checked in the item version.
 - Fix Status: The status code returned by REPCHECK. For example, a return status of 0 indicates success and a return status of 16477 indicates that a general DBI error has been detected. Refer to the “[Status Codes](#)” on page 442 for a description of available status codes.
- When the repository type is Content Search Manager, REPCHECK will create a report named **csmgrxxx.log** (where **xxx** is the repository ID) in the directory containing the **repcheck** executable

or in the directory specified by the *log_path* parameter. The log file (for example, **csmgr001.log**) will contain the run date and time, the check mode, and a table identifying any inconsistencies. The table will contain the following columns:

- Condition: A code identifying the type of inconsistency. See below for code descriptions.
- Item/Version: The item ID and version ID of the affected item and version.
- Index ID: The content index ID (CID) of the item version.
- Fix Status: The status code returned by REPCHECK. For example, a return status of 0 indicates success and a return status of 16477 indicates that a general DBI error has been detected. Refer to the “[Status Codes](#)” on page 442 for a description of available status codes.
- The following table describes the condition codes and the action that will be taken if REPCHECK is run in either Fix or Create New Index and Fix mode.

Code	Description	Fix Mode Action
1	Invalid file on the storage repository.	Move file to directory lost+found located one directory up from storage repository directory.
2	Version in property repository indicates file is located in the storage repository, but it isn't located there.	Mark the version status as Online Lost.
3	Version in property repository points to file on different storage repository and version file exists in this repository.	Update version storage repository ID to value of storage repository in check.
4	File exists in the storage repository with no corresponding version in the property repository.	Move file to directory lost+found located one directory up from storage repository directory.
5	Version file status is Offline when file exists in the storage repository.	Mark version file status as Online.
6	Version file status is marked as Offline - NonReclaimable when file exists in the storage repository.	Mark version file status as Online.
7	Version file status is marked as Online Lost when file exists in the storage repository.	Mark version file status as Online.
8	Version file status is marked as Offline Lost when file exists in the storage repository.	Mark version file status as Online.
9	Version entry is indexed in content search repository but version doesn't exist in property repository.	Remove entry from content search repository.

Code	Description	Fix Mode Action
10	Version in property repository exists but isn't marked as indexed. The version does exist in the content search repository.	Remove entry from content search repository.
11	Version in property repository is marked as being indexed but it isn't in the content search repository.	Request is made to reindex this version.
12	Version in property repository is marked as being indexed and entry exists in content search repository, but the catalog entry contains an incorrect pointer reference to the version.	Entry is removed from content search repository and the version is reindexed.
13	Version in the property repository is marked as being indexed but points to an incorrect reference to the content search repository, meanwhile the content search repository shows this version has been properly indexed.	Entry is removed from content search repository and the version is reindexed.

- A library system administrator must take the appropriate action to address each file that appears in the **lost+found** directory. For example, the administrator may need to add the file to the appropriate storage repository (making the necessary modifications to the Property Manager) or she may need to delete the file.

Procedure

To run REPCHECK:

1. On the property server, access the directory containing the **repcheck** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\Idmds\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir/Idmds/librarysystem/util</i>

2. On the command line, enter:

```
repcheck
```

and, optionally, one or more of the REPCHECK parameters in the order specified above. You will be prompted for the remaining parameters that you did not include on the command line (except for the optional *log_path* parameter). To specify an alternative path for the REPCHECK log file, you must enter all of the parameters (including *log_path*) on the command line.

3. Respond to the REPCHECK results. Refer to the REPCHECK *Comments* topic for details.

REPLKICK

REPLKICK forces Users, Groups, DocClasses, and CVLs to replicate throughout a replication administrative domain (see “Administrative Domains” on page 476 for a detailed description)

REPLKICK is a command-line utility for Windows NT. You run it against the domain master library system to synchronize library systems after an upgrade from IDMDS 4.3 to 5.1. You can run it on any machine that has the appropriate IDMDS Client Library Files installed and configured to connect to the necessary property servers. Typically, it is most convenient to run it on the administrative domain master server.

Note The REPLKICK utility is included in the *drive:\Admin\Util* directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to “IDMDS 5.1.1 Service Pack” on page 13.

Usage

```
replkick [-v] domain_master_library domain_master_server logfile [admin_user  
admin_pwd]
```

Parameters and Switches

<code>-v</code>	Echo the logfile output to the screen.
<code>domain_master_library</code>	The library system name of the administrative domain master. If the library you specify is not the administrative domain master, an error is reported and REPLKICK quits.
<code>domain_master_server</code>	The computer name where the domain master library system is installed.
<code>logfile</code>	File name for the log generated by this utility.
<code>admin_user</code>	The username for the IDMDS Admin account. REPLKICK requires admin access to the designated administration library. You can specify the administrative username and password on the command line; if you do not, REPLKICK will prompt you for them.
<code>admin_pwd</code>	The password for the IDMDS Admin account.

Usage Notes

All four object types (users, groups/memberships, DocClasses, and CVLs) are queued for replication.

You can safely run REPLKICK while repldaemon is active. Even if repldaemon scans the table while REPLKICK is running, that just means that some raw requests get converted now and some will have to wait until next time repldaemon scans the table.

Repldaemon uses the same work ID for all three of DOCTYPE/CVLOBJ/CVLDATA, so they all show up in replmon as the DocClass requests; this is correct behavior.

Whenever repldaemon receives a DOCTYPE ACL request, it automatically transfers all ACLs belonging to the given DOCTYPE, so only one request is needed, not one per ACL.

Procedure

To run REPLKICK:

1. If you are using REPLKICK during an upgrade from IDMDS 4.3 to 5.1, be sure to follow the procedure in “Upgrading Replication-enabled Systems” on page 141.
2. Run REPLKICK on a 32-bit Windows machine that has the appropriate IDMDS Client Library Files installed and configured to connect to the necessary property servers associated with the replication administrative domain. It is usually most convenient to run REPLKICK on the administrative domain master server or from an IDMDS administrative client (for example, in an HP-UX server environment).
3. On the command line, enter:

```
replkick
```

and, optionally, one or more of the associated parameters. You will be prompted for any parameters that you did not include on the command line.

Example

The following is an annotated example of REPLKICK run against two library systems: BUNNIES and SKUNKS. For this example, REPLKICK was run without any object type options specified (-u, -g, -d, or -c), so all object types were queued.

```
Queueing USERS for replication:
```

```
  Chandra  
  Syndi
```

```
Queueing GROUPS for replication:
```

```
  Hares
```

Note: *This group has no members.*

```
  Lapines
```

```
    member Chandra  
    member Syndi
```

```
Queueing DocTypes for replication:
```

```
  Experiment  
  General
```

```
Queueing CVLOBJs for replication:
```

```
  DocTypes  
  nosewiggling
```

```
Queueing CVLDATAs for replication:
```

```
  DocTypes Experiment  
  DocTypes General
```

Note: *There is actually a third value in the DocTypes CVL, but it is a replica from SKUNKS so it was not queued.*

```
nosewiggling no  
nosewiggling yes
```

SPISTAT

SPISTAT prints the programming defined value for a specific error code.

Note For a listing and description of all status codes refer to “Status Codes” on page 442.

Usage

```
spistat status_code
```

Parameters and Switches

status_code The status code value.

Procedure

To run SPISTAT:

1. On the property server, access the directory containing the **spistat** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\ldmds\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir/ldmds/librarysystem/util</i>

2. On the command line, enter:

```
spistat status_code
```

This displays the define value for the status code on your monitor.

SRDELETE

SRDELETE deletes items found by a given search.

Usage

```
srdelete propertyserver librarysystem username  
password search /delete:limit
```

Parameters and Switches

<i>propertyserver</i>	The name of the server where the Property Manager is installed.
<i>librarysystem</i>	The name of the IDM library system.
<i>username</i>	The user name for logging in to the specified library system server.
<i>password</i>	The password for the specified user.
<i>search</i>	The name of the saved item search to perform. Note that SRDELETE will produce inaccurate results if any search type other than an item search is specified for this parameter. Multi-word search names must be enclosed in quotation marks.
<i>/delete:</i>	Indicates that the documents found by the search operation are to be deleted.
<i>limit</i>	The limit on the number of items to delete. This number can only be specified in conjunction with the <i>/DELETE</i> option, and must be preceded by a <i>:</i> (colon).

Usage Notes

- You can specify any stored search request for SRDELETE, but it must be saved at the System access level, not at the User or Group access level. This requirement is intended to limit the use of SRDELETE to members of the Administrators group, which is the only group that can save searches at the System access level.
- The stored search request specified by SRDELETE must have item ID in its sort order. Note that the first property from your search is the default sort order setting. (An exception to this is the keyword property which cannot be used to sort search results.) If item ID is not in the sort order of your stored search, you must change the sort order. Refer to *IDMDS Explorer Online Help* for details.
- If any parameters are omitted, you will be prompted for them. You can run SRDELETE from the command line or in batch mode (if all the arguments are specified). Note that this reveals your password in the batch file or script.
- SRDELETE deletes the items it finds only if you specify the */delete* parameter; otherwise SRDELETE simply lists the items that it would delete, without actually deleting them.
- You can force SRDELETE to stop after a certain number of items by including a *limit* parameter value after the */delete* parameter. For example, to stop after attempting to delete 2000 items, you would include the option: */delete:2000*.

- SRDELETE reports its activity to your screen and to two log files (in a tab delimited format). The **srdelete.log** file shows the items deleted, their number of versions, total disk space freed, and a result code. The **srfailed.log** file is similar, but is a log of items that failed to delete. This **srfailed.log** file lets you address unusual cases easily.
- SRDELETE renames old log files with a sequential extension, as in **srdelete.001**, **srdelete.002**, and so on. As many as 10 old log files can be preserved in this way. SRDELETE preserves both the **srdelete.log** and **srfailed.log** files.

Procedure

To run SRDELETE:

1. Review the SRDELETE *Comments* topic and *Examples* topic.
2. On the property server, access the directory containing the **srdelete** executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\Idmds\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir/idmds/librarysystem/util</i>

3. On the command line, enter:

```
srdelete
```

and, optionally, one or more of the associated parameters. You will be prompted for any parameters that you did not include on the command line. SRDELETE deletes the items it finds only if you specify the `/delete` parameter; otherwise SRDELETE simply lists the items that it would delete, without actually deleting them.

Examples

```
srdelete srvr01 mycat admin secretpwd olditems
```

```
srdelete srvr01 mycat admin "" "Unaccessed 120 days" /delete
```

```
srdelete srvr01 mycat admin secretpwd olditems /delete:1000
```

SRLIST

SRLIST lists Saros Document Manager (SDM) smart folders and IDMDS stored searches created in user interfaces other than IDM Desktop. We recommend you run this utility against IDMDS 4.3 systems before upgrading to IDMDS 5.1. You can use the output from SRLIST to help you create and store IDM Desktop searches and search templates that provide search functionality comparable to SDM.

Note The SRLIST utility is included in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to “IDMDS 5.1.1 Service Pack” on page 13.

Usage

```
srlist -s system_name -d property_server -u "user_name" -p password -x  
>output_file
```

Flags and Parameters

-d	Must precede the <i>server_name</i> parameter.
-p	Must precede the <i>password</i> parameter.
-s	Must precede the <i>system_name</i> parameter.
-u	Must precede the <i>user_name</i> parameter.
-x	(Optional) May precede the <i>output_file</i> parameter, if you want the output formatted as XML. If you specify the -x flag, the <i>output_file</i> must have a .xml file extension.
<i>system_name</i>	Is the name of the IDMDS library system.
<i>server_name</i>	Is the name of the IDMDS server.
<i>user_name</i>	Is the name of the IDMDS library system user. If <i>user_name</i> contains a space, it must be enclosed in quotes (for example, "Joe User").
<i>password</i>	Is the user's system password. This parameter is not required if the user's password is null.
<i>output_file</i>	Is the name of a file where the output of SRLIST is written. If you specify the -x flag, the output will be formatted as XML. Otherwise, it will be formatted as ASCII text.

Note If you plan to output to an XML file, we recommend you also output to a text log file or the console to help you interpret the XML-formatted data. Be aware that XML does not fully support accented characters; if you've stored property values with accented characters in the library system, SRLIST's XML output will be adversely affected.

Examples

Depending on how you want your SRLIST results displayed, use any of the following examples:

To output to a DOS console:

```
srlist -s develop -d 99engdev -u "joe user" -p password
```

To output to an ASCII text log file:

```
srlist -s develop -d 99engdev -u "joe user" -p password >srlist.log
```

To output to an XML file:

```
srlist -s develop -d 99engdev -u "joe user" -p password -x >srlist.xml
```

SRLIST will display the name of each SDM smart folder and IDMDS stored search. All the smart folders are listed first, followed by all the stored searches. For each smart folder, the results will indicate the name of the folder and the name of the associated stored search. For each stored search the results will include, among other things: the name of the search; the User, Group, or System level at which the search was saved; the search's owner; and the property and content search criteria.

Below is an example of SRLIST output, as displayed in an ASCII text log file, showing one smart folder and its associated stored search. In a typical output file, you can find the search for each smart folder by matching the smart folder's *Description* property with the search's *Name* property.

```
Smart Folder
-----
Name: User documents
Description: Lisa's documents
Owner: Lisa Whitmore
.
.
.
Search Request
-----
Name: Lisa's documents
Parent Object: 1792
Parent Name: Lisa Whitmore
Owner: Lisa Whitmore
Comment: Lisa's Documents
Level: 1
Display these values:
  Title
  Current Version Checked Out?
  Last Access Date
  Subject
  Project Name
  Added By User
  Company Name
  Document Author
  Engineering Document Type
```

```
Engineering Project Name
Storage Category
Item ID
Original File Name
Protected?
Current Version ID
Comment
```

With a query of:

```
Title like "file%"
```

No CS Query criteria.

Sorted by:

```
Last Access Date (descending)
```

Below are descriptions of the properties shown in the preceding example:

Smart Folder

Name is the name of the smart folder.

Description is the name of the associated stored search.

Owner is the owner/creator of the smart folder.

Search Request

Name is the name of the stored search.

Parent Object indicates whether the search is a User (1792), Group (1536), or System (1280) level search.

Parent Name is the name of the parent User, Group, or System object that created the search.

Owner is the user who created the search.

Comment indicates user comments regarding the search.

Level indicates the access level assigned to the search, where 1=Viewer (default setting), 2=Author, 3=Owner, 4=Admin.

Display these values: begins a list of the properties used in the search results.

With a query of: indicates the search criteria.

Sorted by: indicates how the search results will be sorted.

Use this information and the actual search criteria displayed in SDM for each search to recreate the searches using the IDM Desktop. Remember that an SDM smart folder will search only the folder in which it appears. To create a comparable Desktop search, be sure to specify this same folder to limit the scope of the search.

Comments

- When typing the command to start the SRLIST utility, you can type the parameters in any order on the command line, as long as the correct flags are included.

- When typing the command to start the SRLIST utility, it is necessary to use quotes around user names that contain a space (as in, "Joe User"). See the "Usage" and "Examples" topics above.

Procedure

To run SRLIST:

1. From a DOS command prompt enter the following:

```
srlist -s system_name -d server_name -u user_name -p password -x output_file
```

Note The *output_file* parameter is optional.

Type Ctrl-C to exit SRLIST before it completes. Otherwise, a list of all SDM smart folders and IDMDs stored searches is created.

2. After you have run the utility, upgrade at least one client machine to IDM Desktop 3.1.
3. Manually create and save IDM Desktop searches to match those in the SRLIST output.
4. Test the IDM Desktop searches in the library to ensure that they provide the same search results as those being replaced. For example, to replace SDM smart folders, you may have to modify your IDM Desktop foldering structure, and then create IDM Desktop searches that run against a specified folder rather than the entire IDMDs library system.

UPDAFTER

UPDAFTER must be run after upgrading IDMDS 5.0 systems to IDMDS 5.1. Do *not* run it if you are upgrading from 4.3 to 5.1.x. It is necessary to run this utility in order to maintain the relationship between existing compound documents. If this tool is not run, the relationships are lost.

Note The UPDAFTER utility is included in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to “IDMDS 5.1.1 Service Pack” on page 13.

To run UPDAFTER:

1. From the Command Prompt, type:

```
updafter server system [logfile]
```

where *server* is the IDMDS property server, *system* is the library system name, and *logfile* is the file where you want to log the actions and any errors of the UPDAFTER utility.

2. Restart your IDMDS system.

UPDBEFORE

UPDBEFORE must be run before upgrading IDMDS 5.0 systems to IDMDS 5.1. Do *not* run it if you are upgrading from 4.3 to 5.1.x. It is necessary to run this utility in order to maintain the relationship between existing compound documents. If this tool is not run, the relationships are lost.

Note The UPDBEFORE utility is included in the *drive:\Admin\Util* directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to “[IDMDS 5.1.1 Service Pack](#)” on page 13.

To run UPDBEFORE:

1. Verify that all users are logged off of the system.
2. Shut down any services that may be running including Storage Managers, Content Search Managers, Replication Services.
3. From the Command Prompt, type:

```
updafter server system [logfile]
```

where *server* is the IDMDS property server, *system* is the library system name, and *logfile* is the file where you want to log the actions and any errors of the UPDBEFORE utility.

USGRPCHK

USGRPCHK detects potential user or group collisions between two or more IDMDS library systems in a replication administrative domain (see [“Administrative Domains”](#) on page 476 for a detailed description).

USGRPCHK is a command-line utility for Windows NT. You can run it on an IDMDS administrative client or any machine that has the appropriate IDMDS Client Library Files installed and configured to connect to the necessary library systems. USGRPCHK is a read-only utility; it does not modify any part of the database. It is safe to run while the replication daemon is running. For the most accurate results, do not run USGRPCHK when any user, group, or group membership replication requests are pending. If it is run while such requests are pending, the only undesired result would be a message about the affected users or groups not existing or not matching.

You can use USGRPCHK to detect problems in any of the following situations:

- Before they occur, when bringing a new library system into an existing administrative domain.
- After upgrading an IDMDS 4.3 administrative domain to 5.1 (see [“Upgrading Replication-enabled Systems”](#) on page 141 for information about when to run USGRPCHK in the upgrade procedure).
- To monitor an IDMDS 5.1 administrative domain for users or groups being created on incorrect machines.

USGRPCHK produces the following output:

Note Refer to [“Definition of Terms for USGRPCHK”](#) on page 428 for the criteria USGRPCHK uses to determine whether objects are considered *effectively identical* for replication purposes.

- Creates a list of source and replica users and groups.
- Attaches a list of group members to each group. Reports any memberships for non-existent groups or users and any groups that have no members.
- Checks all source users against each other, looking for duplicates by name. If the duplicate found is the Admin user or ReplDaemon, warns if they are not effectively identical. Otherwise, reports a duplicate user and whether the users are effectively identical.
- Checks all source groups against each other, looking for duplicates by name. If the duplicate found is the Administrators or General Users group, warns if they are not effectively identical. Otherwise, reports a duplicate group and whether the groups are effectively identical.
- For every replica user and group, extracts the source library system and checks that there is a matching source object on the indicated library system. Warns if the indicated library system doesn't exist, if the replica is not effectively identical to the source, or if there is no matching source object.
- For every source user and group, checks that every library system has a replica of the same name (except the library system that the source resides on). Displays a warning if no replica is found.
- Reports a list of users and groups sourced on each library system for reference.

Note The USGRPCHK utility is included in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to [“IDMDS 5.1.1 Service Pack”](#) on page 13.

Usage

You can run USGRPCHK with any of three modes, depending on what information you want it to produce. In all modes, USGRPCHK requires Admin access to at least one library system. You can provide the administrative user name and password on the command line, or be prompted for them.

The following command lists all library systems in the administrative domain to which the specified library system belongs.

```
usgrpchk -L domain_master_library domain_master_server [admin_user  
admin_pwd]
```

The following command performs collision and inconsistency detection among all reachable library systems in the administrative domain to which the specified library system belongs. It logs the output to *logfile*. The *-v* switch displays logged output on the screen as well. While running, the program will prompt for an admin user name and password for the other library systems in the domain.

```
usgrpchk -D [-v] domain_master_library domain_master_server logfile  
[admin_user admin_pwd]
```

The following command performs collision detection only between the two library systems. The *logfile* parameter and *-v* switch function are described above. This is the mode you would use when bringing a new library system into an existing administrative domain.

```
usgrpchk [-v] domain_master_library domain_master_server new_library  
new_library_server logfile [admin_user1 admin_pwd1 admin_user2 admin_pwd2]
```

Parameters and Switches

-D	Performs collision detection between all reachable library systems in the replication administrative domain to which <i>domain_master_library</i> belongs. If used with the <i>-v</i> switch, <i>-D</i> must precede <i>-v</i> .
-L	Lists all library systems in the replication administrative domain to which <i>domain_master_library</i> belongs.
-v	Displays logged output on the screen. Note Parameters are order-specific when using the <i>[-v]</i> switch; the <i>-D</i> parameter must precede the <i>-v</i> .
<i>logfile</i>	A text file containing a report of the collisions, inconsistencies, and missing replicas among the various User and Group objects.
<i>domain_master_library</i>	The name of the domain master library system for the replication administrative domain. See “Replication Services Overview” on page 465 for more information.
<i>domain_master_server</i>	The computer name of the server where the domain master library system's database is installed.

<i>new_library</i>	The name of the library system you are adding to the replication administrative domain.
<i>new_library_server</i>	The computer name of the server where the new library system is installed.
<i>admin_user</i> and <i>admin_pwd</i>	<p>The user name and password for the IDMDS Admin account.</p> <p>USGRPCHK requires Admin access to the designated administration library system. You can specify the administrative user name and password on the command line; if you do not, USGRPCHK will prompt you for them.</p> <p>Note The <i>admin_user</i> and <i>admin_pwd</i> parameters must be used as a pair; neither can be used on the command line without the other. Do not attempt to use these parameters on the command line if <i>admin_pwd</i> is null.</p> <p>The parameters <i>admin_user1</i> and <i>admin_pwd1</i> represent the user name and password for the first library system specified on the command line, and <i>admin_user2</i> and <i>admin_pwd2</i> represent the user name and password for the second library system specified on the command line.</p>

Definition of Terms for USGRPCHK

Effectively Identical User Objects

Two User objects are *effectively identical* if they have the same values for the following properties (each '?' that appears in the following list is part of the property name):

- User Name
- Default Group
- Default Path
- Default Storage Category
- Default Archive Category
- Default Run Application?
- Add Items?
- Add Users?
- Add Groups?
- Network Logon Name
- Primary Storage Manager
- Enabled?

- Default Index Version?
- Access Domain
- Display Language
- Secure Searches?
- User Full Name
- Content Search Threshold
- Imported User?

Two Group objects are *effectively identical* if they have the same values for the following properties (each '?' that appears in the following list is part of the property name):

- Group Name
- Default Storage Category
- Default Archive Category
- Primary Storage Manager
- Enabled?
- Default Index Versions?
- Access Domain
- Display Language
- Secure Searches?
- Content Search Threshold
- Imported Group?
- Group Memberships (the lists for the two groups being compared must be identical)

User and Group Properties Not Compared

The following properties are not compared when determining whether User or Group objects are *effectively identical*:

- Date Added (varies between source and replica)
- Comment (varies between source and replica; replicas always have a comment of the form [source library])
- Added By User (varies between source and replica; replicas are always owned by RepIDaemon)

User/Group Object Collision

An object collision occurs when two User or Group objects on different library systems have the same name and are *effectively identical* as defined above.

User/Group Object Inconsistency

An object inconsistency occurs when two User or Group objects on different library systems have the same name but are not *effectively identical* as defined above.

Procedure

You can run USGRPCHK on a 32-bit Windows machine that has the appropriate database client software and IDMDS Client Library Files installed and configured to connect to the necessary library systems associated with the replication administrative domain.

Note It will generally be most convenient to run USGRPCHK on a server within the domain, since such a machine should have the correct IDMDS Client Library Files and configuration.

To run USGRPCHK:

1. Insert the IDMDS 5.1.1 Service Pack CD-ROM.
2. Change to the **drive:\Admin\Util** directory on the CD-ROM.
3. If you are using USGRPCHK to monitor an existing IDMDS 5.1 replication administrative domain, skip ahead to the next step.

If you are using USGRPCHK to detect potential problems during the upgrade of a replication administrative domain from IDMDS 4.3 to 5.1, be sure to follow the procedure in [“Upgrading Replication-enabled Systems” on page 141](#).

4. From a DOS command prompt, execute USGRPCHK using one of the command options described in the "Usage" topic.
5. Review the logfile and use the IDMDS System Administration Tools to reconcile any reported problems. Refer to the *IDMDS System Administration Tools Online Help* for procedures on changing property values.

Note USGRPCHK reports the fact that two users are not "effectively identical," but it does not identify the User properties whose values differ.

USGRPCHK Messages

Note In the following error messages:

- The term *master* is equivalent to *source*.
- The term *mastered* is equivalent to *sourced*.
- The term *home library* is equivalent to *source library*.

-D mode

- WARNING: system user name differs between library *system1* on *server1* and library *system2* on *server2*.

WARNING: system group name differs between library *system1* on *server1* and library *system2* on *server2*.

While ReplDaemon is an internal user and should theoretically have the same name on each library system, the Admin user can legitimately have a different name on each library system, as can the Administrators and the General Users groups.

- DUP MASTER: User *name* is mastered on library *system1* on *server1* and on library *system2* on *server2*. The two masters are effectively identical.

DUP MASTER: Group *name* is mastered on library *system1* on *server1* and on library *system2* on *server2*. The two masters are effectively identical.

DUP MASTER: User *name* is mastered on library *system1* on *server1* and on library *system2* on *server2*. The two masters differ.

DUP MASTER: Group *name* is mastered on library *system1* on *server1* and on library *system2* on *server2*. The two masters differ.

These messages usually mean that a user or group has been created with the same name on two different library systems. This is not recommended, but it is not a serious condition. The consequence is that the other library systems in the domain may have a replica from one or the other, possibly depending on which one was changed most recently. (See a definition of *effectively identical* elsewhere in this topic.)

- MISSING MASTER: The replica of user *name* found on library *system1* on *server1* claims to be mastered on *system2*, but there is no such library in the domain.

MISSING MASTER: The replica of group *name* found on library *system1* on *server1* claims to be mastered on *system2*, but there is no such library in the domain.

These messages may occur if the database has been modified directly or if the database has become corrupted.

- WARNING: The replica of user *name* found on library *system1* on *server1* claims to be mastered on *system2*, which we could not connect to. Cannot verify this user.

WARNING: The replica of group *name* found on library *system1* on *server1* claims to be mastered on *system2*, which we could not connect to. Cannot verify this group.

These messages may occur when the source library system for this user or group cannot be reached. Consequently, it will not be possible to check whether the replica is valid.

- CORRUPT REPLICA: The replica of user *name* found on library *system1* on *server1* does not match its master on library *system2*.

CORRUPT REPLICA: The replica of group *name* found on library *system1* on *server1* does not match its master on library *system2*.

These messages may indicate a Replication failure or a corrupted database. Although serious, this condition can probably be rectified by forcing the object to replicate again.

- MISSING MASTER: The replica of user *name* found on library *system1* on *server1* claims to be mastered on *system2*, but there is no such user on that library.

MISSING MASTER: The replica of group *name* found on library *system1* on *server1* claims to be mastered on *system2*, but there is no such group on that library.

These messages indicate a serious problem. Ideally, a usable master of the object can be located somewhere in the domain. These messages will also appear if *system2* has a replica of object *name*. This can occur after migrating objects before using REPLKICK to propagate the new home library system information throughout the domain.

- MISSING REPLICA: There is no replica of user *name* (mastered on library *system1* on *server1*) on library *system2* on *server2*.

MISSING REPLICA: There is no replica of group *name* (mastered on library *system1* on *server1*) on library *system2* on *server2*.

During the domain check, USGRPCHK checks to see that for every source object, every other library system has a replica of the same name (although it does not check the replica's source library system; that has already been checked elsewhere). These messages indicate that no replica was found on library *system2*.

Two-library Mode

- DUPLICATE: User *name* is effectively identical on both libraries.

DUPLICATE: Group *name* is effectively identical on both libraries.

These messages indicate that effectively identical users or groups were added to the library systems, possibly before the administrative domain was created. (Refer to [“Definition of Terms for USGRPCHK” on page 428](#) for a definition of effectively identical users and groups.)

- DUPLICATE: User *name* appears on both libraries but differs between them.

DUPLICATE: Group *name* appears on both libraries but differs between them.

These messages indicate that users or groups with the same name but with different values for at least one property were added to the library systems. This may have been done before the administrative domain was created. (Refer to [“Definition of Terms for USGRPCHK” on page 428](#) for a definition of effectively identical users and groups.)

-D or Two-library Mode

- WARNING: In library *system1* on *server1*, the group name has no associated memberships.

A group with no members is unlikely (not recommended) but permitted. This message may be evidence of an incomplete action or an object that has not been completely deleted. Further investigation is warranted.

- WARNING: In library *system1* on *server1*, user *username* is a member of group *groupname*, but there is no such group.

WARNING: In library *system1* on *server1*, group *groupname* has nonexistent user *username* as a member.

These messages indicate a database integrity violation. The database may be seriously corrupted.

USGRPMIG

USGRPMIG migrates users and groups between two or more library systems. It is used to consolidate user and group administration on one machine within a replication domain (which is the recommended configuration for IDMDS 5.1). The utility is required when upgrading an IDMDS 4.3 domain to 5.1, and can also be used to fix an IDMDS 5.1 domain that was configured incorrectly.

USGRPMIG does minimal consistency checking. It assumes that you have run USGRPCHK and cleaned up any problems. If the library system is in an inconsistent state, running USGRPMIG can greatly exacerbate the problem.

USGRPMIG makes changes to the states of users and groups. The order in which the changes are made has been carefully chosen such that inadvertent interruption of the program, loss of network connectivity, and other errors should leave the library system in a functional state with regard to users and groups. It may not be in a consistent state, but the library system should be able to function while the administrator investigates and decides what actions to take. For example, running USGRPCHK to determine the state of the library system, and looking at the affected users and groups with the IDMDS System Administration tools.

Certain users (the Admin user, RepIDaemon) and groups (the Administrators and General Users groups) are never replicated or migrated.

If not specified, USGRPMIG will prompt the user for the required admin user names and passwords. In all modes, USGRPMIG requires Admin access rights to at least one library system.

For a given source object on library system A, there are seven possible cases that can occur on library system B (as described below). The number of each case corresponds to numbered options (or switches).

- 0 There is no object of the same name.
- 1 There is an identical source object of the same name.
- 2 There is a non-identical source object of the same name.
- 3 There is an identical replica object of the same name.
- 4 There is a non-identical replica object of the same name.
- 5 There is an identical replica object of the same name, but it has another library system (not library system A) as its source library system (that is, a "foreign" replica).
- 6 There is a non-identical replica object of the same name, but it has another library system (not library system A) as its source library system (that is, a "foreign" replica).

Note USGRPMIG supports case 0 and 1. You cannot use USGRPMIG to address cases 2 through 6. The USGRPMIG utility is included in the **drive:\Admin\Util** directory on the IDMDS 5.1.1 Service Pack CD-ROM. Refer to ["IDMDS 5.1.1 Service Pack" on page 13](#).

Usage

Warning USGRPMIG contains some switches that are intended for internal FileNET purposes only. Do not deviate from the following usage examples or use any switches or parameters that are not listed in the "Parameters and Switches" topic.

To list all library systems in the replication domain to which the specified library system belongs:

```
usgrpmig -L domain_master_library domain_master_server [admin_user  
admin_pwd]
```

To add objects in the *current_home_library* to the *domain_master_library* and make the source object a replica of the new object in the *domain_master_library*:

```
usgrpmig [-v] [-x] -0a current_home_library current_home_server  
domain_master_library domain_master_server logfile [admin_user1 admin_pwd1  
admin_user2 admin_pwd2]
```

To demote objects in the *current_home_library* to be replicas of objects in the *domain_master_library*:

```
usgrpmig [-v] [-x] -1d current_home_library current_home_server  
domain_master_library domain_master_server logfile [admin_user1 admin_pwd1  
admin_user2 admin_pwd2]
```

Parameters and Switches

-0a	Adds the object to the target library system and makes the source object a replica of the new target object.
-1d	Demotes the source object to be a replica of the target object.
-L	Lists all library systems in the replication domain.
-v	Displays logged output on the screen.
-x	Causes USGRPMIG to migrate objects. If the -x switch is not specified, a listing of objects to be migrated is produced, but no migration is performed.
<i>admin_pwd</i>	Administrative user password for the specified library system.
<i>admin_pwd1</i>	Administrative user password for the first library system specified on the command line.
<i>admin_pwd2</i>	Administrative user password for the second library system specified on the command line.
<i>admin_user</i>	Administrative user name for the specified library system.

<i>admin_user1</i>	Administrative user name for the first library system specified on the command line.
<i>admin_user2</i>	Administrative user name for the second library system specified on the command line.
<i>current_home_library</i>	A library system other than the domain master where the users and/or groups are currently source objects instead of replicas.
<i>current_home_server</i>	A library system server other than the domain master server where the users and/or groups are currently source objects instead of replicas.
<i>domain_master_library</i>	The name of the domain master library system for the replication administrative domain. See “Replication Services Overview” on page 465 for more information.
<i>domain_master_server</i>	The computer name of the server where the domain master library system's database is installed.
<i>logfile</i>	The name of a text file that contains the command's output.

Procedure

You can run USGRPMIG on a 32-bit Windows machine that has the appropriate database client software and IDMDS Client Library Files installed and configured to connect to the necessary library systems associated with the replication administrative domain.

Note It will generally be most convenient to run USGRPMIG on a server within the domain, since such a machine should have the correct IDMDS Client Library Files and configuration.

1. Insert the IDMDS 5.1.1 Service Pack CD-ROM.
2. Change to the **drive:\Admin\Util** directory on the CD-ROM.
3. From a DOS command prompt, execute USGRPMIG using one of the command options specified in the "Usage" topic.
4. Review the logfile and use the IDMDS System Administration Tools to reconcile any reported problems. Refer to the *IDMDS System Administration Tools Online Help* for procedures.

USGRPMIG Messages

You may see one or more of the following error messages when IDMDS is in two-library system mode:

Note In the following error messages:

- The term *homelib* is equivalent to *source library*.
- The term *option* is equivalent to *switch*.
- The term *master object* is equivalent to *source object*.

- There are references to options (switches) that are intended for internal FileNET purposes only. Do not use any switches or parameters that are not listed in the "Parameters and Switches" topic.
- *Library1* and *library2* must be different!
- *Library system* on *server* is not part of a domain. Both libraries must be part of a domain. Aborting.
- *Library source_system* on *source_server* is not in the same domain as *library target_system* on *target_server*. Both libraries must be in the same domain. Aborting.
- Moving master users and groups from *library source_system* on *source_server* to *library target_system* on *target_server*.

Displayed when the default options are specified.

- Running in TEST mode. No objects will be moved.

The -x switch was not specified.

- Running in EXECUTE mode! Objects will be moved!

The -x switch was specified.

- Replication triggers of *system* on *server* successfully disabled.
- Migrating user from *source_system* on *source_server* to *target_system* on *target_server*.

A similar message is displayed for groups.

- Users have been modified.

Groups have been modified.

At least one object has been successfully or partially migrated.

- Replication triggers of *system* on *server* successfully re-enabled.
- WARNING: user *name* does not exist on the target library. It will be added.

Displayed when no options are specified. A similar message is displayed for groups.

- WARNING: user *name* does not exist on the target library. No action will be taken for this User.

Displayed when the -On option is specified. A similar message is displayed for groups.

- WARNING: An identical master of user *name* exists on the target library. The source will be made into a replica of the existing target.

Displayed when the -1d option is specified. A similar message is displayed for groups.

- WARNING: An identical master of user *name* exists on the target library. No action will be taken for this user.

Displayed when no options are specified.

- WARNING: A differing master of user *name* exists on the target library. The source will be made into a replica of the existing target.

Displayed when the `-2d` option is specified. A similar message is displayed for groups.

- WARNING: A differing master of user *name* exists on the target library. The source will overwrite the target.

Displayed when the `-2o` option is specified. A similar message is displayed for groups.

- WARNING: A differing master of user *name* exists on the target library. No action will be taken for this user.

Displayed when no options are specified. A similar message is displayed for groups.

- An identical replica of user *name* exists on the target library. Normal migration.

Displayed when `-3o`, `-3`, or default options are specified. A similar message is displayed for groups.

- An identical replica of user *name* exists on the target library. No action will be taken for this user.

Displayed when the `-3n` option is specified. A similar message is displayed for groups.

- WARNING: A differing replica of user *name* exists on the target library. The source will overwrite the target.

Displayed when the `-4o` option is specified. A similar message is displayed for groups.

- WARNING: A differing replica of user *name* exists on the target library. No action will be taken for this user.

Displayed when no options are specified. A similar message is displayed for groups.

- WARNING: An identical replica of user *name* exists on the target library, but the replica's homelib (*system*) is not the source library. The source will be made into a replica with the same homelib as the target.

Displayed when the `-5d` option is specified. A similar message is displayed for groups.

- WARNING: An identical replica of user *name* exists on the target library, but the replica's homelib (*system*) is not the source library. The source will overwrite the target.

Displayed when the `-5o` option is specified. A similar message is displayed for groups.

- WARNING: An identical replica of user *name* exists on the target library, but the replica's homelib (*system*) is not the source library. No action will be taken for this user.

Displayed when the default, `-5n` or no options are specified. A similar message is displayed for groups.

- WARNING: A differing replica of user *name* exists on the target library, but the replica's homelib (*system*) is not the source library. The source will be made into a replica with the same homelib as the target.

Displayed when the `-6d` option is specified. A similar message is displayed for groups.

- WARNING: A differing replica of user *name* exists on the target library, but the replica's homelib (*system*) is not the source library. The source will overwrite the target.

Displayed when the `-6o` option is specified. A similar message is displayed for groups.

- WARNING: A differing replica of user *name* exists on the target library, but the replica's homelib (*system*) is not the source library. No action will be taken for this user.

Displayed when no options are specified. A similar message is displayed for groups.

- WARNING: Bad internal type for user *name*! No action will be taken for this user.

Internal USGRPMIG program error.

- User's default group *source_default_group* does not exist on target, changing to *target_general_group*.
- User's default storage category *source_default_storage* does not exist on target, changing to *target_system_default_storage*.

A similar message is displayed for groups.

- User's default archive category *source_default_archive* does not exist on target, changing to *target_system_default_archive*.

A similar message is displayed for groups.

- User's added-by user *source_owner* does not exist on target, changing to *target_admin_user*.

A similar message is displayed for groups.

VUPDATE

VUPDATE enters a value in the File Name property for any document's Version object that lacks such a value. IDM Desktop requires a version file name to display icons in search results. If the File Name property has no value, IDM Desktop must do additional time-consuming processing to determine an appropriate substitute value to display, thus degrading search performance. This property value is typically missing in Version objects only for documents checked in by older user interfaces, such as Saros Document Manager.

Usage

```
vupdate propertyserver librarysystem logfile
```

Parameters and Switches

<i>propertyserver</i>	The name of the server where the database and initial library system services are installed for the library system on which you want to run VUPDATE.
<i>librarysystem</i>	The name of the IDM library system on which you want to run VUPDATE.
<i>logfile</i>	(Optional) The file in which you want VUPDATE to log the information about the documents being updated.

Usage Notes

- VUPDATE can be run multiple times on the same library system.
- Depending on the amount of data to be updated, VUPDATE can take a long time to run. If you want to perform the update in stages, you can interrupt execution by typing Ctrl-C and resume later by running VUPDATE again.

Procedure

To run VUPDATE:

1. Notify all users to check in any documents they currently have checked out, then close their library system sessions.
2. Make sure the Logons Enabled? property in the System object is set to No.
This allows only one user from the Administrators group to open a library system session.
3. On the property server, access the directory containing the vupdate executable.

OS Platform	Location
Windows NT	<i>StorageManagerInstallDrive:\Idmds\LibrarySystem\Util</i>
UNIX	<i>StorageManagerInstallDir\idmds\librarysystem/util</i>

4. On the command line, enter the command to run VUPDATE. For example:

```
vupdate mybox mylib c:\idmds\mylib\vupdate.log
```

5. Set the Logons Enabled? property in the System object to Yes and notify users they can again access the library system.

Status Codes

All codes are unique irrespective of their severity levels. The severity level may be any one of the following:

SPI_SEV_SUCCESS	Successful completion
SPI_SEV_INFO	Informational error
SPI_SEV_WARNING	Failure, operational error
SPI_SEV_ERROR	Failure, integrity error
SPI_SEV_FATAL	System corrupt error

Status Codes, Return Values, and Descriptions

The following table lists the IDM Document Services API status codes. For each code, the hexadecimal, decimal, and return value is included.

Note Status codes 110 through 117 are not included in this table because they are not used by the IDM Document Services API for the general library system. Likewise, error codes returned by the IDM Document Services Client Library Files Setup program are not documented here. For those error codes, refer to “[Client Library Files Setup Error Messages](#)” on page 233.

In addition, a short description is provided for each code, which gives you information on what caused the error and, where appropriate, the possible response.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_SUCCESS, 0	0	0	SPI_STS_SUCCESS	The operation is successful.
SPI_SEV_WARNING, 1	4001	16385	SPI_STS_SYSTEM_UNAVAILABLE	The Property Manager is unavailable.
SPI_SEV_WARNING, 2	4002	16386	SPI_STS_INVALID_LOGIN	The user name or password is invalid.
SPI_SEV_WARNING, 3	4003	16387	SPI_STS_VERSION_MISMATCH	The configuration contains versions of the software that are incompatible.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 4	4004	16388	SPI_STS_LOGIN_LIMIT	The licensed number of concurrent open sessions has been reached.
SPI_SEV_WARNING, 5	4005	16389	SPI_STS_NOT_MEMBER	The user is not a member of the specified group.
SPI_SEV_WARNING, 6	4006	16390	SPI_STS_NOT_ADMIN	The user does not have Admin access rights to the object.
SPI_SEV_WARNING, 7	4007	16391	SPI_STS_MODIFY_FAILED	Changes have not been accepted.
SPI_SEV_WARNING, 8	4008	16392	SPI_STS_NO_MEMORY	No free memory is available.
SPI_SEV_WARNING, 9	4009	16393	SPI_STS_FAILURE	The operation has not succeeded.
SPI_SEV_WARNING, 10	400A	16394	SPI_STS_BAD_SCTX	The session context is invalid.
SPI_SEV_WARNING, 11	400B	16395	SPI_STS_NO_SUCH_ITEM	No such item has been found.
SPI_SEV_WARNING, 12	400C	16396	SPI_STS_NO_SUCH_VERSION	No such version has been found.
SPI_SEV_WARNING, 13	400D	16397	SPI_STS_STACK_ERROR	An error has been detected in the file-storage area.
SPI_SEV_WARNING, 14	400E	16398	SPI_STS_VARIANTS_DISABLED	Secondary versions cannot be created for any versions.
SPI_SEV_WARNING, 15	400F	16399	SPI_STS_CHECKED_OUT	The version is checked out.
SPI_SEV_WARNING, 16	4010	16400	SPI_STS_BAD_ITEM	The item is corrupt.
SPI_SEV_WARNING, 17	4011	16401	SPI_STS_BAD_VERSION	The version is corrupt.
SPI_SEV_WARNING, 18	4012	16402	SPI_STS_NO_FILE_ACCESS	Access to the version file is not allowed.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 19	4013	16403	SPI_STS_INSUFFICIENT_ACCESS	The user has insufficient access rights.
SPI_SEV_WARNING, 20	4014	16404	SPI_STS_NO_VARIANT_CHKOUTS	Secondary versions cannot be created for the item.
SPI_SEV_WARNING, 21	4015	16405	SPI_STS_FILE_EXISTS	The version file does exist.
SPI_SEV_WARNING, 22	4016	16406	SPI_STS_NOT_CHECKED_OUT	The version is not checked out.
SPI_SEV_WARNING, 23	4017	16407	SPI_STS_FILE_NOT_FOUND	The file was not found in the designated path.
SPI_SEV_WARNING, 24	4018	16408	SPI_STS_INVALID_PASSWORD	The password is invalid.
SPI_SEV_WARNING, 25	4019	16409	SPI_STS_INSUFFICIENT_PRIV	The user has insufficient rights to perform the operation.
SPI_SEV_WARNING, 26	401A	16410	SPI_STS_UNPROTECTED	The item is unprotected.
SPI_SEV_WARNING, 27	401B	16411	SPI_STS_VERSION_LIMIT	The online version limit has been reached for the specified Item.
SPI_SEV_WARNING, 28	401C	16412	SPI_STS_NOT_BRANCH	The server is not a property server for this system.
SPI_SEV_WARNING, 29	401D	16413	SPI_STS_NOT_CURRENT	The version is not the latest version on the primary version line.
SPI_SEV_WARNING, 30	401E	16414	SPI_STS_NOT_IMPLEMENTED	The specified option has not been implemented.
SPI_SEV_WARNING, 31	401F	16415	SPI_STS_UPDATE_CONFLICT	A conflict has been found in the updating operation.
SPI_SEV_WARNING, 32	4020	16416	SPI_STS_NOT_PROTECTED	The item is not a protected item.
SPI_SEV_WARNING, 33	4021	16417	SPI_STS_NOT_UNPROTECTED	The item is not an unprotected item.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 34	4022	16418	SPI_STS_NOT_ONLINE	The version is not online.
SPI_SEV_WARNING, 35	4023	16419	SPI_STS_NOT_OFFLINE	The version is not offline.
SPI_SEV_WARNING, 36	4024	16420	SPI_STS_BAD_SHELF	The storage repository is corrupt.
SPI_SEV_WARNING, 37	4025	16421	SPI_STS_BAD_DISPOSITION	The archive repository is corrupt.
SPI_SEV_WARNING, 38	4026	16422	SPI_STS_NOT_RECLAIMABLE	The version is not reclaimable to online status.
SPI_SEV_WARNING, 39	4027	16423	SPI_STS_MAINLINE_CHECKED_OUT	The current version on the primary version line is checked out.
SPI_SEV_WARNING, 40	4028	16424	SPI_STS_BRANCH_LIMIT	The limit to the number of secondary version lines has been reached.
SPI_SEV_WARNING, 41	4029	16425	SPI_STS_END_OF_SET	The end of the value set has been reached.
SPI_SEV_WARNING, 42	402A	16426	SPI_STS_DUPLICATE_KEY	A duplicate key has been detected.
SPI_SEV_WARNING, 43	402B	16427	SPI_STS_PERMANENT	The version cannot be moved off line during automatic archival.
SPI_SEV_WARNING, 44	402C	16428	SPI_STS_VARIANT_REQUIRED	The version must be a secondary version.
SPI_SEV_WARNING, 45	402D	16429	SPI_STS_NO_SUCH_OBJECT	No such object can be found.
SPI_SEV_SUCCESS, 46	2E	46	SPI_STS_RECLAIM_PENDING	A reclaim request is pending on the version.
SPI_SEV_WARNING, 47	402F	16431	SPI_STS_INSTANCE_LIMIT	The instance limit has been reached.
SPI_SEV_WARNING, 48	4030	16432	SPI_STS_UNSPECIFIED_REQ	A required entry has not been specified.
SPI_SEV_WARNING, 49	4031	16433	SPI_STS_NULL_KEY	A NULL key has been detected.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 50	4032	16434	SPI_STS_BAD_CATEGORY	The storage category is not available.
SPI_SEV_WARNING, 51	4033	16435	SPI_STS_ONLINE_ZERO	The online version limit is set to 0.
SPI_SEV_SUCCESS, 52	34	52	SPI_STS_MORE_ROWS	More rows have been detected for the query.
SPI_SEV_SUCCESS, 53	35	53	SPI_STS_AUTO_DISPOSE	Automatic archival is successful. You will never receive this message. It is for internal FileNET use only.
SPI_SEV_WARNING, 54	4036	16438	SPI_STS_DIR_NOT_ALLOWED	The directory cannot be used.
SPI_SEV_WARNING, 55	4037	16439	SPI_STS_PATH_NOT_FOUND	The path cannot be found.
SPI_SEV_SUCCESS, 56	38	56	SPI_STS_NOT_DELETED	The object has not been deleted. When checking in a version with the SPI_CHECKIN_KEEP flag not specified, the checkin succeeded but the file delete failed.
SPI_SEV_WARNING, 57	4039	16441	SPI_STS_NETWORK_UNAVAILABLE	The network is unavailable or not operating.
SPI_SEV_WARNING, 58	403A	16442	SPI_STS_VARIANT_CHECKED_OUT	The secondary version is already checked out.
SPI_SEV_WARNING, 59	403B	16443	SPI_STS_NO_RESOURCE	The Storage Manager is out of the system resource.
SPI_SEV_WARNING, 60	403C	16444	SPI_STS_NO_SUCH_SERVER	The server is undefined.
SPI_SEV_WARNING, 61	403D	16445	SPI_STS_LOST_COMM	Communication with the Storage Manager has been lost.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 62	403E	16446	SPI_STS_COMM_ERROR	A communication error with the Storage or Property Manager has been detected. This error may be displayed during login because: (1) a property server is not logged in to the LAN, (2) all Library System Services dll's are not in one of the LIBPATH directories specified in config.sys (e.g., in \os2\dll), (3) a library system database session cannot be established, and (4) under OS/2 2.x, there is no entry in the sql.ini file for the library system property server.
SPI_SEV_WARNING, 63	403F	16447	SPI_STS_USER_IO_ERROR	A read/write error has been detected on the user's file.
SPI_SEV_WARNING, 64	4040	16448	SPI_STS_USER_DISK_FULL	No space is available on the user's disk.
SPI_SEV_WARNING, 65	4041	16449	SPI_STS_SHELF_FULL	No space is available in the storage repository.
SPI_SEV_WARNING, 66	4042	16450	SPI_STS_SHELF_NOTFOUND	The storage repository could not be found on the server.
SPI_SEV_WARNING, 67	4043	16451	SPI_STS_SHELF_FILE_NOTFOUND	The file could not be found in the storage repository.
SPI_SEV_WARNING, 68	4044	16452	SPI_STS_SHELF_FILE_EXISTS	The file already exists in the storage repository.
SPI_SEV_WARNING, 69	4045	16453	SPI_STS_SHELF_IO_ERROR	A read/write error has been detected on the stored file.
SPI_SEV_WARNING, 70	3046	16454	SPI_STS_DEADLOCK_VICTIM	A required resource is unavailable due to deadlock.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 71	4047	16455	SPI_STS_MISSING_ CONFIG	The configuration for this server is missing.
SPI_SEV_WARNING, 72	4048	16456	SPI_STS_SHELF_ SUSPENDED	The Storage Manager is suspended.
SPI_SEV_SUCCESS, 73	49	73	SPI_STS_RECLAIM_ WRONG_FILE	The identity of the reclaimed version file is questionable. During a reclaim request, the reclaim succeeds but the size of the reclaim file is different than the size of the archived file.
SPI_SEV_WARNING, 74	404A	16458	SPI_STS_VARIANT_ CLOSED	The secondary version line has been merged into the primary version line.
SPI_SEV_WARNING, 75	404B	16459	SPI_STS_NO_SERVER_ AVAILABLE	No Storage Managers are available.
SPI_SEV_WARNING, 76	404C	16460	SPI_STS_VARIANT_ NOT_CURRENT	The secondary version required is not the latest version.
SPI_SEV_WARNING, 77	404D	16461	SPI_STS_CATALOG_ FULL	The property repository or transaction log is full.
SPI_SEV_WARNING, 78	404E	16462	SPI_STS_DB_ RECONNECT	The Property Manager has been successfully reconnected.
SPI_SEV_WARNING, 79	404F	16463	SPI_STS_ALREADY_ PENDING	A reclaim request is already pending on the version.
SPI_SEV_WARNING, 80	4050	16464	SPI_STS_DEVICE_NOT_ FOUND	An unknown shelf-server device was specified.
SPI_SEV_SUCCESS, 81	51	81	SPI_STS_BAD_DEFAULT_ GROUP	The user logging in is no longer a member of the default group specified in the User object.
SPI_SEV_WARNING, 82	4052	16466	SPI_STS_FILE_ CREATION_ERROR	Creation of the new file could not be completed.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 83	4053	16467	SPI_STS_INVALID_ LICENSE	An invalid license number has been detected.
SPI_SEV_WARNING, 84	4054	16468	SPI_STS_BAD_ PARAMETER	A bad parameter was passed to the function.
SPI_SEV_WARNING, 85	4055	16469	SPI_STS_DBI_TEMP_ PATH	The temporary path could not be located.
SPI_SEV_WARNING, 86	4056	16470	SPI_STS_MAX_VALUE	The maximum value has been reached.
SPI_SEV_WARNING, 87	4057	16471	SPI_STS_BAD_QUERY_ LHND	The SPI_QUERY_LHND passed in was invalid.
SPI_SEV_WARNING, 88	4058	16472	SPI_STS_TRUNCATED	The property value is too long for the destination and has been truncated.
SPI_SEV_WARNING, 89	4059	16473	SPI_STS_USER_LIMIT_ EXCEEDED	The limit for registered users at this system was exceeded.
SPI_SEV_WARNING, 90	405A	16474	SPI_STS_DEVICE_NOT_ ALLOWED	An invalid device was specified on the server.
SPI_SEV_WARNING, 91	405B	16475	SPI_STS_NET_LOGIN_ NOT_ALLOWED	Logging in using the alternate user name is not allowed.
SPI_SEV_WARNING, 92	405C	16476	SPI_STS_CMDLN_PSWD_ NOT_ALLOWED	A user password cannot be entered during command-line login.
SPI_SEV_WARNING, 93	405D	16477	SPI_STS_DBI_ERROR	A general DBI error has been detected.
SPI_SEV_WARNING, 94	405E	16478	SPI_STS_OUTSTANDING_ CHECKOUTS	The item could not be deleted due to outstanding version checkouts.
SPI_SEV_WARNING, 95	405F	16479	SPI_STS_NET_UNAME_ NOT_FOUND	Network user name not found.
SPI_SEV_WARNING, 96	4060	16480	SPI_STS_BUFFER_ OVERFLOW	Internal buffer overflow has been detected.
SPI_SEV_WARNING, 97	4061	16481	SPI_STS_LOGINS_ DISABLED	Logins to the library system have been disabled.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 98	4062	16482	SPI_STS_REMOVAL_NOT_ALLOWED	A user cannot remove self from group.
SPI_SEV_WARNING, 99	4063	16483	SPI_STS_DUPLICATE_NET_NAME	The user network name has already been used.
SPI_SEV_WARNING, 100	4064	16484	SPI_STS_BAD_OAB_TYPE	Wrong OAB type for row function.
SPI_SEV_WARNING, 101	4065	16485	SPI_STS_BAD_OBJ_TYPE	Inappropriate object type for function.
SPI_SEV_WARNING, 102	4066	16486	SPI_STS_LOST_DB_CONNECTION	Connection to Property Manager has been lost.
SPI_SEV_WARNING, 103	4067	16487	SPI_STS_FULL_BACKUP_PENDING	Full backup cannot be run because a previous full backup is pending.
SPI_SEV_WARNING, 104	4068	16488	SPI_STS_KEYWORD_NOT_FOUND	Keyword for item could not be found.
SPI_SEV_WARNING, 105	4069	16489	SPI_STS_MAXDBCLIENTS_EXCEEDED	Request would exceed database login limit.
SPI_SEV_WARNING, 106	406A	16490	SPI_STS_SHELF_EXISTS	The storage repository already exists.
SPI_SEV_WARNING, 107	406B	16491	SPI_STS_CATALOG_DISK_FULL	The backup failed because there is not enough disk space to create or process the dkupxxx.yyy files (backup files of the property repository and transaction log).
SPI_SEV_WARNING, 108	406C	16492	SPI_STS_SESSION_ACTIVE	This session is active and, therefore, cannot be deleted.
SPI_SEV_WARNING, 109	406D	16493	SPI_STS_SESSION_SUSPENDED	This session is already suspended.
SPI_SEV_WARNING, 118	4076	16502	SPI_STS_SERVER_OUT_OF_SERVICE	Operation of the Storage Manager is suspended.
SPI_SEV_WARNING, 119	4077	16503	SPI_STS_DB_INCONSISTENT	The Property Manager is in inconsistent state.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 120	4078	16504	SPI_STS_CONNECT_ REFUSED	Because of access problem, IPC could not be opened.
SPI_SEV_WARNING, 121	4079	16505	SPI_STS_MAXQHNS_ EXCEEDED	Attempted allocation of MAXQHNS+1.
SPI_SEV_WARNING, 122	407A	16506	SPI_STS_STORED_PROC_ NOT_FOUND	Referenced stored proc not found.
SPI_SEV_WARNING, 123	407B	16507	SPI_STS_BACKUP_ DEVICE_FULL	(Currently not used.)
SPI_SEV_WARNING, 124	407C	16508	SPI_STS_USER_NOT_ ACTIVE	Since the user is not enabled, that user cannot log in to the library system.
SPI_SEV_WARNING, 125	407D	16509	SPI_STS_GROUP_NOT_ ACTIVE	The group is disabled (the user cannot change to this group).
SPI_SEV_WARNING, 126	407E	16510	SPI_STS_BACKUP_DB	(Currently not used.)
SPI_SEV_WARNING, 127	407F	16511	SPI_STS_BACKUP_RETRY	(Currently not used.)
SPI_SEV_WARNING, 128	4080	16512	SPI_STS_BACKUP_ MUSTBEFULL	(Currently not used.)
SPI_SEV_WARNING, 129	4081	16513	SPI_STS_BACKUP_ INTERRUPT	(Currently not used.)
SPI_SEV_WARNING, 130	4082	16514	SPI_STS_BACKUP_ ASKSPACE	(Currently not used.).
SPI_SEV_WARNING, 131	4083	16515	SPI_STS_BACKUP_ NOSPACE	(Currently not used.)
SPI_SEV_SUCCESS, 132	84	132	SPI_STS_DEFGROUP_ NOT_ACTIVE	Since the user's default group is disabled, the user was logged on as member of the General Users group.
SPI_SEV_WARNING, 133	4085	16517	SPI_STS_NOT_IN_ SINGLE_USER_MODE	Since more than one user session is open, this delete/rename user/group operation cannot be completed.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 134	4086	16518	SPI_STS_BACKUP_ TRANFUL	(Currently not used.)
SPI_SEV_WARNING, 135	4087	16519	SPI_STS_BACKUP_ TRUNCATE	(Currently not used.)
SPI_SEV_WARNING, 136	4088	16520	SPI_STS_NO_SUCH_ USER	No such User object exists in the system.
SPI_SEV_WARNING, 137	4089	16521	SPI_STS_NO_SUCH_ GROUP	No such Group object exists in the system.
SPI_SEV_WARNING, 138	408A	16522	SPI_STS_NO_SUCH_ SYSTEM	No such System object exists in the system.
SPI_SEV_WARNING, 139	408B	16523	SPI_STS_SERVER_ RESTRICTED	The Storage Manager is in a restricted state due to property repository or transaction log reaching full threshold. Clear log, increase property repository size, or change threshold.
SPI_SEV_WARNING, 140	408C	16524	SPI_STS_RESC_LIMIT_ EXCEEDED	The Property Manager database resource limit has been exceeded.
SPI_SEV_WARNING, 141	408D	16525	SPI_STS_CATALOG_ ERROR	An error has been detected in the ERRORLOG file (for example, meaning the SPI_SYS_LOGINS_ENABLED value cannot be set to Yes).
SPI_SEV_WARNING, 142	408E	16526	SPI_STS_NO_QRY	No properties have been specified for the search request in the SPI_SR_SHOW array.
SPI_SEV_WARNING, 143	408F	16527	SPI_STS_TEXT_SYNTAX_ ERROR	A syntax error has been detected in the content search.
SPI_SEV_WARNING, 144	4090	16528	SPI_STS_CSP_DB_ERROR	A database error has been detected in the content search engine.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 145	4091	16529	SPI_STS_MAX_SNIOPEN_ RETRIES	The maximum number of retries has been reached while trying to establish network communications. The receiver was too busy to handle the request.
SPI_SEV_WARNING, 146	4092	16530	SPI_STS_SNIOPEN_ ERROR	An error has been detected while trying to establish the network communication using the <code>sni_open</code> call.
SPI_SEV_WARNING, 147	4093	16531	SPI_STS_SNIMODE_ ERROR	Issued for one of two reason: (a) after the initial <code>sni_open</code> call, an error is detected while attempting to set the state (byte mode) of the named pipe or socket or (b) after the state of the named pipe or socket is set, an error is detected during a check of that byte mode state.
SPI_SEV_WARNING, 148	4094	16532	SPI_STS_SNIREAD_ ERROR	An error has been detected while reading data during network communications.
SPI_SEV_WARNING, 149	4095	16533	SPI_STS_SNIWRITE_ ERROR	An error has been detected while writing data during network communications.
SPI_SEV_WARNING, 150	4096	16534	SPI_STS_SNIXACT_ ERROR	An error has been detected while performing a <code>TRANSACT</code> during network communications.
SPI_SEV_WARNING, 151	4097	16535	SPI_STS_SNICLOSE_ ERROR	An error has been detected while trying to close network communications.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 152	4098	16536	SPI_STS SOCK_HOST_ NOT_FOUND	An entry was not found in the hosts file.
SPI_SEV_WARNING, 153	4099	16537	SPI_STS SOCK_SERVICE_ NOT_FOUND	An entry was not found in the services file.
SPI_SEV_WARNING, 154	409A	16538	SPI_STS SOCK_BIND_ ERROR	An error has been detected while trying to establish network communications.
SPI_SEV_WARNING, 155	409B	16539	SPI_STS_BACKUP_ TIMESYNC	(Currently not used.)
SPI_SEV_WARNING, 156	409C	16540	SPI_STS_BACKUP_ TIMEOUT	(Currently not used.)
SPI_SEV_WARNING, 157	409D	16541	SPI_STS_CSI_NO_FILE_ ACCESS	The user does not have access to the file for content search indexing.
SPI_SEV_WARNING, 158	409E	16542	SPI_STS_CSI_NO_INDEX	The content search repository cannot be accessed or does not exist.
SPI_SEV_WARNING, 159	409F	16543	SPI_STS_CSI_BAD_INDEX	The content search repository ID is invalid.
SPI_SEV_WARNING, 160	40A0	16544	SPI_STS_CSI_LIMIT_ EXCEEDED	The item's indexed version limit has been exceeded.
SPI_SEV_WARNING, 161	40A1	16545	SPI_STS_CSI_RESOURCE_ FAILURE	A content search repository resource failed.
SPI_SEV_WARNING, 162	40A2	16546	SPI_STS_CSI_INDEX_ INCONSISTENT	An inconsistency has been detected in the content search repository.
SPI_SEV_WARNING, 163	40A3	16547	SPI_STS_CSI_BAD_FILTER	The file filter is invalid.
SPI_SEV_WARNING, 164	40A4	16548	SPI_STS_CSI_FAILURE	A general failure of the content search repository has been detected.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_SUCCESS, 165	A5	165	SPI_STS_CSI_PARTIAL_SEARCH	A partial content search succeeded.
SPI_SEV_WARNING, 166	40A6	16550	SPI_STS_CSI_DEADLK	A deadlock has occurred during the content search.
SPI_SEV_WARNING, 167	40A7	16551	SPI_STS_DBI_INIT_FAILURE	The database library failed to initialize. For DOS, this failure typically indicates that the DBNMPPIPE, DBHPTCP, or DBWOLTCP TSR is not loaded.
SPI_SEV_WARNING, 168	40A8	16552	SPI_STS_DSCONF_READ_FAILURE	A failure has occurred while reading the dsconf.ini file.
SPI_SEV_WARNING, 169	40A9	16553	SPI_STS_NO_CSS_AVAILABLE	No Content Search Manager is available for the specified pipe.
SPI_SEV_WARNING, 170	40AA	16554	SPI_STS_BACKUP_VERIFY	(Currently not used.)
SPI_SEV_WARNING, 171	40AB	16555	SPI_STS_VERIFY_FAIL	(Currently not used.)
SPI_SEV_WARNING, 172	40AC	16556	SPI_STS_INDEXED	The version has already been indexed for content searches.
SPI_SEV_WARNING, 173	40AD	16557	SPI_STS_NOT_INDEXED	The version is not indexed for content searches; therefore, it cannot be deindexed or reindexed.
SPI_SEV_WARNING, 174	40AE	16558	SPI_STS_EMPTY_FILE_INDEX_ERROR	An empty version file cannot be indexed for content searches.
SPI_SEV_WARNING, 175	40AF	16559	SPI_STS_CSI_SRCH_TEMPERR	The search cannot be completed because of a conflict with the content search indexing process. Try the search again.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 176	40B0	16560	SPI_STS_BAD_DATETIME	An invalid datetime value has been detected.
SPI_SEV_WARNING, 177	40B1	16561	SPI_STS_SHELF_NOT_RECLAIMABLE	The archive repository must be nonreclaimable to allow deletion of archived versions.
SPI_SEV_WARNING, 178	40B2	16562	SPI_STS_CSI_CREATE_INDEX	The attempt to add a content search repository failed.
SPI_SEV_WARNING, 179	40B3	16563	SPI_STS_INVALID_DEVICE_TYPE	The device type is invalid for this operation. For example, you cannot assign shelves to floppy disk drives.
SPI_SEV_WARNING, 180	40B4	16564	SPI_STS_SNI_SESSIONS_EXCEEDED	The NET BIOS session limit has been exceeded.
SPI_SEV_WARNING, 181	40B5	16565	SPI_STS_CS_NOT_ALLOWED	The Count Only property in the Search object cannot be set to Yes if the query includes a content search structure.
SPI_SEV_WARNING, 182	40B6	16566	SPI_STS_BACKUP_OUT_OF_SEQUENCE	(Currently not used.)
SPI_SEV_WARNING, 183	40B7	16567	SPI_STS_INDEX_LOCKED	This operation cannot be completed because the content search repository is locked.
SPI_SEV_WARNING, 184	40B8	16568	SPI_STS_INDEX_DISK_FULL	There is not enough free space on the specified disk to create/restore the content search repository or to index more files. Make more disk space available or add a new content search repository at a different location.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNIN, 185	40B9	16569	SPI_STS_INDEX_FILE_FOUND	The content search repository cannot be created/restored because one or more program files for this index already exist on the specified disk.
SPI_SEV_WARNING, 186	40BA	16570	SPI_STS_IDX_STATUS_NOT_FOUND	The status of the content search repository could not be determined. This usually indicates the versions of the fultext.ftc file and the srs_ft library file are not compatible.
SPI_SEV_SUCCESS, 187	BB	187	SPI_STS_NO_MORE_ROWS	There are no more rows to return for this query.
SPI_SEV_WARNING, 188	40BC	16572	SPI_STS_SNI_BAD_HOST_HANDLE	(Currently not used.)
SPI_SEV_WARNING, 189	40BD	16573	SPI_STS_SNI_BAD_HOST_SPEC	(Currently not used.)
SPI_SEV_WARNING, 190	40BE	16574	SPI_STS_SNI_BAD_FUNC_SEQU	(FileNET internal use only)
SPI_SEV_WARNING, 191	40BF	16575	SPI_STS_SNI_CON_PROVDR_PROB	Named pipes communication could not be established. Typically, this means that named pipes is not functioning or permissions are set incorrectly.
SPI_SEV_WARNING, 192	40C0	16576	SPI_STS_SNI_BUF_TOO_SMALL	(FileNET internal use only)
SPI_SEV_WARNING, 193	40C1	16577	SPI_STS_SNI_SYSTEM_ERROR	(FileNET internal use only)
SPI_SEV_WARNING, 194	40C2	16578	SPI_STS_SNI_NOT_SUPPORTED	(FileNET internal use only)
SPI_SEV_WARNING, 195	40C3	16579	SPI_STS_SNI_NO_DATA_AVAILABLE	(FileNET internal use only)

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 196	40C4	16580	SPI_STS_SNI_NO_ DATA_UNIT	(Currently not used.)
SPI_SEV_WARNING, 197	40C5	16581	SPI_STS_SNI_FLOW_ CONTROL	(Currently not used.)
SPI_SEV_WARNING, 198	40C6	16582	SPI_STS_CAT_INDEX_ FULL	Because the maximum number of files have been indexed in the content search repository, pending indexing actions will be deleted; add new content search repository, reassign storage categories, or deindex some files.
SPI_SEV_WARNING, 199	40C7	16583	SPI_STS_BACKUP_PATH	(Currently not used.)
SPI_SEV_WARNING, 200	40C8	16584	SPI_STS_BK_NO_ CONNECT_EXCL_MODE	(Currently not used.)
SPI_SEV_WARNING, 201	40C9	16585	SPI_STS_BK_IN_ EXCLUSIVE_MODE	(Currently not used.)
SPI_SEV_WARNING, 202	40CA	16586	SPI_STS_SCTX_IN_USE	Already using this SCTX in some thread.
SPI_SEV_WARNING, 203	40CB	16587	SPI_STS_ROLL_FORWARD	(DB2 only) The roll forward restore is pending.
SPI_SEV_SUCCESS, 204	CC	204	SPI_STS_INDEX_NOT_ CREATED	The custom property was created successfully, however the index creation failed.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 205	40CD	16589	SPI_STS_DB_NEEDS_RECOVERY	This personal library system needs to use dsstrt to recover the Property Manager. The R:BASE database engine has had a transaction failure. Stop and restart the system (using dsstop and dsstrt) to allow users to once again connect to the system.
SPI_SEV_WARNING, 206	40CE	16590	SPI_STS_FULL_BACKUP_FIRST	(Currently not used.)
SPI_SEV_SUCCESS, 207	CF	207	SPI_STS_CSI_DISABLED	Content search indexing of files is currently disabled on this system (other portions of the operation, other than content search indexing/deindexing, completed successfully).
SPI_SEV_WARNING, 208	40D0	16592	SPI_STS_BAD_ATTR_TYPE	You have specified an inappropriate property type for the function used.
SPI_SEV_WARNING, 209	40D1	16593	SPI_STS_BAD_OPERATOR	The search operator is not valid for a property's data type. Check that a property with a Text data type is not using an operator other than LIKE or NOT LIKE (the only supported operators for Text data types).
SPI_SEV_WARNING, 210	40D2	16594	SPI_STS_LOGICAL_PAGE_ERROR	(Currently not used.)
SPI_SEV_WARNING, 211	40D3	16595	SPI_STS_RSTR_DB_TOO_SMALL	(Currently not used.)
SPI_SEV_WARNING, 212	40D4	16596	SPI_STS_RSTR_DIFF_CHARSET	(Currently not used.)

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 213	40D5	16597	SPI_STS_TEMPDB_FULL	(For Oracle databases) The temporary tablespace allocation is full.
SPI_SEV_WARNING, 214	40D6	16598	SPI_STS_TAPE_DEVICE_ ERROR	(Currently not used.)
SPI_SEV_WARNING, 215	40D7	16599	SPI_STS_WRONG_TAPE_ DEVICE	(Currently not used.)
SPI_SEV_WARNING, 216	40D8	16600	SPI_STS_TAPE_TOO_ SMALL	(Currently not used.)
SPI_SEV_WARNING, 217	40D9	16601	SPI_STS_BACKUP_ SERVER_ERROR	(Currently not used.)
SPI_SEV_WARNING, 218	40DA	16602	SPI_STS_BAD_PROPERTY_ LEN	The custom property length is invalid.
SPI_SEV_WARNING, 219	40DB	16603	SPI_STS_SHELF_TIMEOUT	The Storage Manager was unable to process a request within its timeout period.
SPI_SEV_WARNING, 220	40DC	16604	SPI_STS_STRONG_REL	An object deletion failed because it was referenced by a strong relationship object.
SPI_SEV_WARNING, 221	40DD	16605	SPI_STS_DBI_TIMEOUT	(Currently not used.)
SPI_SEV_WARNING, 222	40DE	16606	SPI_STS_NESTED_ TRANSACTION	A begin transaction was attempted within another transaction.
SPI_SEV_WARNING, 223	40DF	16607	SPI_STS_OBJECT_REF_ ERROR	Operation cannot be completed because this object is being referenced by another object.
SPI_SEV_WARNING, 224	40E0	16608	SPI_STS_USER_ CONNECTIONS_ EXCEEDED	There are insufficient database connections/ processes allocated.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 225	40E1	16609	SPI_STS_MAX_EXTENTS_ REACHED	The Oracle extents maximum has been reached. This condition can be corrected by redefining the DEFAULT STORAGE CLAUSE for the library system tablespace to increase the MAX_EXTENTS setting (defaults to 210). The maximum value for MAX_EXTENTS per database object is 249. If the MAX_EXTENTS setting cannot be increased sufficiently, the SARO database objects for which the error was generated, must be recreated and restructured manually.
SPI_SEV_WARNING, 226	40E2	16610	SPI_STS_ACCESS_DENIED	Unable to access or create the specified directory. This is likely due to insufficient permissions to this directory.
SPI_SEV_WARNING, 227	40E3	16611	SPI_STS_INCOMPATIBLE_ DB	The wrong DLLs are installed for this database type.
SPI_SEV_WARNING, 228	40E4	16612	SPI_STS_DBI_NO_ RESULTS_ERROR	Indicates an internal database error where expected results were not returned.
SPI_SEV_WARNING, 229	40E5	16613	SPI_STS_NO_SUCH_ LANGUAGE	The specified language has not been supplied for this library system.
SPI_SEV_WARNING, 230	40E6	16614	SPI_STS_WRONG_DLL	FileNET internal error code.

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 231	40E7	16615	SPI_STS_INVALID_ORDER	Indicates an attempt to order by a list property (such as, a Keyword or Multivalue Custom Property).
SPI_SEV_WARNING, 232	40E8	16616	SPI_STS_REPCHK_MAX_ERRORS	The maximum number of errors has been reached in a repository check.
SPI_SEV_WARNING, 233	40E9	16617	SPI_STAT_LAST	You can define your own status codes by decrementing from MAXINT. Your defines should be compared against SPI_STAT_LAST to avoid collision.
SPI_SEV_WARNING, 232	40E8	16616	SPI_STS_REPCHK_MAX_ERRORS	The maximum number of errors has been reached in a repository check.
SPI_SEV_WARNING, 233	40E9	16617	SPI_STS_BROKEN_RELATIONSHIP	Indicates a weak relationship between objects was broken (e.g., between Version objects in a compound document).
SPI_SEV_WARNING, 234	40EA	16618	SPI_STS_NO_REPLICAS	Indicates a failed attempt to link to a replica (e.g., a replicated document).
SPI_SEV_SUCCESS, 235	EB	235	SPI_STS_DYNAMIC_BROKEN	Indicates a dynamic link was successfully broken (i.e., that the modification of a Version object property has caused no version to satisfy a Dynamic property and Dynamic property value pair in a Dynamic relationship, which is a success condition).

Status Code	Hex	Decimal	Return Value	Description
SPI_SEV_WARNING, 236	40EC	16620	SPI_STS_PARENT_ONLINE	Indicates an archive action failed because the parent object is marked as being online rather than archived (e.g., for a compound document, a child document cannot be archived if its parent document is still online).
SPI_SEV_WARNING, 237	40ED	16621	SPI_STAT_LAST	You can define your own status codes by decrementing from MAXINT. Your defines should be compared against SPI_STAT_LAST to avoid collision.

Replication Services



Replication Services supports many new features in this release, and this guide has been reorganized and rewritten extensively. Be sure to read this guide thoroughly before you implement Replication Services at your site. Replication Services can have profound impact on your library system configurations and the hardware and software resources required.

The Replication Services documentation is divided into these major topics:

- “Replication Services Overview” on page 465
- “Planning for Replication Services” on page 471
- “Replicating Objects” on page 479
- “Setting Up Replication Services” on page 486
- “Managing Replication Services” on page 491
- “Replication Planning Worksheets” on page 499

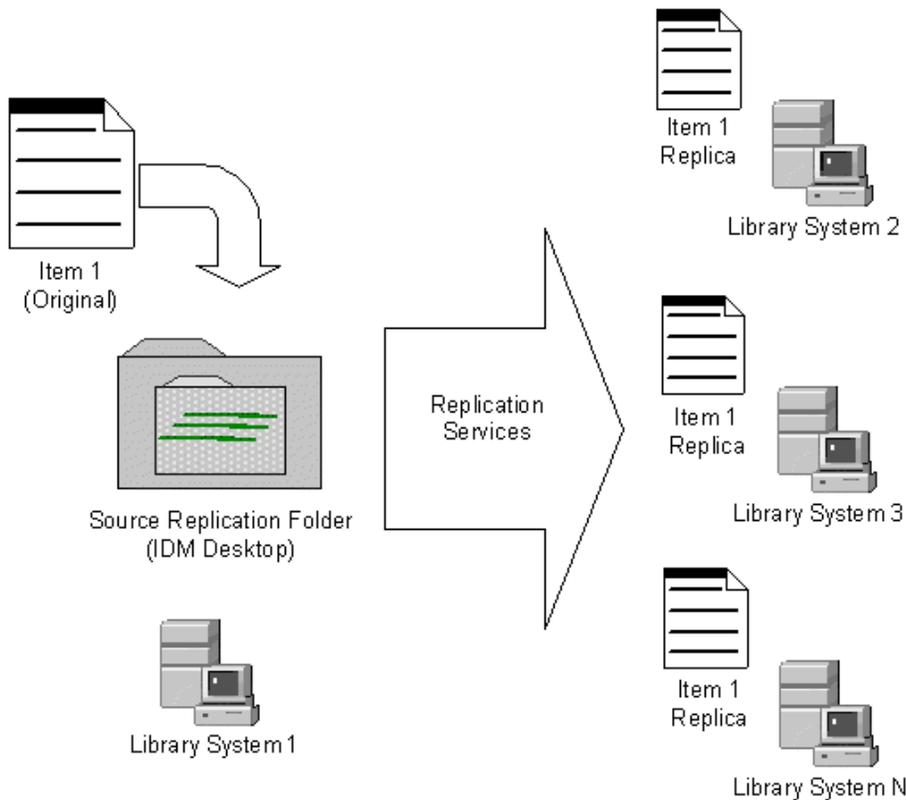
Caution Upgrading an existing IDMDS library system that already participates in Replication Services requires a special utility. Check the Troubleshooting link on [FileNET Worldwide Support](#) for the IDMDS patch containing the Replication Services upgrade utility. Do not attempt to upgrade your library systems until the utility is available.

Replication Services Overview

Replication Services gives your documents greater availability across your enterprise, automatically and without compromising document integrity. Instead of manually creating and maintaining the necessary user accounts and documents on separate libraries, replication automatically copies the documents and related security to another library system.

When a document is replicated, both the file content and the property values for standard properties and existing custom properties of the document are copied into the library systems participating in Replication Services. Users can quickly locate and access a replicated document anywhere in any replicated library. All instances of replicated documents or folders in any library system are periodically synchronized with any alterations to the original document or folder.

A replicated document's current status is reflected on all the participating library systems: if checked out, a document will be marked as checked out on all of these library systems. When a new version is checked in, that new version is replicated to all the participating library systems.



Replication Services Overview

Replication Services runs independently of the other library system services. Thus, Replication Services can continue running while other library system services are stopped and restarted and can automatically resynchronize with these library system services when they restart.

Using Replication Services can have a profound impact on your library system configurations and the hardware and software resources required. Take time to carefully plan your system before you implement replication in your network. Refer to [“Planning for Replication Services” on page 471](#) before you make any changes.

Note For Replication to work correctly, each participating library system must have a unique name. Contact FileNET Professional Services if you have library systems with the same names and you need to implement replication.

Replication Services Terminology

The following terms describe specific behaviors within Replication Services.

Term	Meaning
Original Object	The original object that is replicated to other libraries. Modifications made to a original object are replicated to all replica objects automatically by the Replication Daemon. Original objects were previously called source objects.
Original Library	The library system where the original object is added. Original documents and original folders are created or added on the original library system. Original libraries were previously called source libraries.
Target Object Replica Object	The replicated (copied) object. Also referred to as a replica. For example, a folder replica or document replica. Modifications made to a target object are not always replicated back to the original object or any other replicated objects by the Replication Daemon.
Target Library Replica Library	The library system where replicas are located. The replica is created and owned by the Replication Daemon on the target library.
Replication Daemon	The replication software responsible for maintaining consistency between original objects and target objects.
ReplDaemon User	The Replication Daemon uses the ReplDaemon user to log in and out of the participating library systems to perform replication operations. The ReplDaemon user is assigned an encrypted password and has Administrator access rights to the specified library system. Do not modify this password.

Term	Meaning
Administrative Domain	<p>A collection of library systems that share security features. Within an administrative domain, any changes to User, Group, or Group Member objects are automatically replicated to the library systems. Stored searches created with the System Administration Tool, Document Classes, and CVLs are also replicated across the domain. The initial user and initial user group (Admin and Administrators group) and their associated stored searches are not replicated.</p> <p>Administrative domains are useful in environments where original documents may be located in a remote location and modifications are performed locally. Refer to “Administrative Domains” on page 476 and “Replicating Objects” on page 479 for more information.</p>
Domain Master	The library system where an administrative domain is created and maintained. For ease of maintenance, use the Domain Master to create and manage users, groups, Document Classes, and CVLs for the administrative domain.
Outside an Administrative Domain	All library systems that are not members of an administrative domain and that are participating in replication. Users can view, print, or copy replica documents. Users make all modifications on the original document, and all other libraries contain view-only document replicas.
Inside an Administrative Domain	Replication features that apply only within an administrative domain. Users can check out, check in, and modify any document replica (whose original document is inside the administrative domain) from any library system within the domain, provided that the user has the appropriate access rights.
Replication Folder	Refers to a root-level folder that the administrator uses to designate where documents and subfolders are replicated. Once a folder is replicated, documents and subfolders can be added from any participating library. Participating libraries are listed in the folder's Comment field.

Objects Supported for Replication

Replication Services always supports replicating the following objects between libraries:

- Folders
- Items
 - Documents
 - Compound Documents
 - Annotations for a Document

- Published Documents
- Versions
- Custom property values when the same property exists on both libraries

Inside an administrative domain, these additional objects are replicated between the domain master and other libraries:

- Users
- Groups
- Group Memberships
- Searches stored at the user or group level creating using the System Administration Tools
- Default Item Access List
- Document Classes when those properties are identical on both libraries
- CVLs (Controlled Vocabulary Lists)

Administrative Domains

For purposes of replication, you can designate a collection of library systems as an *administrative domain*, which provides the following functionality:

- Users can check out and modify document replicas inside the administrative domain. Users can perform these operations from any library system within the domain (based on appropriate access rights).
- Users and groups are managed as a single security model. When you make changes to users or groups on their original library, the changes are replicated across all library systems within the domain. The initial user and initial user group (Admin and Administrators group) and their associated stored searches are not replicated.
- Stored searches created with the System Administration Tools are replicated. Inside an administrative domain, Replication Services automatically replicates stored searches across all associated library systems for those properties that are identical on both libraries. If custom properties specified in a search do not exist on the target library, the search is not replicated.

Note Stored searches created with IDM Desktop are not replicated.

- Document Classes and CVLs are replicated within the domain provided that the custom properties exist on the target library system. Review the replication log for properties missing on the target library. It is the administrator's responsibility to ensure that the required custom properties are created on the target library.

Use the COPY_CP utility on the System Administration Tools CD to copy custom properties. Refer to “COPY_CP” on page 375 for more information.

Administrative domains do not restrict replication of documents or folders to within a domain. You can replicate documents and folders to or from library systems in other administrative domains, or to library

systems that are not members of an administrative domain. However, none of the domain-specific functionality applies outside of the domain.

For more information, refer to “[Administrative Domains](#)” on page 476.

Outside an Administrative Domain

Documents replicated to library systems outside of an administrative domain are view-only documents. All modifications must be performed on the original document. The replicas can be copied, viewed, or printed.

The Replication Daemon

When you install IDMS, a ReplDaemon user is automatically created. The Replication Daemon uses the ReplDaemon user to log in and out of the participating library systems to perform replication operations. The ReplDaemon user is assigned an encrypted password and has Administrator access rights to the specified library system. Do **not** modify this password.

The Replication Daemon maintains consistency between the original library and the target libraries. It does this by creating work requests that contain add, delete, or update information for a specific object.

For example, when an object is selected for replication, a work request is created by the Replication Daemon on the original library system for the Replication Daemons on the target library systems. The target Replication Daemon then logs into the object's original library system (as the ReplDaemon user) and performs the work request that adds, deletes, or updates the replica object.

Note To synchronize Replication Services among the participating library systems, it is mandatory that all ReplDaemon users have Administrator privileges to the library systems and that their passwords are not changed. For this reason, the password is automatically assigned during the server installation and is algorithmically derived and encrypted.

Managing Document Classes and CVLs

Document Classes and Controlled Vocabulary Lists (CVLs) are only replicated inside an administrative domain. Outside an administrative domain, you must copy Document Classes and CVLs to each library using the import and export tools available in IDMDS Explorer.

Keep the following notes in mind when working with Document Classes and CVLs in a replication environment:

- Create and maintain the Document Classes and CVLs on one library system. For best results, use the Domain Master.
- Use the IDMDS Explorer DocClass and CVL Administration Tool to make changes.
- When you makes changes with the DocClass and CVL Administration Tool, you need to close the tool and restart it to see the changes.
- After making changes, wait for a few replication cycles to complete for the changes to be replicated to the other library systems. Any users with IDM Desktop who were logged on while you made changes will need to log out and log back into the library to see your changes.
- CVL datatypes are not validated during replication. When you set up replication, verify that the datatypes for CVLs match, or results may be unpredictable. Refer to [“Setting Up Replication Services” on page 486](#) for more information.
- You cannot delete a Document Class that is currently used by existing documents.
- Do not modify the privileges for the Document Class custom property. Only the Owner Privileges should be set to Read/Write: no one else should have write privileges.
- When you add a new library to an existing administrative domain, Replication Services uses the following logic to resolve duplicate Document Class and CVL definitions:
 - a. Document Classes and CVLs on the Domain Master are copied to the new library system. This includes Document Classes and CVLs that originate on the Domain Master and on the existing domain member libraries. The Domain Master objects overwrite any duplicates on the new library.
 - b. Unique Document Classes and CVLs that originate on the new library will be replicated to the other library systems within the domain during the next replication cycle.
 - c. CVL datatypes are not validated, as noted above.

Planning for Replication Services

Before you set up Replication Services, you need to carefully define your business requirements and verify that Replication Services solves the business problem. If so, make sure your library system servers, the IDMDS System Administration Tools, and the IDM Desktop clients are set up appropriately. In general, you will have to determine which objects to replicate and how to administer user access.

You need to consider the following:

- The scope of Replication Services you need.
- The configuration of existing library systems.
- The configuration of existing IDMDS Administration Tools and IDM Desktop clients.
- The intended distribution of replicated documents.
- The impact on your existing network infrastructure and hardware.
- The impact on your current backup and recovery scheme.
- The nature of the library systems you will establish.

Careful planning is essential before configuring and using Replication Services successfully. Some options, such as administrative domains, cannot be changed once you configure them. Before enabling and setting up Replication Services, you should carefully consider the issues raised in the following topics. Refer to the [“Configuration Worksheets” on page 60](#) that you used to design your library systems to help answer these questions. Additional worksheets are provided for planning Replication Services. Refer to [“Replication Planning Worksheets” on page 499](#) for more information.

Note Contact FileNET Technical Support if you need assistance in implementing Replication Services at your site.

The Scope of Replication Services Needed

To define the scope of Replication Services needed for your enterprise, you need to carefully consider the purpose of replicating documents at your site and how your users will interact with the replicated documents. Use the following questions and the [“Replication Planning Worksheets” on page 499](#) to determine your needs.

- What is the reason for making duplicate documents available across library systems?
- Which sites and library systems should participate in Replication Services?
- Which documents or kinds of documents should be replicated?
- Will users need to modify replicated documents?

- Will users only need to view, print, or copy documents?
- Which users and groups should be able to replicate documents?
- Do the users and groups exist on the libraries that will participate in replication?
- What replication Administrative Domains should be established?

Existing Library Systems

Replication Services will affect your existing library systems. You may need to upgrade your system software and configurations, and your end users may need to change how they work with documents within your site.

- The participating library systems must use the same release version of IDMDS. If your site uses a software patch, the same patch must be installed on all participating libraries.
- The participating library systems must use the same database type and release version of MSSQL or Oracle. FileNET does not support replicating to a different database type.
- Replication Services requires that each participating library system has a unique name. This is necessary to differentiate between library systems for replicas. Contact FileNET Professional Services if your enterprise currently has multiple library systems with the same name and you plan to implement replication.
- Replication Services will change the way your users understand the document management architecture at your site. The existing design of library and folder trees, for example, will probably be altered as authorized users and groups can add documents and subfolders to existing replicated folders.

When a folder is replicated, all its subfolders and documents are replicated. A user with access rights to a top level folder may not have access to a subfolder, but the entire structure is replicated and all subfolders and documents may be viewed based on their security.

- You may need to reconfigure existing users and groups across library systems. For example, you may have duplicate group names with different users in different library systems. Administrative domains provide a domain-wide method for administering groups and users across library systems. If you do not use administrative domains, you will need to administer changes manually to duplicate groups and users on each library system. Refer to [“Administrative Domains” on page 476](#) for more information.
- The users or groups adding documents to replicated folders must understand that the replicated document may be accessed by different users on the target library systems.

The Intended Distribution of Replicated Documents

Once you determine the items to be replicated, you need to control their distribution. These factors affect distribution:

- The Replication folders you establish.

You can designate multiple Replication folders, each replicating documents to a subset of the participating library systems.

- The access rights you grant users and groups to each of these Replication folders.

For example, you may want one set of authorized users and groups to be able to replicate documents only to the library systems referenced by Replication folder A, and another set of authorized users and groups to be able to replicate documents only to the library systems referenced by Replication folder B.

- The replication administrative domains you set up.

You can establish an administrative domain to ensure that users can access and modify any document on a library within a particular domain. Or, you can restrict replica access to viewing and printing by replicating to libraries outside an administrative domain or by not using administrative domains at all. Refer to [“Administrative Domains” on page 476](#) for more information.

- The users and groups that exist inside an administrative domain and across the participating library systems.

Inside an administrative domain, Replication Services automatically replicates access list entries (Access Control object instances) between library systems, enabling you to manage security for all library systems within the domain as a single unit.

If you don't use administrative domains, or if documents are replicated outside of an administrative domain, Replication Services will not affect the existing security. You may need to create duplicate accounts on library systems outside the domain to provide view access to all intended users.

Impact on Network and Hardware Resources

Replication Services increases network traffic. Network outages and server down time affect synchronization across the participating library systems. For best results, you need a high-speed, reliable, and efficient network.

Replicas are copies of original documents and folders. Because users may access document replicas from different library systems and associated storage servers, you may need to change the following for existing library systems:

- Current load balancing required for your network.

Large numbers of documents being replicated during peak hours may place an additional load on your existing network resources. You can adjust the Replication Services configuration settings to control how frequently the Replication Daemon updates replicas in the system.

Documents that are expected to be modified frequently should probably not be replicated for purposes other than read-only: synchronization of the replicas across all of the library systems is not simultaneous. These operations require a minimum of one replication cycle to complete. For more information, refer to [“Replication Services Configuration Parameters” on page 490](#).

- Storage space demands on library system servers participating in Replication Services.

Due to the increased number of transactions on your property servers, you may need to double the disk space allocated to transaction logs for MSSQL databases.

Backup and Restore Operations

Replicas can be backed up and restored in the same way as all other library system objects and document content.

However, to maintain correct synchronization of replicas and their original objects under all circumstances (such as failure of a library system's host server), make sure you schedule backup operations between library systems participating in replication at the same time. Doing so means you will be able to synchronize restore operations on all these library systems, and thereby maintain inter-library data integrity.

If you do not synchronize backups between library systems, the following can occur if it becomes necessary to restore an administrative domain from backups:

- Replication Services may not be able to correctly resynchronize the replicas with their original objects (at least until the original object is again modified).
- Objects replicated since the last backup may be lost (at least until the original object is again modified).

This is a by-product of the way the Replication Daemon marks and queues objects for replication. When a user modifies an original object, the program creates a work request for each target library. When Replication Services successfully replicates that object, it marks the work request as completed. If you subsequently restore the target library system to a state before the object was replicated, the original library system has no way of knowing which objects might be missing on the target library system. Only when/if a user modifies the object again, will Replication Services generate a new work request and cause the object to be replicated again on the target library systems, thereby eliminating the discrepancy.

The Original Library System

Replication Services is based on the original object: for any replica, properties and modifications originate in the original object. This has particular effect on those objects that may be different between library systems:

- Users and groups.

Outside an administrative domain, the same users and groups generally do not match between library systems. The Replication Services configuration options `ReplicateItemACLs` and `ReplicateFolderACLs` specify how to define a document or folder replica's user and group access list entries. For more information, refer to [“Replication Services Configuration Parameters” on page 490](#).

- Document or folder titles.

Outside a replication administrative domain, users can modify only original documents or folders. To help your end users identify the original library for a document or folder, you can include an indicator in the document or folder title. Refer to [“Replication Services Configuration Parameters” on page 490](#) for more information on the `ItemTitleFormat` and `FolderTitleFormat` settings.

- Custom properties.

Replication Services does not automatically replicate custom property definitions between library systems, either inside or outside an administrative domain. However, if a custom property is defined, Replication Services will replicate the value of the custom property whenever a user adds or checks in the document.

We suggest you maintain a consistent set of custom properties across the participating library systems. To do so, you must add any necessary custom properties to the library systems before enabling Replication Services.

Use the COPY_CP utility on the System Administration Tools CD to copy custom properties. Refer to [“COPY_CP” on page 375](#) for more information.

If needed, you can rename custom properties using the System Administration Tools. Remember to change the display name for the property also.

Replication of custom property values requires that all the following criteria be identical:

- Property name
- Data type
- Length
- Parent object
- Multivalue setting

Administrative Domains

You can designate a collection of library systems as an *administrative domain*, which provides the following functionality:

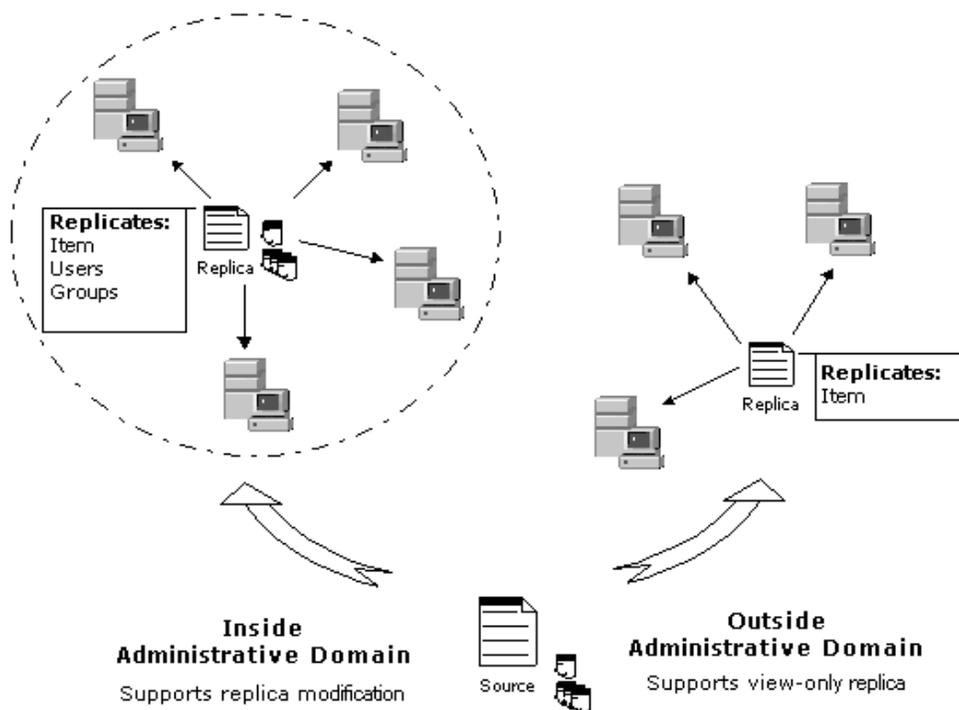
- Original and replicated document versions can be checked out and modified. Users can check out, cancel checkout of, and check in documents inside the administrative domain. During the check in process, changes to the replica version are copied to the original and to all replicas within the domain. Users can perform these operations from any library system within the domain (based on appropriate access rights).

Note You must perform the check in or cancel check out operation on the same library system where you performed the check out.

- Users and groups are managed as a single security model. Replication Services automatically replicates the following between library systems inside an administrative domain:
 - Users
 - Groups
 - Modifications to users (except the Admin user)
 - Modifications to groups (except the Admin group)
 - Modifications to group membership

Refer to “[Managing Users and Groups](#)” on page 494 for more information.

- Document Classes and CVLs are replicated within the domain. Refer to “[Replicating Objects](#)” on page 479 for more information.
- Stored searches created with the System Administration Tools are replicated within the domain. Refer to “[Replicating Objects](#)” on page 479 for more information.
- The Domain Master is the library system where the administrative domain is created and maintained.



Administrative domains do not restrict replication of documents or folders to libraries within a domain. You can replicate documents and folders to or from library systems in other administrative domains, or to library systems that are not members of an administrative domain. However, none of the domain-specific functionality applies outside of the domain.

You can configure more than one administrative domain, but a library system can be a member of only one administrative domain.

Caution These restrictions apply to replication administrative domains:

- Once assigned to an administrative domain, a library system cannot be removed from that domain. Plan your domains carefully before you configure replication. Refer to [“Planning for Replication Services”](#) on page 471.
- A library system can be a member of only one administrative domain.
- If a duplicate user or group with the same name exists when you create an administrative domain or add libraries to an existing administrative domain, Replication Services designates the object with the earliest creation date as the original object and the remaining objects are overwritten. Review the replication log (**repl.log**) to identify how name conflicts were resolved.

For example, if a user named Danika exists on two library systems inside an administrative domain, the Danika user with the earliest creation date is designated the original User and is replicated to the other libraries. Check for any potential naming conflicts before configuring an administrative domain.

- If a duplicate DocClass or CVL with the same name exists when you create an administrative domain or add libraries to an existing administrative domain, the following logic is used to resolve the duplicate items:

- Document Classes and CVLs on the Domain Master are copied to the new library system. This includes Document Classes and CVLs that originate on the Domain Master and on the existing domain member libraries. The Domain Master objects overwrite any duplicates on the new library.
- If you added multiple libraries at the same time with duplicate Document Class or CVL names, then an error message is written to the replication log (**repl.log**) and the administrator must delete one of the objects from its library system. Review the replication log to identify name conflicts, and take appropriate action.

For ease of management, create all DocClasses and CVLs on the Domain Master before configuring the administrative domain. Use the DocClass/CVL Tool export feature to create export files for importing on the Domain Master. For more information, refer to the IDMS System Administration Tools documentation.

Refer to [“Establishing a Replication Administrative Domain”](#) on page 488 for instructions on defining an administrative domain.

Replicating Objects

The objects that are replicated depend on whether you are replicating inside or outside of an administrative domain. Documents and subfolders within an administrative domain can be replicated to library systems outside a domain, but none of the domain features are supported.

Outside an Administrative Domain	Inside an Administrative Domain
Folders	Same as Outside a Domain, plus:
Items	User
<ul style="list-style-type: none">• Documents• Compound Documents• Annotations for a Document• Published Documents	Group
	Group Membership
	Default Item Access List
	Access Control List
Versions	Document Classes when properties are identical on both libraries
Custom Property values, if the same property exists on both libraries	CVLs (Controlled Vocabulary Lists)
	Search stored at the user or group profile created using the System Administration Tools

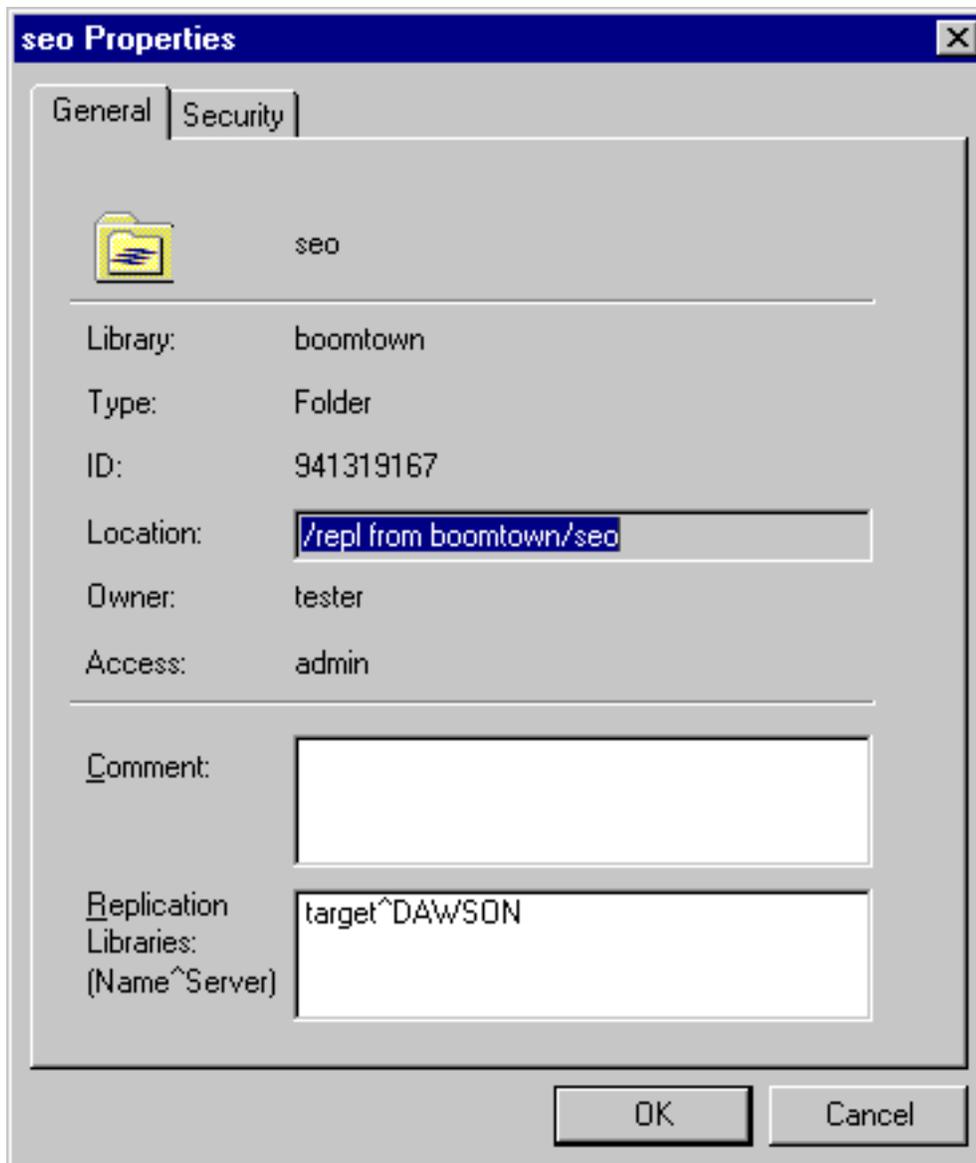
Replicating Documents and Folders

Documents and subfolders added to replication folders are replicated between libraries. Documents and subfolders can be added from any library system.

You use IDMDS Explorer to configure the replication folder, but other client interfaces (such as IDM Desktop) display the replication folders you create. Replication Services then replicates the designated replication folder to all of the library systems specified. Each folder or document that is replicated retains its original library identity on all of the participating library systems. IDM Desktop displays the Replication folders with this icon:

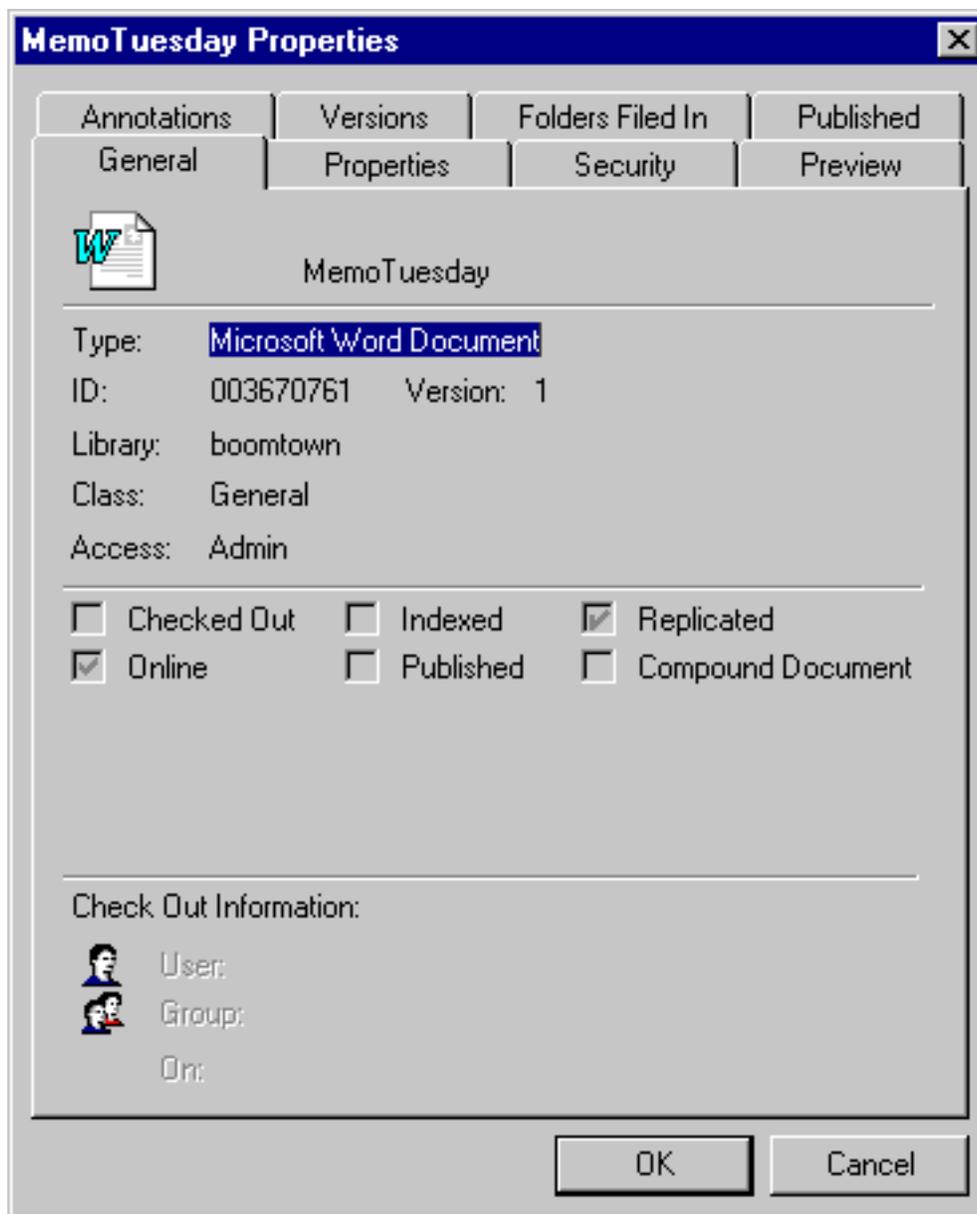


IDM Desktop displays replication information for replication folders and documents. In the following example, the replication folder named Proposals exists on the library named Saloon and replicates to the library named zipper:



Note that the Item ID for the Proposals folder in the Saloon library is 94294465. You can determine if a folder is a replica or an original from its Item ID. An original replication folder or subfolder has a numeric Item ID. A replicated folder's Item ID begins with R, such as R38440d9a.

In the following example, the document named JanuaryReports exists on the library named saloon as a replicated document. It is replicated from the library named boomtown:



All of the objects (subfolders and documents) existing or subsequently placed in the replication folder are also replicated to the other library systems. For folders, this may be a single folder or a hierarchy (tree) of folders. A replication folder's tree structure is also retained across the participating library systems. Users must have Author access to the replication folder to add documents or folders for replication. It is possible to file a document in the target replication folder, and Replication Services will replicate it to the other libraries.

There can be one or more replication folders for a library system, with each replication folder referencing different library systems.

Replicating Compound Documents

Compound documents are replicated both inside and outside of an administrative domain. When a user places a compound document into the replication folder, the compound document is replicated to other libraries. The links between the parent document and any child documents are maintained in the replica.

Note You cannot use a replicated document to create a compound document, and you cannot change the links within a replica of a compound document. You can only make these changes in the original document.

Replicating Published Documents

Published Documents are replicated both inside and outside of an administrative domain. When a user places a published document into the replication folder, the published document is replicated to other libraries.

The relationship between a published document and its original document is not replicated. That is, the published document and its original document are considered as separate unique documents. To replicate both documents, you must place both documents into the replication folder.

Replicating Document Annotations

Documents and their associated annotations are replicated both inside and outside of an administrative domain. When a user places an annotated document into the replication folder, the annotations are replicated with the document.

Note You cannot change a replica's annotation links. You can only make these changes in the original document.

Replicating Document Classes and CVLs

Document Classes and Controlled Vocabulary Lists (CVLs) are only replicated inside an administrative domain.

When you add or change a Document Class or CVL, the changes are replicated within the domain. If a specific custom property required by a Document Class does not exist on a target library system, that property is not replicated to that library system. Replication Services logs a warning that the replication of the Document Class is incomplete, and that it will attempt to resolve it at a later time. Review the replication log (**repl.log**) to determine which custom property is missing or not identical on the target library.

You must change a Document Class or CVL definition on the original library. For ease of management, create all Document Classes and CVLs on the Domain Master. Before creating an administrative domain with existing libraries, use the DocClass/CVL Tool export feature to create export files for importing on the Domain Master. For more information, refer to the IDMS System Administration Tools documentation.

When you add a new library to an existing administrative domain, Replication Services uses the following logic to resolve duplicate Document Class and CVL definitions:

1. Document Classes on the Domain Master are copied to the new library system. This includes Document Classes that originate on the Domain Master and on the existing domain member libraries. The Domain Master objects overwrite any duplicate Document Classes on the new library.
2. CVLs on the Domain Master are copied to the new library system. This includes CVLs that originate on the Domain Master and on the existing domain member libraries. The Domain Master objects merge any duplicate CVLs regardless of datatype or values. As a result, you may have CVL data that originates on different libraries.
3. Unique Document Classes and CVLs that originate on the new library will be replicated to the other library systems within the domain during the next replication cycle.

Do not add multiple libraries at the same time. Error messages are written to the replication log (**repl.log**), and the administrator must delete one of the objects from its library system. You cannot delete Document Classes that are currently used by existing documents. Review the replication log to identify name conflicts.

Outside an administrative domain, you must copy Document Classes and CVLs to each library using the import and export tools available in IDMDS Explorer. For more information, refer to the IDMDS System Administration Tools documentation.

A replicated document can reference a Document Class or CVL that does not exist on the target library system. IDM Desktop will display the default Document Class for that library system to the document.

For more information, see [“Managing Document Classes and CVLs” on page 470](#).

Replicating Custom Property Values

Custom property values are replicated both inside and outside of an administrative domain. Custom property values are replicated only if the same properties already exist on the target library systems.

The Replication Daemon attempts to locate the custom property on the library system. The property name, data type, length, parent object, and multivalue setting must be identical for the values to be replicated. If a custom property match is not found, the value of the custom property is not replicated with the document.

You need to set up and maintain a consistent set of custom property values across the participating library systems. To ensure consistency from the start, you must add any necessary custom property to the target library systems before enabling Replication Services.

Use the COPY_CP utility on the System Administration Tools CD to copy custom properties. Refer to [“COPY_CP” on page 375](#) for more information.

Note The custom properties defined on a target library affect how document properties, stored searches, Document Classes, and CVLs are replicated.

Replicating Users and Groups

Users and groups are only replicated inside an administrative domain.

When you add or modify a User, Group, Group Member, or Access Control object on any library system, Replication Services automatically replicates those objects across all participating library systems. The

initial user and initial group (Admin and Administrators group) are not replicated. However, a user who is a member of the Administrators group will be replicated and group membership on the target will not include the initial group (Administrators group).

You should check for potential user and group naming conflicts before configuring an administrative domain. When more than one user or group object of the same name exists inside an administrative domain, Replication Services designates the object with the earliest creation date as the original object and the remaining objects as replicas. For example, if a user named Danika exists on two library systems inside an administrative domain, the Danika user with the earliest creation date will be designated the original User object instance, and the other Danika user will be designated a replica of this object instance.

Caution Be sure to check that user and group names existing in different library systems actually belong to the same individuals. Otherwise, the Access List and the Default Item Access List may assign inappropriate access rights during replication to particular user or group replicas. For example, Replication Services could inadvertently assign user or group replicas viewer rights to documents and folders they should not be able to view.

For best results, you should use the Domain Master library system to add new users and groups to the domain. You can add new users and groups to the administrative domain from any library system within the administrative domain.

Inside an administrative domain, the Access Control object instance for a user or group is also replicated, with maximum access rights set to Author.

Outside of an administrative domain, Replication Services does not replicate users and groups. You must add such objects manually to all participating library systems, making sure to duplicate associated properties as appropriate for your site.

Replicating Stored Searches

Stored searches created with the System Administration Tools are replicated within an administrative domain.

All stored searches are automatically replicated to the other participating library systems if the custom properties used in the search already exist on the target library systems. The property name, data type, length, parent object, and multivalue setting must be identical for the values to be replicated. If a custom property match is not found, the search criteria is not replicated.

Users can change the Comments on a replica of a stored search, but the changes are not replicated to the original or other target libraries.

Note The custom properties defined on a target library affect how stored searches are replicated. Inside an administrative domain, Replication Services automatically replicates searches if all custom property values used in the search already exist on the target library.

Replicating Document Item and Version Properties

You can make changes to item and version properties for original documents. However, you must check out and check in the original document from the original library to replicate your changes to the

respective target libraries. If you do not check in your changes, they are not replicated to the target libraries until the document is checked in again.

For document replicas, you make changes to the version properties during check in. Item properties cannot be changed on document replicas. Any changes you make to item properties on a replica are temporary, even if you check in the replica. Item properties on a replicated document are always overwritten by the Replication Daemon when it updates the replica.

Setting Up Replication Services

Replication Services is automatically installed with IDMS versions 4.2 and higher. To use Replication Services, you must enable and configure the service.

To set up, configure, maintain, and use Replication Services, you need the following:

- Two or more participating IDMS 5.1 library systems with unique names. Contact FileNET Professional Services if your site has library systems with the same name.
- The participating library systems must use the same database type and release version, MSSQL or Oracle. FileNET does not support replicating to a different database type.
- The participating library systems must use the same release version of IDMS. If your site requires a software patch, the same patch must be installed on all participating libraries.
- For administrators, install IDMS System Administration Tools on at least one administrative client.
- For users, install a client interface to the library systems, such as IDM Desktop.

To set up Replication Services

1. Plan your replication requirements carefully. Refer to [“Planning for Replication Services” on page 471](#).
2. Review your replication plan with FileNET Technical Support. The support technicians can help you avoid potential configuration problems. Refer to the FileNET Customer Support web site (<http://www.css.filenet.com/>) for instructions on contacting Technical Support.
3. Back up all library systems that will participate in Replication Services. Be sure to archive the resulting backup files accordingly. (For details, refer to [“Restoring the Property Repository Database” on page 334](#).) This precaution ensures that you can recover fully from configuration mistakes such as setting up incorrect administrative domains.
4. Ensure that Replication Services is stopped on all participating library systems.
5. Ensure that the ODBC datasource is configured for all remote library systems. Use your Windows NT tools to verify the configurations.
6. (Recommended) Copy/create a common set of custom properties, Document Classes, and CVLs on the participating library systems. The custom properties must match in name, data type, length, parent object, and multivalue setting. The CVLs should match in datatype.

If custom properties do not match, those properties are not replicated. If the duplicate CVLs do not match on datatype, the values are still merged, and unpredictable results occur. For example, if a numeric CVL is merged with a string CVL of the same name, the string values will produce errors on the system defined to use numeric values.

- To copy custom properties, use the COPY_CP utility on the System Administration Tools CD to copy custom properties. Refer to [“COPY_CP” on page 375](#) for more information.
 - To copy Document Classes and CVLs:
Use the DocClass/CVL Tool export feature. For more information, refer to the IDMDS System Administration Tools documentation.
7. Use IDMDS Explorer to enable Replication. Log in to each library system that will participate in Replication Services, and set the Replication Enabled? property to Yes in the System object.
 8. (Optional) Establish the administrative domain. Refer to [“Administrative Domains” on page 476](#). Add all appropriate member libraries.
 9. Configure Replication Services settings. You can specify log file settings, activity intervals, folder and document title settings, and default access rights for replicas.
 - For Windows NT, use the IDMDS Configuration Tool. Refer to [“Replication Services Configuration Parameters” on page 490](#) and the *IDMDS Configuration Tool Online Help* for more information.
 - For UNIX, edit the `$IDMDS_HOME/dsconf.ini` file. Refer to [“Replication Services Configuration Parameters” on page 490](#) for more information.
 10. (Optional) If you are using an administrative domain, start the Library Services on the Domain Master. Then start each member library system one at a time. After adding each library, wait one or two replication cycles. Then review the replication log (**repl.log**) and take appropriate action if needed. Add additional libraries one at a time as needed.
 11. Configure the root-level replication folders. Refer to [“Configuring Replication Folders” on page 489](#).

Configuration Results

Replication Services configuration information is stored in the following locations:

Windows NT	UNIX
<code>drive:\idmds\repl</code>	<code>\$IDMDS_HOME//librarysystem/repl/pbin</code>
<code>drive:\idmds\repl\repl.log</code>	<code>\$IDMDS_HOME//librarysystem/repl/pbin/repl.log</code>
Windows Registry	<code>\$IDMDS_HOME/dsconf.ini</code>

Replication Services also does the following:

- (For Windows NT installations) Creates subdirectories for each library system participating in Replication Services. Initially, there will be only a subdirectory for the library system specified for this installation. When the administrative client specifies the additional libraries participating in Replication Services, the program creates subdirectories for each of these library systems.
- Creates a ReplDaemon user in the library system. The ReplDaemon user has Admin access rights to the library system, which must be retained so that Replication Services performs as expected. Do **not** modify the ReplDaemon user password.

Establishing a Replication Administrative Domain

Caution Plan your domains carefully before you configure Replication Services. You cannot undo your changes to an administrative domain.

- A library system can belong to only one administrative domain.
- Once assigned to an administrative domain, a library system cannot be removed from that domain. Refer to [“Planning for Replication Services” on page 471](#) and [“Administrative Domains” on page 476](#) for more information.
- The users and groups assigned to any library system in an administrative domain must have network access to all library systems in the domain.
- Verify that you performed the setup steps outlined in [“Setting Up Replication Services” on page 486](#).

To establish a replication administrative domain:

Note For tool-specific instructions, refer to *IDMDS Explorer Online Help*.

1. Back up all library systems that will be in the administrative domain.
2. Make a list of the library systems that will be in the domain, and complete the Administrative Domains worksheet. Refer to [“Administrative Domains Worksheet” on page 504](#).
3. Verify that the Storage Manager and Content Search Manager for the participating library systems are running.
4. Decide which of the participating library systems to designate as the Domain Master library, and start Replication Services for this library only.
5. Start IDMDS Explorer and log in to the Domain Master library as a member of the Administrators group.
6. Select Tools > Replication Administration Domain, and add libraries to the domain. You must have Admin access rights to any library system that you include in an administrative domain.
7. Select one of the following password modes for this administrative domain to specify how users in this administrative domain can change their passwords and how (or whether) these changes are synchronized across the member library systems:

- Source Library

Users can change their password only when logged in to their source library system. When a user changes a password, Replication Services replicates it across all other member library systems.

Note There will be some delay in effecting this change across participating library systems. This will depend primarily on the synchronization settings for the replication service at each library system.

- Any Library

Users can change their password when logged in to any member library system. When a user changes a password, Replication Services replicates it across all other member library systems.

Note Problems can occur if conflicting password changes are made at more than one member library system within the latency period necessary to replicate the change.

- Library Specific

Users can create distinct passwords for each member library system. Users can change their password for any member library system and have it apply only to that library system. When you add a new member library system to this administrative domain, the passwords for all users replicated to the new member library system are set to their source library system password assignment.

8. Select one or more available libraries to add to your domain. If the library you need does not appear in the list, click Add System to define the missing library.
9. Add the selected library to the list of Domain Members.
10. Click Done to confirm the domain membership assignments.

Configuring Replication Folders

The term Replication Folder refers to a root-level folder that the administrator uses to designate the participating libraries where documents and subfolders are replicated. The Replication Daemon copies the this folder and its contents to all the participating library systems. Users with appropriate access rights can add documents and subfolders to the replication folder from any participating library.

IDM Desktop displays the replication folders and subfolders with this icon:



You can name the replication folder in any manner you choose. You can include information that identifies the folder as a replication folder, or you can use the replication configuration setting for Folder Title Format to add information to the replicated folder title. For more information, refer to [“Replication Services Configuration Parameters” on page 490](#).

You can designate multiple replication folders, each referencing different target library systems. By designating multiple replication folders and library system associations, you can determine the distribution of replicas. For example, you might have one replication folder that references library systems A, B, and C, another replication folder that references library systems C and D, and another that references library systems B and D.

You can create a replication folder even if Replication Services is not enabled for that library (that is, the Replication Enabled? property in the System object is set to No). If users add documents to such a replication folder, the documents are queued for replication. Once you set the Replication Enabled? property to Yes and the Replication Daemon is started, the documents are replicated.

Note For tool-specific instructions, refer to *IDMDS Explorer Online Help*.

To create a replication folder:

1. Verify that the appropriate library systems participating in Replication Services are running and accessible.
2. Start IDMDS Explorer and log in as a member of the Administrators group.
3. Select Tools > Folder Administration, and at the root (top) level add a new folder or select an existing folder to designate as a replication folder.

If you choose to use an existing folder, all the existing subfolders and documents will be replicated. This may lead to unintended consequences. Refer to [“Managing Replication Folders” on page 491](#) for more information.

4. Right-click this folder, and then select Replication.

A dialog box opens, listing the library systems participating in Replication Services. If the library you need does not appear in the list, click Add System to define the missing library.

5. Add the selected library to the Replicate To list. If needed, you can remove a library system from the Replicate To list.
6. Click Done.

Replication Services automatically creates a copy of the replication folder on each of the specified library systems, and the Replication Daemons replicate any subfolders or documents added to the replication folder.

Note There will be some delay in effecting the replication across participating library systems. The delay depends primarily on the synchronization settings for Replication Services on each library system. For more information, refer to [“Replication Services Configuration Parameters” on page 490](#).

Replication Services Configuration Parameters

You can configure these replication settings for a library system:

- Interval and frequency of Replication Daemon activity
- Log file name, location, size, and related options
- Information to include in titles of replicated folders and items
- Storage and archive categories
- Index settings
- Default access rights for replicas
- Default online limit

For a library system running on Windows NT, the Replication Services configuration settings are saved in the Windows Registry. You use the IDMDS Configuration Tool to control replication configuration options for a library system. Refer to [“IDMDS Configuration Tool Replication Tab” on page 169](#) for more information.

Managing Replication Services

Typical Replication Services management includes these tasks:

- Stopping, starting, and disabling Replication Services. Refer to “Starting, Stopping, and Disabling Replication Services” on page 497.
- Managing users and groups. Refer to “Managing Users and Groups” on page 494.
- Managing Document Classes and CVLs. Refer to “Managing Document Classes and CVLs” on page 470
- Configuring Replication Folders. Refer to “Configuring Replication Folders” on page 489.
- Managing replication folders. Refer to “Managing Replication Folders” on page 491.
- Modifying document or folder replicas. Refer to “Modifying Document or Folder Replicas” on page 493.
- Replicating documents. Refer to “Managing Documents” on page 495.

Managing Replication Folders

Replication Services replicates documents and folders that are placed into a replication folder. The system administrator designates the root-level replication folder, and users with Author access rights can add documents and subfolders to it.

Typical folder management includes these tasks:

- Replicating subfolders
- Moving a replication folder
- Removing a replication folder

Replicating Folders

Users and group members can drag existing folders to the replication folder or create new subfolders. The user or group must have with Author access rights to the replication folder. When a user drags an existing folder into a replication folder, all of the original folder's subfolders and documents are moved as well.

Proceed with caution when moving existing folders. In particular, you should bear in mind that:

- A moved folder hierarchy may contain subfolders or documents to which the owner of the parent folder has access rights of None. The user would have no way of knowing that such subfolders or documents exist in the hierarchy. Replication Services will replicate these subfolders and documents

to the other library systems. Depending upon the replication configuration settings, these subfolders and documents may be visible in IDM Desktop.

- If you accept the default item access list configuration for Replication Services, all documents in the folder hierarchy are replicated and given the default item access list of the ReplDaemon user (no more than Viewer access rights for all users by default).
- If you ever delete the root-level replication folder or modify the libraries being replicated to, the subfolders and documents will not be visible in IDM Desktop. The documents can be located with a search, but you will need to create a new directory structure. For more information, see "Removing a Replication Folder" later in this section.

Access Rights for Replicated Folders

The users and groups in the access list of a replicated folder are limited to maximum access rights of Author. The ReplDaemon user of the participating library system always has Owner access rights.

Inside and outside an administrative domain, Replication Services sets the user and group entries for the folder replica's access list depending on how you configure the Replication Services settings. In general, you can enter a setting that makes the entries in the folder replica's access list match one of the following:

- The access list of the original folder, plus the ReplDaemon user.
- General users are Viewers, plus the ReplDaemon user.

For more information, refer to "[Replication Services Configuration Parameters](#)" on page 490.

Moving a Replication Folder

A user or a member of a group having Owner access rights to a subfolder can move the original subfolder within the Replication folder tree, but not out of the Replication folder tree. That is, you can move original subfolders up or down in the hierarchy, but the root-level folder must remain the same. If you try to move a replicated subfolder, you will receive an error message.

You can determine if a folder is a replica or an original from its Item ID. An original replication folder or subfolder has a numeric Item ID. A replicated folder's Item ID begins with R. For example, the Planning folder in the Engineering library has the Item ID 943389629, and the Planning folder in the Marketing library has the Item ID R38440d9a. In this case, the folder in the Engineering library is the original folder.

You can determine the library systems for a replication folder by viewing the root-level folder properties in IDM Desktop. The Comments field lists the library systems that a folder is replicated to. The first library system listed is the original library system for the root-level folder. Subfolders do not indicate replication libraries in the Comments field. Remember that subfolders will replicate to the same libraries as the root-level replication folder.

Note You cannot move an existing root-level replication folder into another folder.

Removing a Replication Folder

You cannot remove a replicated subfolder directly from its target library. Instead, you can delete the original subfolder or you can dereplicate the root-level replication folder.

When you delete the original subfolder from its library system, the replica subfolders and replica documents are deleted from all participating library systems.

When you dereplicate the root-level replication folder, you remove the association between the folder and the other library systems. You can remove the association for a single library system or for all participating library systems. These rules apply to the replicated documents and folders on the system that no longer participates:

- Any subfolder or document that originates from other library systems is removed.
- Any document that originates from the removed system remains on its original system. Users can access the document only by running a search. The document replicas are removed from the other systems and are no longer accessible.
- All subfolders that originate from the removed system are removed from all library systems.

Notes

- There will be some delay in effecting the removal across participating library systems. The delay depends primarily on the synchronization settings for the replication service at each library system. For more information, refer to [“Replication Services Configuration Parameters” on page 490](#).
- Inside an administrative domain, users can check out document replicas independently of the source document. If a document replica is checked out at the time the replication folder is removed, the checkout operation is automatically cancelled.
- For tool-specific instructions on how to dereplicate a replication folder, refer to *IDMDS Explorer Online Help*.

Modifying Document or Folder Replicas

A replica can be modified under certain conditions, based on whether or not it originates inside an administrative domain and whether the user has at least the necessary Author access rights.

Inside Administrative Domains

Users can modify document or folder replicas if:

- The replica's original object exists on a library system within the administrative domain.
- The user exists on both library systems inside the administrative domain and has adequate access rights (Author) to modify the replica.
- The user checks out the replica document before making the changes and checks in the replica after making changes.

For document replicas, you can make changes to the version properties. You must check out and check in the replicated document to replicate your latest version property changes back to the original document and other replicas. If you do not check in your changes to the version properties, they are never replicated, and they will be overwritten when the Replication Daemon updates the document when someone else checks in changes.

Any changes you make to item properties on a replica are temporary, even if you check in the replica. Item properties on a replicated document are always overwritten by the Replication Daemon when it updates the replica.

Outside Administrative Domains

Outside an administrative domain (or if no administrative domains exist) the only users who can modify replicas are those currently working in the Administrators group in the associated library system. Any changes an administrator makes are temporary.

There are restrictions to the kinds of modifications that an Administrator can make to the replica:

- All changes are temporary and will be overwritten by the Replication Daemon when it updates the replica.
- You cannot delete a replica.
- You cannot change the access list to provide access rights greater than the maximum allowed (Viewer) for any user or group.
- You can make changes to a replica in a target library, such as renaming a document. However, the changes are not replicated to the other library systems, and the changes will be overwritten the next time a user updates the original document.
- If you change a replica's object properties, the changes are not replicated to the other library systems. For example, you could add library-specific users or groups to the access list for a particular document or folder replica.

Managing Users and Groups

Users and groups are only replicated inside an administrative domain. Outside of an administrative domain, you must manually add users and groups to all participating library systems.

Inside an administrative domain, when you add new instances of User, Group, Group Member, Default Item Access List, and Access Control objects on any library system, Replication Services automatically replicates those objects across all participating library systems. The Administrators group and group member entries for the Administrators group are not replicated.

When a user or group of the same name exists on more than one library system inside an administrative domain, Replication Services will designate the user or group with the earliest creation date as the original object and the remaining user or group objects as replicas.

For example, if a user named Danika exists on two library systems inside an administrative domain, the Danika user with the earliest creation date is designated the original User object instance, and the other Danika user is designated a replica of this object instance.

Caution Be sure to check that user and group names existing in different library systems actually belong to the same individuals (or sets of individuals, in the group case). Otherwise, the Access List and the Default Item Access List will assign unanticipated access rights during replication to particular user or group replicas. For example, Replication Services could inadvertently assign user or group replicas Author rights to documents and folders they should not be able to control or even view.

For best results, use one library system to add new users and groups to the administrative domain. If possible, use the Domain Master to manage users and groups. If the Domain Master library system or the property server on which it resides is inoperable, Replication Services will not be able to replicate the changed users or groups to the other library systems in the administrative domain until the Domain Master is available.

Inside an administrative domain, the Access Control object instance for a user or group is also replicated, with maximum access rights set to Owner.

Modifying User and Group Replicas

Inside an administrative domain, you can make temporary modifications to some properties, such as Default Storage Category or Default Archive Category on a user or group replica. However, the property values you change on a replica are not reflected in other library systems - neither in the original User or Group object instance, nor in the User or Group object replicas existing in other library systems inside the administrative domain. The changes will be overwritten the next time the Replication Daemon updates the replica.

Note While you can set the "Add Users?" and/or "Add Groups?" properties to Yes for a source user object, the changes to these properties will not be propagated to replicas of the user object. For security reasons, the properties will always be set to No for user object replicas.

If you want changes to User and Group object instances to be replicated inside an administrative domain, you must make your changes to the original object. For best results, use one library system to add new users and groups to the administrative domain. If possible, use the Domain Master to manage users and groups.

Any property value you change on the original user or group object will cause the Replication Daemon to automatically replicate the updates to all User or Group object replicas. Any previously modified properties on the replica object are overwritten with the associated property value from the original object.

Deleting User and Group Replicas

Once replicated to the library systems inside the administrative domain, the User and Group object replicas will continue to exist on the library systems until you specifically remove them.

Note For tool-specific instructions on how to modify a user or group replica, refer to *IDMDS Explorer Online Help*.

Managing Documents

Users with Author access to a Replication folder can replicate documents. When the user drags a document to the Replication folder (or its child folders), the Replication Daemon automatically creates the document replicas on the target library systems.

Users can add and move documents to the target Replication folder just as they can to any other folder. However, if a user adds a new document directly to a Replication folder only and you later remove the Replication folder, the document is no longer visible in a folder. You can locate the document with a search. Refer to [“Managing Replication Folders” on page 491](#) for more information.

Access Control Lists

The access list for document replicas is determined by the Replication Services configuration settings. Replication Services handles access control lists (ACLs) differently inside and outside of an administrative domain.

Outside an Administrative Domain	Inside an Administrative Domain
<p>The access list for the document replicas matches either:</p> <ul style="list-style-type: none"> The entries from the default item access list of the ReplDaemon user on the target library system (with maximum access rights of Viewer), plus the ReplDaemon user from the target library system with Owner access rights. <p>-Or-</p> <ul style="list-style-type: none"> The access list of the original document (with maximum access rights of Viewer), plus the ReplDaemon user from the target library system with Owner access rights. 	<p>The access list for the document replicas matches either:</p> <ul style="list-style-type: none"> The entries from the default item access list of the ReplDaemon user on the target library system (with maximum access rights of Author), plus the ReplDaemon user from the target library system with Owner access rights. <p>-Or-</p> <ul style="list-style-type: none"> The access list of the original document (with maximum access rights of Author), plus the ReplDaemon user from the target library system with Owner access rights.
<p>Replication Services ignores a user/group entry if it does not exist on the target library system. Otherwise, the Replication Daemon copies all other recognized user/group entries to the access list of the document replica on the target library system.</p>	<p>Replication Services copies a user/group entry if it does not exist on the target library system. Within the domain, users and groups are replicated to all library systems.</p>

For more information on replication access list configuration settings, refer to [“Replication Services Configuration Parameters”](#) on page 490.

Moving an Original Document

When a user moves or copies an original document to another folder in the Replication tree, the document replicas on the target library systems are also moved or copied to the corresponding folder. You must have Author access to the replication folder to move the original document.

Removing an Original Document

Only users with at least Owner access rights to the original document can remove the associated document replicas. Once a user removes the original document, Replication Services removes all document replicas on the participating library systems as well.

Note There will be some delay in effecting the removal across participating library systems. The delay depends primarily on the synchronization settings for the replication service at each library system. For more information, refer to [“Replication Services Configuration Parameters”](#) on page 490.

Checkout and Checkin Operations with Document Replicas

Inside an administrative domain, a user with Author access to the document replica can check out that replica if the original document is not already checked out by another user.

For users with IDM Desktop, it is possible to make an unconfirmed check out. The user does not know that the check out is tentative, but the replication log will contain the message "Tentative checkout cancelled." When the user attempts to check in the document, the check in option is not available.

This tentative check out occurs only in these conditions:

- When the user attempts to immediately check in the document, within about 5 seconds of the check out.
- When the Replication Daemon is not running on either the original library or the library where the replica resides at the time the user requests the check out.
- When there is a network interruption and the Replication Daemon cannot access the library where the original document resides.

To avoid tentative checkout scenarios, a user can check out the document on the original library. Checkouts on the original library are always guaranteed.

Outside the administrative domain, these operations require access to the original document on its original library system:

- Check out
- Check in
- Cancel checkout

Note You can make changes to item and version properties for original documents. However, you must check out and check in the original document from the original library to replicate your changes to the respective target libraries. If you do not check in your changes, they are never replicated to the target libraries.

For document replicas inside an administrative domain, you can make changes to the version properties when you check in the document. If you do not check in your changes, they are never replicated, and they will be overwritten when the Replication Daemon updates the document.

Any changes an administrator makes to item properties on a replica are temporary. Item properties on a replicated document are always overwritten by the Replication Daemon when it updates the document.

Starting, Stopping, and Disabling Replication Services

You can stop and restart Replication Services to perform maintenance tasks, or you can completely disable Replication Services for a library System.

The dsstrt, dsstop, and dsinfo utilities enable you to control a Replication Services instance by starting, stopping, and providing information on Replication Services. Library systems running in Windows NT can use the IDMSD Service Manager or the Services utility in the Control Panel. For more information, see [“Utilities” on page 354](#).

To disable Replication Services for a library system:

1. Notify all users to log out of the library system.
2. Use IDMS Explorer to log in to the library system as an Administrator.
3. Disable logins for this library system. This ensures that users cannot move or modify replicas before you disable Replication Services.
4. In the System object, set the Replication Enabled? property to No.
5. Stop Replication Services by using dsstop or the IDMS Service Manager (Windows NT).
6. Enable logins for this library again so that users can access the library.

Replication Planning Worksheets

Use the replication planning worksheets to help you gather and analyze the existing data before you configure Replication Services. The worksheets can help you identify duplicate objects and avoid overwriting important information. The worksheets also provide a baseline for future changes.

If you intend to use administrative domains, these worksheets will assist you in planning a successful replicated environment. Remember, once a library is added to an administrative domain, it cannot be removed from the domain.

Refer to the [“Configuration Worksheets” on page 60](#) that you used to plan your IDMSD library systems for information on your existing systems.

After completing the worksheets, contact FileNET Technical Support to review your plans before you implement any changes. Technical support can help ensure a smooth and successful transition to using Replication Services.

Worksheet	Description
“Replication Users and Groups Worksheets” on page 500	Lists the users and groups from each library system that will participate in Replication Services.
“Replication Document Class and CVL Worksheet” on page 502	Lists the Document Class and CVLs from each library system that will participate in Replication Services.
“Administrative Domains Worksheet” on page 504	Lists the library systems that belong to an administrative domain and the Domain Master. Provides a check list for preparing to configure an administrative domain.

Replication Users and Groups Worksheets

Use this table to help you identify potential duplicate users and groups. List all the participating library systems across the top of the table. Then list each participating user name and group name in the first column. Place a check mark in the library column where the user or group account exists.

Locate the users and groups that have more than one check mark. Ensure that the duplicate names on different library systems refer to the same individual or group members. If not, rename one of the duplicates before configuring Replication Services. Otherwise, the wrong person may access inappropriate documents and cause a potential security breach.

You may discover that the same individual has more than one user account. Rename all accounts to the same name before configuring Replication Services.

User & Group Names	Library 1	Library 2	Library 3	Library 4

User & Group Names	Library 1	Library 2	Library 3	Library 4

Replication Document Class and CVL Worksheet

Use this table to help you identify potential duplicate Document Classes and CVLs.

1. List all the participating library systems across the top of the table. Then list the Document Classes and CVLs in the first column. Place a check mark in the library column where the Document Class or CVL exists.
2. Locate the Document Classes and CVLs that have more than one check mark. Ensure that the duplicate Document Classes and CVLs on different library systems are identical. This includes standard and custom properties in the Document Class, whether the property is required, default value (if any), and assigned CVLs. When reviewing CVLs, ensure that the data type and CVL data values are identical.
3. If not, either modify both entries so that they become identical, or create a new Document Class and perform a bulk modify to the existing documents for that library and indicate the new Document Class name before configuring Replication Services.

For ease of management, create all DocClasses and CVLs on the Domain Master. Use the DocClass/CVL Tool export feature to create export files for importing on the Domain Master. For more information, refer to the IDMD System Administration Tools documentation.

Remember, inside an administrative domain, Document Classes and CVLs are automatically replicated. Outside an administrative domain, Document Classes and CVLs are not replicated.

DocClass and CVL Names	Library 1	Library 2	Library 3	Library 4

DocClass and CVL Names	Library 1	Library 2	Library 3	Library 4

Rendition Services



IDMDS Rendition Services for PDF is an optional program that creates PDF renditions of documents stored in your IDMDS library system. In this context then, a rendition is a copy of a document in Portable Document Format (PDF). The document and its PDF rendition are each stored as separate items in the library system.

Refer to the following topics for information on installing and configuring Rendition Services for your library system:

- [“Rendition Services Overview” on page 506](#)
- [“Installing Rendition Services” on page 508](#)
- [“Configuring Rendition Services” on page 514](#)
- [“Preparing Microsoft Word Documents” on page 537](#)
- [“Preparing Corel WordPerfect Documents” on page 538](#)
- [“Checking the Status of Rendition Jobs” on page 536](#)

Rendition Services Overview

Welcome to FileNET's Rendition Services for PDF--the powerful server-based application for rendering documents in Portable Document Format (PDF). Documents rendered in PDF maintain the content and look of the originals and may be enhanced for online viewing.

You can use Rendition Services to create renditions from many different source file formats. Once the documents are in PDF, other users can read them in Adobe Acrobat viewers or Web browsers. Thus, you can publish documents in a library system without needing the source program installed on a local computer to view or print them.

Rendition Services uses Adobe Acrobat Server's transformation engine to create PDF renditions of documents stored in your document repositories. Acrobat Server uses special plug-ins, templates, and the document authoring programs to produce an accurate rendition of the document. The template sets up security features, such as passwords, and adds thumbnails, bookmarks, or hyperlink navigation to the document. Acrobat Server handles all the rendition processing, while Rendition Services acts as an interface with your IDMDS library system.

The installation program supplied on the Rendition Services CD-ROM installs Rendition Services, FileNET client libraries, Adobe Acrobat Server, and Adobe PDFMaker onto the server.

The Rendition Process

Any user in your library system with Author access rights can submit a document for rendering into PDF format. When the user selects the Publish command in IDM Desktop, the document is sent to a job queue for that library system.

The Rendition Services server scans the library systems for publishing requests and processes jobs from the queue. Each library has its own queue, and jobs within a queue are processed in the order that they arrive. The server processes one job from a queue, and then moves to the next library system queue to retrieve the next job.

Rendition Services passes the document from the job queue to Acrobat Server. Acrobat Server applies a template and processes the document into a PDF rendition. Only one template can be associated with a library system; the same template is applied to all PDF renditions originating from that system. Acrobat Server uses the template information, a plug-in, and the source program to create the PDF rendition of the document.

Rendition Services checks the completed rendition into the source library system. The original file remains in the library, and the rendition inherits the security settings from the original document. The rendition has its own document ID, version history, and other properties.

Note The rendition file may have its own PDF-based security settings applied from the template. For example, the template may set a password for opening the PDF file. Refer to [“Setting Template Properties” on page 515](#) for more information.

Rendition Services activities affect the network load in your system. You can monitor the system queues and schedule the processing hours to balance some of the traffic. Refer to [“Checking the Status of Rendition Jobs”](#) on page 536 and [“Scheduling Rendition Services”](#) on page 515 for more information.

Installing Rendition Services

The Rendition Services software must be installed on a dedicated Windows NT network server. You need full read/write access to the server.

To install Rendition Services software:

1. Verify that all system requirements have been met. Refer to [“System Requirements for Rendition Services” on page 508](#) for a list of requirements.
2. Install the source program software on the server. Refer to [“Installing Source Programs” on page 509](#).
3. Install other required Adobe Software. Refer to [“Installing Adobe Acrobat” on page 510](#).
4. Prepare the server for installing Rendition Services. Refer to [“Preparing the Server for Rendition Services” on page 511](#).
5. Install the Rendition Services Software. Refer to [“Installing Rendition Services on the Server” on page 511](#).
6. (Optional) If you are using Corel WordPerfect, configure the WordPerfect Printer. Refer to [“Configuring the Corel WordPerfect Printer” on page 512](#).
7. (Optional) Troubleshoot plug-in macros that may not have installed properly. Refer to [“Troubleshooting Plug-in Macros” on page 512](#).

After you have installed all the necessary software, you need to configure Rendition Services for your site. Refer to [“Configuring Rendition Services” on page 514](#) for more information.

System Requirements for Rendition Services

Make sure your server meets these minimum hardware and software requirements for installing Rendition Services:

- 133 MHz Pentium® or compatible processor (266 MHz Pentium® or compatible recommended).
- 64 MB RAM (256 MB recommended).

If your site will be rendering Corel Draw, Corel Presentations, Corel Quattro Pro, or Corel WordPerfect documents, you need a minimum of 256 MB RAM.

- 500 MB free disk space (2 GB recommended).
- Microsoft Windows NT Server 4.0, Service Pack 4 or higher.
- Adobe Acrobat Exchange 4.0 or later, and Acrobat Distiller software 4.0 or later. The Acrobat software is available on the Rendition Services CD-ROM.

- Original source programs for the documents you will publish in PDF. These programs may have other requirements, such as available disk space or RAM.

Note If you are using Type 1 Postscript fonts in documents, Adobe recommends installing Adobe Type Manager (ATM) on the server where Rendition Services is installed.

Installing Source Programs

Rendition Services uses Acrobat Server to convert documents from many different source programs and formats into PDF. Before you can create renditions, you must install a copy of the source program on the server. Rendition Services can convert documents from the programs and formats listed in the following table.

Supported Software Versions

Acrobat Capture® 2.0	Harvard Graphics® 4.0
Acrobat Distiller 3.0x and 4.0	Interleaf® 6.2
Acrobat Exchange 3.0x and 4.0	Lotus 1-2-3® 97 edition
Adobe FrameMaker® 5.5	Lotus Freelance® 97 edition
Adobe Illustrator® 7.0	Lotus Wordpro 97 edition
Adobe PageMaker® 6.5	Macromedia FreeHand™ 7.0
Adobe Persuasion® 4.0	MS Excel 97 (8.0)
Adobe Photoshop® 4.0	MS Internet Explorer 5.0
Adobe PostScript 5.0	MS PowerPoint® 97 (8.0)
ASCII text files (*.txt)	MS Project 95 (7.0)
Corel Draw™ 7.0	MS Word 95 or 97 (8.0)
Corel PHOTO-PAINT™ 7.0	MS WordPad 95 (7.0)
Corel Presentations 8.0	Netscape™ Navigator™ 4.0
Corel Quattro Pro 8.0	QuarkXPress® 3.32
Corel WordPerfect 8.0	Visio Professional 5.0
CS ChemDraw Pro 4.0	Wang® Image Viewer

Keep the following points in mind:

- You need to install only the source programs for the documents that you will be processing with Rendition Services. Be sure to install and test the programs for all formats you intend to convert to PDF.
- Follow the installation instructions carefully for each source program. Acrobat Server needs the programs to run error-free in order for it to convert and publish documents accurately. As part of the rendition process, Acrobat Server opens each document in its source program and prints the document to a file. If the document cannot be opened or printed, the rendition process fails.
- Most software versions are able to process older versions of their file types. For example, Adobe PageMaker 6.5 can open and process Adobe PageMaker 5.0 files. Rendition Services includes three (3) plug-ins for processing older legacy documents. Try using one of these plug-ins if the software version you need is not listed above:

- Graphic Files
- Legacy Documents
- Legacy Spreadsheets

See “[Default and Available Plug-In Options](#)” on page 517 for a list of the file types supported by these three plug-ins.

- If you install Corel WordPerfect on the server, you need to set several options and configure its default printer after you install Rendition Services. Refer to “[Preparing Corel WordPerfect Documents](#)” on page 538 and to “[Configuring the Corel WordPerfect Printer](#)” on page 512 for more information.
- If you install Microsoft Word on the server, you need to set several options before processing documents. Refer to “[Preparing Microsoft Word Documents](#)” on page 537 for more information.
- If you install Visio Professional on the server, be sure to place custom stencils and templates in the Visio Solutions folder. Then, specify this folder by selecting Tools > Options and clicking the File Paths tab.
- When you install Acrobat Server, it automatically installs plug-in macros for some source programs. If you install a program after installing Acrobat Server, you need to install the program's macros yourself. Refer to “[Troubleshooting Plug-in Macros](#)” on page 512.
- Review the Acrobat Server Readme file for additional updates on source programs. See ***drive:\Program Files\Adobe\Acrobat Server\readme.txt***.

Installing Adobe Acrobat

Rendition Services and Acrobat Server use Adobe Acrobat software to render documents in PDF format. When you install Adobe Acrobat, Acrobat Distiller is also installed.

Note If you have Adobe Acrobat 3.0 installed, you must uninstall it before you can install version 4.0.

To install the Adobe Acrobat software:

1. Insert the Adobe Acrobat CD-ROM into your CD-ROM drive. If the Setup program does not start, select Start > Run, type ***drive:\Acrobat4\setup.exe***, and click OK.
2. Follow the instructions provided in the Setup program for a typical install.
3. When Setup asks for your product serial number, enter this number:
KWW400B7100119-673
4. When Setup completes, your system is restarted, and Acrobat Distiller is automatically started.
5. Set Acrobat Distiller to be Acrobat 3.0 compatible. In Acrobat Distiller, select Settings > Job Options, and select Acrobat 3.0 from the Compatibility list.
6. Set Acrobat Distiller to embed fonts into PDF rendition files. In Distiller, select Settings > Job Options. Click the Fonts tab, and select the type of embedding you prefer. Embedded fonts effect the size of the PDF file.

7. Delete the shortcut to Acrobat Assistant from the server's Windows Start menu. This prevents a conflict between Acrobat Assistant and Acrobat Server when processing PostScript files.
8. Restart the server.

Preparing the Server for Rendition Services

Go through the following checklist before installing Rendition Services on the server:

- Check to see that the server has all the necessary network connections and privileges.
- Make a list of your IDMS library systems that will be publishing documents with Rendition Services. Make sure that the server can access all of these libraries.
- Make sure you have installed all the fonts on the server that the source programs will need.
- Exit any other programs running on the server, including virus-protection programs. You can restart your virus protection software after the installation is finished.

Installing Rendition Services on the Server

The Rendition Services software is installed into the server's Windows Startup directory.

Note Do not attempt to reinstall Rendition Services over an existing installation. You must first uninstall Rendition Services before you can install or upgrade. Refer to [“Uninstalling Rendition Services” on page 513](#) for more information.

To install Rendition Services software on a server:

1. Insert the Rendition Services CD-ROM into your CD-ROM drive. If the Setup program does not start, select Start > Run, type **drive:\setup.exe**, and click OK.
2. In the Welcome screen, click Next.
3. Read the software license agreement, and click Yes to continue.
4. In the System field, type a library system name.
5. In the Server field, type the server name.
6. In the Port field, type the port for connecting to the property server. The default is 1433 for MSSQL databases or 1521 for Oracle databases. Click Next.
7. Select the type of database your library system is using. If you selected Oracle, type the SID for the database. Click Next.
8. Type the user name and password that Rendition Services can use to access the library system, and click Next. The user name must be a member of the Administrators group.
9. To configure another system, click Yes, and go to step 4.

To continue installing, click No. You can add more library systems later from the Rendition Services window.

10. For best results, use the default location for installing Rendition Services. To select a different location, click Browse, select a path, and click OK. Click Next.
11. Type your name, company name, and this serial number for Acrobat Server:
ROW100R7100001-507
12. Click Next.
13. For best results, use the default location for installing Acrobat Server. To select a different location, click Browse, select a path, and click OK.
14. Click Next. Setup confirms that Acrobat Distiller is installed and continues installing the software.
15. Select Yes, I want to restart my computer now, and click Finish. After the server restarts, the FileNET connections are verified.
16. When installation is complete, review the **drive:\Program Files\Adobe\Acrobat Server\results.txt** file. The results file lists any plug-in macros that were not installed and reports any setup errors.
17. Confirm that the folders where you installed Rendition Services and Acrobat Server are configured as shared.

Configuring the Corel WordPerfect Printer

If you are using Corel WordPerfect, you must set WordPerfect to use the printer called Acrobat Server Port. This printer was created when you installed Acrobat Server on the server.

To configure the WordPerfect Printer:

1. Start WordPerfect.
2. Select File > Print.
3. Set the printer to be System Default. This should display Acrobat Server Port in parentheses.
4. Click Settings.
5. Click Save as Application Default from the menu, and click OK.
6. Exit WordPerfect.

Troubleshooting Plug-in Macros

Acrobat Server uses plug-in macros to create accurate renditions from the source documents. In some cases, Acrobat Server installs plug-in macros in the source program's folders. If the installer cannot locate a plug-in's corresponding source program on the server, it inserts an entry in the Results file in the Acrobat Server folder. Check this file to make sure that all macros for the software you intend to use have been installed.

If a macro that you need has not been installed (that is, it appears in the Results file), install the program's macros yourself.

To manually install plug-in macros:

1. Insert the Rendition Services CD-ROM into your CD-ROM drive.
2. Select Start > Run. Type **drive:\plug-ins\setup.exe** and click OK.
3. Respond to the on-screen prompts to complete the installation.

Uninstalling Rendition Services

To uninstall Rendition Services:

1. In the Rendition Services window, click Pause.
2. Close the Rendition Services window.
3. Double-click the Acrobat Server icon in the system tool tray.



4. In the Acrobat Server window, click Pause.
5. Close Acrobat Server.
6. Use Add/Remove Programs in Control Panel to remove Acrobat Server.
7. Use Add/Remove Programs in Control Panel to remove Acrobat Plugins.
8. Use Add/Remove Programs in Control Panel to remove IDMDS Rendition Services for PDF.
9. Use Add/Remove Programs in Control Panel to remove Acrobat 4.0.
10. Use Add/Remove Programs in Control Panel to remove any source programs that you do not need.
11. Remove any fonts that you do not need.
12. Reboot the system.

Configuring Rendition Services

FileNET IDMS Rendition Services for PDF is an interface between IDMS and Acrobat Server. It reads the selected library system queues, retrieves documents, and sends them to Acrobat Server for processing into PDF format. Then, Rendition Services checks the completed rendition into the library system.

You use the Rendition Services window to configure Rendition Services for your library systems and assign a template to each library. The Rendition Services window displays information about the current jobs and provides commands for processing documents into renditions.

Note For a complete description of the Rendition Services window and detailed instructions, refer to the *IDMS Rendition Services for PDF Online Help*.

To configure Rendition Services:

1. Add library systems to Rendition Services. A job queue is created for each library system. Refer to [“Adding a Library System to Rendition Services”](#) on page 514.
2. Set the location for the log files. Refer to [“Setting Rendition Log File Preferences”](#) on page 515.
3. Schedule times that the server process jobs in the queue. Refer to [“Scheduling Rendition Services”](#) on page 515.
4. Define a template for each library system. Refer to [“Setting Template Properties”](#) on page 515.
5. Associate plug-ins with document file and content types. Refer to [“Associating Plug-Ins with Content Types”](#) on page 516.
6. Set the PDF options for plug-ins. Refer to [“Setting Plug-In Options”](#) on page 521.

Note After you configure Rendition Services, you should publish a few sample documents for each of your source software programs. When you are satisfied that the rendition process is working properly, notify your users that they can create renditions using the IDM Desktop Publish command.

Adding a Library System to Rendition Services

To enable users to add and store renditions of documents, you must add the library system to Rendition Services. As part of this action, you also need to define the template applied to all jobs from this library system's queue.

Note For tool-specific instructions refer to the *IDMS Rendition Services for PDF Online Help*.

To add a system:

1. From the Rendition Services window, choose File > Add System.

2. Enter a library system name, the property server name, a user name, and password. The user name must be a member of the Administrators group.
3. Click OK. The PDF Template Settings dialog box is displayed.
4. Select the PDF options to apply to all jobs from this library system that are processed on this server. Refer to “[Setting Template Properties](#)” on page 515 and the online help for more information.

Setting Rendition Log File Preferences

Before processing documents using Rendition Services, you need to set the location of the log files that Rendition Services and Acrobat Server create:

- The Rendition Services PDFAdmin Log contains process status and error message strings for Rendition Services. The default location is **drive:\Program Files\Filenet\Pdfadmin\pdfadmin.log**.
- The Acrobat Server Log contains process status and error messages for Acrobat Server. The default location is **drive:\Program Files\Adobe\Acrobat Server\acroserv.log**.

The Acrobat Server log is created after Acrobat server processes the first rendition job. If you attempt to view the log file before you process any rendition requests, you will be prompted to create the file.

If your document rendition fails, you can view the log files to help identify the problem.

Both log files are appended to include every message, and over time they can become large. You should purge the log file periodically to keep the size manageable. If you want to save the contents of a log file, copy the log file and rename it before purging the file.

Note For detailed instructions on working with the log files, refer to the *IDMDS Rendition Services for PDF Online Help*.

Scheduling Rendition Services

Renditions Services processes jobs sent from the library system queues during a scheduled processing period. You establish the processing periods by specifying the day and time you want each period to begin and end.

There must always be at least one valid schedule entry. Deleting the last schedule entry will restore the default schedule entries. The default schedule is to begin processing on Sunday at 00:00 and continue processing until next start time (Sunday 00:00).

You cannot add an entry that overlaps an existing entry in the schedule. However, you can specify to continue processing until the next scheduled start time.

Note For detailed instructions on setting schedule options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Setting Template Properties

The properties of a PDF rendition originate from a template. Within a template you can set the security of the PDF rendition, the default view of the PDF rendition when first opened, and PDF output features. Only one template can be used for a library system.

You can save the following properties in a template:

- Name and description identifying the template.
- PDF-based security settings for passwords for modifying and viewing a PDF rendition. You can prevent viewers from printing or changing the document, or selecting text and graphics.
- PDF output settings for viewing PDF thumbnails for each page and page navigation hotspots.
- Default view of a document when it is first opened. You can display bookmarks, thumbnails, or only pages.

You can modify a template at any time. Changes to a template are not reflected on other workstations until a job from that library is processed.

Note For detailed instructions on setting template options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Associating Plug-Ins with Content Types

For Acrobat Server to process documents properly, each document file type you plan to use must be associated with a plug-in. A plug-in's main purpose is to create an accurate rendition of the document's content and layout in PDF. Some plug-ins let you customize the rendering of the content and layout or specify which entities from a document's text to extract for creating bookmarks. If a plug-in can process these kinds of features, you can specify the options when you set up a content type for it.

Each application plug-in must be associated with a content type, and a document's content type can be read from its file extension. When Acrobat Server queues a document, it uses the content type (such as txt) to determine which plug-in to use for processing that document (such as the WordPad plug-in).

When you install Rendition Services, several default content types are assigned to plug-ins. The file format extensions are the standard file system extensions used by most applications. You can change the assignments and add new content types. If you have any special file formats (unique extensions), you need to establish these content type associations manually before creating PDF renditions. Refer to [“Default and Available Plug-In Options” on page 517](#) for a list of the available content types and plug-ins.

Choosing Plug-ins

In most cases, you can process documents using the default content type assignments. However, several plug-ins can handle multiple content types, and some content types can be handled by different plug-ins. A content type can be associated with only one plug-in at a time. If you want to change the plug-in used for a content type, delete the existing content type and then add a new definition.

For example, you can assign either the MS Word plug-in or the Legacy Documents plug-in to the DOC content type. The MS Word plug-in can be assigned to both the DOC and the RTF content types.

These plug-ins can process more than one file format:

This plug-in	Can process these file formats
Acrobat Capture	Scanned images in BMP, PCX, PDF, and TIFF (including G3, G4, & LZW formats). Check your hardware key image limit before using this plug-in.
ASCII	TXT, RTF, and any text format
Graphic Files	BMP, CCITT T4/G3, CDR, CGM, CUR, DCX, EPS, GIF, ICO, JPG, PCT, PICT (MAC), PCX, PNG, SDW, SGI RGB, TIFF (single page), TGA, WMF, WPG
Legacy Documents	DCF, DOC, DOX, FFT, HTM, HTML, MLL, RTF, SAM, TXT, WP
Legacy Spreadsheets	123, WB*
MS Word	DOC, DOT, HTM, HTML, RTF, TXT
MS WordPad	TXT, RTF, and any text format
Wang Image	BMP, DCX, GIF, JPG, PCX, TIFF (including G3, G4, & LZW formats), WIFF, and XIF

For example, text files (*.txt) can be processed by the ASCII, Corel WordPerfect, Legacy Documents, Lotus WordPro, MS WordPad, or MS Word plug-in. The default plug-in assignment for txt is MS WordPad. You can delete the default assignment and use a different plug-in.

Similarly, the Acrobat Capture, Graphic Files, and Wang Image plug-ins can process *.bmp files. By default, there is no plug-in assigned to the bmp content type. You can assign any one of these plug-ins to the bmp content type.

To process HTML files, you can use the Netscape or MS Internet Explorer plug-in. If you are processing HTML files with JAVA, you usually get better results using the Netscape plug-in.

Handling Non-Standard File Extensions

Rendition Services uses the file name extension (such as .txt) to determine the content type of a document. If your documents do not use the default file extension for their source program, you can create a new content type. For example, if your spreadsheets are named *.feb, you can assign the Microsoft Excel plug-in to the feb content type.

If you associate a plug-in with the wrong content type, remove that content type and then re-add it with the correct plug-in.

Note For detailed instructions on working with the content types, refer to the *IDMDS Rendition Services for PDF Online Help*.

Default and Available Plug-In Options

The following tables list the available content types and their associated plug-ins. The first table lists the default content types and their associated plug-ins. The second table lists the additional content types that are available to assign to plug-ins.

The **Type** column lists the file extension for the content type. The **Plug-in** column lists the associated plug-in. The **Options** columns indicates whether you can set Transformation (T) or Bookmark (B) options for that plug-in.

Default Content Type and Plug-in Options

Content Type	Plug-in	Options
123	Lotus 123	
ai	Adobe Illustrator	
cdr	Corel Draw	
cdx	CS ChemDraw Pro	
cpt	Corel PhotoPaint	
doc	MS Word	T, B
dwg	AutoCAD	
fh7	Macromedia Freehand	T
fm	Adobe FrameMaker	
htm	MS Internet Explorer	
html	MS Internet Explorer	
idu	Interleaf	T, B
lwp	Lotus WordPro	
mpp	MS Project	T
p65	Adobe PageMaker	
pdf	PDF	
pn4	Adobe Persuasion	T
ppt	MS PowerPoint	T, B
pr4	Harvard Graphics	T
prz	Lotus FreeLance	
ps	Postscript	
psd	Adobe PhotoShop	
qxd	Quark Express	
rtf	MS WordPad	
shw	Corel Presentations	T

Content Type	Plug-in	Options
tif	Adobe Capture	
txt	MS WordPad	
vsd	Visio Professional	
wb3	Corel Quattro Pro	T
wpd	Corel WordPerfect	T, B
xls	MS Excel	

Additional Content Type and Plug-in Options

Content Type	Plug-in	Options
123	Legacy Spreadsheets Lotus 123	T
bmp	Acrobat Capture	
	Graphic Files	T
	Wang Image	T
ccitt T4/G3	Graphic Files	T
cdr	Corel Draw	
	Graphic Files	T
cgm	Graphic Files	T
cur	Graphic Files	T
dcf	Legacy Documents	T
dcx	Graphic Files	T
	Wang Image	T
doc	Legacy Documents	T
	MS Word	T, B
	MS Word - PDFMaker	
	MS WordPad	
dox	Legacy Documents	T
eps	Graphic Files	T
fft	Legacy Documents	T
gif	Graphic Files	T
	Wang Image	T

Content Type	Plug-in	Options
htm, html	Legacy Documents	T
	MS Internet Explorer	
	MS Word	T
	MS WordPad	
	Netscape	
ico	Graphic Files	T
jpg	Graphic Files	T
	Wang Image	T
mll	Legacy Documents	T
pct	Graphic Files	T
pict (Mac)	Graphic Files	T
pcx	Acrobat Capture	
	Graphic Files	T
	Wang Image	T
pdf	Acrobat Capture PDF	
png	Graphic Files	T
rtf	ASCII	T
	Legacy Documents	T
	MS Word	T
	MS WordPad	
sam	Legacy Documents	T
SGI RGB	Graphic Files	T
skc	MDL ISIS/Draw Pro	
sdw	Graphic Files	T
tga	Graphic Files	T
tif, tiff	Acrobat Capture	
	Graphic Files	T
	Wang Image	T
txt	ASCII	T
	Legacy Documents	T
wb*	Legacy Spreadsheets	T
wmf	Graphic Files	T
wp	Legacy Documents	T

Content Type	Plug-in	Options
wpg	Graphic Files	T
wiff	Wang Image	T
xif	Wang Image	T

Notes

- You can assign other content types (file extensions) to the existing plug-ins. The defaults are assigned only when you install Rendition Services.
- To use a plug-in, it must be associated with a content type. A content type can be associated with only one plug-in, but a plug-in can be used for more than one content type. If you want to change the plug-in used for a content type, delete the existing content type and then add a new definition.

For example, you can assign either MS Word plug-in or the Legacy Documents plug-in to the DOC content type. The MS Word plug-in can be assigned to both the DOC and the RTF content types.

Setting Plug-In Options

The Acrobat Server plug-ins serve as a format translator and entity identifier for a particular file format. Some plug-ins can activate processing preferences in the supporting application. Generally, you need to set these options for a plug-in only once, when you create the content type association.

Acrobat Server uses two types of processing preferences:

- **Transformation** options affect how a document's contents are laid out on the PDF rendition pages.
- **Bookmark** options define how to identify entities within the document's text for extraction. Document entities that are extracted are made into electronic bookmarks for the PDF rendition.

When a plug-in's bookmark options are set, Acrobat Server identifies and gathers entities from the document's text using the option settings. The gathered entities are used to create bookmarks and a table of contents for the PDF rendition. Both the bookmarks and the table of contents entries are page-specific, electronic hyperlinks.

If an entity is extracted that has no text, its bookmark is labeled BLANK in the PDF rendition. If there is a gap in the structure of the entities extracted, a bridging bookmark is inserted into the bookmark tree to preserve the structure. The bookmark labels also appear in the generated table of contents.

Only some of the supported plug-ins provide transformation or bookmark options. You can set plug-in options for these software and content types:

Adobe Persuasion.
Refer to “[Adobe Persuasion Plug-In Options](#)” on page 522.

ASCII documents.
Refer to “[ASCII Plug-In Options](#)” on page 523.

Corel Draw.
Refer to “[Corel Draw Plug-In Options](#)” on page 525.

Corel Presentations.
Refer to “[Corel Presentations Plug-In Options](#)” on page 525.

Corel WordPerfect.
Refer to “[Corel WordPerfect Plug-In Options](#)” on page 526.

Harvard Graphics.
Refer to “[Harvard Graphics Plug-In Options](#)” on page 527.

Interleaf.
Refer to “[Interleaf Plug-In Options](#)” on page 527.

Macromedia FreeHand.
Refer to “[MacroMedia Freehand Plug-In Options](#)” on page 528.

Microsoft PowerPoint.
Refer to “[MS PowerPoint Plug-in Options](#)” on page 529.

Microsoft Project.
Refer to “[MS Project Plug-in Options](#)” on page 529.

Microsoft Word.
Refer to “[MS Word Plug-in Options](#)” on page 530.

MS Word - PDFMaker.
Refer to “[MS Word - PDFMaker Plug-In Options](#)” on page 530.

Wang Image.
Refer to “[Wang Image Plug-In Options](#)” on page 531.

You can also translate (remap) special characters that may appear in a file. Refer to “[Remapping Special Characters](#)” on page 531 for more information.

For a list of the default content types and their plug-ins, refer to “[Default and Available Plug-In Options](#)” on page 517.

Adobe Persuasion Plug-In Options

The Adobe Persuasion plug-in converts presentations into PDF document pages. The pages can include slides, masters, speaker notes, and handouts, and you can set several related options such as scaling and background fill.

You can set these options:

- Print slides.
- Print masters.
- Print speaker notes.
- Print handouts.
- Combine layers on one page. If you do not select this option, the layers are placed on separate pages.
- Print badge menus with objects on slides.

- Add a background fill to the pages. The background color and pattern are specified in the Persuasion document.
- Scale the images proportionally to fill the page.
- Print the document beginning with the last page and ending with the first page.
- Print each image as a black-and-white bitmap, which requires less RAM and allows faster screen redraw.

Note For detailed instructions on setting Adobe Persuasion plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

ASCII Plug-In Options

The ASCII plug-in defines how to format each page and lay out the document text from a text file. The options you set determine the look of the document because text files contain no formatting information for printing.

Acrobat Server uses the values you supply for paper size, paper orientation, margins, and font size along with the ESPSascii font dimensions to calculate how many text characters can fit on a line and how many lines can fit on a page. If the calculated values are greater than your selections for the maximum number of characters per line and lines per page, Acrobat Server displays an error message. You must then modify the appropriate settings until you find a combination that fits on a page.

You can set these options:

- Text layout priorities:
 - Give priority to the font size you specify.
 - Give priority to the number of characters in a line and lines on a page. Acrobat Server adjusts the font size to fit within the parameters.
 - Adjust the font size to fit the longest line within margins in the document. Acrobat Server does not increase the font size greater than the font size you specify.
- Paper size and page orientation. The paper size should be the same dimensions as the paper dimensions in the source document.
- Font and font size for the text. Refer to [“Font Character Sets” on page 532](#) for more information.
- Page margins.
- Recognize Fortran printer codes. When the ASCII plug-in encounters the Fortran Form Feed control character (a 1 in the first column only), it starts a new page in the rendition, and prints a blank space at the beginning of that line (replacing the 1).
- Remap special characters. Refer to [“Remapping Special Characters” on page 531](#). For a list of character sets, refer to [“Font Character Sets” on page 532](#).

Notes Many of the ASCII transformation options interact with one another. Refer to [“How the ASCII Options Interact” on page 524](#) for details.

For detailed instructions on setting ASCII plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

How the ASCII Options Interact

When setting the transformation options for the ASCII plug-in, be aware that the options can interact with one another. Many of the options are interrelated: a change in one option may affect other options.

For example, note that the following ASCII options may be incompatible in the ESPSascii font:

- Process: Fit Char Count To Font Size
- Paper Size: US Letter
- Orientation: Portrait
- Left Margin: 0.5
- Right Margin: 0.5
- Top Margin: 0.5
- Bottom Margin: 0.5
- Font Size: 9
- Max Characters/Line: 100
- Max Lines/Page: 85

At 9 points, the ESPSascii font can fit only 93 characters per line and 80 lines per page within the specified margins on portrait, US Letter paper. One of the following adjustments may resolve this incompatibility:

- Choose another font size (such as 8 point, which can fit 105 characters per line and 90 lines per page within the margins).
- Set fewer maximum characters per line at a 9-point font size (anything equal to or less than 93 characters) and fewer maximum lines per page (anything equal to or less than 80 lines).
- Reduce the margins to values that permit the maximum characters and lines to fit on the page at that font size.
- Change the paper size or orientation to provide more space. (This option may not solve the problem entirely. Changing the paper size provides more length but reduces the available width; changing the orientation provides more width but reduces the available length.)

As a rule, Acrobat Server always assumes that the paper size, orientation, and margin parameters are what you want and are not to be changed. This means that the font size and maximum characters per line and lines per page are manipulated to resolve a conflict. Remember to leave room in the margins for any headers and footers you have specified in a master page.

Many of these issues are handled automatically by Acrobat Server when you use any of the process options. The following options are available:

- **Fit Char Count To Font Size** assumes that the font size is the critical factor in properly processing a document. Acrobat Server displays the maximum number of characters per line and lines per page for the font size you have selected. These "limit" numbers are displayed in brackets before the appropriate text box. If the Char Count values that you entered do not accommodate the selected font size within the specified page parameters, the plug-in reduces the Char Count values to accommodate the font size. You should always check that the Char Count values you have entered are within the displayed limits.
- **Fit Font Size To Char Count** assumes the characters-per-line and lines-per-page parameters are critical factors in properly processing a document. If the font size you selected will not accommodate the Char Count values within the specified page parameters, the plug-in reduces the font size to a size that will accommodate the Char Count values. If the font size you specified does fit with room to spare, Acrobat Server does not increase the font size; it uses the font size you specified.
- **Fit Font Size To Document** has the plug-in parse the document text before processing it. The plug-in finds the longest line in the document text, and sets the font size to accommodate this length within the specified page parameters. It ignores any Char Count values. Then the plug-in begins to process the document using the calculated font size.

You can use any of these process options, and you can modify any parameter at any time. If you enter an invalid combination of parameters, an error message is generated.

Corel Draw Plug-In Options

The Corel Draw plug-in converts drawings into PDF document pages. You can select portrait or landscape page orientation for the PDF rendition of a Corel Draw image file. The image is rotated to fit the orientation.

Note For detailed instructions on setting Corel Draw plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Corel Presentations Plug-In Options

The Corel Presentations plug-in processes presentation slides into document pages. Each slide is placed on an individual page. The slide background, title, all body text, and all images are included in the PDF rendition.

You can set these transformation options:

- Print black and white images. This may be helpful if the final document will be used for copying or for handouts.
- Print slides beginning with the last page and ending with the first page.

Note For detailed instructions on setting Corel Presentations plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Corel Quattro Pro Plug-In Options

The Corel Quattro Pro plug-in processes spreadsheets into PDF format.

You can set these options:

- Print the active spreadsheet.
- Print the entire notebook.
- Orient pages for portrait printing.
- Orient pages for landscape printing.

Note For detailed instructions on setting the Corel Quattro Pro plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Corel WordPerfect Plug-In Options

For Corel WordPerfect documents, you can suppress the printing of headers and footers in the PDF rendition.

You can also choose how the WordPerfect plug-in should identify document entities to extract and make into bookmarks. The text in a WordPerfect document can be marked with either TOC field codes or List field codes to create multiple tables of contents for the same document. The WordPerfect plug-in can use these codes to identify entities to extract. For more information on field codes, see your WordPerfect documentation.

Notes

- Before processing WordPerfect documents, you may need to set specific options in the WordPerfect program on the server. Refer to [“Preparing Corel WordPerfect Documents” on page 538](#) for more information.
- For detailed instructions on setting Corel WordPerfect plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Graphic Files Plug-In Options

The Graphic Files plug-in processes these graphic file formats:

BMP	PCT
CCITT T4/G3	PICT (Mac)
CDR	PCX
CGM	PNG
CUR	SDW
DCX (fax)	SGI RGB
EPS	TIFF (single page)
GIF	TGA
ICO	WMF
JPG	WPG

The Graphic Files plug-in can scale images or change the placement of the image on the page.

You can set these options:

- Print the image at actual size.
- Scale the image from 1% and 999%.
- Set horizontal alignment to left, center, or right of page.
- Set vertical alignment to top, center, or bottom of page.

Note For detailed instructions on setting the Graphic Files plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Harvard Graphics Plug-In Options

The Harvard Graphics® plug-in processes slide presentations created using Harvard Graphics. You can select these transformation options:

- Print one slide per page.
- Print one slide per page along with any notes associated with the slide.
- Print several slides on a page.

Note For detailed instructions on setting Harvard graphics plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Interleaf Plug-In Options

When processing Interleaf® documents, you can suppress the printing of headers and footers in the PDF renditions.

You can also select an Interleaf catalog to use for making bookmarks in the renditions. A catalog contains the list of styles that identify document entities to extract and turn into bookmarks. You choose one catalog to be the default used for processing all renditions, and you can maintain a list of other catalogs for future use.

The Interleaf plug-in can change the text characters used in bookmark titles. You can select special characters to be replaced in the text or removed from it.

Note For detailed instructions on setting Interleaf plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Legacy Documents Plug-In Options

The Legacy Documents plug-in processes several standard word processing formats, including older versions. These word processing file formats are supported:

DCF	M11
DOC	RTF
DOX	SAM
FFT	TXT
HTM	WP
HTML	WPG

When processing Legacy Documents[®] documents, you can suppress the printing of headers and footers in the PDF renditions.

Note For detailed instructions on setting the Legacy Documents plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Legacy Spreadsheets Plug-In Options

The Legacy Spreadsheets plug-in is designed to process many spreadsheet file formats, including older versions. You can process 123 and WB* files with the Legacy Spreadsheet plug-in.

Note For detailed instructions on setting the Legacy Spreadsheets plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Macromedia Freehand Plug-In Options

The Macromedia FreeHand[™] plug-in processes FreeHand images into PDF pages. You can scale an image larger or smaller than actual size, or you can print it at actual size in the PDF rendition.

Note For detailed instructions on setting Macromedia Freehand plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

MS PowerPoint Plug-in Options

The MS PowerPoint® plug-in processes MS PowerPoint presentation slides into document pages. Each slide is placed on an individual page. The slide background, title, body text, and images are included in the PDF rendition. You can define how to format each slide on a page.

The PowerPoint plug-in can extract the title of each slide in a PowerPoint presentation to make bookmarks for the PDF rendition. You can change the characters in the extract titles by selecting special characters to be replaced in the text or removed from it.

You can set these transformation options:

- Print in black and white.
- Scale text and images to fit the width of the printable area.
- Print a border around the slide.
- Print notes below a slide.

You can set one bookmark options: remove a special character from a title. For more information, see [“Remapping Special Characters” on page 531](#).

Note For detailed instructions on setting MS PowerPoint Plug-in Options, refer to the *IDMDS Rendition Services for PDF Online Help*.

MS Project Plug-in Options

The MS Project plug-in processes project information such as tasks, resources, costs, and progress created and stored in a MS Project file. The project information is stored in views. The view format you select determines how the project information appears in the PDF rendition of every document processed using these option settings. The plug-in does not process information in any of the MS Project report formats.

You can also apply some of the MS Project print options to the view. For more information on the view formats and printing options, see your MS Project documentation.

You can set these options:

- Turn off the printing of headers and footers.
- Scale the text to fit on one page width.
- Use manual page breaks inserted into the file.
- Use a range of dates to select data to include in the renditions.
- The view format.

Note For detailed instructions on setting MS Project Plug-in Options, refer to the *IDMDS Rendition Services for PDF Online Help*.

MS Word Plug-in Options

The MS Word[®] plug-in processes MS Word documents into PDF pages. You can suppress the printing of headers and footers, and you can create bookmark entries.

The MS Word plug-in extracts entities from your document's text for bookmarks in the PDF. You need to use either Styles or Table Entry Fields to identify entities to be extracted and made into bookmarks.

You can use Table Entry Field identifiers to create multiple tables of contents in the Word document. Each identifier is usually a single character between A and Z. In Acrobat Server, you can specify more than one identifier, and the table of contents generated will contain all entities marked by Table Entry Fields with the designated identifiers. The entities are then extracted and turned into PDF bookmarks.

Notes

- Before processing MS Word documents, you may need to set specific options in the Word program on the server. Refer to [“Preparing Microsoft Word Documents” on page 537](#) for more information.
- The **doc** content type can be associated with the PDFMaker plug-in or the MS Word plug-in. The description lists the assigned plug-in. Make sure that you are modifying the desired content type. If you assign both the MS Word and the PDFMaker plug-in to the doc content type, Acrobat Server uses the first definition in the list (MS Word).
- For detailed instructions on setting MS Word Plug-in Options, refer to the *IDMDS Rendition Services for PDF Online Help*.

MS Word - PDFMaker Plug-In Options

The MS Word - PDFMaker plug-in uses the Adobe PDFMaker macro for Microsoft Word to create a PDF rendition of Word documents with bookmarks.

Adobe recommends using Print Via Distiller as the creation option for processing Microsoft Word documents.

Do not select these options, as they interfere with processing:

- Prompt for filename
- Send via e-mail
- View .pdf file
- Internet links
- Cross-document links
- Text boxes > Threads

Note

- The **doc** content type can be associated with the MS Word - PDFMaker plug-in or the MS Word plug-in. The description lists the assigned plug-in. Make sure that you are modifying the desired content type.

- For detailed instructions on setting the MS Word - PDFMaker plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Wang Image Plug-In Options

The Wang Image plug-in processes the following graphic file formats: BMP, DCX, GIF, JPEG, PCX, TIFF, WIFF, and XIF.

The Wang Image plug-in can rotate or scale images. Images are rotated only when necessary to match the orientation. All images are rotated clockwise.

You can set these options:

- Scale the image proportionally to fit the page.
- Print the image at actual size.
- Scale the image from 1% and 999%.

Note For detailed instructions on setting Wang Image plug-in options, refer to the *IDMDS Rendition Services for PDF Online Help*.

Remapping Special Characters

In several of the plug-ins, you can translate (remap) special characters that may appear in a file. You can build a library of commonly used special characters and assign another character to replace the special character in the PDF rendition. You can also strip out any character so that it does not appear in the rendition.

Special characters defined in a plug-in affect either the text of that document's pages in the PDF rendition or the table of contents entries and bookmark labels for that document's extracts. Only the ASCII plug-in provides the ability to select which font character set to use (ESPSascii, ESPSansi, or Courier); all other plug-ins use the ESPSansi character set.

Note Acrobat Server recognizes only three character sets. The character mapping differs between fonts. For example, the character beta (?) is code number 223 in ANSI and code number 225 in ASCII. The font set you use for remapping special characters must be the same font that was used to create the document. Refer to [“Font Character Sets” on page 532](#) for more information.

The plug-ins can handle octal, hexadecimal, and decimal character codes. Use the following format to enter the character codes:

Format	Type	Example
<i>nnn</i>	Decimal	032
<i>\nnn</i>	Octal	\040
<i>0xnnn</i>	Hex	0x020

You can also use the following special octal codes for some characters:

Control	Code
alert	\a
backslash	\\
backspace	\b
carriage return	\r
double quote	\"
form feed	\f
integer 0 (zero)	\0
newline	\n
question mark	\?
single quote	\'
tab	\t
vertical tab	\v

Note For detailed instructions on remapping characters, refer to the *IDMDS Rendition Services for PDF Online Help*.

Font Character Sets

This topic lists the common decimal character codes in the fonts used by some Acrobat Server plug-ins. You can use these lists when you are choosing special characters to be stripped out or replaced in any of the plug-ins.

The Courier and ESPSansi fonts contain the standard ANSI character set. The ESPSascii font contains the standard ASCII character set. Use the appropriate font for processing text files. Acrobat Server uses the ESPSansi font for special character replacement in all other plug-ins.

For special language or graphical characters beyond the standard ANSI (Latin 1) code page, see your system administrator for a list of the codes specific to the ANSI code pages used in your organization.

Values that appear with an empty box are not supported.

ESPSascii Font

0		36 \$	73 I	110 n	147 ô	184 ¶	221 █
1 ☺	37 %	74 J	111 o	148 ö	185 ¶	222 █	
2 ☹	38 &	75 K	112 p	149 ò	186 ¶	223 █	
3 ♥	39 '	76 L	113 q	150 û	187 ¶	224 α	
4 ♦	40 (	77 M	114 r	151 ù	188 ¶	225 β
5 ♣	41)	78 N	115 s	152 ŷ	189 ¶	226 Γ	
6 ♠	42 *	79 O	116 t	153 Ö	190 ¶	227 π	
7 •	43 +	80 P	117 u	154 Ü	191 ¶	228 Σ	
8 ◻	44 ,	81 Q	118 v	155 é	192 ¶	229 σ	
9 °	45 -	82 R	119 w	156 £	193 ¶	230 μ	
10 ◻	46 .	83 S	120 x	157 ¥	194 ¶	231 τ	
11 ♂	47 /	84 T	121 y	158 ₣	195 ¶	232 Φ	
12 ♀	48 0	85 U	122 z	159 f	196 -	233 ⊙	
13 ♪	49 1	86 V	123 {	160 à	197 +	234 Ω	
14 🎵	50 2	87 W	124 |	161 í	198 †	235 δ	
15 ★	51 3	88 X	125 }	162 ó	199 †	236 ∞	
16 ▶	52 4	89 Y	126 ~	163 ú	200 ¶	237 ∅	
17 ◀	53 5	90 Z	127 •	164 ñ	201 ¶	238 ε	
18 ⇕	54 6	91 [	128 Ç	165 Ñ	202 ¶	239 ∩
19 !!	55 7	92 \	129 ü	166 ã	203 ¶	240 ≡	
20 ¶	56 8	93]	130 é	167 ø	204 ¶	241 ±	
21 §	57 9	94 ^	131 â	168 ç	205 =	242 ≥	
22 █	58 :	95 _	132 ä	169 r	206 ¶	243 ≤	
23 ⇕	59 ;	96 `	133 à	170 ¬	207 ¶	244 [
24 ↑	60 <	97 a	134 å	171 ½	208 ¶	245]	
25 ↓	61 =	98 b	135 ç	172 ¼	209 ¶	246 ÷	
26 →	62 >	99 c	136 ê	173 i	210 ¶	247 ≈	
27 ↵	63 ?	100 d	137 ë	174 «	211 ¶	248 *	
28 ↵	64 @	101 e	138 è	175 »	212 ¶	249 •	
29 ↵	65 A	102 f	139 ÿ	176 ▒	213 ¶	250 ·	
30 ▲	66 B	103 g	140 î	177 ▒	214 ¶	251 √	
31 ▼	67 C	104 h	141 ï	178 █	215 ¶	252 n	
32	68 D	105 i	142 Ä	179 |	216 ¶	253 z	
33 !	69 E	106 j	143 Å	180 †	217 ¶	254 █	
34 "	70 F	107 k	144 É	181 ¶	218 ¶	255 ◻	
35 #	71 G	108 l	145 æ	182 ¶	219 █		
	72 H	109 m	146 Æ	183 ¶	220 █	ASCII	

ESPSansi Font

0	□	37	%	74	J	111	o	148	”	185	ı	222	Ɔ
1	□	38	&	75	K	112	p	149	•	186	°	223	β
2	□	39	'	76	L	113	q	150	–	187	»	224	à
3	□	40	(	77	M	114	r	151	—	188	¼	225	á
4	□	41	)	78	N	115	s	152	˘	189	½	226	â
5	□	42	*	79	O	116	t	153	™	190	¾	227	ã
6	□	43	+	80	P	117	u	154	š	191	ç	228	ä
7	□	44	,	81	Q	118	v	155	›	192	À	229	å
8	□	45	-	82	R	119	w	156	œ	193	Á	230	æ
9	□	46	.	83	S	120	x	157	□	194	Â	231	ç
10	□	47	/	84	T	121	y	158	□	195	Ã	232	è
11	□	48	0	85	U	122	z	159	ÿ	196	Ä	233	é
12	□	49	1	86	V	123	{	160		197	Å	234	ê
13	□	50	2	87	W	124	|	161	ı	198	Æ	235	ë
14	□	51	3	88	X	125	}	162	ø	199	Ç	236	ì
15	□	52	4	89	Y	126	~	163	£	200	È	237	í
16	□	53	5	90	Z	127	□	164	¤	201	É	238	î
17	□	54	6	91	[	128	□	165	¥	202	Ê	239	ï
18	□	55	7	92	\	129	□	166	!	203	Ë	240	ð
19	□	56	8	93	]	130	,	167	§	204	Ì	241	ñ
20	□	57	9	94	^	131	f	168	¨	205	Í	242	ò
21	□	58	:	95	_	132	„	169	©	206	Î	243	ó
22	□	59	;	96	`	133	...	170	ª	207	Ï	244	ô
23	□	60	<	97	a	134	†	171	«	208	Ð	245	õ
24	□	61	=	98	b	135	‡	172	¬	209	Ñ	246	ö
25	□	62	>	99	c	136	^	173	-	210	Ò	247	÷
26	□	63	?	100	d	137	‰	174	®	211	Ó	248	ø
27	□	64	@	101	e	138	Š	175	¯	212	Ô	249	ù
28	□	65	A	102	f	139	<	176	°	213	Õ	250	ú
29	□	66	B	103	g	140	Œ	177	±	214	Ö	251	û
30	□	67	C	104	h	141	□	178	²	215	×	252	ü
31	□	68	D	105	i	142	□	179	³	216	Ø	253	ý
32		69	E	106	j	143	□	180	´	217	Ù	254	þ
33	!	70	F	107	k	144	□	181	µ	218	Ú	255	ÿ
34	”	71	G	108	l	145	‘	182	¶	219	Û		
35	#	72	H	109	m	146	’	183	·	220	Ü		
36	\$	73	I	110	n	147	“	184	,	221	Ý		

ANSI

Courier Font

0	□	37	%	74	J	111	o	148	”	185	’	222	þ
1	□	38	&	75	K	112	p	149	•	186	°	223	ß
2	□	39	’	76	L	113	q	150	–	187	»	224	à
3	□	40	(	77	M	114	r	151	—	188	¼	225	á
4	□	41	)	78	N	115	s	152	~	189	½	226	â
5	□	42	*	79	O	116	t	153	™	190	¾	227	ã
6	□	43	+	80	P	117	u	154	š	191	č	228	ä
7	□	44	,	81	Q	118	v	155	>	192	À	229	å
8	□	45	-	82	R	119	w	156	œ	193	Á	230	æ
9	□	46	.	83	S	120	x	157	□	194	Â	231	ç
10	□	47	/	84	T	121	y	158	□	195	Ã	232	è
11	□	48	0	85	U	122	z	159	ÿ	196	Ä	233	é
12	□	49	1	86	V	123	{	160		197	Å	234	ê
13	□	50	2	87	W	124	|	161	ı	198	Æ	235	ë
14	□	51	3	88	X	125	}	162	¢	199	Ç	236	ì
15	□	52	4	89	Y	126	~	163	£	200	È	237	í
16	□	53	5	90	Z	127	□	164	¤	201	É	238	î
17	□	54	6	91	[	128	□	165	¥	202	Ê	239	ï
18	□	55	7	92	\	129	□	166	ı	203	Ë	240	ð
19	□	56	8	93	]	130	,	167	§	204	Ì	241	ñ
20	□	57	9	94	^	131	f	168	”	205	Í	242	ò
21	□	58	:	95	_	132	”	169	©	206	Î	243	ó
22	□	59	;	96	`	133	...	170	*	207	Ï	244	ô
23	□	60	<	97	a	134	†	171	«	208	Ð	245	õ
24	□	61	=	98	b	135	‡	172	¬	209	Ñ	246	ö
25	□	62	>	99	c	136	^	173	-	210	Ò	247	÷
26	□	63	?	100	d	137	‰	174	®	211	Ó	248	ø
27	□	64	@	101	e	138	Š	175	-	212	Ô	249	ù
28	□	65	A	102	f	139	<	176	°	213	Õ	250	ú
29	□	66	B	103	g	140	Œ	177	±	214	Ö	251	û
30	□	67	C	104	h	141	□	178	²	215	×	252	ü
31	□	68	D	105	i	142	□	179	³	216	Ø	253	ý
32		69	E	106	j	143	□	180	´	217	Ù	254	þ
33	!	70	F	107	k	144	□	181	µ	218	Ú	255	ÿ
34	"	71	G	108	l	145	´	182	¶	219	Û		
35	#	72	H	109	m	146	´	183	·	220	Ü		
36	\$	73	I	110	n	147	“	184	,	221	Ý		

Courier

Checking the Status of Rendition Jobs



You can check the job queue to see which rendition jobs are waiting to be processed and which are finished. You can also remove pending jobs from the queue.

Rendition Services activities affect the network load in your system. You can monitor the system queues and schedule the processing hours to balance some of the traffic. Refer to “[Scheduling Rendition Services](#)” on page 515 for more information.

Note For detailed instructions on viewing job status and deleting jobs, refer to the *IDMDS Rendition Services for PDF Online Help*.

Preparing Microsoft Word Documents

Before you can create PDF renditions of Microsoft Word documents, you need to turn off several options and features to ensure smooth processing by Acrobat Server. Some of these items need to be configured in the documents themselves; others need to be configured in the program.

Set the following options in the Microsoft Word application installed on the server with Acrobat Server:

- Disable the Automatic Spell Checking option.
- Disable the View Field Codes option.
- Disable the Update Automatic Links at Open option.
- Disable the Automatic Save Every X Minutes option.
- Disable the Confirm Conversions at Open option.
- Disable the Automatically Update Document Styles option (Templates dialog box).

Every Microsoft Word document has certain option settings embedded in it that come from settings in the Word program used when the document was saved. If the following options were not disabled, open the document in Microsoft Word, change the options, and save the document:

- Disable all autoloading macros, including macros with dialog box interfaces.
- Disable all document passwords.

For information on any of these options, see your Microsoft Word documentation.

Acrobat Server cannot process a document that has links to other documents or graphic files. Before starting the processing, disable any links in the document.

If you installed Microsoft Bookshelf along with Microsoft Word, remove the Bsh32.wll file from your Microsoft Word startup folder.

Preparing Corel WordPerfect Documents



Before you can create PDF renditions of WordPerfect documents, you need to turn off several options and features to ensure smooth processing by Acrobat Server. Some of these items need to be configured in the documents themselves; others need to be configured in the program.

Set the following options in the Corel WordPerfect application installed on the server with Acrobat Server:

- Enable the Save Workspace To Never option.
- Disable the Spell As You Go option.
- Disable the Timed Document Backup option.

If a WordPerfect document has password protection enabled, open the document in WordPerfect, disable the password protection, and save the document.

Acrobat Server cannot process a document that has links to other documents or graphic files. Before starting the processing, disable any links in the document.

For more information, see your WordPerfect documentation.

DiskXtender HSM



FileNET DiskXtender (DX) is an optional component that provides additional data storage for IDMDS repositories. Once configured, DX functions transparently for all users who access documents in your IDMDS library system.

Refer to the *DiskXtender System Guide* on the *FileNET DiskXtender* CD for information on hardware requirements, system performance, high capacity storage concepts, and detailed procedures.

These topics provide information and examples for configuring DX:

- “DiskXtender HSM” on page 540 provides an overview of the hierarchical storage manager.
- “DiskXtender Prerequisites” on page 542 lists hardware and software requirements.
- “DiskXtender Recommendations” on page 543 provides tips on working with DiskXtender in an IDMDS library system.
- “Configuring DiskXtender” on page 544 contains configuration instructions.
- “DiskXtender Example 1” on page 547 and “DiskXtender Example 2” on page 550 show example configurations.
- “Managing DiskXtender Media” on page 546 provides tips on working with optical media and extended drives.
- “DiskXtender Supported Hardware” on page 556 lists the FileNET recommended storage devices.

DiskXtender HSM

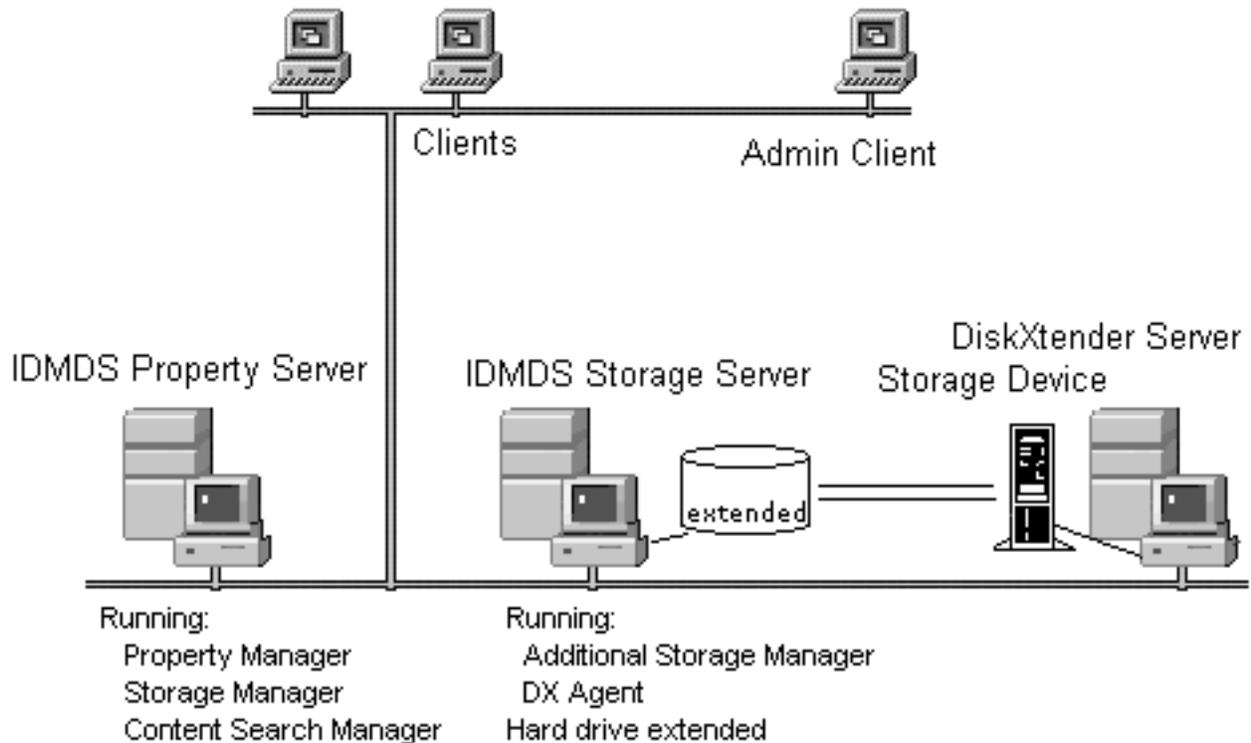


FileNET DiskXtender (DX) is an optional component for managing file storage. DiskXtender provides additional data storage for storage repositories and archive repositories by extending an NTFS volume to use space on removable optical media. DiskXtender manages file migration from the NTFS volume to erasable-optical or write-once optical media. Once you configure DiskXtender, it functions transparently for all users who access IDMS documents.

The DiskXtender Server software resides on a PC or server in your network that is connected to the mass storage device, such as an optical jukebox. The DX Server retrieves and stores files on the attached storage device and manages the media in the device.

The DiskXtender Agent software resides on the PC where the disk drive is extended. The DX Agent monitors file activity on the extended drive and relays file requests to the DX Server. Directories on the extended drive represent pieces of media used by the DX Server. Using DX, a storage repository directory on a 1 GB hard drive can expand to fill an entire 5.2 GB rewritable disc on the storage device.

The following illustration shows a simple library system configuration with one extended drive and one DX Server. Each DX Server can manage up to eight DX Agents. A DX Agent is required for each PC with an extended drive, and each Agent can manage several extended drives within a single PC. When you create an extended drive using the DX software, the DX Agent software is installed for you.



DiskXtender in a Library System

You may notice slightly slower performance for storage repositories extended to optical media compared to memory or disk access for the same files. However, archive repositories tend to have quicker archive and reclaim processes compared to manually moving documents offline and physically retrieving them later.

Refer to "Getting Started" in the *DiskXtender System Guide* on the FileNET DiskXtender CD for information on hardware requirements, system performance, and high capacity storage concepts.

Note The *DiskXtender System Guide* refers to a jukebox or autochanger as a library. This physical library is unrelated to an IDMS library system.

DiskXtender Prerequisites

Before you install and configure DiskXtender (DX), verify that you have the necessary hardware and software configured.

Software	DX can run on any IDMDS server. Refer to “System Requirements” on page 96 to verify that your server meets all specified requirements.
Hardware	<p>Pentium class PC 64 MB of memory (minimum) 256 MB of memory (recommended)</p> <p>One or more hard drives formatted as an NTFS volume. Each extended drive must have a total capacity of at least one (1) gigabyte, regardless of actual free space available. You can use drive partitions, provided that each drive meets the 1 GB requirement.</p> <p>One or more SCSI optical storage devices supported by DiskXtender. Refer to “DiskXtender Supported Hardware” on page 556 for a list of supported hardware.</p>
Serial Number	<p>DX Setup will prompt you for a valid serial number. Refer to the <i>DiskXtender System Guide</i> for instructions on obtaining a valid serial number. If you do not provide a serial number, you can use DiskXtender for 30 days.</p> <p>Caution To avoid losing all your data, you must obtain a valid serial number before the 30-day evaluation period is over. If you do not obtain a valid serial number, you will lose all data on the extended drive.</p>

Refer to "Getting Started" in the *DiskXtender System Guide* on the *FileNET DiskXtender* CD for more information on hardware requirements and for tips on optimizing your system performance.

Note The *DiskXtender System Guide* refers to a jukebox or autochanger as a library. This physical library is unrelated to an IDMDS library system.

DiskXtender Recommendations

Before you install and configure DiskXtender (DX), verify that you have the necessary hardware and software configured. Refer to the [“DiskXtender Prerequisites” on page 542](#).

- Do not install IDMDS components on optical media. The only directories you should extend to optical media are the storage or archive repository directories (**shelfxxx** or **dfilexxx**).
- If you are extending a storage repository only, set the Default Online Limit to 999 in the System object to turn off auto-archiving of document versions.
- If you are extending an archive repository with or without a storage repository, set the Default Online Limit in the System object to turn on auto-archiving of document versions.
- Leave the optical media in the storage device at all times, and leave the device powered on at all times.
- When media becomes full, leave the filled media in the storage device and add more media. Refer to [“Managing DiskXtender Media” on page 546](#) for more information.
- Do not turn off the DX Server or DX Agent when the library system is running and users are accessing files. If a user attempts to retrieve a file while the media is unavailable, an error occurs.
- You can use one storage device to hold media for more than one extended drive. However, to avoid drive contention and thrashing problems, the number of drive heads within the storage device should be equal to the number of DX Agents (one per PC) that access it. When you extend multiple volumes on the same PC (using one DX Agent), thrashing does not occur.
- Do not use the IDMDS secure document delete function on extended drives. DiskXtender controls access to the files moved to media and cannot guarantee scrubbing in the process of a move or purge.
- Refer to "Getting Started" in the *DiskXtender System Guide* on the *FileNET DiskXtender* CD for tips on optimizing your system performance.
- Refer to [“Managing DiskXtender Media” on page 546](#) for tips on working with extended storage media.

Configuring DiskXtender

Before you install and configure DiskXtender (DX), verify that you have the necessary hardware and software configured. Refer to the “[DiskXtender Prerequisites](#)” on page 542.

To configure DiskXtender to work with your library system:

1. Install and configure your IDMDS library system. Any NTFS volume in your system can be extended and managed through DiskXtender.
2. Verify the hardware connections for the storage device. All SCSI devices should be powered on before you start Windows NT.
3. Install DiskXtender according to the instructions in "Getting Started" in the *DiskXtender System Guide*.
4. Start the DiskXtender Administrator. Refer to "Using the Administrator" in the *DiskXtender System Guide*.
5. Configure DX Server settings such as alerts and event schedules. Refer to "Managing DX Servers" in the *DiskXtender System Guide*.
6. Add and configure storage hardware devices, such as an HP optical jukebox. Refer to "Managing Hardware" and "Managing Media" in the *DiskXtender System Guide*.
 - a. Add hardware devices.
 - b. Add media to hardware devices.
 - c. Format and label the media. Use a unique label name for each piece of media.

Note Formatting optical media can take a long time.

You can add, format and label media at any time. For example, if your storage device holds 16 pieces of media, but your immediate need is for 12 pieces, you can leave the extra 4 slots empty until you need them.

7. Create the extended drive for the PC with the IDMDS library system. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
8. Add media and media folders to the extended drive. Use the directory path name of the IDMDS storage or archive repository folder for the media folder name. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.

For example, for the memos library system, the path to the first storage repository and the media folder name would be **idmds\memos\stacks\shelf001**. The path to the first archive repository and the media folder name would be **idmds\memos\stacks\dfile001**.

9. Create DX move groups. Move groups determine which files are written to the storage media. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
10. Create DX move rules. Move rules regulate the movement of files from the extended drive to the storage media. The move rule is usually based on the file create date. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
11. Create DX purge rules. Purge rules determine when moved files will be purged from the extended drive. The purge rule is usually based on the last access date. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
12. Configure DX extended drive properties, such as drive scan schedules and purge watermarks. Refer to "Managing Extended Drives" in the *DiskXtender System Guide*.
13. Create DX event schedules. You can schedule time-consuming processes to occur during low-use hours, such as at night or on weekends. Refer to "Event Scheduling" in the *DiskXtender System Guide*.
14. For best performance, turn off the Recycle Bin feature on the PC with the extended drive. Right-click on the Recycle Bin on the Desktop, then select Properties. Click the desired drive tab, such as (C:). Select the *Do not move files to the Recycle Bin* option. Click OK.

Note The *DiskXtender System Guide* refers to a jukebox or autochanger as a library. This physical library is unrelated to an IDMS library system.

Managing DiskXtender Media

The DiskXtender Administrator provides several functions for managing your optical media. Refer to "Managing Media" in the *DiskXtender System Guide* for complete information on media tasks.

- Adding media to your system. You can add media at any time, provided that you have space available in the storage device. Insert the new media, assign the media to the appropriate extended drive and media folder, and then edit the DX move groups to include the new media.
- Ejecting media. In general, **do not eject media** from the storage device. If necessary, you can eject a piece of media without removing its configuration information from the extended drive. If you eject the media and a user requests a file from it, an error message is generated.
- Removing media. In general, **do not remove media** from the storage device. If you remove the media and a user requests a file from it, an error message is generated.

When absolutely necessary, you can set media offline to remove it for permanent archiving or to make room for additional media. For example, when a piece of media becomes full and you have no available slots for new media, you can eject the full media and replace it with new media. You must format and label the new media, assign the media to the appropriate extended drive and media folder, and then edit the DX move groups to show your changes.

- Renaming media. You can change the label name for media at any time. However, if media is assigned to an extended drive, you must update the move groups for that drive to show the change in the media name.
- Formatting and labeling media. You can format or label media at any time. However, if media is assigned to an extended drive, you must first remove it from the extended drive and update the move groups for that drive to show the change in the media.
- Moving media. You can change the location of a piece of media in a jukebox from one shelf to another.
- Restoring files from media. You can use media with existing files. For example, media that was removed for long term storage may be requested for an archive restore. When you add the media to the storage device, DX schedules a restore event to read the files on the media. Restored files are placed on the extended drive and remain on the media.
- Compacting media. You can compact media to recover space from deleted files. When you compact media, the existing files are moved to another piece of media, and the compacted media is completely erased. You can then reuse the media.
- Copying media. You can create one or more copies of a piece of media for backup. You must have blank media available to schedule copying. DX schedules the copy event, and monitors the original and copy media to ensure that all files are copied.

Note Do not eject or remove media when users are accessing the library system.

DiskXtender Example 1

Here is an example for configuring DiskXtender to work with one archive repository and one storage repository on the same IDMS server. This example is optimal for repositories with less than 50,000 files per folder, due to Windows NT limitations. Each repository (*shelfxxx* or *dfilexxx* folder) is mapped to its own piece of media. Refer to "DiskXtender Example 3" on page 553 for a configuration that handles more files. Your configuration may vary depending on the size and number of documents stored in your library system.

System Information

Archive repository name and location	DOCS Library System c:\idmds\docs\stacks\dfile001
Estimated storage needed	63 GB (12 - 5.2 GB discs)
Storage repository name and location	DOCS Library System c:\idmds\docs\stacks\shelf001
Estimated storage needed	21 GB (4 - 5.2 GB discs)
Available storage	Optical jukebox with: 1 drive, optical rewritable 16 slots

To configure DiskXtender to work with your library system:

1. Verify the hardware connections for the storage device. All SCSI devices should be powered on before you start Windows NT.
2. Install DiskXtender according to the instructions in "Getting Started" in the *DiskXtender System Guide*.
3. Start the DiskXtender Administrator. Refer to "Using the Administrator" in the *DiskXtender System Guide*.
4. Configure DX Server settings such as alerts and event schedules. Refer to "Managing DX Servers" in the *DiskXtender System Guide*.
5. Add and configure the optical jukebox.
 - a. Add the hardware device. Refer to "Managing Hardware" in the *DiskXtender System Guide*. The *DiskXtender System Guide* refers to a jukebox as a "library."

- b. Add media to the jukebox using the Libraries tree of the DX Administrator. Insert the 16 pieces of optical media into the mailslot on the jukebox. The media is listed in the Media tree in the DX Administrator.
- c. Format and label the media. The label name can include a sequence number to indicate that the media is part of a group of related media.

For easy tracking, name the 12 archive discs ARCHIVE01, ARCHIVE02, ARCHIVE03, and so on. Name the 4 active storage discs ACTIVEDOCS01, ACTIVEDOCS02, ACTIVEDOCS03, and ACTIVEDOCS04. Some media types have 2 sides per disc. If your media does, add "A" and "B" to the media label, such as ARCHIVE01A, ARCHIVE01B, ARCHIVE02A, and ARCHIVE02B.

Note Formatting optical media can take a long time.

Note You can add, format and label media at any time. For example, if your storage device holds 16 pieces of media, but your immediate need is for 12 pieces, you can leave the extra 4 slots empty until you need them.

6. Create the extended drive for the PC with the IDMDS library. The storage and archive repositories for the DOCS library are located on the same hard disk. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
7. Add media and media folders to the extended drive for the archive repository folder. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.

Assign all pieces of the archive media to the same media folder, `\\idmds\DOCS\stacks\dfile001`.

8. Add media and media folders to the extended drive for the storage repository folder. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.

Assign all pieces of the active media to the same media folder, `\\idmds\DOCS\stacks\shelf001`.

9. Create the archive repository DX move groups. Name the move group ARCHIVE, and assign all pieces of the archive media to the move group. Be sure to order the media sequentially within the move group. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
10. Create the storage repository DX move groups. Name the move group ACTIVEDOCS, and assign all pieces of the active media to the move group. Be sure to order the media sequentially within the move group. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
11. Create the archive repository DX move rules. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
 - a. Select the file names, file size, and attributes that fit your needs. For example, select all files, any size, and any attribute.
 - b. Use the file create date for the aging criteria.
 - c. Select the ARCHIVE move group for the move target.
 - d. Turn on the *Fill media in move group sequentially* checkbox. The sequence is determined by the order of the media within the move group that you set in step 9.

When ARCHIVE01A is full, files will be written to ARCHIVE01B. When ARCHIVE01B is full, files will be written to ARCHIVE02A, and so on.

e. Turn on the *Purge files immediately after move* checkbox.

12. Create the storage repository DX move rules. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.

a. Select the file names, file size, and attributes that fit your needs. For example, select all files, any size, and any attribute.

b. Use the file create date for the aging criteria.

c. Select the ACTIVEDOCS move group for the move target.

d. Turn on the *Fill media in move group sequentially* checkbox. The sequence is determined by the order of the media within the move group that you set in step 10.

When ACTIVEDOCS01A is full, files will be written to ACTIVEDOCS01B. When ACTIVEDOCS01B is full, files will be written to ACTIVEDOCS02A, and so on.

e. Turn on the *Purge files immediately after move* checkbox.

13. Create DX purge rules. Purge rules determine when moved files will be purged from the extended drive. The purge rule is usually based on the last access date. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.

14. Configure DX extended drive properties, such as drive scan schedules and purge watermarks. Refer to "Managing Extended Drives" in the *DiskXtender System Guide*.

15. Create DX event schedules. You can schedule time-consuming processes to occur during low-use hours, such as at night or on weekends. Refer to "Event Scheduling" in the *DiskXtender System Guide*.

16. For best performance, turn off the Recycle Bin feature on the PC with the extended drive. Right-click on the Recycle Bin on the Desktop, then select Properties. Click the desired drive tab, such as (C:). Select the *Do not move files to the Recycle Bin* option. Click OK.

DiskXtender Example 2

Here is an example for configuring DiskXtender to work with the ENG library system that has four storage repositories on three different IDMDs servers. The optical jukebox has 4 drives with 64 slots, and 16 discs will be assigned to each repository. Your configuration may vary depending on the size and number of documents stored in your library system.

Server	Storage repository	Location
1	001	c:\idmds\eng\stacks\shelf001
1	002	d:\idmds\eng\stacks\shelf002
2	003	c:\idmds\eng\stacks\shelf003
3	004	c:\idmds\eng\stacks\shelf004

To configure DiskXtender to work with your library system:

1. Verify the hardware connections for the storage device. All SCSI devices should be powered on before you start Windows NT.
2. Install DiskXtender on the server connected to the jukebox according to the instructions in "Getting Started" in the *DiskXtender System Guide*.
3. Start the DiskXtender Administrator. Refer to "Using the Administrator" in the *DiskXtender System Guide*.
4. Configure DX Server settings such as alerts and event schedules. Refer to "Managing DX Servers" in the *DiskXtender System Guide*.
5. Add and configure the optical jukebox.
 - a. Add the hardware device. Refer to "Managing Hardware" in the *DiskXtender System Guide*. The *DiskXtender System Guide* refers to a jukebox as a "library."
 - b. Add media to the jukebox using the Libraries tree of the DX Administrator. Insert the 64 pieces of optical media into the mailslot on the jukebox. The media is listed in the Media tree in the DX Administrator.
 - c. Format and label the media. The label name can include a sequence number to indicate that the media is part of a group of related media.

For easy tracking, name the discs for the storage repository they refer to. For example, ENGS001D01 is disc 01 for shelf001 in the ENG library. ENGS001D02 is disc 02 for shelf001 in the ENG library, and ENGS002D01 is disc 01 for shelf002 in the ENG library, and so on. Some media types have 2 sides per disc. If your media does, add "A" and "B" to the media label, such as ENGS001D01A and ENGS001D01B.

Note Formatting optical media can take a long time.

Note You can add, format and label media at any time. For example, if your storage device holds 16 pieces of media, but your immediate need is for 12 pieces, you can leave the extra 4 slots empty until you need them.

6. Create the extended drive for the PC with the first storage repository (shelf001). Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
7. Add media and media folders to the extended drive for the storage repository folder. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.

Assign all pieces of the repository 1 media (shelf001) to the same media folder, **\\idmds\eng\stacks\shelf001**.

8. Create the storage repository DX move groups. Name the move group Shelf001, and assign all pieces of the repository 1 media to the move group. Be sure to order the media sequentially within the move group. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
9. Create the storage repository DX move rules. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
 - a. Select the file names, file size, and attributes that fit your needs. For example, select all files, any size, and any attribute.
 - b. Use the file create date for the aging criteria.
 - c. Select the Shelf001 move group for the move target.
 - d. Turn on the *Fill media in move group sequentially* checkbox. The sequence is determined by the order of the media within the move group that you set earlier.

When ENGS001D01A is full, files will be written to ENGS001D01B. When ENGS001D01B is full, files will be written to ENGS001D02A, and so on.

- e. Turn on the *Purge files immediately after move* checkbox.
10. Create DX purge rules. Purge rules determine when moved files will be purged from the extended drive. The purge rule is usually based on the last access date. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
11. Configure DX extended drive properties, such as drive scan schedules and purge watermarks. Refer to "Managing Extended Drives" in the *DiskXtender System Guide*.
12. Create DX event schedules. You can schedule time-consuming processes to occur during low-use hours, such as at night or on weekends. Refer to "Event Scheduling" in the *DiskXtender System Guide*.

13. Repeat Steps 6-12 to create the extended drive for the PC with the second storage repository, shelf002. Name the media ENGS002D01, ENGS002D02, and so on. Assign all pieces of the shelf002 media to the same media folder, **\\idmds\eng\stacks\shelf002**.
14. Repeat Steps 6-12 to create the extended drive for the PC with the third storage repository, shelf003. Name the media ENGS003D01, ENGS003D02, and so on. Assign all pieces of the shelf003 media to the same media folder, **\\idmds\eng\stacks\shelf003**.
15. Repeat Steps 6-12 to create the extended drive for the PC with the fourth storage repository, shelf004. Name the media ENGS004D01, ENGS004D02, and so on. Assign all pieces of the shelf004 media to the same media folder, **\\idmds\eng\stacks\shelf004**.
16. For best performance, turn off the Recycle Bin feature on each PC with an extended drive. Right-click on the Recycle Bin on the Desktop, then select Properties. Click the desired drive tab, such as (C:). Select the *Do not move files to the Recycle Bin* option. Click OK.

DiskXtender Example 3

Here is an example for configuring DiskXtender to work with several archive repositories and several storage repositories on the same IDMDS server. Several repositories (*shelfxxx* and *dfilexxx* folders) are mapped to the same piece of media. Your configuration may vary depending on the size and number of documents stored in your library system.

System Information

Archive repository name and location	DOCS Library System c:\idmds\docs\stacks\dfilexxx
Estimated storage needed	63 GB (12 - 5.2 GB discs)
Storage repository name and location	DOCS Library System c:\idmds\docs\stacks\shelfxxx
Estimated storage needed	21 GB (4 - 5.2 GB discs)
Available storage	Optical jukebox with: 1 drive, optical rewritable 16 slots

To configure DiskXtender to work with your library system:

1. Verify the hardware connections for the storage device. All SCSI devices should be powered on before you start Windows NT.
2. Install DiskXtender according to the instructions in "Getting Started" in the *DiskXtender System Guide*.
3. Start the DiskXtender Administrator. Refer to "Using the Administrator" in the *DiskXtender System Guide*.
4. Configure DX Server settings such as alerts and event schedules. Refer to "Managing DX Servers" in the *DiskXtender System Guide*.
5. Add and configure the optical jukebox.
 - a. Add the hardware device. Refer to "Managing Hardware" in the *DiskXtender System Guide*. The *DiskXtender System Guide* refers to a jukebox as a "library."
 - b. Add media to the jukebox using the Libraries tree of the DX Administrator. Insert the 16 pieces of optical media into the mailslot on the jukebox. The media is listed in the Media tree in the DX Administrator.

- c. Format and label the media. The label name can include a sequence number to indicate that the media is part of a group of related media.

For easy tracking, name the discs DOCS01, DOCS02, DOCS03, and so on. Some media types have 2 sides per disc. If your media does, add "A" and "B" to the media label, such as DOCS01A, DOCS01B, DOCS02A, and DOCS02B.

Note Formatting optical media can take a long time.

Note You can add, format and label media at any time. For example, if your storage device holds 16 pieces of media, but your immediate need is for 12 pieces, you can leave the extra 4 slots empty until you need them.

6. Create the extended drive for the PC with the IDMDS library. The storage and archive repositories for the DOCS library are located on the same hard disk. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
7. Add media and media folders to the extended drive for the `\idmids\DOCS\stacks` folder. The **stacks** folder contains both the archive repositories and storage repositories subfolders. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
8. Create the archive repository DX move groups. Name the move group ARCHIVE, and assign all pieces of the media to the move group. Be sure to order the media sequentially within the move group. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
9. Create the storage repository DX move groups. Name the move group ACTIVEDOCS, and assign all pieces of the media to the move group. Be sure to order the media sequentially within the move group. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
10. Create the archive repository DX move rules. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
 - a. Select the file names, file size, and attributes that fit your needs. For example, select all files, any size, and any attribute.
 - b. Use the file create date for the aging criteria.
 - c. Select the ARCHIVE move group for the move target.
 - d. Turn on the *Fill media in move group sequentially* checkbox. The sequence is determined by the order of the media within the move group that you set in step 8.

When DOCS01A is full, files will be written to DOCS01B. When DOCS01B is full, files will be written to DOCS02A, and so on.
 - e. Turn on the *Purge files immediately after move* checkbox.
11. Create the storage repository DX move rules. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
 - a. Select the file names, file size, and attributes that fit your needs. For example, select all files, any size, and any attribute.

- b. Use the file create date for the aging criteria.
- c. Select the ACTIVEDOCS move group for the move target.
- d. Turn on the *Fill media in move group sequentially* checkbox. The sequence is determined by the order of the media within the move group that you set in step 9.

When DOCS01A is full, files will be written to DOCS01B. When DOCS01B is full, files will be written to DOCS02A, and so on.

- e. Turn on the *Purge files immediately after move* checkbox.
12. Create DX purge rules. Purge rules determine when moved files will be purged from the extended drive. The purge rule is usually based on the last access date. Refer to "Creating Extended Drives" in the *DiskXtender System Guide*.
 13. Configure DX extended drive properties, such as drive scan schedules and purge watermarks. Refer to "Managing Extended Drives" in the *DiskXtender System Guide*.
 14. Create DX event schedules. You can schedule time-consuming processes to occur during low-use hours, such as at night or on weekends. Refer to "Event Scheduling" in the *DiskXtender System Guide*.
 15. For best performance, turn off the Recycle Bin feature on the PC with the extended drive. Right-click on the Recycle Bin on the Desktop, then select Properties. Click the desired drive tab, such as (C:). Select the *Do not move files to the Recycle Bin* option. Click OK.

DiskXtender Supported Hardware

The following table lists the storage devices (jukeboxes) supported by DiskXtender (DX) and FileNET. These devices have high speed optical drives that use removable 5.25" optical platters (media).

Vendor/Model Number	Part Number	# of Drives	# of Slots
HP 10LC	C1718C	1	16
HP 10C	C1713C	1	16
HP 20LT	C1718T	1	16
HP 20T	C1713T	1	16
HP 20XT	C1100A	1	16
HP 40fx	C1100F/C1115F	1-2	16
HP 80ex	C1100J/C1115J	1-2	16
HP 20C	C1710C	2	32
HP 40T	C1710T	2	32
HP 40st	C1150A/C1153A	2	32
HP 80fx	C1150F	2	32
HP 160ex	C1150J	2	32
HP 80st	C1160A/C1163A	4	64
HP 160fx	C1160F	4	64
HP 320ex	C1160J	4	64
HP 165st	C1104A	4	128
HP 330fx	C1104F/C1105F	4-6	128
HP 660ex	C1104J/C1105J	4-6	128
Pinnacle PMO-10GB		1	16
Pinnacle Alta 20		1	16
Pinnacle Alta 40		1-2	16
Pinnacle Alta 75		1-2	16

Vendor/Model Number	Part Number	# of Drives	# of Slots
Pinnacle PMO-20GB		2	32
Pinnacle Aspen		2	32
Pinnacle Incline 80		2	32
Pinnacle Incline 150		2	32
Pinnacle Incline 160		4	64
Pinnacle Incline 300		4	64
Pinnacle Alpine 600		4	128
Plasmon M32J-695		2	32
Plasmon M32J-260		2	32
Plasmon M32J-520		2	32

Glossary



You should be familiar with the following terms and concepts. If you encounter other terms in the IDMDMS documentation that you do not understand, refer to the *IDMDMS Explorer Online Help*.

General Terms and Concepts

application server A computer that provides library system services to client workstations. A typical server would contain one or more library system service modules and might be a workstation installed with UNIX or Windows NT software. Network operating system software may also be required in some network environments. See also network server.

archive category Describes a way of handling version files that are moved offline during automatic or manual archiving. Each protected item is given an archive category (for example, Archive To Tape) when it is added to the system. Each archive category is assigned to a specific storage directory called an archive repository.

archive repository A storage area (that is, a directory) for specific system-controlled version files that are moved offline. The archive repository is where the files are held while awaiting archive storage or destruction outside of the library system. Archive repositories can be described as reclaimable or nonreclaimable. Typically, files that are moved offline through a reclaimable archive repository are more easily reclaimed for use at a later time. Each archive repository may be assigned numerous archive categories.

catalog See *Catalog subsystem*.

Catalog subsystem A set of software services that manage the system-controlled data. The major portions of the Catalog subsystem are (1) the *Property Manager*, which stores and maintains the object property data that describe items, versions, users, groups, and system components, and (2) the *Content Search Manager*, which is an optional service made up of content search engines and repositories. Using the information stored by the services in the Catalog subsystem, the library system provides users with searching capabilities based on descriptive properties and actual document contents. In addition, administrators can use the data stored in the Catalog subsystem to manage the system and its users.

Content Search Manager A software service that contains the program files required to make content searching for version files available with the library system. The Content Search Manager is a portion of the Catalog subsystem.

content search repository A named collection of files identifying versions that have been indexed so that users can find those versions based on the actual contents of the version files. You must add at least one of these content search repositories for each Content Search Manager.

database engine The installed database management system (DBMS) on which each Property Manager runs (for example, an installation of Microsoft SQL Server or Oracle). Multiple library systems

can share a single database engine; however, each library system has its own Property Manager and property repository. See also *Property Manager* and *property repository*.

network server A computer that provides services for the network operating system under which the library system runs. Typically, the library system *application servers* are also network servers. See also *application server*.

Property Manager The service in the Catalog subsystem that stores and maintains in a database a library system's objects and properties. These objects and properties identify and describe stored documents and unstored items. They also describe users, groups, searches, and system components. Each library system has its own Property Manager. The Property Manager is roughly equivalent to the database engine, but has a slightly larger conceptual purpose. For example, all library systems that happen to share a database engine are said to have their own unique Property Manager.

property repository A SQL Server database instance or Oracle tablespace in which the objects and properties for a particular library system are stored. These objects and properties identify and describe stored documents or unstored items. They may also describe users, groups, searches, and system components. See also *database engine* and *Property Manager*.

property server The computer on which the Property Manager runs.

server A computer that provides services for the network operating system or library system services. See also *network server* and *application server*.

service A unit of software that runs on a particular machine. Each library system service is typically referred to as a Manager, as in Property Manager, Storage Manager, and Content Search Manager. For example, every library system application server must be loaded with a Storage Manager service, which processes most of the file transfers and searches.

Storage Manager The library system service that processes operational requests (for example, to check in or check out) and stores version files controlled by the library system.

storage category To a user, such a category typically describes a type of file (for example, Word Docs, Payroll Records, Memos). To an administrator, storage categories provide a way of controlling load balancing in the various storage repositories. Storage category names are determined by an administrator to reflect the working environment at a particular site. One or more storage categories may be assigned to a storage repository and administrators can change these assignments as load requirements change.

storage repository A storage area (that is, a directory) for specific version files controlled by the library system. Each file is stored according to a storage category, which is assigned when the file is added to the library system as a protected item. A storage repository may be assigned numerous storage categories for a particular installation of a library system.

Replication-specific Terms and Concepts

administrative domain See *replication administrative domain*.

document replica A replica of an original (source) document.

Domain Master The library system where an *administrative domain* is created and maintained. For ease of maintenance, use the Domain Master to create and manage users, groups, Document Classes, and CVLs for the administrative domain.

folder replica A replica of an original folder.

home library system See *library system*. The originating library system for an object.

master replication library system See *original library system*.

original object The original object that is replicated to other libraries. For example, an original document or original folder. Modifications made to a original object are replicated to all replica objects automatically by the Replication Daemon. Original objects were previously called source objects.

original library system The library system where the original object is added. Original documents and original folders are created or added on the original library system. Original library systems were previously called source libraries.

ReplDaemon user The *Replication Daemon* uses the ReplDaemon user to log in and out of the participating library systems to perform replication operations. The ReplDaemon user is assigned an encrypted password and has Administrator access rights to the specified library system. Do **not** modify this password.

replica The replicated (copied) object that retains its link to its original (source) object, reflecting any changes that may occur in the original object. Also referred to as a replicated object or target object. For example, a folder replica or document replica. Modifications made to a replica are not always replicated back to the original object or any other replicated objects by the Replication Daemon.

replication administrative client The client used to administer the replication services for the clients.

replication administrative domain A collection of library systems that share security features. Within an administrative domain, any changes to User, Group, or Group Member objects are automatically replicated to the library systems. Stored searches created with the System Administration Tool, Document Classes, and CVLs are also replicated across the domain. The initial user and initial user group (Admin and Administrators group) and their associated stored searches are not replicated.

Replication Daemon The replication software responsible for maintaining consistency between original objects and target objects.

replication folder Refers to a root-level folder that the administrator uses to designate where documents and subfolders are replicated. Once a folder is replicated, documents and subfolders can be added from any participating library. Participating libraries are listed in the folder's Comment field.

Replication Services The library system software and services that allow documents or folders to be replicated from one library system to another.

source document See *original object*.

source folder See *original object*.

source library system See *original library system*.

target library system The library system where replicas are located. The replica is created and owned by the *Replication Daemon* on the target library.

target replication folder A folder replica. See *Replication folder*.

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