ADSTAR Distributed Storage Manager

ADSMConnect Agent for Lotus Notes on AIX Installation and User's Guide

Version 2

SH26-4067-02

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Note

Before using this information and the product it supports, read the general information under “Notices” on page vii.

Third Edition (July 1998)

This edition applies to Version 2 of the ADSMConnect Agent for Lotus Notes on AIX, 5765–C45, and to any subsequent releases until otherwise indicated in new editions or technical newsletters. Make sure you are using the correct edition for the level of the product.

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About This Book

This publication provides information to help you use the ADSMConnect Agent* for Lotus Notes** on AIX*.

In this publication, we assume that you know how to use your AIX workstation and that you understand the general concepts of the operating system. We also assume that you know how to use Lotus Notes databases.

You might need further assistance by using ADSM after you have installed the ADSMConnect Agent for Lotus Notes. The following publications provide additional information.

Table 1. Related Books

Title	Order Number
ADSTAR* Distributed Storage Manager: Using the UNIX** Backup-Archive Clients	SH26-4052
ADSTAR Distributed Storage Manager: Using the Application Programming Interface	SH26-4002
ADSTAR Distributed Storage Manager: Installing the Clients	SH26-4049
Getting Started with ADSM AIX Clients	GG24-4243
ADSTAR Distributed Storage Manager for AIX Installing the Server and Administrative Client	SH35-0136
ADSTAR Distributed Storage Manager for AIX: Administrator's Reference	SH35-0135
Using ADSM to Back up Lotus Notes	SG24-4534
Using ADSM to Back Up Databases	SG24-4335
Lotus Notes Release 4.5 on AIX Systems: Installation, Customization and Administration	SG24-4694
ADSTAR Distributed Storage Manager for AIX: Advanced Topics	SG24-4601
ADSTAR Distributed Storage Manager Messages Version 2	SH35-0133
ADSTAR Distributed Storage Manager Messages Version 3	GC35-0271

The ADSM publications are available in softcopy on the ADSM Website at the following URL:

`http://www.ibm.com/storage/adsm`

The IBM International Technical Support Center redbooks are available in softcopy on the IBM Redbooks Website at the following URL:

`http://www.redbooks.ibm.com/redbooks`

Reading Syntax Diagrams

This section describes how to read the syntax diagrams used in this publication.

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To read a syntax diagram, follow the path of the line. Read from left to right and top to bottom.

- The ►►— symbol indicates the beginning of a syntax diagram.
- The —► symbol at the end of a line indicates the syntax diagram continues on the next line.
- The ►— symbol at the beginning of a line indicates a syntax diagram continues from the previous line.
- The —►◄ symbol indicates the end of a syntax diagram.

Syntax items, such as a keyword or variable, can be:

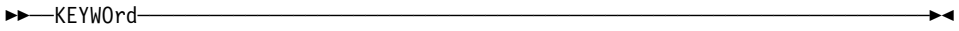
- On the line (required element)
- Above the line (default element)
- Below the line (optional element)

Abbreviations

Uppercase letters denote the shortest acceptable truncation. If an item appears entirely in uppercase letters, it cannot be truncated.

You can type the item in any combination of uppercase or lowercase letters.

In this example, you can enter KEYWO, KEYWORD, or KEYWOrd.



Symbols

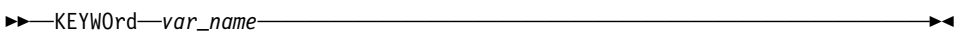
Enter these symbols exactly as they appear in the syntax diagram.

*	Asterisk
{}	Braces
:	Colon
=	Equal sign
-	Hyphen
()	Parentheses
.	Period
	Space

Variables

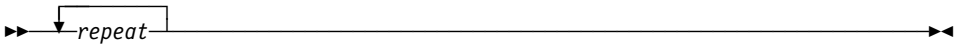
Italicized lowercase items (*var_name*) denote variables.

In this example, you can specify a *var_name* when you enter the **KEYWORD** command.

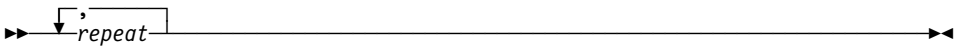


Repetition

An arrow returning to the left means you can repeat the item.



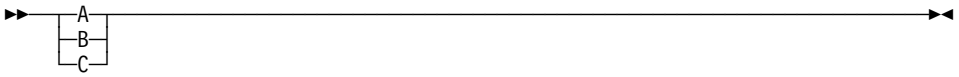
A character within the arrow means you must separate repeated items with that character.



Required Choices

When two or more items are in a stack and one of them is on the line, you *must* specify one item.

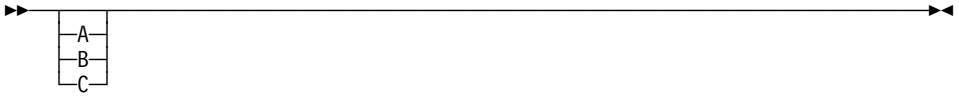
In this example, you *must* choose A, B, or C.



Optional Choice

When an item is below the line, that item is optional. In the first example, you can choose A or nothing at all.

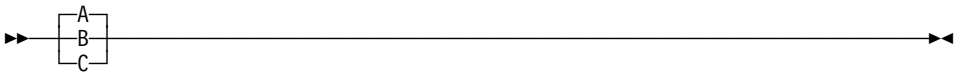
When two or more items are in a stack below the line, all of them are optional. In the second example, you can choose A, B, C, or nothing at all.



Defaults

Defaults are above the line. The default is selected unless you override it. You can override the default by including an option from the stack below the line.

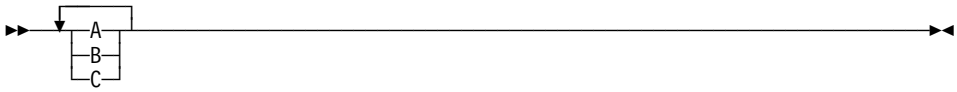
In this example, A is the default. You can override A by choosing B or C. You can also specify the default explicitly.



Repeatable Choices

A stack of items followed by an arrow returning to the left means you can select more than one item or, in some cases, repeat a single item.

In this example, you can choose any combination of A, B, or C.



Summary of Changes

This section summarizes changes made for the following editions of the book.

Third Edition, July 1998

The changes are as follows:

- The MATCHDBID parameter has been added to command **dsmnotes incr**. This parameter allows you to specify whether the database ID (DBID) of the database being backed up must match the DBID of the database stored on the server. This parameter affects only databases with the same names but with different DBIDs.
- "Using the ADSMConnect Agent AIX Help Facility" on page 23 has been expanded to include online sources for ADSM service, technical support, and open discussion forums.
- A new chapter has been added, Chapter 6, "Scheduling Lotus Notes Backup" on page 55, that describes how to automate backup services for the Lotus Notes server and client.
- The **dsmnotes query** command has been added to Chapter 4, "Using the Command-Line Interface" on page 25. This command allows you to query all backed up versions of data and non-data notes in a database.
- Miscellaneous changes have been made throughout the book.

Second Edition, October 1997

The changes are marked with a vertical bar (|) in the left margin:

- A new chapter has been added, Chapter 7, "Messages for ADSMConnect Agent (0900–0999)" on page 59, that describes the messages issued from the ADSMConnect Agent.
- Miscellaneous changes have been made throughout the book.

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Chapter 1. Introducing the ADSMConnect Agent for Lotus Notes on AIX

The ADSMConnect Agent for Lotus Notes on AIX (Lotus Notes Agent) is a Lotus Notes application that provides backup and restore of individual notes within a Lotus Notes database, or an entire Lotus Notes database. Each Lotus Notes database can consist of two types of notes:

- Non-data notes such as forms, folders, and views
- Data notes such as documents

See Figure 1 for the logical components of the ADSMConnect Agent for Lotus Notes.

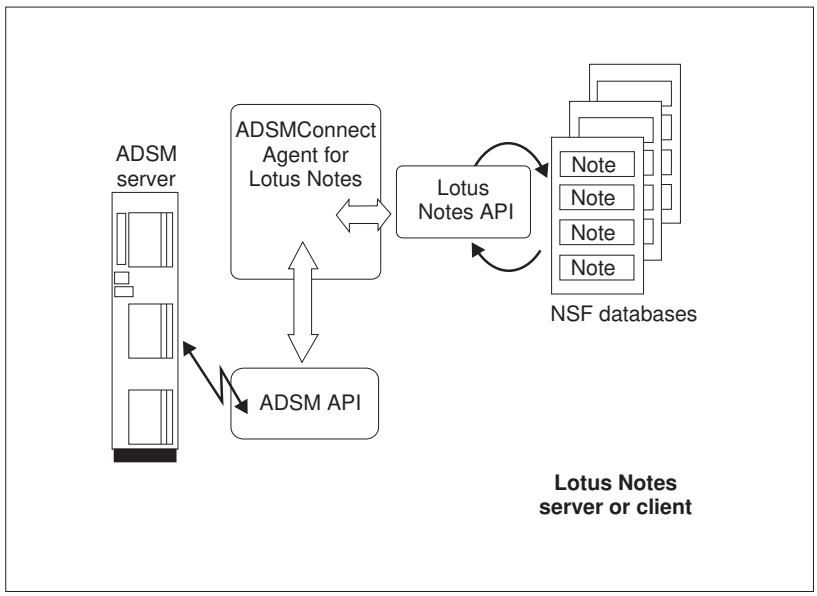

Figure 1. Overview of Components of ADSMConnect Agent for Lotus Notes

The Lotus Notes Agent application uses the Lotus Notes API to communicate with the Lotus Notes databases. The Lotus Notes Agent uses the ADSM API to communicate with the ADSM server. The ADSM API is configured in a way similar to the standard ADSM backup-archive client. It has its own **dsm.sys** client system options file and **dsm.opt** client user options file. It is highly recommended that you use a unique node name for the Lotus Notes Agent. Then the ADSM server will view the application as a separate, self-contained workstation client.

The Lotus Notes Agent helps you protect your Lotus Notes databases by using the backup and recovery services of ADSM. Commands are available that enable you to:

- Incrementally back up only those portions of a database that have changed since the last back up.

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- Restore selected documents from a database (graphical user interface only).
- Restore documents that are deleted but not yet purged from a database.
- Restore an entire Lotus Notes database.
- Help administer the ADSMConnect Agent log files on AIX.

Some of these tasks can be performed by using a graphical user interface (the Lotus Notes Workspace). Others can be accomplished through a command line interface.

Using the ADSM Backup-Archive Client

You can also use the regular ADSM backup-archive client to back up, restore, archive or retrieve an entire Lotus Notes database. ADSM can do this because a single Lotus Notes database is really a binary file in the server or client file system.

The ADSM backup-archive client and the Lotus Notes Agent can run simultaneously on the same workstation. This approach is useful because each application provides capabilities that the other does not have.

- The ADSM backup-archive client can backup, restore, archive, and retrieve an entire database, but not individual documents, forms, and views within a database.
- The Lotus Notes Agent can back up and restore an entire database, or individual documents, forms, and views within a database, but it lacks archiving capabilities.

Attention: You should assign a different node name to the Lotus Notes Agent than the one assigned to the ADSM client that resides on the same machine.

The Lotus Notes Agent also backs up Access Control List (ACL) information, if available, for the Lotus Notes databases. Because there is no way to know whether the database header information is changed or not, all of the header information is backed up every time the database is backed up, even if no notes are actually backed up. This provides current header information on the ADSM server.

The Lotus Notes Database

A Lotus Notes database is stored on a server or client workstation as a single notes structured file with a .NSF file extension. A Lotus Notes database is a single, self-contained entity as far as the workstation operating system is concerned. A workstation operating system such as AIX has no knowledge of the structure or contents of a Lotus Notes database. Lotus Notes databases can become very large files, often growing to hundreds of megabytes in size.

Management Classes

When the Lotus Notes Agent backs up a database, it binds each document to the specified management class. If you later change the assigned management class to one that retains backup versions for a different length of time, it may not be possible to restore the entire database. For more information on management

classes, see *ADSTAR Distributed Storage Manager Using the UNIX Backup-Archive Clients* and *ADSTAR Distributed Storage Manager for AIX: Administrator's Reference*. See also “Step 2C: Creating an Include-Exclude Options File (Optional)” on page 13.

Security

Users should make sure they have access to the databases and documents they wish to back up. The Lotus Notes Agent generates an error message if it fails to open the Lotus Notes database. However, the Lotus Notes Agent does not warn users that some documents are inaccessible to them.

From the Lotus Notes workspace, you can restore documents to databases on the local Lotus Notes client/server. Because Lotus Notes security is honored, you cannot read or write documents in a restored database that the original database would not give you access to.

ADSM security is also honored. To gain access to an ADSM server, you must enter the corresponding ADSM password.

To restore a document, you must be logged on as the same user that backed up the document or as the AIX superuser (root user). The root user can restore documents backed up by any user. See Chapter 3, “Before Using the ADSMConnect Agent” on page 19 for more security information.

Performance Considerations

The Lotus Notes Agent and the ADSM backup-archive client differ in function and performance. The first time you back up an entire Lotus Notes database, the operation is significantly slower using the Lotus Notes Agent than the ADSM backup-archive client, because the Lotus Notes Agent backs up the database on a document level. For large databases this results in weaker performance compared to the backup-archive client.

Smaller databases with few database and document updates are more appropriately backed up or recovered by the Lotus Notes Agent. The Lotus Notes Agent sends only the amount of data to the ADSM server that changed within the database. This reduces the amount of data stored on the server and speeds up the backup operation.

We recommend that you only use the Lotus Notes Agent on those databases that do not have a high level of document updates. Otherwise, the Lotus Notes Agent may take too long to back up such databases, and may interfere with daily Notes activities. A combination of ADSM backup-archive client and Lotus Notes Agent backups is an optimum solution: running a weekly database backup with the client, together with daily incremental backups with the agent.

For disaster recovery of a database, use the backup-archive client for a quick, full restore of an older version of the database, then use the Lotus Notes Agent for merging more recent document versions into the database. The drawback is that the resulting backup-archive client database copy will contain documents previously deleted by the

Lotus Notes Agent, because the Lotus Notes Agent cannot inform the backup-archive client of the document deletions.

Scheduling

The Lotus Notes Agent does not have its own scheduling mechanism. However, Lotus Notes provides a facility through which the Lotus Notes Agent commands can be scheduled to run at a later time. You can also use the scheduling facility of the ADSM backup-archive client to schedule the Lotus Notes Agent commands.

See Chapter 6, “Scheduling Lotus Notes Backup” on page 55 for more information on how to schedule backup services using Lotus Notes and the ADSM backup-archive client. For further information see *Lotus Notes Administrator's Guide* (published by Lotus Notes) or *Using the UNIX Backup-Archive Clients*.

Compatibility

Note that the ADSMConnect Agent for Lotus Notes on AIX databases are not compatible with the Lotus Notes Backup Agent for other platforms. A Lotus Notes database that is backed up using other platforms such as ADSMConnect Agent for Lotus Notes on Windows NT or OS/2 Backup Agent cannot be restored using the ADSMConnect Agent for Lotus Notes on AIX and vice versa. The ADSMConnect Agent for Lotus Notes on AIX displays an error message if it discovers an incompatible file format on the ADSM server.

Also, the ADSMConnect Agent for Lotus Notes on AIX does not support the backing up or restoring of a remote Lotus Notes database. You can install the ADSMConnect Agent for Lotus Notes on AIX on all systems that have Lotus Notes databases and use the local system to back up Lotus Notes databases.

Chapter 2. Installing the ADSMConnect Agent for Lotus Notes on AIX

This section provides instructions to install and set up the ADSMConnect Agent for Lotus Notes on AIX on your workstation.

This manual is also located on the CDROM which contains a permanent license. The CDROM is in two text formats: Postscript-/**docs**/**adsmlnax.ps** and Adobe-/**docs**/**adsmlnax.pdf**. The Adobe format can be viewed on the Adobe Acrobat viewer. Information regarding the viewer can be obtained on the Adobe Website at the following URL:

`http://www.adobe.com`

You may also browse this manual by following the links on the ADSM Web page:

`http://www.ibm.com/storage/software/adsm`

ADSMConnect Agent for Lotus Notes Environment

This section contains client environment information and hardware and software requirements for installing the Lotus Notes Agent.

Hardware Requirements

The hardware requirements are:

- RISC RS/6000* workstation
- Disk space of 4 MB
- Minimum recommended memory of 64 MB

Operating System and Software Requirements

The ADSMConnect Agent requires the following:

- Access to an ADSM server Version 2 or Version 3
- One of the Lotus Notes/AIX combinations listed below:
  - Lotus Notes 4.61 client or server on AIX Version 4.3.0, or
  - Lotus Notes 4.6a client or server on AIX Version 4.2.1, or
  - Lotus Notes 4.5x client or server on AIX Version 4.2.1
- AIXWindows*, including Motif**1.2 (for end user GUI only)

Communication Methods

The following table shows the communication protocols that the Lotus Notes Agent can use.

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Table 2. Communication Software	
Method	**Description**
TCPIP	Specifies the use of TCP/IP as a communication protocol
SHAREDMEM	Specifies the use of Shared Memory as a communication protocol
SNALU6.2 (APPC)	Specifies the use of SNA LU6.2 (APPC) as a communication protocol

For more information about the communication methods, see *ADSTAR Distributed Storage Manager Installing the Clients.*

Before Installing the ADSMConnect Agent

Important: The Lotus Notes software has to be installed on your system before installing the ADSMConnect Agent.

The following software must also be installed on your system:

C/C++ Libraries
From the C/C++ Compiler

Library /usr/lib/libpthreads.a
From fileset **bos.rte.libpthreads**.

Library /usr/lib/libc_r.a
From fileset **bos.rte.libc**.

Library /usr/lib/libs.a
From fileset **bos.rte.libs**.

Library /usr/lib/libDtHelp.a
From fileset **X11.Dt.lib**.

Library /usr/lib/libtt.a
From fileset **X11.Dt.ToolTalk**.

The above software are standard libraries shipped with AIX.

Installing and Configuring the ADSMConnect Agent for Lotus Notes

The installation steps are as follows:

- Step 1—Install the ADSMConnect Agent for Lotus Notes
- Step 2—Configure the ADSMConnect Agent for Lotus Notes
- Step 3—Register your workstation with the ADSM server

Step 1: Installing the ADSMConnect Agent for Lotus Notes

The following instructions assume that AIX is already running on the client workstation. Check the Release Notes on the Lotus Notes CDROM for the AIX levels supported by that level of Lotus Notes. The install directory is:

```
/usr/lpp/adsmagent/lnotes
```

To install the ADSMConnect Agent, do the following:

1. If you are installing from the ADSMConnect Agent CD-ROM, insert the CD-ROM into the CDROM reader on your workstation, and go to step 3.

2. If you are not installing from the CD-ROM, you will need to run the **inutoc** command in the directory where the notes agent images reside to create the **.toc** file in that directory. For example, if your notes agent image resides in the **/usr/sys/inst.images** directory, then you would enter the following command:

   ```
   /usr/sbin/inutoc /usr/sys/inst.images
   ```

3. From the AIX command line, enter **smitty install** and press the **Enter** key.

4. Select **Install and Update Software** on the screen and press the **Enter** key.

5. Select **Install and Update from ALL Available Software** and press the **Enter** key.

6. Select **INPUT device / directory for software**.

7. Enter **/dev/cd0** (for CD-ROM install) or enter the directory name where the notes agent images reside, for example: **/usr/sys/inst.images**, and press the **Enter** key.

8. Select **SOFTWARE to install**.

9. Press the <**F4>** key to display a list of ADSMConnect Agent Images to install.

10. Select **ADSMConnect Agent for Lotus Notes 4.61 on AIX** if you are running Lotus Notes 4.61 on AIX 4.3.0, or

    Select **ADSMConnect Agent for Lotus Notes on AIX** if you are running Lotus Notes 4.5x or Lotus Notes 4.6a on AIX 4.2.1.

    Press the **Enter** key.

11. Select any option and press the **Enter** key to install.

ADSMConnect Agent Files

Table 3 lists the files that are used by the ADSMConnect Agent and are stored in **/usr/lpp/adsmagent/lnotes.**

Table 3. ADSMConnect Agent for Lotus Notes Files

File Name	Description
README.DSMNOTES	Last minute updates and other special information
dsmnotes	Main executable file for the command-line interface
dsmlog	Executable file for the maintenance of log files (available in the command-line interface only)
libLnotesDS.a	Shared ADSM API library
libdsmnotes_r.a	Shared AIX library for the GUI
dsm.sys.smp	Sample ADSM API client system options file
dsm.opt.smp	Sample ADSM API client user options file
options.doc	Documentation for ADSM API client options
dsmtca	Trusted Agent program
agent.lic	License file

The following language files are stored in **/usr/lpp/adsmagent/lnotes/en_US**:

File Name	Description
dsmclientV3.cat	ADSM API message file
dsmlog.1	dsmlog AIX manual page
dsmlog.cat	dsmlog message file
dsmnotes.1	dsmnotes AIX manual page
dsmnotes.cat	dsmnotes message file
dsmnotes.sdl	ADSMConnect Agent online help resource file

The following symbolic links are created in your system after the installation:

Symbolic Link	Physical File
/etc/dt/appconfig/help/C/dsmnotes.sdl	/usr/lpp/adsmagent/lnotes/en_US /dsmnotes.sdl
/usr/share/man/cat1/dsmnotes.1	/usr/lpp/adsmagent/lnotes/en_US /dsmnotes.1
/usr/share/man/cat1/dsmlog.1	/usr/lpp/adsmagent/lnotes/en_US /dsmlog.1
/bin/dsmnotes	/usr/lpp/adsmagent/lnotes/dsmnotes
/opt/lotus/notes/latest/ibmpow /dsmnotes	/usr/lpp/adsmagent/lnotes/dsmnotes
/bin/dsmlog	/usr/lpp/adsmagent/lnotes/dsmlog
/opt/lotus/notes/latest/ibmpow/dsmlog	/usr/lpp/adsmagent/lnotes/dsmlog
/usr/lib/nls/msg/en_US/dsmnotes.cat	/usr/lpp/adsmagent/lnotes/en_US /dsmnotes.cat
/usr/lib/nls/msg/en_US/dsmnotes.sdl	/usr/lpp/adsmagent/lnotes/en_US /dsmnotes.sdl
/usr/lib/nls/msg/en_US/dsmlog.cat	/usr/lpp/adsmagent/lnotes/en_US /dsmlog.cat
/opt/lotus/notes/latest/ibmpow /libdsmnotes_r.a	/usr/lpp/adsmagent/lnotes /libdsmnotes_r.a

Step 2: Configuring the ADSMConnect Agent for Lotus Notes

The following sections provide instructions for the root user to set up ADSM. These sections cover only the options essential for creating the three types of ADSM options files. See *ADSTAR Distributed Storage Manager Installing the Clients* for more information about the available options.

Step 2A: Creating the Client System Options Files

The client system options file identifies one or more ADSM servers to contact for services, and specifies required communication options for each server. It can also include authorization options, backup and archive processing options, and scheduling options for each server.

The Lotus Notes Agent includes a sample client system options file named **dsm.sys.smp** that contains the minimum options required to get started using the Lotus Notes Agent. If you choose, you can add other options to the file as part of your initial setup, and you can change or add options later. File **dsm.sys.smp** resides in **/usr/lpp/adsmagent/lnotes/dsm.sys.smp** after the initial code installation.

If your system is not set up to use ADSM, create the client system options file by copying **/usr/lpp/adsmagent/lnotes/dsm.sys.smp** to **dsm.sys**. The options file must reside in the directory where the environment variable, DSMI_DIR, points, which we assume to be **/usr/lpp/adsmagent/lnotes**, and controlled by the system administrator. Edit this file to include an ADSM server listed in the section below, where you want the Notes databases backed up.

Required and Optional Entries: As the default, your client node contacts the first server identified in the client system options file. Users can specify a different server to contact by entering the SERVERNAME option in their own client user options files.

The example below shows a client system options file with three stanzas. The first stanza shows a COMMMETHOD of TCPIP. The second stanza shows a COMMMETHOD of SNALU6.2. The third stanza shows a COMMMETHOD of SHAREDMEM.

```
Servername   server_a
  COMMmethod        TCPip
  TCPPort           1500
  TCPServeraddress  server_a.domain.company.COM
  Passwordaccess    prompt
  Inclexcl          /home/deanna/notesr4/backup.ie
  NODename          lnuser_a

Servername   server_b
  COMMmethod        SNAlu6.2
  PARtnerluname     raptor
  TPname            appcdel
  CPICMOdename      appc
  Passwordaccess    generate
  Mailprog          /usr/bin/xsend root
  SYMbolicdestination  myserver
  Inclexcl          /home/deanna/notesr4/backup.ie
  NODename          lnuser_b

Servername   server_c
  COMMMETHOD        SHAREDMEM
  SHMPort           1510
  NODename          lnuser_c
```

Required Options for TCP/IP: The required options are:

SERVERNAME
A name you want to assign to a server to contact for services. You can obtain server information from your ADSM administrator.

A server name can be as many as 8 characters and is not case sensitive.

COMMMETHOD
For each SERVERNAME entry, use this option to choose the communication method to be used for client server communications. You can specify **TCPIP** for the TCP/IP communication method.

TCPPORT The TCP/IP port address used to communicate with the ADSM server. You can obtain the port address from your ADSM administrator. You do not need to set this option if the port is 1500.

TCPSERVERADDRESS
The TCP/IP internet address for an ADSM server. Contact your ADSM administrator for the server address.

Required Options for SNA LU6.2 (APPC): The required options are:

SERVERNAME
A name you want to assign to a server to contact for services. Contact your ADSM administrator for server information.

A server name can be as many as 8 characters and is not case sensitive.

COMMMETHOD
For each SERVERNAME entry, use this option to choose the communication method to be used for client server communications. You can specify **SNALU6.2** for the SNA LU6.2 communication method.

PARTNERLUNAME
The logical unit name used by the transaction program to identify the ADSM server in the SNA network. Contact your ADSM administrator for this name.

TPNAME A symbolic name for the transaction program name. Contact your ADSM administrator for this name.

CPICMODENAME
The mode for identifying the SNA connection to the gateway and target logical unit. Contact your ADSM administrator for this name.

SYMBOLICDESTINATION
The symbolic name for the ADSM server. Contact your ADSM administrator for this name.

Required Options for Shared Memory: The required options are:

SERVERNAME
A name you want to assign to a server to contact for services. You can obtain server information from your ADSM administrator.

A server name can be as many as 8 characters and is not case sensitive.

COMMMETHOD
For each SERVERNAME entry, use this option to choose the communication method to be used for client server communications. You can specify **SHAREDMEM** for the Shared Memory communication method.

SHMPort **SHMPort** specifies the TCP/IP protocol to be used for the initial connection. The default value is 1510. You can specify a value from 1000 to 32767. Contact your system administrator for this value.

Note: Depending on the AIX software installed, you might be able to establish a maximum of ten concurrent shared memory communications sessions when running ADSM.

Optional Entries: There are many other options you can set in the client system options file. You are not required to set a value for each option. If you do not set a value for an option, ADSM uses a default value. See *ADSTAR Distributed Storage Manager Installing the Clients* for a complete list of options.

NODename

If the ADSM backup-archive client is installed on the same system as the Lotus Notes Agent, it is highly recommended that the Lotus Notes Agent be a separate node from the ADSM backup-archive client. This enables the file spaces for the two functions to be managed separately.

PASSWORDACCESS

Specifies whether users need to supply a password if an ADSM password is required on your workstation. Your ADSM administrator determines whether passwords are necessary.

You can set PASSWORDACCESS to one of the following:

PROMPT If you want to enter the ADSM password for your workstation each time you request services from the server, or you want the Lotus Notes Agent graphical user interface to prompt you for your password. This is the default if you do not modify this option.

GENERATE

The ADSM password for your workstation is encrypted and stored locally. The Lotus Notes Agent automatically generates a new password when the current password expires.

Note that the first time you connect to the ADSM server, you must be the root user to establish the password file. See "dsmnotes change" on page 28 for more information on changing your password.

MAILPROG

Specifies the program and user ID to which you want ADSM to send a newly-generated password when the old one expires. The program must accept standard input. Enter values for this option only when you choose GENERATE for PASSWORDACCESS.

INCLEXCL Allows you to use an include-exclude options file.

If you do not use the GROUPS and USERS options to limit access, all groups and users on the workstation can use ADSM.

Step 2B: Creating the Client User Options File

The Lotus Notes Agent provides a sample client user options file named **dsm.opt.smp**. You must copy the sample file to create a client user options file. The example below shows a sample client user options file. The server name is defined in the **dsm.sys** file.

```
SErvername   server_a
```

The **dsm.opt.smp** file is in directory **/usr/lpp/adsmagent/lnotes/dsm.opt.smp**.

To create a default client user options file, copy **/usr/lpp/adsmagent/lnotes/dsm.opt.smp** to **dsm.opt**. The **dsm.opt** file must be pointed to by the DSMI_CONFIG environment variable.

Note: If you must reinstall Lotus Notes Agent, do not copy the **dsm.opt.smp** file if you have already modified your **dsm.opt** file and do not want to overwrite it.

SERVERNAME

If you identified and entered options for more than one ADSM server in your client system options file, you can use this option to specify the one to use for backup-archive services.

If you do not specify a particular server, the client program on your workstation contacts the default server identified in the client system options file.

In the client user options file, you can also set options that determine which formats to use for date, time, and numbers, a language option, and options that affect backup and restore processing.

For more information about setting options in your user options file, see *ADSTAR Distributed Storage Manager Installing the Clients*.

Step 2C: Creating an Include-Exclude Options File (Optional)

An include-exclude options file contains statements that identify any database files you want to specifically include or exclude from backup services. You can enter broad statements that exclude entire groups of database files. Then, if necessary, you can enter include statements to make exceptions to those broad statements.

Another important use for an include-exclude options file is to use include statements to assign specific management classes to specific database files or groups of database files. ADSM uses a default management class for any database files to which you do not assign a specific management class.

If you do not create an include-exclude options file, ADSM considers all files for backup services and uses the default management class. The example below shows a sample include-exclude options file.

Note: The Lotus Notes Agent requires that Lotus Notes database file names end with **/.../***.

```
(1) include * special_mc
(2) exclude /notesr4/h*.nsf/.../*
(3) include /notesr4/home.nsf/.../*
(4) include /notesr4/mydbs/*.nsf/.../*  personal_dbs
(5) exclude /.../junk.nsf/.../*
```

The statements have the following meaning:

1. The database files below will be assigned to the management class **special_mc**.
2. Exclude all **nsf** files in the Lotus Notes data directory **notesr4** that start with an **h**.
3. Regardless of excluding all database files that start with an **h**, include the database **home.nsf**.

4. Include all databases (***.nsf**) in the subdirectory (**mydbs**) of the Lotus Notes data directory. Include all these nsf files with a management class of **personal_dbs**.
5. Exclude any Lotus Notes database that has a file name of **junk.nsf**.

You can use a wildcard in place of a specific file name. In the sample include-exclude options file, **personal_dbs** identifies the management class to assign to all Lotus Notes databases under the directory /**notesr4**/**mydbs**.

For more information about management classes, see *ADSTAR Distributed Storage Manager Installing the Clients*.

To create an include-exclude options file, follow these steps:

1 Determine your include and exclude requirements.

2 Create a file with a name of your choice. The file can be located in any directory to which all users on your workstation have read access.

3 Enter your include and exclude statements.

4 Enter the name of your include-exclude options file in your client system options file using the INCLEXCL option.

Note: ***It is highly recommended that you have a separate include-exclude option file for the Lotus Notes Agent.***

Updating Your .profile File

The following variables need be set in your environment to use the Lotus Notes Agent.

Add these variables to the **.profile** file.

- The LOTUS environmental variable specifies the canonical Lotus directory /**opt**/**lotus**.
- The PATH needs to include the:
  - Lotus Notes data directory
  - Lotus Notes executables
  - dthelpview facility
- The Notes_ExecDirectory environment variable is required because the Lotus Notes Agent uses the Lotus Notes APIs.
- The ADSM API uses the following unique environment variables to locate files:

  DSMI_CONFIG
  is the fully qualified name for the **dsm.opt** file.

DSMI_DIR points to the path containing **dsm.sys** and **dsmtca**, and the subdirectory **en_US**. The **en_US** directory must contain **dsmclientV?.cat**, where '?' is the version number of the catalog file. See example below.

DSMI_LOG

points to the path for the **dsierror.log** file. The error log file contains information about ADSM API errors that occur during processing.

The error log is intended for IBM service personnel to help you diagnose severe errors.

The following are examples of how to set up these environmental variables. These examples assume that your Lotus Notes data directory is **$HOME/notesr4**.

```
export LOTUS=/opt/lotus
export PATH=$PATH:$LOTUS/bin:$HOME/notesr4:/usr/dt/bin
export Notes_ExecDirectory=$LOTUS/notes/latest/ibmpow
export DSMI_CONFIG=/usr/lpp/adsmagent/lnotes/dsm.opt
export DSMI_DIR=/usr/lpp/adsmagent/lnotes
export DSMI_LOG=/home/user_a/logdir
```

Updating Your notes.ini File

Edit the **notes.ini** file in your Lotus Notes data directory and add the following entry to it:

```
AddInMenus=dsmnotes_r
```

AddInMenus ties ADSM to the Lotus Notes workspace. This is required to use the graphical user interface version of the Lotus Notes Agent.

You can set the following environment variables in your **notes.ini** file. All of the variables are optional:

DSMNOTES_LOGDIR

ADSMConnect Agent log messages are sent to a file called **log.dsm**. Use DSMNOTES_LOGDIR to point to the directory where the log file is located. For example, the entry in your **notes.ini** file might look as follows:

```
DSMNOTES_LOGDIR=/home/user_a/logdir
```

If you do not set this environment variable, the default location for **log.dsm** is the Notes data directory.

If you do not have a Notes data directory, this environment variable is required.

The **log.dsm** file does not wrap, so each log entry is appended to the file. Because this file grows over time, it must be manually managed as appropriate. You can use the **dsmlog** utility to manage the **log.dsm** file.

Note: The ADSM API library error messages are found in the **dsierror.log** file (not in the **log.dsm** file).

DSMNOTES_STATS

Use DSMNOTES_STATS to send messages to the screen when a **dsmnotes** command line function is run. The messages show the current status of the command. For example, the entry in your **notes.ini** file might look as follows:

```
DSMNOTES_STATS=verbose
```

If **verbose** is specified, then two types of status indicators can appear on the screen:

- One or more dots (.), indicating that processing is continuing. Depending on the environment, you might experience delays between dots. For example, delays might occur when searching very large Lotus Notes databases for deleted documents. There might also be delays when waiting for off-line media to be mounted.
- Messages showing the result of the command when the command has completed processing. The messages display information such as:
  - The number of documents that have been transferred
  - Whether the **dsmnotes** command completed without any errors

The default is for status messages to not be displayed on your screen. You can specify this by adding the following entry to your **notes.ini** file:

```
DSMNOTES_STATS=quiet
```

Note: Displaying the status messages on your screen affects the performance of **dsmnotes** operations, such as incremental backup and restore.

After you modify the **notes.ini** file with these environment variables, you must shut down the Notes Workspace and bring it back up, for the changes to be active.

Bypassing the Lotus Notes Password Prompt

Lotus Notes prompts you for your Lotus Notes password on a **dsmnotes restore** command using the -TO option (or the equivalent GUI restore function). To bypass the Lotus Notes password prompt, go to the **File**/**Tools**/**User ID** menu on your Lotus Notes workspace to bring up the **User ID** window. Check the option **share password with Notes add-ins** on the **User ID** window. After this option is checked, Lotus Notes might prompt you for your Lotus Notes password if you have not entered your Lotus Notes password since you brought up your Lotus Notes workspace.

Attention: You can use this option only if you have Lotus Notes running.

Step 3: Registering Your Workstation with the Server

Before users can begin requesting services from an ADSM server, you must register your system. It is recommended that you register a unique node name for each Lotus Notes Agent user on your system.

If you plan to do any of the optional setup steps, you can complete those steps before or after you complete this one.

Your ADSM administrator chooses the type of ADSM registration. The Lotus Notes Agent does not offer open registration, therefore, only closed registration is discussed here.

Using Closed Registration

With closed registration, an ADSM administrator must register your workstation as a client node with the server.

With closed registration, you need to provide the following information to your administrator (the administrator might provide some of this information):

- Your node name (it is recommended that you choose a node name that is different from the HOSTNAME.)
- The initial password you want to use, if a password is required
- Contact information, such as your name, user ID, and phone number

Your administrator defines the following for you:

- The ***policy domain*** to which your client node belongs. A policy domain contains policy sets and management classes that control how ADSM manages the database files you back up. A policy domain is defined by your ADSM administrator.
- Whether a root user on your workstation is allowed to choose whether files are compressed before they are sent to the server.
- Whether a root user on your workstation is allowed to delete backup and archive data from ADSM storage, and whether users are allowed to delete archive data.

Chapter 3. Before Using the ADSMConnect Agent

This section provides information you should know before you start using the Lotus Notes Agent.

The Lotus Notes Agent enables you to perform the following tasks:

- Back up a database (command-line only)
- Restore selected documents from a database (graphical user interface only)
- Restore documents that are deleted but not yet purged
- Restore a copy of an entire database
- Set and change the ADSM password
- Manage the Lotus Notes Agent **log.dsm** file (command-line only)
- Get online help

Some of these tasks can be performed by using a graphical user interface (the Lotus Notes Workspace). Others can be accomplished through a command line interface.

Note that backup and restore can occur only for databases that reside on the node on which the **dsmnotes** command or Lotus Notes Workspace runs.

Security

The Lotus Notes Agent allows a user to only restore documents that were backed up by that user. The AIX superuser (root) can restore documents backed up by any user.

If a root user backs up a database or documents in a database owned by another AIX user, the root user becomes the owner of the backed up documents on the ADSM server. The user who owns the database cannot restore those documents, unless that user logs on as root user.

Because of this security restriction, you should be consistent in choosing the AIX user to perform the backup and restore operations.

It is highly recommended that you logon as a regular AIX user (the user that owns the Lotus Notes databases) to perform the backup and restore operations

The following are guidelines for using the Lotus Notes Agent to backup and restore. If you:

- backup as user_a, you must restore as user_a (recommended) or as the root user.
- backup as the root user, you must restore as the root user.
- backup as user_a, and incrementally backup some documents as the root user, then you must restore as the root user. If you restore as user_a, you cannot access the documents that were backed up by the root user.

Users should make sure they have access to the databases and documents they wish to back up. The Lotus Notes Agent generates an error message if it fails to open the

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Lotus Notes database. However, the Lotus Notes Agent does not warn users that some documents are inaccessible to them.

Because the ACL information is restored into a newly created Lotus Notes database, the Lotus Notes access restrictions apply in the newly created database. It is not possible for another user to access a note in a newly restored database if it was not possible in the original database.

To eliminate confusion between users on the same AIX system, the Lotus Notes Agent DSMNOTES_ variables in the **notes.ini** files should point to each users' own home directories if the users share a Lotus Notes data directory. The Lotus Notes Agent overwrites log and trace files without a warning message, or refuses to open them if the permissions do not allow it.

Each unique Lotus Notes user on the same AIX system should have a unique node name. It is recommended that the node name be specified in the **dsm.sys** file under the server stanza that the user is using. If the node name is specified in the **dsm.opt** file, the user gets ADSM virtual root access (not recommended).

Path Name Specification

The path names for the **dsmlog** files and the **dsmnotes** log and trace files are normal AIX path names. For example, **FOO** is a different file from **foo**. A relative path name is relative to the current working directory. For example, **foo** is the same as **./foo**. You can also refer to files in the parent directory (**../foo**).

The path names for Lotus Notes databases and directories are treated a little differently for the Lotus Notes Agent. There is a relative path name (**foo**) which is interpreted as relative to the Lotus Notes data directory. Therefore, the file **foo** is not the same as **./foo**, which is still relative to the current working directory. In addition, AIX path names can start with a **~:~/foo**, which indicates it is in the current user's home directory. The path name **~bar/foo** indicates the home directory of user **bar**. This can be specified on the command line and, for consistency, in the graphical user interface.

The general rules to follow when a database path name is required are specified below.

A directory
: Contains one or more Lotus Notes databases that are being backed up or restored.

A Lotus Notes database
: That is being backed up or restored.

In either case, the path name can be either a relative or an absolute path name, with the following cases:

/dir/file.nsf or /dir
: Back up or restore the indicated database or all databases in the indicated directory.

~/file.nsf or ~/dir
Back up or restore the indicated database, or all databases in the indicated directory, in the home directory of the current user.

~user/file.nsf or ~user/dir
Back up or restore the indicated database, or all databases in the indicated directory, in the home directory of account **user**.

./file.nsf or ./dir
Back up or restore the indicated database, or all databases in the indicated directory, in the current working directory.

../file.nsf or ../dir
Back up or restore the indicated database, or all databases in the indicated directory, in the parent directory of the current working directory.

file.nsf or dir
Back up or restore the indicated database, or all databases in the indicated directory, in the Lotus Notes data directory.

*****
Back up or restore all databases in the Lotus Notes data directory. Note that the * character is treated specially by most shells and therefore, needs to be protected by a back slash character.

Interrupting the ADSMConnect Agent

If you need to interrupt the **dsmnotes** command, you can use the **Ctrl-C** keys to interrupt the command.

If you are in the graphical user interface, you can stop the operation by quitting Lotus Notes.

Bypassing the Lotus Notes Password Prompt

Lotus Notes prompts you for your Lotus Notes password on a **dsmnotes restore** command using the -TO option (or the equivalent GUI restore function). To bypass the Lotus Notes password prompt, go to the **File/Tools/User ID** menu on your Lotus Notes workspace to bring up the **User ID** window. Check the option **share password with Notes add-ins** on the **User ID** window. After this option is checked, Lotus Notes might prompt you for your Lotus Notes password if you have not entered your Lotus Notes password since you brought up your Lotus Notes workspace.

Attention: You can use this option only if you have Lotus Notes running.

Backing Up and Restoring Databases on a Lotus Notes Server

If the Lotus Notes Server is not Running

If the Lotus Notes server is not running, the **dsmnotes** commands can be run from the AIX command line.

If the Lotus Notes Server is Running

When the Lotus Notes server is running, it locks databases that are being used by the server itself and also locks databases that are being accessed by users. To access the locked databases, the **dsmnotes** commands must be issued on a Lotus Notes server console.

Use the same syntax for **dsmnotes** commands prefixed with the Lotus Notes server command **LOAD**.

For example:

```
LOAD dsmnotes incr mydb.nsf -adsmpw=mypw
LOAD dsmnotes restore mydb.nsf -adsmpw=mypw -to=mydb_1.nsf
```

Note: If you are backing up all databases in the Lotus Notes server's data directory by specifying the * character, the backslash character is not needed. For example:

```
LOAD dsmnotes incr * -adsmpw=mypw
```

Database Access Conflict

The only potential access conflict for the Lotus Notes Agent is the Lotus Notes replication process because both processes share the same lock called **SCAN_LOCK**.

If the Lotus Notes replication process opens a database before the Lotus Notes Agent, the replication process locks the database and blocks the Lotus Notes Agent from accessing it, and vice-versa.

It is the user's responsibility to avoid this problem by scheduling the Lotus Notes Agent and the Lotus Notes replication at different times.

What Happens Over Time

Backup versions of notes on an ADSM server are similar to the backup versions of files stored by the ADSM backup-archive client. The file space on an ADSM server in which a set of backup copies of notes resides corresponds to a Notes database.

Whether a particular version of a database can be rebuilt depends on the number of inactive copies that are kept on the ADSM server. When the maximum number allowed is reached, new backups cause the oldest inactive copies to be rolled off. Once a backup copy of a note has been removed from the ADSM server, it cannot be restored.

For example, suppose you have a Notes database with only two notes in it, **Note A** and **Note B**. **Note A** is updated frequently, while **Note B** seldom changes. An incremental backup is performed on the Notes database each night. Assume the ADSM server keeps one active copy and one inactive copy of a backed up note.

On day one, after the first incremental backup, the ADSM server contains an active copy of **Note A** and an active copy of **Note B**. On day two, **Note A** is updated, while **Note B** is not. After the nightly backup, the ADSM server contains one active and one inactive copy of **Note A** and the original active copy of **Note B**.

On day three, **Note A** is updated again, while **Note B** is not. During the next incremental backup, the current version of **Note A** becomes the active backup copy and the active copy on the ADSM server becomes the inactive copy. Because only one inactive backup copy is maintained on the ADSM server, the inactive copy created on day two is rolled off. The active copy of **Note B** remains unchanged.

Given this scenario, you can rebuild the database to either a day three or a day two version. You cannot rebuild a day one version of the database because the day one version of **Note A** is no longer available. You could restore a day one version of **Note B** because that version is still available on the ADSM server.

This example illustrates the importance of determining the optimal number of backup copies to keep on the ADSM server. Your ADSM administrator might want to set up a separate domain with a suitable default management class specifically for Notes data.

To avoid the need for keeping many backup copies of individual notes on the ADSM server, the ADSM administrator might choose to combine periodic full file backups of Notes databases with more frequent incremental backups. For example, the ADSM backup-archive client could be used to perform full file backups once a week, while the Lotus Notes Agent performs a daily incremental backup. If you needed to rebuild the database later, you could restore the last full file backup with the ADSM backup-archive client. Then you could use the Lotus Notes Agent **dsmnotes restore** command with the MERGE=YES option to combine the most recently backed up notes with the Lotus Notes database.

Using the ADSMConnect Agent AIX Help Facility

There are three ways to obtain online help:

1. On the command line, type: **man dsmnotes** or **man dsmlog**
2. On the command line, type: **dthelpview -helpVol dsmnotes**
3. On the Lotus Notes Agent graphical user interface (GUI), every window has a help button. Click on the help button to get online help.

Service and Technical Support

To receive service and technical support for ADSM:

- Contact your ADSM administrator. This should be your first step when having problems with ADSM. Your ADSM administrator will know how to contact IBM for Technical support on your behalf.

- For the current information about ADSM , visit the ADSM home page on the World Wide Web. The URL is:

  `http://www.storage.ibm.com/storage/software/adsm/adsmhome.htm`

Online Open Forum

To participate in user discussions of ADSM:

- Subscribe to IBM's officially supported ADSM forum on CompuServer (**). This is located in the IBM Storage Systems Forum **GO IBMSTORAGE ADSM**
- Subscribe to an Internet Listserv forum for ADSM. This is not officially supported by IBM, but support people do participate in the discussions, along with other ADSM users.

  You can subscribe by sending a note to **Listserv@vm.marist.edu** that contains:

  ```
  SUBSCRIBE ADSM-L your_name
  ```

  in the messages body, where **your_name** is your first and last name.

Other Sources of Online Help

IBM also supports an anonymous FTP server where you can find PTF maintenance and other ADSM related materials, and three other anonymous servers that are unofficially maintained by non-IBM volunteers. These servers are:

```
index.storsys.ibm.com      (primary - California, IBM)
ftp.rx.uni-karlsruhe.de    (mirror  - Germany)
ftp.wu-wien.ac.at          (mirror  - Austria)
ftp.cac.psu.edu            (mirror  - Pennsylvania)
```

Chapter 4. Using the Command-Line Interface

This section documents the following commands:

dsmlog Saves ADSM and Lotus Notes Agent log files in the Lotus Notes Log databases. This allows the user to manage the log files.

dsmnotes change
Allows you to change the ADSM password without doing a backup or restore operation.

dsmnotes incr
Provides incremental backup capability for the Lotus Notes database.

dsmnotes query
Queries all backed up versions of data and non-data notes in a database.

dsmnotes restdel
Restores backup copies of data documents that have been deleted but not yet purged from the database.

dsmnotes restore
Provides restore capability when the use of Lotus Notes Workspace is inappropriate.

Using the Command Line

Enter commands for the Lotus Notes Agent on the command line. If you are using the Common Desktop Environment (CDE) on AIXWindows, enter the commands on an AIXterm, exterm, or a corresponding window.

Within a command, the path variable and the options can be in either order. For example, you might enter either of the following:

```
dsmnotes command path [options]
dsmnotes command [options] path
```

When an option is used, it must start with a hyphen and have no spaces around the equals sign. For example, use:

```
-adsmpw=mypass
```

not one of the following:

```
adsmpw=mypass
-adsmpw = mypass
```

The syntax diagrams show the minimum unique abbreviation for the commands and parameters in uppercase. For example, if you use the MOUNTWAIT option, you can enter MO as the abbreviation for this option.

For an explanation of the syntax diagrams that accompany each command, see “Reading Syntax Diagrams” on page ix.

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dsmlog

This command saves Lotus Notes Agent log file entries in a Lotus Notes log database file. The entries can then be better managed. For example, you can back up, archive, or delete files in the log database.

The Lotus Notes log database must already exist; this command does not create a new database. All output is written to standard output.

Restriction: For consistency, the date and time stamp format on the Lotus Notes Agent log file has to match the date and time stamp format on your operating system.

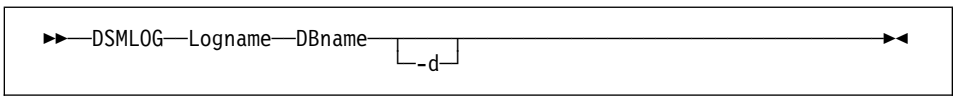
The following sequence causes an error to occur:

1. The operating system is using a date format of mm/dd/yy and a 24 hour clock. The log file produced by the Lotus Notes Agent will look like this:

   ```
   09/21/97 13:40:21   xxxxx
   ```

2. If the operating system's data format is changed to dd/mm/yy and the time format to a 12 hour clock, an attempt to use **dsmlog** to write the log file (from step 1) to the log database will produce an error.

Syntax



Parameters

Logname The path name to the Lotus Notes Agent log file, usually **log.dsm** in the Lotus Notes data directory.

DBname The path name to the Lotus Notes log database file, usually **log.nsf** in the Lotus Notes data directory.

-d Deletes the Lotus Notes Agent log file after saving the log entries in it. The Lotus Notes Agent appends the log entries in the log file and **dsmlog** always saves the whole file. Therefore, if this option is not used, the log entries might be saved more than once.

The log file is not deleted unless the entries can be copied without errors.

Example

This example of the **dsmlog** command provides the path name to a Lotus Notes Agent Lotus Notes log file, **log.dsm**, and path name to a Lotus Notes log database, **log.nsf**.

```
dsmlog /home/deanna/logBasket/log.dsm log.nsf
```

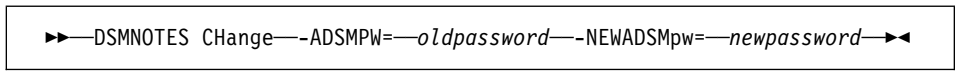
This example of the **dsmlog** command deletes **log.dsm** after saving the log entries in it.

```
dsmlog /home/deanna/logBasket/log.dsm log.nsf -d
```

dsmnotes change

This command allows the user to change the ADSM password without doing either a backup or restore operation. Changing the ADSM password requires the user to be a root user.

Syntax



Parameters

-ADSMPW=*oldpassword*
The old password. ADSM uses ADSMPW to validate the old ADSM password and then uses NEWADSMPW to set the new ADSM password.

-NEWADSMpw=*newpassword*
The new password. ADSM uses ADSMPW to validate the old ADSM password and then uses NEWADSMPW to set the new ADSM password.

Example

This example shows the setting of the old password to the new password.

```
dsmnotes change -ADSMPW=oldid -NEWADSMPW=newid
```

Note: If the Lotus Notes Agent log file **log.dsm** does not already exist, the **dsmnotes change** command creates the **log.dsm** file and the root user becomes the owner of the file.

You will need to change the ownership of this log file so that subsequent commands you run will have access to the **log.dsm** file.

dsmnotes incr

Use the **dsmnotes incr** command to incrementally back up a Lotus Notes database. If no backup copy of the database file exists on the ADSM server, then a copy of the entire database is sent to the server. If the Lotus Notes Agent was previously used to back up the database, then only the changes in the database since the last backup are sent to the server.

Both documents and design notes, such as forms and views, are backed up. Because each note is backed up as a separate object, individual data notes can be restored later. The database header information such as replication information, Access Control List (ACL), and the database title are also backed up.

Be sure that each note in a given Lotus Notes database is assigned to the same management class. If all of the notes in a database are not managed in the same way, you might not be able to rebuild the entire database from the backup copies of the notes.

Each time a backup operation is performed, summary messages are sent to the **log.dsm** file. When a single database is backed up, the following information is sent to **log.dsm**.

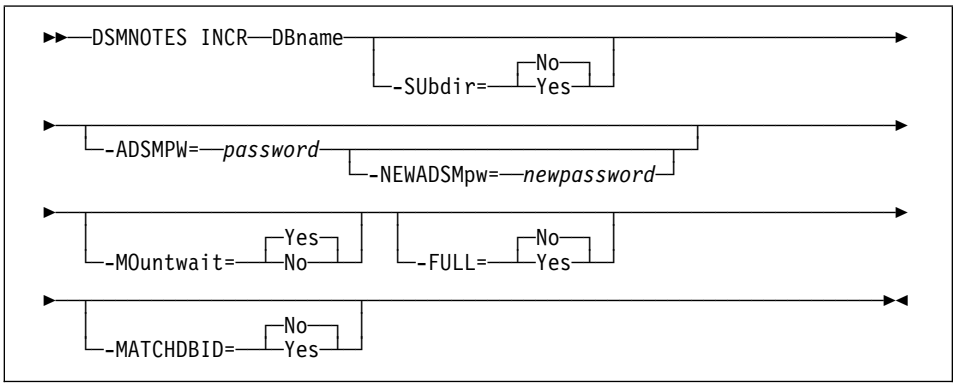
```
dsmnotes incr start
Database: /notes/data/test/abc.nsf
Documents backed up: 100, documents deleted: 1
Total number of bytes sent: 60873
ANS0900I dsmnotes completed
```

If you use a wildcard character in the path name to back up multiple databases, statistics on each database, as well as an overall total, are sent to **log.dsm**.

```
dsmnotes incr start
Database: /notes/data/test/abc.nsf
Documents backed up: 100, documents deleted: 1
Database: /notes/data/test/def.nsf
Documents backed up: 500, documents deleted: 1
Total number of documents backed up: 600
Total number of documents deleted: 2
Total number of bytes sent: 1256.1 KB
ANS0900I dsmnotes completed
```

Note that the **log.dsm** file continues to grow as **dsmnotes** operations send messages to it. You should monitor the size of the file and trim messages or archive the file regularly to control its growth. For information on how to manage the log file, see “dsmlog” on page 26.

Syntax



Parameters

DBname This is a required parameter and indicates one of the following path names:

A directory
That contains one or more Lotus Notes databases that are being backed up. To include subdirectories, specify the SUBDIR=YES option.

A Lotus Notes database
That is being backed up.

In either case, the path name can be either a relative or an absolute path name, with the following cases:

/dir/file.nsf or /dir
Back up the indicated database or all databases in the indicated directory.

~/file.nsf or ~/dir
Back up the indicated database, or all databases in the indicated directory, in the home directory of the current user.

~user/file.nsf or ~user/dir
Back up the indicated database, or all databases in the indicated directory, in the home directory of account **user**.

./file.nsf or ./dir
Back up the indicated database, or all databases in the indicated directory, in the current working directory.

../file.nsf or ../dir
Back up the indicated database, or all databases in the indicated directory, in the parent directory of the current working directory.

file.nsf or dir

Back up the indicated database, or all databases in the indicated directory, in the Lotus Notes data directory.

***** Back up all databases in the Lotus Notes data directory. Note that the * character is treated specially by most shells and therefore, needs to be protected by a back slash character.

-SUbdir=*value*

This parameter is optional. It indicates whether subdirectories are backed up or not. The default is **No**. This parameter is ignored if **DBname** is not a directory.

Possible values are:

No Only the databases in the specified directory are backed up.

Yes All databases in the specified directory ***and all subdirectories*** are backed up.

-ADSMPW=*password*

This parameter is optional. This parameter is the ADSM password for the ADSM server. If you specified PASSWORDACCESS GENERATE in the client options file, then ADSMPW is ignored. The password is sent to the ADSM server to authenticate the user.

-NEWADSMpw=*newpassword*

The new password for the ADSM server. The ADSMPW option must also be supplied to authenticate the user, even if PASSWORDACCESS GENERATE was specified in the client options file. This option can be used to change the password for the ADSM server, for example, if the old password has expired. You must be a root user to use this option.

-MOuntwait=*value*

This parameter is optional. This parameter is used if you do not want ADSM to wait for a tape mount if one is necessary. The default is **Yes**. Possible values are:

Yes The backup process will wait for a tape mount if one is necessary.

No The backup process will not wait for a tape mount. If a tape mount is necessary, the operation is cancelled.

-FULL=*value*

This parameter is optional. This parameter is used to initiate a complete backup, including notes that have not been modified since the last backup. The default is **No**. Possible values are:

No Back up only new and modified notes in the database.

Yes Back up all of the notes in the specified database, whether or not they have been modified since the last backup.

-MATCHDBID=*value*

This parameter is optional. This parameter allows you to specify whether the database ID (DBID) of the database being backed up must match the DBID of the database stored on the server. This parameter affects only databases with the same names but with different DBIDs.

It is the user's responsibility to avoid using the same name for two totally different databases or else data corruption could occur. For examples, see "Example 3."

The default is **No**.

Possible values are:

No The DBID of the database being backed up does **not** have to match the DBID of the database stored on the server.

Yes The DBID of the database being backed up has to match the DBID of the database stored on the server.

Example 1

Task Back up the database **lnotes1.nsf**. Do not wait for tape mounts. This assumes PASSWORDACCESS PROMPT was specified in the client options file.

Command

```
dsmnotes incr /lotus/deanna/lnotes1.nsf -mountwait=no
  -adsmpw=mypassword
```

Example 2

Task Perform a complete backup of all databases in the directory /**lotus** and in any subdirectories on /**lotus**. In this example, PASSWORDACCESS GENERATE was specified in the client options file.

Command

```
dsmnotes incr /lotus -subdir=y -full=y
```

Example 3

Task The example below shows how the -MATCHDBID option affects the backup of a database.

Command

1. Back up database **mydb.nsf** to the ADSM server with -MATCHDBID=NO (the default):

   ```
   dsmnotes incr -adsmpw=mypw mydb.nsf
   ```

   The -MATCHDBID option has no effect here because this is the first time **mydb.nsf** is backed up.

2. Restore database **mydb.nsf** to new database **newdb.nsf**:

   ```
   dsmnotes restore -adsmpw=mypw -to=newdb.nsf
   ```

3. The database **newdb.nsf** is assigned a new database ID by Lotus Notes. Now **mydb.nsf** and **newdb.nsf** have different database IDs.
4. Assume that **newdb.nsf** is renamed to **mydb.nsf**.
5. Back up database **mydb.nsf** to the ADSM server with -MATCHDBID=YES:

   ```
   dsmnotes incr -adsmpw=mypw mydb.nsf -MATCHDBID=YES
   ```

   The error message **ANS0955 Database ids do not match** is returned.
6. Back up database **newdb.nsf** to the ADSM server with -MATCHDBID=NO (the default):

   ```
   dsmnotes incr -adsmpw=mypw mydb.nsf
   ```

   This command is successful.

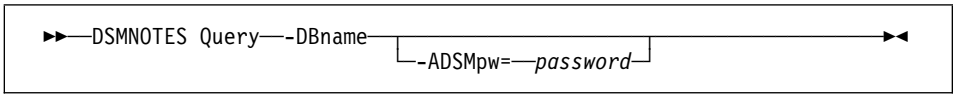
In the example above, the databases **mybd.nsf** and **newdb.nsf** are closely related and consistent in terms of content. If you rename an unrelated database to **mydb.nsf** and then do a backup with -MATCHDBID=NO (the default), the Lotus Notes Agent attempts to back up the database for you. However, the result is unpredictable because you have just mixed up two different databases on the ADSM server. A better approach is to ask your ADSM administrator to delete the existing database filespace for you (assuming that it is no longer needed) before you perform this new backup.

dsmnotes query

Use the **dsmnotes query** command to query all backed up versions of data and non-data notes in a database. The output will go to standard out.

Note: Dsmnotes query is an unsupported utility.

Syntax



Parameters

-ADSMPW=*password*
Specifies the ADSM password required to query a database.

Example

The backed up database names.nsf is or was in the Lotus Notes data directory

```
dsmnotes query names.nsf adsmpw=mypw
```

The backed up database names.nsf is or was in the directory other than the Lotus Notes data directory:

```
dsmnotes query /home/ed/names.nsf -adsmpw=mypw
```

Output

```
ADSTAR Distributed Storage Manager
ADSMConnect Agent for Lotus Notes - Version 2.1.8
(C) Copyright IBM Corporation, 1990, 1998, All Rights Reserved.
/DATA/OF8A97B635:DCFED073-ON88256459:006A34E0 ed 7/9/1997 6:41:56 0/0/0 0:0:0
/DATA/OFAFDAF796:6B49A735-ON88256459:007C04D2 ed 7/9/1997 6:39:1 0/0/0 0:0:0
/DATA/OFC90CFC6F:043742FE-ON88256458:0067CEB1 ed 7/9/1997 6:39:5 0/0/0 0:0:0
/DATA/OFCA2466BF:F50CC01C-ON88256459:0074E308 ed 7/9/1997 6:39:5 0/0/0 0:0:0
/DATA/OFE448D612:184332B9-ON88256459:00019D46 ed 7/9/1997 6:39:5 0/0/0 0:0:0
/FOLDER/($Inbox)/OFA24CF79F:A9275702-ON85256356:005827C4 ed 7/9/1997 6:39:5 0/0/0 0:0:0
/FOLDER/($Trash)/OFE9EAAD27:122D9189-ON85256197:006C2D0E ed 7/9/1997 6:39:5 0/0/0 0:0:0
/FOLDER/FollowUp/OFC846C251:B62D76B9-ON85256356:005827C3 ed 7/9/1997 6:39:5 0/0/0 0:0:0
/FOLDER/classes/OF2292F841:BCFF0028-ON87256522:00620AAA ed 7/9/1997 6:39:5 0/0/0 0:0:0
/FOLDER/java/OFD696CF3C:1B91845A-ON872564ED:000415BB ed 7/9/1997 6:39:5 0/0/0 0:0:0
/FOLDER/misc/OFBDC6F511:D6DF40E2-ON87256490:005C2038 ed 7/9/1997 6:39:5 0/0/0 0:0:0
/NONDATA/DBHDR ed 4/9/1997 6:41:56 0/0/0 0:0:0
/NONDATA/OF0C123DF2:629DD526-ON88256459:007F86C2 ed 7/9/1997 6:39:1 0/0/0 0:0:0
/NONDATA/OF1AECA933:35050E13-ON88256458:007BC1D3 ed 7/9/1997 6:39:1 0/0/0 0:0:0
/NONDATA/OF1E72ED52:B8C77F16-ON88256457:006C18DE ed 7/9/1997 6:39:5 0/0/0 0:0:0
/NONDATA/OF236A80C4:BCE4F2EF-ON88256459:00811576 ed 7/9/1997 6:39:1 0/0/0 0:0:0
/DATA/OF8A97B635:DCFED073-ON88256459:006A34E0 ed 7/9/1997 6:39:1 8/8/1997 6:41:56
/NONDATA/DBHDR ed 7/9/1997 6:39:5 8/8/1997 6:41:56
Summary:
Database: /home/ed/names.nsf
Documents restored: 0, overwritten: 0, deletion stubs overwritten: 0
ANS0900I dsmnotes completed
```

Note: The time stamp

```
7/9/1997 6:41:56  0/0/0 0:0:0
```

indicates that this version of the note was backed up on 7/9/1997 at 6:41:56 and is the active copy.

The time stamp

```
7/9/1997 6:39:1  8/8/1997 6:41:56
```

indicates that this version of the note was backed up on 7/9/1997 at 6:39:1 and is the inactive copy and will expire on 8/8/1997 at 6:41:56.

dsmnotes restdel

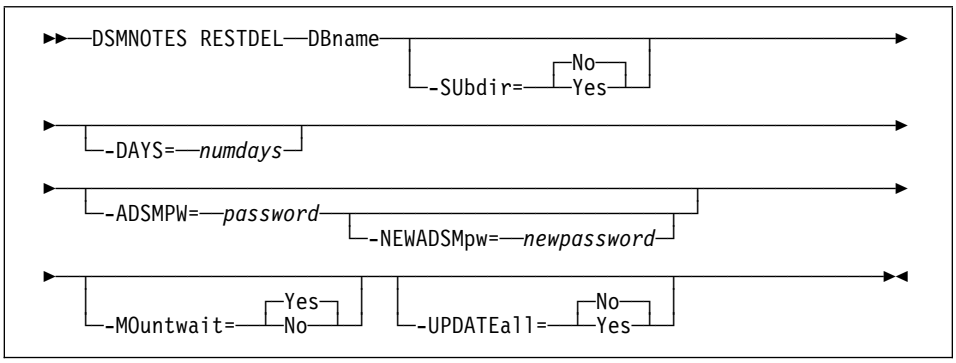
Lotus Notes documents that are deleted are actually made into ***deletion stubs*** which cannot be accessed directly but which still reside in the database. The deletion stubs are eventually removed from the database, according to a *purge* value set by the Lotus Notes administrator.

The **dsmnotes restdel** command allows you to restore all data documents saved on the ADSM server for which there exists valid deletion stubs in the indicated Lotus Notes database. The deleted documents are merged into the Lotus Notes database, which must exist.

The **dsmnotes restdel** command queries for both active and inactive copies of deleted documents from the server. If the —DAYS option is 0 or it is not specified, then the latest version of the deleted documents are restored.

Note that Lotus Notes deletes the deletion stubs after a user—adjustable time period. After the deletion stub is purged, **dsmnotes restdel** cannot be used to restore the document. Use **dsmnotes restore** to restore the whole database to an earlier version, and then copy the restored documents to the current database.

Syntax



Parameters

DBname This is a required parameter and indicates one of the following path names:

A directory
That contains one or more Lotus Notes databases that are being restored. To include subdirectories, specify the SUBDIR=YES option.

A Lotus Notes database
That is being restored.

In either case, the path name can be either a relative or an absolute path name, with the following cases:

/dir/file.nsf or /dir
Restore the indicated database or all databases in the indicated directory.

~/file.nsf or ~/dir
Restore the indicated database, or all databases in the indicated directory, in the home directory of the current user.

~user/file.nsf or ~user/dir
Restore the indicated database, or all databases in the indicated directory, in the home directory of account **user**.

./file.nsf or ./dir
Restore the indicated database, or all databases in the indicated directory, in the current working directory.

../file.nsf or ../dir
Restore the indicated database, or all databases in the indicated directory, in the parent directory of the current working directory.

file.nsf or dir
Restore the indicated database, or all databases in the indicated directory, in the Lotus Notes data directory.

*****
Restore all databases in the Lotus Notes data directory. Note that the * character is treated specially by most shells and therefore, needs to be protected by a back slash character.

-SUbdir=*value*
This parameter is optional. It indicates whether subdirectories are restored or not. The default is **No**. This parameter is ignored if **DBname** is not a directory. This option is not available in the graphical user interface.

Possible values are:

No Only the databases in the specified directory are restored.

Yes All databases in the specified directory ***and all subdirectories*** are restored.

-DAYS=*numdays*
If this option is set to a nonzero value, only documents deleted within the last ***numdays*** days are restored. If this option is not specified or is set to 0, then all documents that have been deleted but not yet purged from the database are restored.

-ADSMPW=*password*
The ADSM password for the ADSM server. If you specified PASSWORDACCESS GENERATE in the client options file, then ADSMPW is ignored. The password is sent to the ADSM server to authenticate the user.

-NEWADSMpw=*newpassword*
The new password for the ADSM server. The ADSMPW option must also be supplied to authenticate the user, even if PASSWORDACCESS GEN-

ERATE was specified in the client options file. This option can be used to change the password for the ADSM server, for example, if the old password has expired. You must be a root user to use this option.

-MOuntwait=*value*

This parameter is used if you do not want ADSM to wait for a tape mount if one is necessary. The default is **Yes**. Possible values are:

Yes The restore process will wait for a tape mount if one is necessary.

No The restore process will not wait for a tape mount. If a tape mount is necessary, the operation is cancelled.

-UPDATEall=*value*

If you specify **Yes** for this option, all of the Lotus Notes documents in the database are updated to have the current date and time. The default is **No**. Possible values are:

No No, do not update the Lotus Notes documents in the database.

Yes Yes, update all of the Lotus Notes documents in the database to have the current date and time. This forces replication to all replica databases.

Example

Task Restore all documents which have been deleted in the past 30 days from the **lnotes2.nsf** database, but not yet purged.

Command

```
dsmnotes restdel /plan/lnotes2.nsf -days=30 -adsmpw=mypw
```

dsmnotes restore

This command restores all data documents saved on the ADSM server to the indicated Lotus Notes database. If needed, the new database is created. In this case, the database header information and all non-data documents are also restored.

The **dsmnotes restore** command is provided for those times when use of the Lotus Notes Workspace is inappropriate. An example is when the restore needs to be scheduled. Because there is no database view available on the command line, the command line restore is used:

- To rebuild copies of the databases
- To restore a range of notes to a database that was restored from an ADSM client

Restoration of individual notes must be done through the Lotus Notes workspace.

For the options indicating a date, a format of **month**/**day**/**year** is used. The **month** field is a numeric value indicating the month of the year from 1 through 12. January is represented by 1 and December is represented by 12. The **day** field is a numeric value indicating the day of the month from 1 through 31. The **year** field is a numeric value indicating the year value of the date.

If the year value is less than 1000, special rules apply. If the year is less than 90, 2000 is added to it. If the year is 90 or more but less than 1000, 1900 is added to it. For example, 1/1/90 is January 1, 1990, but 12/31/89, 12/31/189, and 12/31/2089 all indicate December 31, 2089.

For options indicating a time, a format of **hour:minute:second** is used, with the **second** field being optional. The **hour** field is a numeric value indicating the hour of the day. Twelve is added to the hour value for the afternoon time. For example, 3:00 p.m. is represented by the value 15. The **minute** field is a numeric value indicating the minute of the hour. The **second** field is a numeric value indicating the second of the minute. Both minute and second default to zero. For example, 12:0 is noon, 0:0 is midnight, and 23:59:59 is a second before midnight.

When you restore a backed up Lotus Notes database, you can either restore it to a new database or merge the documents from the backed up database into a database that already exists on your workstation.

If you restore the backed up database to a new database, you can choose to restore either the active version of the database or an inactive version that is closest to a specified date. You must choose a target name for the new database that is not the name of an existing file. The database header is restored along with the views, forms, other non-data documents, and data documents.

If you choose to merge the restored documents into an existing Lotus Notes database, you can select a date and time range from which to draw the documents. This operation is useful if you have used the ADSM backup-archive client to restore a database file and want to update it with any notes that have been incrementally backed up since

the database itself was backed up. Only data documents are restored. Non-data documents such as the ones listed below are **not** restored:

- Views
- Forms
- Database header information

Using collocation when storing documents can help performance when you restore or merge a large number of objects into a database.

Each time a restore operation is performed, summary messages are sent to the **log.dsm** file. When the notes are restored to a single database, the following information is sent to **log.dsm**:

```
ADSMConnect Agent for Lotus Notes Restore Start
Database: /notes/data/test/abc.nsf
Documents restored: 28, overwritten: 0, deletion stubs overwritten: 0
ANS0930I Database Rebuild Done
```

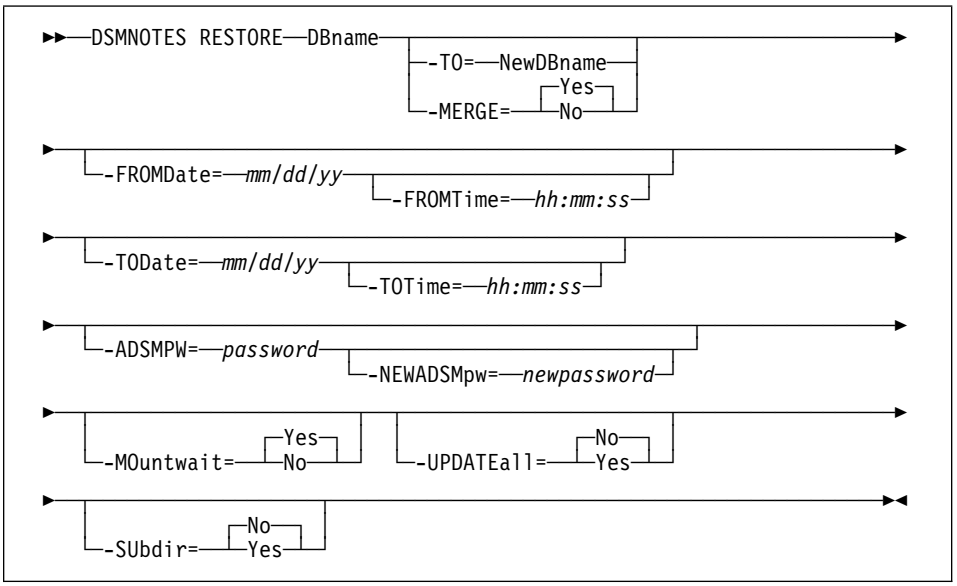
If the DBNAME option specifies a directory, statistics on each database are sent to **log.dsm**:

```
ADSMConnect Agent for Lotus Notes Restore Start
Database: /notes/data/test/abc.nsf
Documents restored: 28, overwritten: 0, deletion stubs overwritten: 0
Database: /notes/data/test/xyz.nsf
Documents restored: 78, overwritten: 0, deletion stubs overwritten: 0
ANS0900I dsmnotes completed
```

Note that the **log.dsm** file continues to grow as **dsmnotes** operations send messages to it. You should monitor the size of the file and trim messages or archive the file regularly to control its growth. For information on how to manage the log file, see “dsmlog” on page 26.

Note: An unsorted view in a rebuilt database might show the documents in a different order from what you would see in the original database. A sorted view is not affected.

Syntax



Parameters

DBname This is a required parameter and indicates one of the following path names:

A directory
That contains one or more Lotus Notes databases that are being restored. To include subdirectories, specify the SUBDIR=YES option. **The directory pathname only applies to a restore operation using -merge=yes (the default).**

A Lotus Notes database
That is being restored.

In either case, the path name can be either a relative or an absolute path name, with the following cases:

/dir/file.nsf or /dir
Restore the indicated database or all databases in the indicated directory.

~/file.nsf or ~/dir
Restore the indicated database, or all databases in the indicated directory, in the home directory of the current user.

~user/file.nsf or ~user/dir
Restore the indicated database, or all databases in the indicated directory, in the home directory of account **user**.

./file.nsf or ./dir
Restore the indicated database, or all databases in the indicated directory, in the current working directory.

../file.nsf or ../dir
Restore the indicated database, or all databases in the indicated directory, in the parent directory of the current working directory.

file.nsf or dir
Restore the indicated database, or all databases in the indicated directory, in the Lotus Notes data directory.

***** Restore all databases in the Lotus Notes data directory. Note that the * character is treated specially by most shells and therefore, needs to be protected by a back slash character.

-TO=NewDBname
The documents are restored to the indicated new database instead of the database indicated with the DBNAME option. If this option is set, the MERGE option cannot be used. If this option nor the MERGE option are not set, then MERGE is the default. The ***NewDBname*** value is handled the same way as the DBNAME option. **The NewDBname value cannot be a directory.**

-MERGE=*value*
Specifying **-merge=yes** merges the restored documents into the database indicated by the DBNAME option. If this option nor the -TO option are not set, then MERGE is the default.

This option cannot be used with the -TO option. The default is **Yes**. Possible values are:

Yes Merge the restored documents into an existing database file, given by the DBNAME option. If you specify **yes**, then the -TO option cannot be specified.

No Put the restored documents into a new database file.

-FROMDate=*mm/dd/yy*
This option is used to help specify a date and time range. All notes backed up within this date and time range will be restored. If more than one backup copy of a note is made during that time range, then only the most recently backed up version is restored. If this option is not specified, it defaults to the date the database was first backed up. This option cannot be used with the -TO option.

-FROMTime=*hh:mm:ss*
This option works with FROMDATE to specify a date and time range. The FROMTIME option can only be used if the FROMDATE option is also used. If this option is not specified, it defaults to **00:00:00**, or midnight of the specified date.

-AFTERDate=*mm/dd/yy*

This option is the same as the FROMDATE option. This option cannot be used with the -TO option.

-AFTERTime=*hh:mm:ss*

This option is the same as the FROMTIME option.

-TODate=*mm/dd/yy*

This option is used with FROMDATE to help specify a date and time range. All notes backed up within this date and time range will be restored. If more than one backup copy of a note were made during that time range, then only the most recently backed up version will be restored. If this option is not specified, it defaults to the current date.

-TOTime=*hh:mm:ss*

This option works with the TODATE option to specify a date and time range. The TOTIME option can only be used if the TODATE option is also used. If this option is not specified, it defaults to **23:59:59**, or a second before midnight of the specified date.

-BEFOREDate=*mm/dd/yy*

This option is the same as the TODATE option.

-BEFORETime=*hh:mm*

This option is the same as the TOTIME option.

-ADSMPW=*password*

The ADSM password for the ADSM server. If you specified PASSWORDACCESS GENERATE in the client options file, then ADSMPW is ignored. The password is sent to the ADSM server to authenticate the user.

-NEWADSMpw=*newpassword*

The new password for the ADSM server. The ADSMPW option must also be supplied to authenticate the user, even if PASSWORDACCESS GENERATE was specified in the client options file. This option can be used to change the password for the ADSM server, for example, if the old password has expired. You must be a root user to use this option.

-MOuntwait=*value*

This parameter is used if you do not want ADSM to wait for a tape mount if one is necessary. The default is **Yes**. Possible values are:

Yes The restore process will wait for a tape mount if one is necessary.

No The restore process will not wait for a tape mount. If a tape mount is necessary, the operation is cancelled.

-UPDATEall=*value*

If you specify **Yes** for this option, all of the Lotus Notes documents in the database are updated to have the current date and time. The default is **No**. This option cannot be used with the TO option. Possible values are:

No No, do not update the Lotus Notes documents in the database.

Yes Yes, update all of the Lotus Notes documents in the database to have the current date and time. This forces replication to all replica databases.

-SUbdir=*value*

This parameter is optional, and can only be used with the **merge=yes** option. It indicates whether subdirectories are restored or not. The default is **No**. This parameter is ignored if **DBname** is not a directory. This option is not available in the graphical user interface.

Possible values are:

No Only the databases in the specified directory are restored.

Yes All databases in the specified directory ***and all subdirectories*** are restored.

Examples

Task This example restores the latest version of the database named **lnotes3.nsf**. Call the new database **lnotes3a.nsf**.

Command

```
dsmnotes restore /plan/proj1/lnotes3.nsf
-to=/plan/proj1/lnotes3a.nsf -adsmpw=mypw
```

Task Restore all notes that were backed up in April 1996 and merge them into a database named **lnotes4.nsf**. Change the modification date for all notes in the database to the current date.

Command

```
dsmnotes restore /plan/lnotes4.nsf -updateall=y -fromdate=4/1/96
-todate=4/30/96  -adsmpw=mypw
```

Task Merge the most recent backed up data documents into the original or previously restored databases with the same names in the Lotus Notes data directory and all its subdirectories.

Command

```
dsmnotes restore \* -subdir=yes -adsmpw=mypw
```

Chapter 5. Using the Graphical User Interface

The Lotus Notes Agent graphical user interface enables you to perform the following tasks:

- Restore selected documents from a database
- Restore documents that are deleted but not yet purged
- Restore a copy of an entire database
- Set and change the ADSM password
- Get online help

Note: To use the graphical user interface, the Lotus Notes workspace should be run in the foreground.

Note: You can continue to interact with the Lotus Notes Workspace and other processes while the restore operation is taking place. However, you cannot start another restore operation while one is already active.

Using the Lotus Notes Workspace

When you run the Lotus Notes workspace, click on the Actions menu to display the following commands in the pull-down menu:

- ADSM Restore Documents(s)...
- ADSM Rebuild Database...
- ADSM Restore Deleted Documents(s)...

These commands can only be selected when a database is open. If no database is open, the commands are disabled.

Using the ADSMConnect Agent Graphical User Interface

You can move between the fields by clicking on each field separately, or by using the **Tab** key. Only the highlighted field accepts keyboard input. Use the up and down arrow keys to navigate the radio button fields and the space bar to change them.

Restoring Selected Documents from a Database

You can restore backed up copies of individual documents from the ADSM server to a Lotus Notes database on your workstation. The documents must still be present in the database. If the documents have been deleted, see “Restoring Deleted Documents” on page 47.

Note: This operation is only available in the Lotus Notes workspace.

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Lotus Notes Workspace

Follow these steps to restore selected documents to your Lotus Notes database.

1. Open a view of the database that has the documents you want to restore.
2. Check mark the documents you want to restore.
3. Click on the Actions menu.
4. Select **ADSM Restore Document(s)**.
5. If the ADSM Password dialog box displays, type in the ADSM password and click on the **OK** button or press **Enter**.

   The ADSM Restore Docs dialog box displays. (Figure 2).

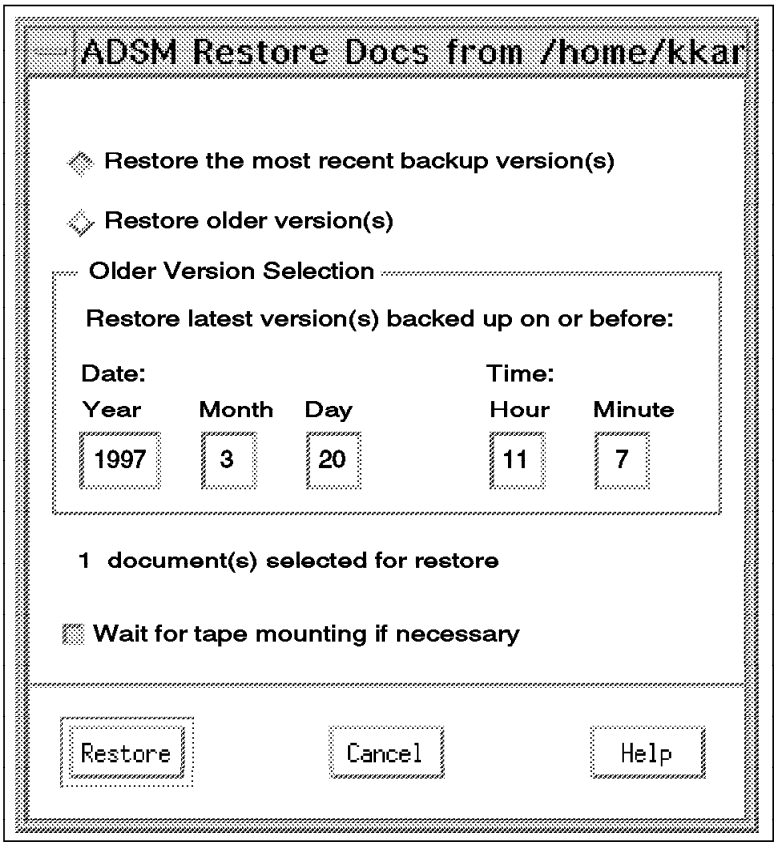

Figure 2. Restoring Specific Documents from a Database

6 Select one of these options:

- **Restore the most recent backup versions(s)**—This option restores each of the selected documents with its most recent backup version.
- **Restore older versions(s)**—This option restores each of the selected documents with the latest version that was backed up before the date and time in the **Older Version Selection** box. Type the date and time from which you want to restore in the **Older Version Selection** box.

7 Select **Wait for tape mounting if necessary** (selected as the default). You can deselect this option if you do not want ADSM to wait for files that are on tape.

Also check to make sure the number of documents selected matches the number of documents you check marked.

8 Click on **Restore** to restore your documents.

9 To see the restored documents, click on the View menu, and select **Refresh** or press **F9**.

Click on **Cancel** at any time to exit the dialog box without restoring any documents.

Click on the **Help** button at any time to get online help.

Restoring Deleted Documents

You can restore deleted Lotus Notes documents from ADSM storage, if the deletion stubs have not been purged from the database. The deleted documents are replaced with documents backed up on the ADSM server.

The **dsmnotes restdel** command queries for both active and inactive copies of deleted documents from the server. If the —DAYS option is 0 or it is not specified, then the latest version of the deleted documents are restored.

For further information about restoring deleted documents, see the **dsmnotes restdel** command (“dsmnotes restdel” on page 36).

Lotus Notes Workspace

Follow these steps to restore documents that have been deleted but not yet purged from your Notes database:

1 Open a view of the database that contained the deleted documents.

2 Click on the Actions menu.

3 Select **ADSM Restore Deleted Documents(s)**.

4 If the ADSM Password dialog box displays, type in the ADSM password and click on the **OK** button or press **Enter**.

5 The ADSM Restore Deleted Docs dialog box displays.

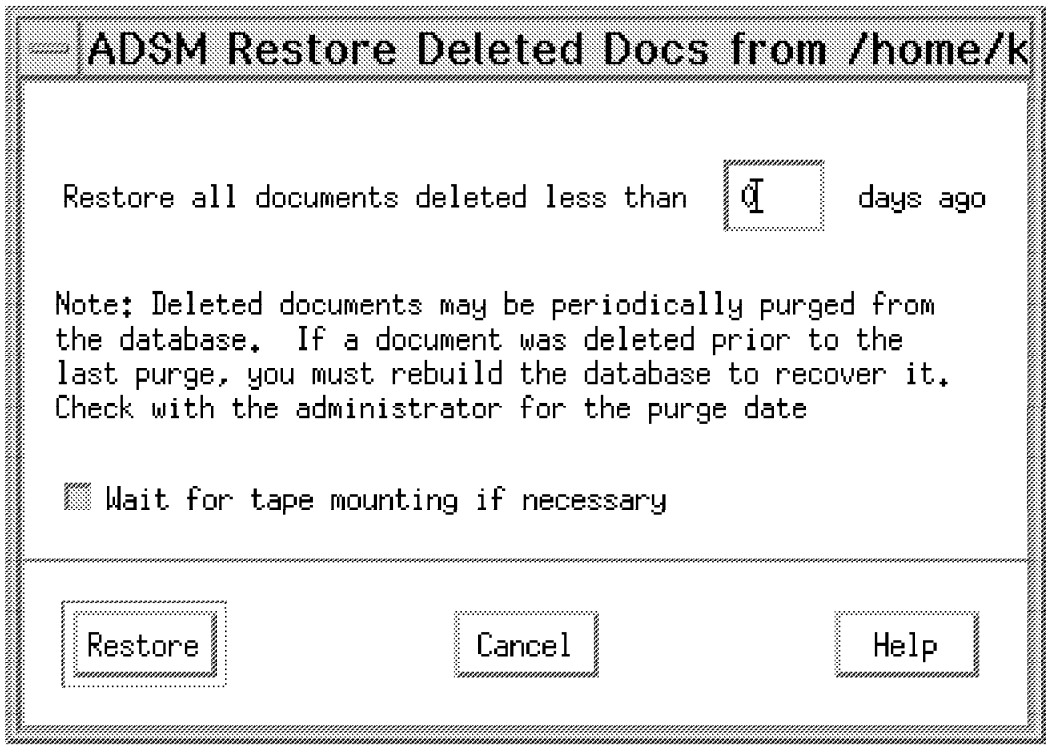

Figure 3. Restoring Data Documents From Deletion Stubs

6 If you want to restore only those documents deleted less than a certain number of days ago, type this number of days in the **Restore all documents deleted less than nnnn days ago** field.

If you leave this field blank, it uses the zero default. Then all the deleted, but not yet purged, documents are restored.

7 Select **Wait for tape mounting if necessary** (selected as the default). You can deselect this option if you do not want ADSM to wait for files that are on tape.

8 Click on **Restore** or press **Enter** to restore your documents.

9 To see the restored documents, click on the View menu, and select Refresh or press **F9**.

Click on the **Cancel** button at any time to exit the dialog box without restoring any documents.

Click on the **Help** button at any time to get online help.

Rebuilding a Database

When you restore a backed up Lotus Notes database, you can either restore it to a new database or merge the documents from the backed up database into a database that already exists on your workstation.

You can use either the Lotus Notes Workspace or the command line to rebuild a Notes database. For information on the command, see “dsmnotes restore” on page 39.

Lotus Notes Workspace

Follow these steps to rebuild a database or merge selected documents into a database that already exists:

1 Open a view of the database that you want to rebuild. If the database no longer exists, you must restore it using the **dsmnotes restore** command on the command line. For examples of this command, see “dsmnotes restore” on page 39.

After performing the **dsmnotes restore** command, return to your Lotus Notes workspace.

2 Click on the Actions menu.

3 Select **ADSM Rebuild Database.**

4 If the ADSM Password dialog box displays, type in the ADSM password and click on the **OK** button or press **Enter**.

The ADSM Rebuild Database dialog box appears as shown in Figure 4 on page 50.

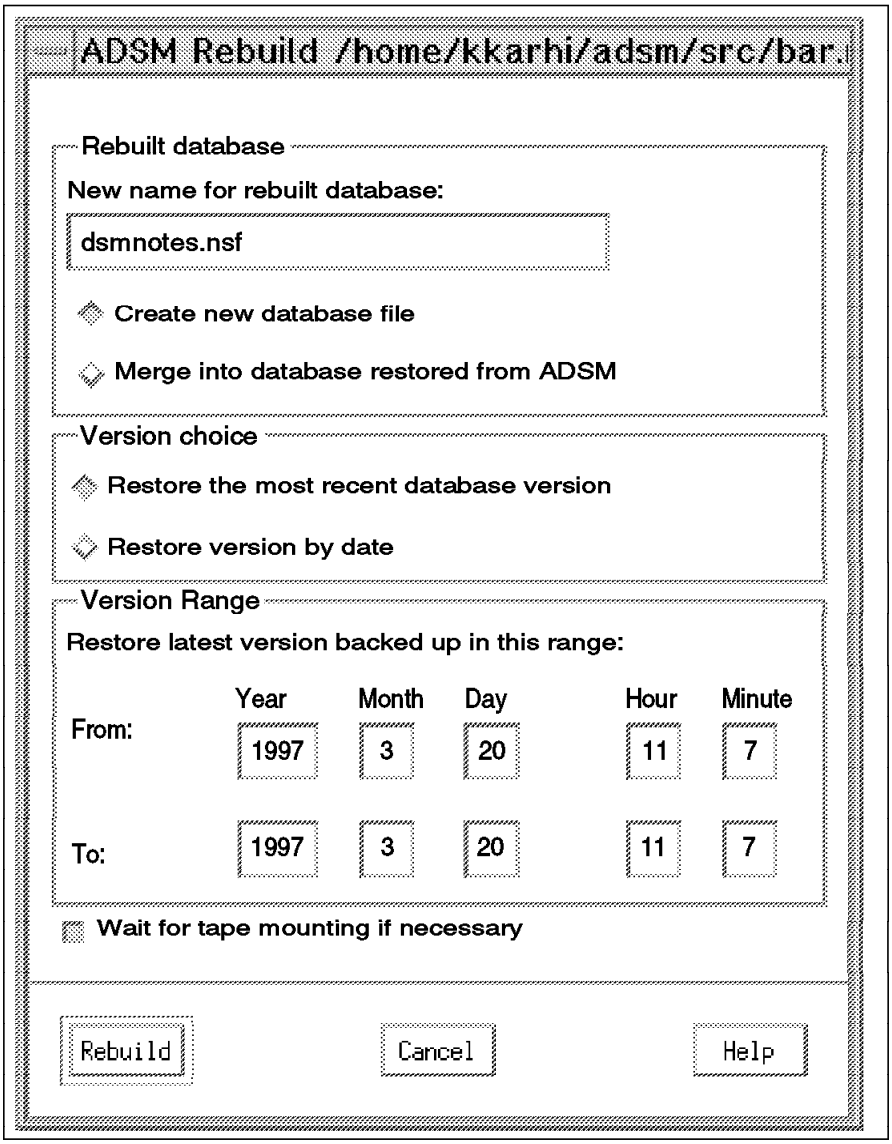

Figure 4. Rebuilding a Database

5 In the box labeled **Rebuilt database**, use the default name, or type another name in the **New name for rebuilt database** field.

Select one of these options:

- **Create new database file**—ADSM restores the entire database from backup copies of individual Lotus Notes documents into the new database.

You must choose a name that is not the name of an existing file. For information on path names, see “Path Name Specification” on page 20.

- **Merge into database restored from ADSM**—You can select this option if you have restored a backup version of the database through the ADSM backup-archive client.

  This option merges a backup version of individual Lotus Notes documents into a Lotus Notes database restored by the ADSM backup-archive client.

6 Select one of these options: in the **Version choice** box:

- **Restore the most recent database version**—This option restores all of the documents in the database with their most recent backup versions.
- **Restore version by date**—This option restores all the documents in the database with the latest versions that were backed up within the dates and times in the **Version Range** box. Type the **From** and **To** dates and times, which you want to restore, in the **Version Range** box.

Note: This option can only be used if **Merge into database restored from ADSM** is selected.

7 Select **Wait for tape mounting if necessary** (selected as the default). You can deselect this option if you do not want ADSM to wait for files that are on tape.

8 Click on the **Rebuild** button or press **Enter** to rebuild the database.

9 Open the rebuilt database in the Lotus Notes workspace to view the restored documents. If **Merge into database restored from ADSM** was selected, click on the View menu, then select **Refresh** or press **F9** to see the documents that were merged into the database.

Click on the **Cancel** button at any time to exit the dialog box without rebuilding the database.

Click on the **Help** button at any time to get online help.

Entering and Changing the ADSM Password

Each time you access a Lotus Notes database, whether to back it up or to restore documents to it, ADSM needs to know your password. You must be a root user to change the ADSM password.

To supply your password on the command line, use the ADSMPW option with the command you are entering. In the Lotus Notes Workspace, ADSM brings up the dialog box shown in Figure 5 on page 52.

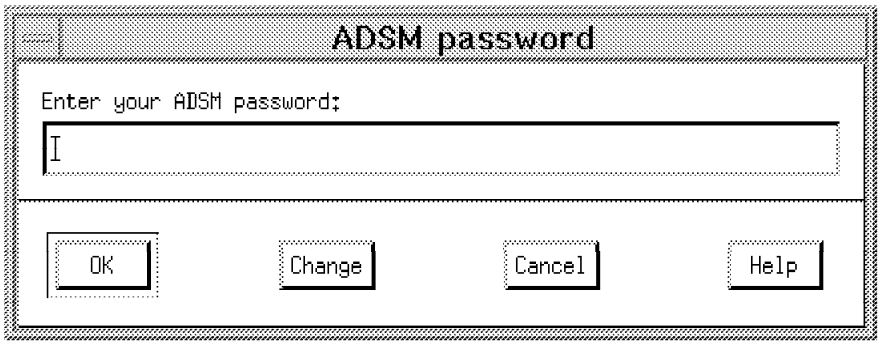

Figure 5. Entering Your Password

1. Type the password for your Lotus Notes Agent in the **Enter your ADSM password** field.
2. Click on the **OK** button or press **Enter**.

Click on the **Change** button and the dialog box in Figure 6 on page 53 appears.

Click on the **Cancel** button at any time to exit the dialog box.

Click on the **Help** button at any time to get online help.

If your password has expired or you clicked on the **Change** button, ADSM provides the dialog box shown in Figure 6 on page 53. Enter your old password and a new one, then click on **OK**.

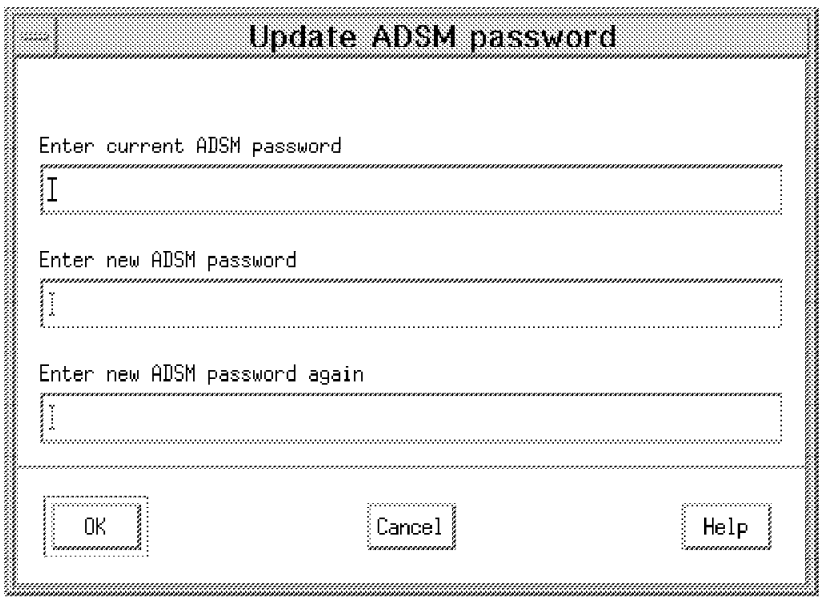

Figure 6. Changing Your Password

1. In the **Enter current ADSM password** field, type the current password for your Lotus Notes Agent. If you already typed your password in the **ADSM Password** dialog box, you can skip this field now.

2. In the **Enter new ADSM password** field, type the new password for your Lotus Notes Agent.

3. In the **Enter new ADSM password again** field, retype the new password for your Lotus Notes Agent again. This verifies the new password.

4. Click on the **OK** button or press **Enter** to update your Lotus Notes Agent password and to proceed with your request.

Click on the **Cancel** button at any time to exit the dialog box without updating your password and to cancel your request.

Click on the **Help** button at any time to get online help.

To update an expired password or to change a password from the command line, you can use the NEWADSMPW option with the **dsmnotes incr, dsmnotes restdel,** or **dsmnotes restore** command, or use the **dsmnotes change** command.

Chapter 6. Scheduling Lotus Notes Backup

Scheduling Backup on the Lotus Notes Server

Use the Lotus Notes Scheduler to automate backups. The Lotus Notes Scheduler is only available on the Lotus Notes server. Using other methods will eventually cause database lockup problems.

Setting the Lotus Notes Scheduler involves the following steps:

1. Create a Program document
2. Create the shell script.
3. Verify that the schedule is set up correctly

The following instructions and examples assume:

- All necessary environment variables are setup in the **.profile** and **notes.ini** files of the AIX user that owns the Lotus Notes server.
- The log database **mylog.nsf** is created using the Notes Log template **log.ntf**. You can also use the log database **log.nsf** which comes with your Lotus Notes installation.
- The shell script name is **dobackup**.

Step 1: Create the Program Document

To create a Program document in the Lotus Notes server **names.nsf** database, open the **names.nsf** database on your workstation. On the navigation panel, select **Server**/**Programs**/**Add Program**. A blank program document will appear on the screen. Fill-in the required parameters:

```
program name:          dobackup
Command line:
Server to run on:      <your server name>
Comments:              <your comments>
Enabled/Disabled:      ENABLED

Run at times:          02:00AM each day
Days of week:          Sun,Mon,Tue,Wed,Thu,Fri,Sat
```

For more information on setting up the Program document in the **names.nsf** database, refer to your Lotus Notes Administration books.

Step 2: Create the Shell Script

The following korn shell script **dobackup** backs up all databases in the Lotus Notes server data directory, all databases in the directory /**notes**/**mydb**, and saves the log file /**notes**/**logbasket**/**log.dsm** to the log database **mylog.nsf** located in the Lotus Notes server data directory. The log file /**notes**/**logbasket**/**log.dsm** is deleted after all entries are saved.

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```
#!/usr/bin/ksh
echo "start backup"
dsmnotes incr \* -adsmpw=mypw
dsmnotes incr /notes/mydb -adsmpw=mypw
dsmlog /notes/logbasket/log.dsm mylog.nsf -d
echo "End backup"
```

Attention: Place the script in the Lotus Notes server data directory, or the Lotus Notes Scheduler cannot find it.

Step 3: Verify that the Schedule is set up Correctly

On the Lotus Notes console, issue the command **SHOW SCHEDULE** to verify that the schedule is set up correctly.

Note: You may also schedule the **dsmnotes** command directly by replacing Step 1 with the following:

```
program name:          dsmnotes
Command line:          incr * -adsmpw=mypw
Server to run on:      <your server name>
Comments:              <your comments>
Enabled/Disabled:      ENABLED

Run at times:          02:00AM each day
Days of week:          Sun,Mon,Tue,Wed,Thu,Fri,Sat
```

Note that the wildcard character * is not prefixed with the backslash character (\) because you are not running the dsmnotes command at the shell prompt.

Scheduling Backup on the Lotus Notes Client

Use the ADSM scheduler to automate backups. Lotus Notes does not lock databases on the Lotus Notes client.

Setting the ADSM scheduler involves the following steps:

1. Define a schedule
2. Associate the Agent node to the defined schedule
3. Verify that the schedule is set up correctly
4. Create the Shell script
5. Start the ADSM scheduler

The following instructions and examples assume:

- The Lotus Notes Agent is registered to an ADSM server with a node name of **LNagent** and a password of **mypw** in policy domain lotus_notes.
- The event to be scheduled is a daily backup which begins between 2:00AM and 2:15AM.
- All necessary environment variables are set up in the **.profile** and **notes.ini** files of the AIX user that owns the Lotus Notes client.
- The log database **mylog.nsf** is created using the Notes Log template **log.ntf**.

- The shell script name is **dobackup**.

Step 1: Define a Schedule

To define a schedule to execute an AIX command file in the policy domain to which the Lotus Notes Agent is registered, enter the following command (the following command is entered on one line):

```
define schedule lotus_notes LNagent_BKUP desc="Daily LNagent backup"
   action=command objects="/home/user_a /notesr4/dobackup"
   starttime =02:00 duration=15 duru=minutes period=1 perunits=days
   dayofweek=any
```

ADSM displays the following message:

```
 ANR2500I schedule LNagent_BKUP defined in policy domain lotus_notes.
```

Step 2: Associate the Agent Node to the Defined Schedule

To associate the Lotus Notes Agent to the defined schedule, enter the following command on an ADSM server or administration client:

```
define association lotus_notes LNagent_BKUP LNagent
```

ADSM displays the following message:

```
ANR2510I Node LNagent associated with schedule LNagent_BKUP in policy domain lotus_notes
```

Step 3: Verify that the Schedule is Set Up Correctly

You can verify that the schedule is set up correctly by using the **query schedule** or **query association** ADSM administrative commands.

Step 4: Create the Shell Script

The following korn shell script backs up all databases in **user_a's** Lotus Notes data directory, all databases in the directory /**home**/**user_a**/**mydb**, and saves the log file /**home**/**user_a**/**logbasket**/**log.dsm** to the log database **mylog.nsf** located in **user_a's** Lotus Notes server data directory. The log file /**home**/**user_a**/**logbasket**/**log.dsm** is deleted after all entries are saved:

```
#!/usr/bin/ksh
echo "start backup"
dsmnotes incr \* -adsmpw=mypw
dsmnotes incr /home/user_a/mydb -adsmpw=mypw
dsmlog /home/user_a/logbasket/log.dsm mylog.nsf -d
echo "End backup"
```

Step 5: Start the ADSM Scheduler

Attention: When using the ADSM scheduler to do backups, the root user is necessary. The backed up databases on the ADSM server will then be owned by root.

Because root is used to do the backup, you need to use root to do the restore. Refer to the Security section of Chapter 3, “Before Using the ADSMConnect Agent” on page 19, for more information regarding backup and restore authorities of the root user.

To start the scheduler:

1. Login as the AIX user that owns the Lotus Notes client, for example **user_a**.
2. Login as root under **user_a's** environment
3. Issue the following command to start the scheduler:

```
dsmc sched
```

Chapter 7. Messages for ADSMConnect Agent (0900–0999)

There are three sources for messages:

- From the ADSMConnect Agent (message numbers ANS0900–ANS0999). An example of this message is:

  ```
  ANS0909E: Error in parsing options.
  ```

- From Lotus Notes. An example of this message is:

  ```
  NOTES: File does not exist
  ```

- From the ADSM API. For the ADSM API messages, see:
  - *ADSTAR Distributed Storage Manager Messages Version 2*, SH35–0133
  - *ADSTAR Distributed Storage Manager Messages Version 3*, GC35–0271
  - Softcopies of the *ADSTAR Distributed Storage Manager Messages* books are available on the ADSM Website at the following URL:

    ```
    http://www.ibm.com/storage/adsm
    ```

The messages in this section are for the ADSMConnect Agent.

- The term "database" refers to a Lotus Notes database.
- The term "notes" and "documents" are used interchangeably.

ANS0900I **dsmnotes completed.**
Explanation: The **dsmnotes** command completed successfully.
System Action: The program completes.
User Response: Not Applicable.

ANS0901S **Cannot allocate memory.**
Explanation: An attempt was made to allocate memory but failed.
System Action: Processing stops.
User Response: Check the LOG.DSM file for further details about the failure.

ANS0903E **I/O error opening file.**
Explanation: An I/O error occurred when an attempt was made to open one of the supporting files (for example: a trace file or log file). This message does not suggest an I/O error in a Lotus Notes database.
System Action: Processing stops.
User Response: Check all supporting files, including the log file, and trace file. Consider updating the environment variables in the NOTES.INI file to avoid using the problem file or check access permission on the file.

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ANS0904E •ANS0910E

ANS0904E I/O error writing to a file.
Explanation: An I/O error occurred when an attempt was made to write to a supporting file like a trace file or log file. This message does not suggest an I/O error in a Lotus Notes database.
System Action: Processing stops.
User Response: Check all supporting files, including the log file, and trace file. Consider updating the environment variables in the NOTES.INI file to avoid using the problem file and also Check your available disk space.

ANS0905S Error getting current working directory
Explanation: An error occurred while trying to retrieve the current working directory.
System Action: Processing stops.
User Response: Check the **LOG.DSM** file for any further details on the specific error. There may be an error in your operating system since it cannot determine your current working directory.

ANS0907E Error in getting file system information.
Explanation: An error was encountered when an attempt was made to obtain the file system information for the drive on which the Lotus Notes database resides.
System Action: Processing stops.
User Response: Check the drive on which the Lotus Notes database you are processing resides. Be sure that the volume has a label and your disk is attached. Check the **LOG.DSM** file for details about the error.

ANS0908E Error getting database volume label.
Explanation: An error was encountered when an attempt was made to obtain the volume label of the drive on which the Lotus Notes database resides.
System Action: Processing stops.
User Response: Check the drive on which the Lotus Notes database you are processing resides. Be sure that the volume has a label and your disk is attached.

ANS0909E Error in parsing options.
Explanation: A general parsing error occurred on a **dsmnotes** command. Either you entered too many path names, or a hyphen (**-**) or an equal (**=**) sign is missing in the option.
System Action: Processing stops.
User Response: Check the syntax of the command. Correct the syntax and reissue the command.

ANS0910E Invalid option keyword.
Explanation: An invalid option keyword was specified on a **dsmnotes** command.
System Action: Processing stops.
User Response: Identify and correct the invalid keyword. Then reissue the command.

ANS0912E The specified password is too long.
Explanation: The ADSM password you entered is too long.
System Action: Processing stops.
User Response: If you are resetting a new ADSM password, you need to choose a shorter password. If you are entering a current ADSM password, check that the password is correct. If the password is correct but the problem still occurs, ask your ADSM administrator to reset your password to a new value. If you do this, choose a shorter password.

ANS0913E An invalid option value was specified.
Explanation: An invalid value was specified for an option on a **dsmnotes** command.
System Action: Processing stops.
User Response: Identify and correct the invalid value. Then reissue the **dsmnotes** command.

ANS0914E Required keywords are missing.
Explanation: One or more required keywords are missing from the **dsmnotes** command.
System Action: Processing stops.
User Response: Identify and check the proper syntax and provide the missing keywords and values. Then reissue the **dsmnotes** command.

ANS0915E An invalid date was entered.
Explanation: An invalid date value was entered. Either the syntax of the value was not correct or an actual value (for example, "45" for month) was invalid.
System Action: Processing stops.
User Response: Identify and correct the invalid date value. Refer to the user's guide of the corresponding platform for the correct date syntax.

ANS0916E An invalid time was entered.
Explanation: An invalid time value was entered. Either the syntax of the value was not correct or an actual value (for example, "75" for hour) was invalid.
System Action: Processing stops.
User Response: Identify and correct the invalid date value. Refer to the user's guide of the corresponding platform for the correct time syntax.

ANS0917E Usage: dsmnotes <actions> <options> <db pathname>
Explanation: No parameters were specified on the **dsmnotes** command. Some parameters are required such as action parameter and database name parameter.
System Action: Processing stops.
User Response: Refer to the user's guide of the corresponding platform for the correct syntax of your command, including required parameters. Correct the syntax and reissue the command.

ANS0918E dsmnotes action (1st parm) is unrecognized.
Explanation: A syntax error was made on a **dsmnotes** command. The first parameter on the command is generally used to identify what kind of action is to be performed (for example, "INCR" for incremental backup), but this first parameter on the command was not recognized as a valid action.
System Action: Processing stops.
User Response: Refer to the user's guide of the corresponding platform for the correct command syntax. Correct the syntax and reissue the command.

ANS0919E Usage: dsmnotes incr <options> <db pathname>
Explanation: A syntax error occurred on the incremental backup command.
System Action: Processing stops.
User Response: Refer to the user's guide of the corresponding platform for the correct syntax. Correct the syntax and reissue the command.

ANS0920E Usage: dsmnotes restore <options> <db pathname>
Explanation: A syntax error occurred on the incremental backup command.
System Action: Processing stops.
User Response: Refer to the user's guide of the corresponding platform for the correct syntax. Correct the syntax and reissue the command.

ANS0921E Usage: dsmnotes restdel <options> <db pathname>
Explanation: A syntax error occurred on the restore deletion stubs command.
System Action: Processing stops.
User Response: Refer to the user's guide of the corresponding platform for the correct syntax. Correct the syntax and reissue the command.

ANS0923E Database path name is invalid.
Explanation: The given path name does not resolve to a valid Lotus Notes database file name.
System Action: Processing stops.
User Response: Validate that the given path name is correct. If wildcard symbols are used, refer to the user's guide of the corresponding platform for the correct usage of these symbols. Also check for defaulting to the Lotus Notes data directory to ensure that the path name is not defaulting incorrectly.

ANS0924E Cannot restore to original database.
Explanation: An attempt was made to rebuild a Lotus Notes database from backup copies of notes, but the original database file was specified as the target database.
System Action: Processing stops.
User Response: Choose an original name for the target database. The name cannot belong to an existing file.

ANS0925E —days value cannot be negative (OS/2). The days value cannot be negative (AIX and Windows NT).
Explanation: Only a positive number of days can be specified.
System Action: Processing stops.
User Response: Either specify a positive number of days or let the system default to restore all the deleted documents that it can identify.

ANS0926E Cannot open database.
Explanation: An attempt to open a Lotus Notes database was unsuccessful.
System Action: Processing stops.
User Response: Check the **LOG.DSM** file for more information about the error. Verify the path name of your database. If the path name is correct, then verify the database itself to ensure that it can be opened through the Lotus Notes workspace.

ANS0928I Restore of Note(s) done.
Explanation: Restoration of one or more notes was successful.
System Action: The program completes successfully.
User Response: None.

ANS0929E User interrupted operation
Explanation: The user has interrupted the operation (for example, by pressing an interrupt key such as <Ctrl C>).
System Action: Processing stops.
User Response: None

ANS0930I Database rebuild done.
Explanation: Database rebuild from backup copies of notes was successfully completed.
System Action: The program completes successfully.
User Response: None.

ANS0931E Cannot log errors.
Explanation: An attempt was made to initiate error logging, which includes either opening or creating a LOG.DSM file. The attempt failed.
System Action: Processing stops.
User Response: Check the LOG.DSM file to see why it cannot be opened or created.

ANS0932I No matching data on server.
Explanation: An attempt was made to query one or more backup copies of notes on the ADSM server, but no copies existed or an attempt was made to merge the data notes (documents) from the ADSM server into the original database, but no data notes existed.
System Action: The program ends.
User Response: If you believe that some matching data should exist on the server, check your database path name to ensure that you are using the correct database file name. If the **-merge** keyword is used, your database might only have nondata notes (documents).

ANS0933E The days value is invalid
Explanation: The days value is either negative or greater than 65535.
System Action: Processing stops.
User Response: Use correct days value.

ANS0934E ADSM new passwords do not match.
Explanation: An attempt was made to change the ADSM password through the Lotus Notes workspace but the two new ADSM passwords entered did not match.
System Action: Processing stops.
User Response: Retry the command with matching new ADSM passwords.

ANS0935E This Notes database file not on server.
Explanation: Either the given database file was not backed up on the ADSM server or the database file space was removed from the ADSM server.
System Action: Processing stops.
User Response: Check the name of the database to ensure that it is the correct database, and check the DSM.OPT file to ensure that you are accessing the correct ADSM server. You can ask the ADSM administrator to check the filespaces for your node. A database name is equivalent to a filespace.

ANS0936E This action is not allowed on a remote database.
Explanation: The action you tried to perform is not allowed on a database that is not local.
System Action: Processing stops.
User Response: If the action is not allowed through the Lotus Notes workspace interface, but allowed through the ADSMConnect Agent command-line interface, then use the appropriate **dsmnotes** command. An alternative is to complete the action on the appropriate machine.

ANS0937E Cannot enter new database name (OS/2). Must restore to original database (AIX and Windows NT).
Explanation: You are not allowed to enter a new target database name for this restore operation.

For OS/2, refer to the **dsmnotes restore** -FROMDATE option in the user's guide documentation.
System Action: Processing stops.
User Response: If your interface is the Lotus Notes workspace, then replace the database name in the entry field with blanks. If your interface is a command, then do not specify a target ("-TO") database.

ANS0938E Database name required.
Explanation: You are required to enter a database name.
System Action: Processing stops.
User Response: Enter the database name.

ANS0939I No deletion stubs in database.
Explanation: There are no deletion stubs in the given database.
System Action: The program ends.
User Response: If there are no deletion stubs in the database to initiate the restore, then you may need to rebuild the database by restoring the older version of the database file through the ADSM client.

ANS0940E Some options are mutually exclusive.
Explanation: Some of the options specified are mutually exclusive. For example:
- For OS/2, the options -MERGE=NO, -TO, and -FROMDATE cannot all be specified simultaneously because a new target database might not be operable if some documents (such as view and form design documents) are excluded.

  Design documents are normally backed up with the initial incremental, and not subsequently modified. In this situation, allowing the FROMDATE option would cause some design documents to be excluded when creating the new database.
- For AIX and Windows NT, the options -MERGE and -TO are mutually exclusive because a new target database cannot be specified for a merge.

System Action: Processing stops.
User Response: Correct the syntax of the command and then reissue the command.

ANS0941E Invalid date/time range.
Explanation: An invalid date or time range was given. For example, the "TO" time is earlier than the "FROM" time.
System Action: Processing stops.
User Response: Correct the date or time range and rerun the program. Be sure that all year, month, day, hour, and minute values are in the correct order and are valid values.

ANS0942E No notes chosen.
Explanation: An attempt was made to restore a note or notes, but no notes documents were chosen.
System Action: Processing stops.
User Response: On the Lotus Notes workspace, select the notes to be restored by placing a checkmark next to the notes.

ANS0944E dsmnotes errors occurred.
Explanation: Errors occurred on one or more databases.
System Action: The program partially completes.
User Response: Check the **LOG.DSM** file for further details about the failure.

ANS0947E Error initializing Notes.
Explanation: Error occurred while initializing the Lotus Notes runtime system.
System Action: Processing stops.
User Response: Check the Lotus Notes environment. Try to bring up your Lotus Notes workspace if you have not already done so. Also, check the **NOTES.INI** file to see if it has the correct set up for the ADSMConnect Agent. Refer to the user's guide of the corresponding platform.

ANS0948E Pathname is a directory.
Explanation: An attempt was made to restore a single database but the pathname specified was a directory.
System Action: Processing stops.
User Response: If you want to restore a single database, make sure your database name ends with a ".nsf" extension.

ANS0950E Data on server has an invalid version.
Explanation: Data structure for the application is not compatible with the data stored on the ADSM server.
System Action: Processing stops.
User Response: Check the user's software version.

ANS0951E Lotus Notes error: <error_code> occurred.
Explanation: A Lotus Notes error has occurred but the ADSMConnect Agent was not able to translate the error code into a valid Lotus Notes error message.
System Action: Processing stops.
User Response: The supported Lotus Notes version is 4.50 for AIX and NT, or 4.52 or above for OS/2. You probably have a downlevel Lotus Notes software installed on your system. Check with your Lotus Notes administrator for assistance.

ANS0952E ADSM error: <error_code> occurred
Explanation: An ADSM error has occurred but the ADSMConnect Agent was not able to translate the error code into a valid ADSM error message.
System Action: Processing stops.
User Response: Check with your ADSM administrator for assistance.

ANS0953E No license or license expired.
Explanation: You do not have a valid ADSMConnect Agent license or your license has already expired.
System Action: Processing stops.
User Response: Refer to the user's guide of the corresponding platform or call the IBM sales representatives for license information.

ANS0955E Database IDs do not match.
Explanation: An attempt was made to back up a database that has the same path and name as a database that is previously backed up to the ADSM server. These two databases have the same name, but they have different database IDs. As a result, they were treated as two different databases.
System Action: Processing stops.
User Response: Rename the database to be backed up. If the database that is previously backed up in the ADSM server is no longer needed, ask your ADSM administrator to delete the database's filespace on the server.

ANS0956E The ADSM password is needed.
Explanation: An ADSM password is required.
System Action: Processing stops.
User Response: If the ADSM PASSWORDACCESS PROMPT option in the option file is used, you are required to enter the password by using the **-adsmpw** keyword.

If the ADSM PASSWORDACCESS GENERATE option is used, issue the **dsmnotes change** command with appropriate parameters to create a password file. Refer to the user's guide of the corresponding platform for the correct syntax to use.

ANS0957E An operation is already active.
Explanation: An active restore operation is being processed.
System Action: Processing stops.
User Response: Wait for the active restore operation to complete before starting a second one.

ANS0958E Usage: dsmnotes change -adsmpw=old -newadsmpw=new
Explanation: The syntax of the **dsmnotes change** command is incorrect.
System Action: Processing stops.
User Response: Use correct syntax. Refer to the user's guide of the corresponding platform for the correct syntax.

ANS0959I ADSM password changed.
Explanation: The ADSM password has been changed successfully.
System Action: The program completes successfully.
User Response: None.

ANS0960E Cannot write data over data in buffer.
Explanation: An attempt was made to overwrite valid data in the buffer.
System Action: Processing stops.
User Response: Check the integrity of the database by opening it in the Lotus Notes workspace. If the database opens successfully, reissue the command. If the error is persistent, contact the IBM technical support.

ANS0961E Database not allowed.
Explanation: A database name is not allowed with this command.
System Action: Processing stops.
User Response: Remove the database name and reissue the command.

ANS0962E Filespace not allowed.
Explanation: A filespace name is not allowed with this command.
System Action: Processing stops.
User Response: Remove the filespace name and reissue the command.

ANS0964E Invalid Notes Build Version.
Explanation: A wrong version of ADSMConnect Agent is being used.
System Action: Processing stops.
User Response: Check the ADSMConnect Agent Readme file to verify if the installed ADSMConnect Agent supports the current version of Lotus Notes on your workstation. Uninstall the current version of the ADSMConnect Agent and be sure to select the correct version of ADSMConnect Agent during the installation.

ANS0970I Processing log file *Logname***.**
Explanation: The ADSMConnect Agent's log file is being processed.
System Action: The program continues.
User Response: None.

ANS0971E •ANS0977E

ANS0971E Too few parameters.
Explanation: One or more parameters are required.
System Action: Processing stops.
User Response: Refer to the user's guide of the corresponding platform for the correct number of parameters. Enter the correct number of parameters and reissue the command.

ANS0972E Too many parameters
Explanation: Too many parameters were passed to the command.
System Action: Processing stops.
User Response: Refer to the user's guide of the corresponding platform for the correct number of parameters. Enter the correct number of parameters and reissue the command.

ANS0973E Invalid parameter: *parameter***.**
Explanation: An invalid parameter is entered.
System Action: Processing stops.
User Response: Correct the invalid parameter. Reissue the command.

ANS0974E No log file is specified.
Explanation: The ADSMConnect Agent's log file is not entered.
System Action: Processing stops.
User Response: Enter a fully qualified ADSMConnect log file, then reissue the command.

ANS0975E No log database is specified.
Explanation: The Lotus Notes log database is not entered.
System Action: Processing stops.
User Response: Enter the Lotus Notes log database (usually log.nsf). Refer to the user's guide of the corresponding platform for further information.

ANS0976E Error opening the log database *DBname***.**
Explanation: The specified log database cannot be opened.
System Action: Processing stops.
User Response: Verify the path name of your log database. If the path name is correct, verify the log database itself to ensure that it can be opened through the Notes workspace.

ANS0977E Error getting the mode of log database *DBname***.**
Explanation: The program cannot verify that the input log database is a valid database.
System Action: Processing stops.
User Response: Verify the path name of your log database. If the path name is correct, then verify the log database itself to ensure that it can be opened in the Notes workspace.

ANS0978E *DBname* **is not a Lotus Notes database.**
Explanation: An invalid database has been specified.
System Action: Processing stops.
User Response: Verify the path name of your log database. If the path name is correct, verify the log database itself to ensure that it can be opened in the Notes workspace.

ANS0979E **Error closing log file** *Logname***:** *system error code***.**
Explanation: An I/O error occurred when an attempt was made to close the ADSMConnect Agent's log file.
System Action: Processing stops.
User Response: Check the access permission on the ADSMConnect Agent's log file.

ANS0980E **Error deleting log file** *Logname***:** *system error code***.**
Explanation: An I/O error occurred when an attempt was made to delete the ADSMConnect Agent's log file.
System Action: Processing stops.
User Response: Check the access permission on the ADSMConnect Agent's log file.

ANS0981E **Error getting log file start time.**
Explanation: The program is not able to interpret the first date/time stamp in the ADSMConnect Agent's log file. The first date/time stamp format either does not match the date/time stamp format of your operating system, or it is corrupted.
System Action: Processing stops.
User Response: For consistency reasons, the date/time stamp format of the log file must match the date/time stamp format of your operating system. Check the locale of your operating system to ensure that you have matching date/time stamp formats.

ANS0982E **Error getting log file end time.**
Explanation: The program is not able to interpret the last date/time stamp in the ADSMConnect Agent's log file. The last date/time stamp format either does not match the date/time stamp format of your operating system, or it is corrupted.
System Action: Processing stops.
User Response: For consistency reasons, the date/time stamp format of the log file must match the date/time stamp format of your operating system. Check the locale of your operating system to ensure that you have matching date/time stamp formats.

ANS0983W **Too large a record in log file.**
Explanation: One of the records in the ADSMConnect Agent is too large, or there is no carriage return character in the log file.
System Action: Program continues.
User Response: If the command is successful, check the log database to ensure that the correct record was added to the database. If the command fails, verify that the data in the ADSMConnect Agent's log file is valid.

ANS0984E **Error opening the log file** *Logname: system error code.*
Explanation: An I/O error occurred when an attempt was made to open the ADSMConnect Agent's log file.
System Action: Processing stops.
User Response: Verify the path name of the log file. Also check the access permission on the log file.

ANS0985E **Error closing the database** *DBname: system error code***.**
Explanation: An I/O error occurred when an attempt was made to close the log database.
System Action: Processing stops.
User Response: Check the access permission on the log database.

ANS0986I **Log file** *Logname* **successfully written to** *DBname***.**
Explanation: The ADSMConnect Agent's log file has been successfully written to the log database.
System Action: The program completes successfully.
User Response: None.

ANS0987E **Log file** *Logname* **NOT written to** *DBname***.**
Explanation: The ADSMConnect Agent's log file was not written to the log database due to error.
System Action: Processing stops.
User Response: Check the error messages that preceded this message.

ANS0988I **Log file** *Logname* **deleted.**
Explanation: The ADSMConnect Agent's log file was deleted because the **-d** option was used.
System Action: The program completes successfully.
User Response: None.

ANS0989E **Log file** *Logname* **was NOT deleted, due to error.**
Explanation: The user has used the option **-d** but the ADSMConnect Agent's log file was NOT deleted due to error.
System Action: Processing stops.
User Response: Check the error messages that preceded this message.

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