



ADSTAR Distributed Storage Manager

Installing the Clients

Version 2



ADSTAR Distributed Storage Manager

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Version 2

Note

Before using this information and the product it supports, read the general information under "Notices" on page xi.

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Second Edition (September 1996)

This edition applies to Version 2 Release 1 of the ADSTAR Distributed Storage Manager, 5648-020, 5622-112, 5697-078, 5763-SV1, 5733-197, 5686-073, 5655-119, 5765-564, 28H2250, 28H2180, 89G1342, 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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Preface

ADSTAR Distributed Storage Manager (ADSM) is a client/server program that provides storage management services to customers in a multivendor computer environment.

ADSM provides an automated, centrally-scheduled, policy-managed backup and archive facility for IBM and non-IBM file servers and workstations.

This publication explains how to install the backup-archive, administrative, and hierarchical storage management (HSM) clients for all supported platforms. Refer to the specific installation chapters for information about levels of operating systems supported.

Who Should Read This Publication

This publication is intended for administrators or general users who need to install the ADSM backup-archive, administrative, or HSM client on a workstation.

What You Should Know Before Reading This Publication

This publication assumes that you know how to use the workstation on which you plan to install the ADSM client and that you understand how the workstation's operating system works.

Style Conventions

Throughout the book, we use these style conventions:

Figure 1. Style Conventions

Convention	Indicates
bold	A part of a window, or a file name.
UPPER CASE	An ADSM command or option.
<i>italics</i>	A new term.
monospace text	An example in the text.
plus sign (+)	Used between two keys to indicate that the two keys it separates should be pressed simultaneously.

ADSTAR Distributed Storage Manager Publications

All of the ADSM publications listed in Figure 2 are available in online readable format on the *ADSM Online Product Library* CD-ROM, order number SK2T-1893.

Figure 2. ADSM Client Publications

Short Title	Publication Title	Order Number
ADSM Messages	<i>ADSTAR Distributed Storage Manager Messages</i>	SH35-0133
Installing the Clients	<i>ADSTAR Distributed Storage Manager Installing the Clients</i>	SH26-4049
Using the Macintosh Backup-Archive Client	<i>ADSTAR Distributed Storage Manager Using the Apple Macintosh Backup-Archive Client</i>	SH26-4051
Using the DOS Backup-Archive Client	<i>ADSTAR Distributed Storage Manager Using the DOS Backup-Archive Client</i>	SH26-4054
Using the Windows Backup-Archive Clients	<i>ADSTAR Distributed Storage Manager Using the Microsoft Windows Backup-Archive Clients</i>	SH26-4056
Using the NetWare Backup-Archive Client	<i>ADSTAR Distributed Storage Manager Using the Novell NetWare Backup-Archive Client</i>	SH26-4055
Using the OS/2 Backup-Archive Client	<i>ADSTAR Distributed Storage Manager Using the OS/2 Backup-Archive Client</i>	SH26-4053
Using the UNIX Backup-Archive Clients	<i>ADSTAR Distributed Storage Manager Using the UNIX Backup-Archive Clients</i>	SH26-4052
Using the UNIX HSM Clients	<i>ADSTAR Distributed Storage Manager Using the UNIX Hierarchical Storage Management Clients</i>	SH26-4030
Using the API	<i>ADSTAR Distributed Storage Manager Using the Application Programming Interface</i>	SH26-4002
Using the Lotus Notes Backup Agent	<i>ADSTAR Distributed Storage Manager Using the Lotus Notes Backup Agent</i>	SH26-4047
Reference Cards (Backup-Archive)	<i>ADSTAR Distributed Storage Manager Reference Cards for the Backup-Archive Clients</i>	SX26-6013

The ADSM library is also available on the following CD-ROMs:

MVS Base Collection Kit, SK2T-0710
VM Base Collection Kit, SK2T-2067
OS/2 Base Collection Kit, SK2T-2176
AIX Base Collection Kit, SK2T-2066
AS/400 Base Collection Kit, SK2T-2171
VSE Base Collection Kit, SK2T-0060
IBM SystemView for AIX, SK2T-1451

Summary of Changes

Version 2, Release 1, March 1996

Functional Enhancements

- The ADSM HSM client is now available on AIX 4.1.
- ADSM backup-archive clients are now available for the following:
 - Bull DPX/2 300 B.O.S.
 - Digital UNIX (DEC OSF/1)
 - Power Macintosh
 - Windows 95
- The ADSM backup-archive client for SINIX runs on Pyramid Nile DC/OSx level 79 or later or Reliant UNIX 1.0 or later.
- An X/Open API has been added to the AIX and Solaris platforms.
- You can now install the following language packages for AIX clients:
 - Japanese
 - German
 - Spanish
 - Swedish
 - French
 - Italian
 - Simplified Chinese
- The following options are no longer valid for an AIX client:
 - DATEFORMAT
 - LANGUAGE
 - NUMBERFORMAT
 - TIMEFORMAT
- A Shared Memory communication method has been added for AIX clients.
- The PASSWORDACCESS option can now be used by the ADSM OS/2 backup-archive client.
- The following options have been added:
 - PASSWORDDIR
 - RESTOREMIGSTATE
 - SHMPORT
- The following options have new default values:
 - CPICBUFFERSIZE
 - IPXBUFFERSIZE
 - NETBIOSBUFFERSIZE
 - SLOWINCREMENTAL
 - TAPEPROMPT
 - TCPBUFFSIZE

- TCPWINDOWSIZE
- TXNBYTELIMIT
- 400COMMBUFFERBYTES
- 400SENDERBUFFERBYTES

Version 2, Release 1, November 1996

These are additional changes made for ADSM Version 2 Release 1.

Functional Enhancements

- The COMPRESSALWAYS option is now valid for all backup-archive clients.

Reading Syntax Diagrams

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

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

- The \blacktriangleright — symbol indicates the beginning of a syntax diagram.
- The — \blacktriangleright symbol at the end of a line indicates the syntax diagram continues on the next line.
- The \blacktriangleright — symbol at the beginning of a line indicates a syntax diagram continues from the previous line.
- The — \blacktriangleleft 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).

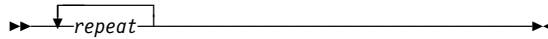
Syntax Diagram Description	Example
<p>Abbreviations:</p> <p>Uppercase letters denote the shortest acceptable truncation. If an item appears entirely in uppercase letters, it cannot be truncated.</p> <p>You can type the item in any combination of uppercase or lowercase letters.</p> <p>In this example, you can enter KEYWO, KEYWORD, or KEYWOrd.</p>	<p>\blacktriangleright—KEYWOrd—\blacktriangleleft</p>
<p>Symbols:</p> <p>Enter these symbols exactly as they appear in the syntax diagram.</p>	<ul style="list-style-type: none"> * Asterisk { } Braces : , = Equal Sign - Hyphen () Parentheses . Space
<p>Variables:</p> <p>Italicized lowercase items (<i>var_name</i>) denote variables.</p> <p>In this example, you can specify a <i>var_name</i> when you enter the KEYWORD command.</p>	<p>\blacktriangleright—KEYWOrd—<i>var_name</i>—\blacktriangleleft</p>

Syntax Diagram Description

Example

Repetition:

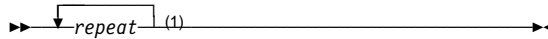
An arrow returning to the left means you can repeat the item.



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



A footnote by the arrow references the number of times you can repeat the item.



Note:

¹ Specify *repeat* as many as 5 times.

Required Choices:

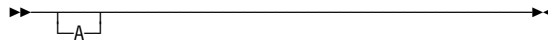
When two or more items are in a stack and one of them is on the line, you *must* specify one item.



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:

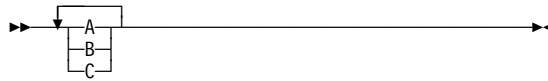
Defaults are above the line. The default is selected unless you override it. You can override the default by including an option from the stack below the line.



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.



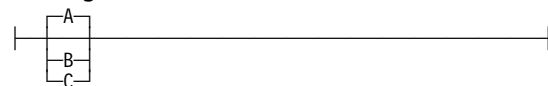
In this example, you can choose any combination of A, B, or C.

Syntax Fragments:

Some diagrams, because of their length, must fragment the syntax. The fragment name appears between vertical bars in the diagram. The expanded fragment appears between vertical bars in the diagram after a heading with the same fragment name.



The fragment name:



Chapter 1. Introducing the ADSTAR Distributed Storage Manager

The ADSTAR Distributed Storage Manager (ADSM) is a client/server program that helps you protect valuable information that has been created on client workstations.

Using ADSM, you can maintain backup versions of workstation files that can be restored quickly and easily if the original files are damaged or lost. You can also archive files that are not currently needed on a client workstation, and retrieve them when necessary.

ADSM includes the following:

- A *server program* that allows a supported host to act as a backup and archive server for client workstations. It also allows a supported host to act as a migration server for client workstations.

The server program manages backup versions of files, archived copies of files, and migrated files based on the storage management policies defined by an ADSM administrator, and sends copies back whenever the user requests them.

- An *administrative client program* that allows ADSM administrators to control and monitor server activities, define storage management policies for backup, archive, and space management services, and set up schedules to provide those services at regular intervals.
- A *backup-archive client program* that allows you to register a workstation with an ADSM server as a client node and request backup and archive services. The client node communicates with an ADSM server for the purpose of backing up, archiving, restoring, and retrieving files.
- A *hierarchical storage management (HSM) client program* that provides space management services. The HSM client program migrates eligible files to ADSM storage to maintain specific levels of free space on local file systems, and automatically recalls migrated files when they are accessed. It also allows users to migrate and recall specific files. This client is not available on all ADSM-supported platforms.
- An *application program interface (API)* that allows application programmers to enhance an existing application with storage management services. End users of such applications must install the API modules to enable the ADSM functions.
- A new *WebShell client interface* is available on OS/2, Windows NT, Windows 95, and AIX. The WebShell client runs on the same workstation as an ADSM command line backup-archive client and it can be accessed through a Web Browser from any workstation that has a Web Browser installed. The ADSM client machine with the WebShell client installed can be backed up remotely from any workstation running an appropriate Web Browser. The readme file on the WebShell client is located in the `/usr/lpp/adsm/bin/wsstuff` directory. It is named `wsreadme.html`.

This book explains how to install the clients and how to perform initial setup tasks. Setup tasks include creating options files and setting options, such as communication options, that control ADSM processing.

For information about using the clients, see the books listed in Figure 2 on page xiv. All of those books can be found in online-readable format on the *ADSM Online Product Library* CD-ROM, order number SK2T-1893.

Communication Protocols

To communicate with an ADSM server, a client node can use one of the communication protocols in Figure 3, depending upon which operating system is running on the workstation.

Figure 3 (Page 1 of 2). ADSM Client/Server Communication Protocols

Protocol	Description	ADSM Clients
3270	The 3270 emulation program. This is the default for OS/2, DOS, and Windows. ADSM supports all 3270 emulation modes except asynchronous dial up.	OS/2 DOS Windows (except NT)
IPX/SPX	Internetwork Packet Exchange/Sequenced Packet Exchange. This protocol applies to an OS/2, AIX, or Windows NT server.	OS/2 DOS Windows Windows NT NetWare
Named Pipe	You can use this communication method when the client node and ADSM server reside on the same workstation.	OS/2 Windows NT
NETBIOS	The Network Basic Input/Output System. This protocol applies to an OS/2, AIX, or Windows NT server.	OS/2 DOS Windows Windows NT
PC Support/400 or Client Access/400	The PC Support/400 Advanced Program-to-Program Communications (APPC) or Client Access/400. This product applies to an OS/400 server.	DOS Windows (except NT)
PWSCS	The VM Programmable Workstation Communication Services. This protocol applies to a VM server only.	OS/2 DOS Windows (except NT)
Shared Memory	You can use this communication method when the client node and ADSM server reside on the same AIX workstation.	AIX only
SNA LU6.2 (APPC)	Systems Network Architecture Logical Unit 6.2.	OS/2 DOS Windows (except NT) NetWare (for SAA) AIX OpenEdition MVS

Figure 3 (Page 2 of 2). ADSM Client/Server Communication Protocols

Protocol	Description	ADSM Clients
TCP/IP	The Transmission Control Protocol/Internet Protocol.	OS/2 DOS Windows Windows NT NetWare Macintosh UNIX
CLIO	Sets the communication method to Client Input-Output/Sockets (CLIO/S). This product applies to the MVS server. See the <i>CLIO/S V2.2 User's Guide and Reference</i> , GC28-1676 for information.	AIX

Installation Overview

Although the details differ from platform to platform, installing and setting up the ADSM clients requires these steps:

- 1** Install the client program on your workstation. During this step, you select the client components you want to install. For example, you can install the GUI or command-line versions of the backup-archive client or administrative client, or you can install the API.
- 2** Set environment variables to identify the locations of certain ADSM files. This is usually an optional step because most clients set these variables during installation. If you move the client code, you might need to change these variables.
- 3** Copy and modify the options file. ADSM uses options to control its processing. For example, options determine which communication method ADSM uses to transfer data.

For UNIX clients, the options are in three options files: client system options file, client user options file, and include-exclude options file. This allows for greater flexibility in multi-user systems. All other clients use a single options file, usually referred to as the client options file. On the Macintosh, it is called the ADSM Preferences file.
- 4** Register the workstation as a client node with an ADSM server. Once registered, you can begin using ADSM to manage your data.

If you want to use ADSM to manage data automatically according to a schedule, be sure to install the client that includes the *client scheduler*. On most platforms, that is the backup-archive command-line client, and the SCHEDULE command is used to start

the client scheduler. You can set up most clients to start the scheduler automatically so that you do not have to start it manually.

Installing Clients from a Server CD-ROM

All ADSM clients are included on the server installation CD-ROM. You can install the clients using one or all of the methods listed below. See Figure 5 on page 6 to determine which method(s) you can use.

- Install directly from the CD-ROM
- Create client images to install
- Transfer installable files from the CD-ROM to a target workstation.

If you want to copy all of the clients to your server workstation so that client workstations can get the files from the x:\clients directory, enter the following command:

```
xcopy h:\clients\*. * x:\ /s
```

Note: All of the examples in this chapter use the h drive as the CD-ROM or mounted drive. Substitute h with the CD-ROM drive on your system.

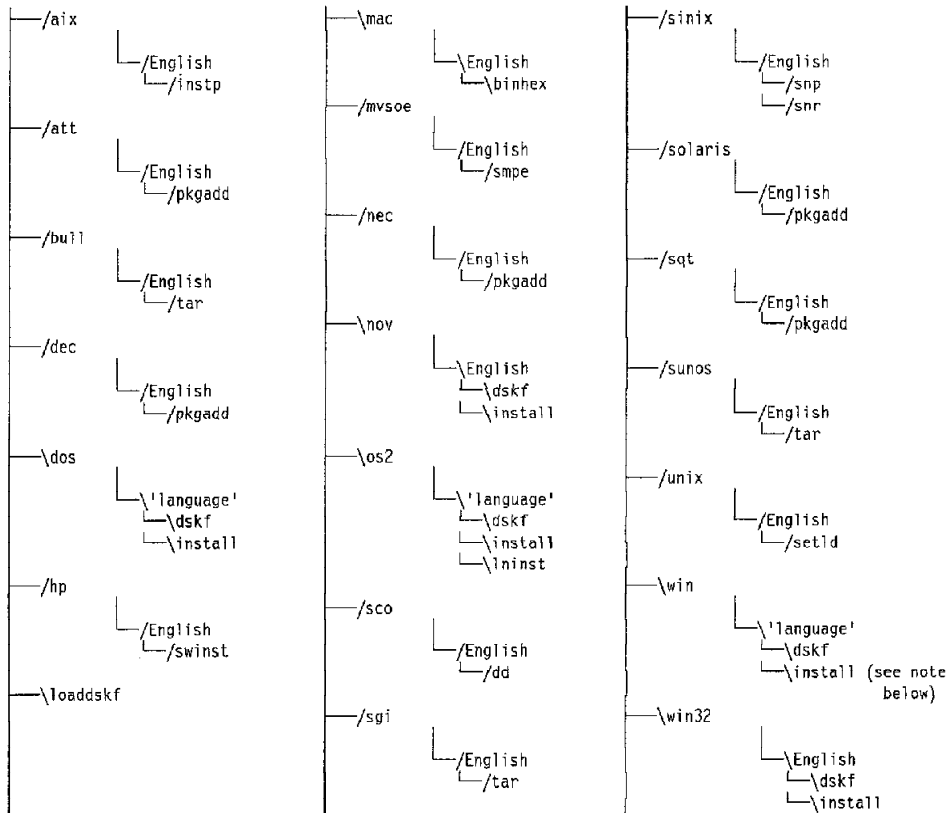
Client Installation Directory Structure

The client images are organized and stored on the server workstation in this client installation directory structure:

```
h:\clients\platform\language\image_format
```

Figure 4 on page 5 shows the directory structure for each client image.

Figure 4. Directory Structure of the Client Images



Notes:

1. AIX, DOS, and OS/2 are available in the following code sets:
 - U.S. English
 - Simplified Chinese
 - French
 - German
 - Italian
 - Japanese
 - Spanish
 - Swedish
2. Windows is available in all languages *except* Simplified Chinese.
3. h:\clients\win\language\install is valid for all languages *except* Japanese and Chinese.

Figure 5 shows each client, the program location on the server CD-ROM, install methods valid for each client, and where to go in this book to continue the installation. Locate the client you want to install and choose the appropriate method.

Note: All of the examples in this chapter use the h drive as the CD-ROM or mounted drive. Substitute h with the CD-ROM drive on your system.

Figure 5 (Page 1 of 2). Program Locations of Clients on the Server CD-ROM

Client	Program Location	Install Methods	Go To Page
AIX	h:/clients/aixv3/English/instp h:/clients/aixv4/English/instp	Install directly Transfer installable files	11
AT&T	h:/clients/att/English/pkgadd	Install directly Transfer installable files	11
Bull	h:/clients/bull/English/tar	Install directly Transfer installable files	11
DEC	h:/clients/dec/English/setld	Transfer only	11
DOS	h:\clients\dos\language\install h:\clients\dos\English\dskf	Install directly Create disk images Transfer installable images	99
HP-UX	h:/clients/hp/English/swinst h:/clients/hp10/English/swinst	Install directly Transfer installable images	11
Macintosh *	h:\clients\mac\English\binhex	Transfer only	165
Open Edition MVS	h:/clients/mvsoe/English/smpe	Transfer only	11
NEC	h:/clients/nec/English/pkgadd	Install directly Transfer installable images	11
Novell	h:\clients\nov\English\install h:\clients\nov\English\dskf	Install directly Create disk images Transfer installable images	149
OS/2	h:\clients\os2\language\install h:\clients\os2\language\dskf h:\clients\os2\language\lninst	Install directly Create disk images Transfer installable images	79
Digital UNIX	h:/clients/osf/English/setld	Install directly Transfer installable images	11
SCO	h:/clients/sco/English/dd	Transfer only	11
IRIX	h:/clients/sgi/English/tar	Install directly Transfer installable images	11
SINIX	h:/clients/sinix/English/snp h:/clients/sinix/English/snr	Install directly Transfer installable images	11
Sun Solaris	h:/clients/solaris/English/pkgadd	Install directly Transfer installable images	11
SQT	h:/clients/sqt/English/pkgadd	Install directly Transfer installable images	11
SunOS	h:/clients/sunos/English/tar	Install directly Transfer installable images	11

Figure 5 (Page 2 of 2). Program Locations of Clients on the Server CD-ROM

Client	Program Location	Install Methods	Go To Page
Windows	h:\clients\win\language\install	Install directly	113
	h:\clients\win\language\dskf	Create disk images Transfer installable images	
Windows NT	h:\clients\win32\English\install	Install directly	131
	h:\clients\win32\English\dskf	Create disk images Transfer installable images	

Notes:

1. You will need a BinHex converter to convert the ADSM Macintosh installation file before you install it. Programs such as Stuffit Deluxe and Compact Pro can convert the files. In addition, BinHex 4.0, a freeware program, can be found at most major FTP sites including ftp.apple.com, and from online services such as, CompuServe and America Online.
2. In order to install a client directly from the CD-ROM, you must install a like client with a like machine; for example, to install the OS/2 client, you must place the CD-ROM on the OS/2 machine.

Creating Diskettes from Client Images on the Server CD-ROM

If you want to install an ADSM client on a DOS, Novell, OS/2, Windows, or Windows NT workstation, you can download the client image files to diskettes from your server workstation and then install them on the client platform. Figure 6 shows the number of 1.44MB diskettes required for each client.

Figure 6. Diskettes Needed for Images

Client	Diskettes Needed
DOS	6
Novell	2
OS/2	6
Windows	2
Windows NT	5

Follow these steps to transfer client image files to diskette from a server CD-ROM.

- 1** To change to the client directory that you want to copy to diskette, type the following command and press Enter:

```
cd h:\clients\client\language\dskf
```

Note: Replace 'client' with the name of the client you want to copy, 'language' with the language you want to install, and 'h' with the CD-ROM drive letter on your system.

- 2** Insert a formatted 3.5-inch diskette into your workstation.

- 3** Enter the following command to copy the client file to your diskette:

```
h:\clients\loaddiskf\loaddiskf <filename> a: /f
```

Note: <filename> is any of the files listed under that directory. See Figure 6 for the number of diskettes you need for each client.

- 4** When you create the diskettes, go to that client install chapter in this book to continue.

Migrating from Earlier Versions of ADSM

ADSM Version 2 backup-archive clients store files in a different format than the Version 1 clients. The Version 2 clients can back up and restore data to a Version 1 or Version 2 server. Any data that has been backed up by a Version 2 client cannot be restored by a Version 1 client, regardless of the version of the server. If you have an ADSM Version 1 server, and you install a Version 2 client, you can use the two within the following rules:

- A Version 1 client can back up and restore or archive and retrieve to a Version 2 server.
- A Version 2 client can back up and restore or archive and retrieve to a Version 1 server.
- If a Version 2 client backs up data to a Version 2 server, that data cannot be restored by a Version 1 client.
- A Version 2 client can back up and restore data that has previously been backed up by a Version 1 client.
- A Version 1 client cannot back up or restore data that has previously been backed up by a Version 2 client.
- A Version 2 administrative GUI can administer Version 1 servers, but invoking Version 2 functions causes an error message.
- All command-line administrative clients can administer either Version 1 or Version 2 servers.
- HSM clients can work only with Version 2 Release 1 Level 0.2/0.2 or higher servers.

Once you start to use a Version 2 client, you cannot switch back to a Version 1 client. If a Version 1 client tries to restore Version 2 data or perform an incremental backup after a Version 2 backup, an Unknown format message is displayed.

Because the Version 2 clients store files in a different format than the Version 1 clients, ADSM updates the attributes for each active file on the ADSM server during the first incremental backup after you install the Version 2 client.

Installing the Online Books

All ADSM books are available in online readable format using either IBM BookManager or Electronic Book Technologies DynaText. The BookManager and DynaText versions are available on the *ADSM Online Product Library* CD-ROM (SK2T-1893). The BookManager versions are also available on the other CD-ROMs listed in "ADSTAR Distributed Storage Manager Publications" on page xiv.

The booklets included with the CD-ROMs explain how to install the online books and the readers. You can install them on each user's machine, or you can install them on a LAN drive. Because the online books and readers are large, installing them on a LAN drive that multiple users can access can save a lot of disk space.

In addition to reading the ADSM books online, users can also print the books. Consult the online documentation for the reader programs for information about printing online books. The quality of the printout depends on the reader program you use and on your printer capability.

To make it easier for users to access the ADSM online books, there is a View Books item on the Help menus of the GUI clients, with the exception of the DOS client. You must include the BOOKS option in the options file to view the books.

The BOOKS option defines the command used to start the online book reader. The BOOKS option is described in "BOOKS" on page 218. The exact value required depends on where you have installed the reader and the books, which reader you are using, and whether the location of the reader and the books is known to the workstation (for example, by being set in the user's path). For example, the following option works on OS/2 if the config.sys file contains all required path settings for BookManager and the online books.

```
BOOKS bookmgr
```

Consult the CD-ROM booklet and the reader's documentation for information about using the reader programs.

Chapter 2. Installing UNIX Clients

This chapter provides instructions to install and set up ADSM UNIX clients. It includes required and optional tasks for a root user, optional tasks for users, and special considerations for setting up ADSM to back up and archive Andrew File System (AFS) files from an AIX workstation.

UNIX Installation Requirements

Figure 7 lists basic prerequisites for installing ADSM on the various UNIX clients. More of this type of information is provided with the installation procedure for each platform.

Figure 7. UNIX Clients Requirements

Operating System	Version	Disk Space ¹
AIX	3.2 or later	36 MB
AT&T UNIX SVR4	Rel. 2.02 or 2.03	5 MB
Bull DPX/2 300 B.O.S.	Release 2.00	5 MB
DEC ULTRIX	4.2A, 4.3, or 4.4	5.5 MB
Digital UNIX (DEC OSF/1)	V3.2	5 MB
HP-UX	Level 8.07, 9.01, 9.03, 9.04, 10.0, or 10.01	11 MB
NEC EWS-UX/V	Rel. 4.2, Rev. 9.1, 9.2, 10.1 or 11.1	5 MB
OpenEdition MVS	MVS/ESA SP 5.1 or higher	6.2 MB ²
SCO	Open Desktop 2.0 or 3.0 or UNIX 386 3.2.4	6.8 MB
Pyramid Nile	DC/OSx level 79 or later or Reliant UNIX 1.0 or later	5MB
Sequent PTX	UNIX Release 2.1.6	10 MB
Siemens Nixdorf RISC	SINIX-N or SINIX-P 5.4.2 RISC	5 MB
Siemens Nixdorf SINIX-Z	Version 5.4.1 386/486	5 MB
Silicon Graphics IRIX	Rel. 5.2 or 5.3 with efs- or xfs-File System	5 MB
SunOS	Version 4.1.3	15.8 MB
Sun Solaris - Native mode ³	2.3, 2.4, or 2.5	15.8 MB

Notes:

1. Disk Space is for all available client components.
2. Allocated as MVS data sets during installation
3. Sun Administrative GUI runs on Solaris 2.3, 2.4, or 2.5 in binary compatibility mode.

A root user must install ADSM on a UNIX workstation. Additional required setup tasks for the root user include the following:

- Copying and modifying the sample client system options file
 - To identify the ADSM servers to contact
 - To provide necessary communication information
 - To choose a password option, if a password is required
- Copying the sample client user options file
- Registering the workstation with an ADSM server

Optional root user tasks are:

- Modifying the default client user options file
- Creating an include-exclude options file

Optional user tasks are:

- Copying and modifying the sample client user options file
- Setting up environment variables

Special considerations for backing up and archiving AFS files on an AIX workstation include the following:

- Using the AFS versions of executable files
- Identifying AFS user accounts for backup and archive

Step 1: Installing the Client Programs (Required)

This section includes the initial step for installing each ADSM client program on UNIX workstations. The clients are presented in this order:

AIX
 AT&T UNIX SVR4
 Bull DPX/2 300 B.O.S.
 DEC ULTRIX
 Digital UNIX
 HP-UX
 NEC EWS-UV/X
 OpenEdition MVS
 Pyramid Nile
 SCO
 Sequent PTX
 Siemens Nixdorf SINIX
 Silicon Graphics IRIX
 SunOS and Solaris

This section is followed by installation information that applies to all UNIX clients. That information begins with “Step 2: Setting Environment Variables (Optional)” on page 61.

AIX Client Environment

This section contains client environment information, including hardware and software requirements, for the AIX platform.

Client Components

The following ADSM client components can be installed on an AIX workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line and GUI)
- HSM client (command-line and GUI)
- API (base API and X/Open API)
- WebShell client interface

Hardware Requirements

- A RISC System/6000
- Disk space:
 - For AIX 3.2, 36 MB (to install all client components)
 - For AIX 4.1, 20 MB (to install all client components), plus 2 MB per language package installed
- Memory: 16 MB
- ESCON, if you use CLIO/S communication method.

This includes any applications running on IBM's Scalable POWERparallel Systems 2 (SP2).

Operating System

- IBM AIX 3.2, 4.1, or later for backup-archive (command-line or GUI)
- IBM AIX 3.2.3 or later for administrative GUI
- IBM AIX 3.2.3, 3.2.4, 3.2.5, or 4.1 for hierarchical storage management (HSM) (command-line or GUI)

Communication Methods

Figure 8. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with AIX/6000	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT
SNA LU6.2 (APPC)	AIX SNA Services/6000	AIX, MVS, OS/2, OS/400, VSE, VM
Shared Memory	TCP/IP (Standard with AIX/6000)	AIX
CLIO/S*	ESCON, CLIO/S	MVS

Note: * See *CLIO/S V2.2 User's Guide and Reference* to install CLIO/S, configure ESCON subchannels and fibre definitions, and customize PARCTC and PARCONF CLIO/S configuration files.

You must configure a subchannel in the ESCON channel adapter for *each* client session using CLIO.

Installation Considerations

To install ADSM on an AIX workstation, use the System Management Interface Tool (SMIT). For detailed information about using SMIT, see *Getting Started: Managing IBM RISC System 6000* and read the SMIT windows during the installation process.

The AIX 3.2 installation requires at least 36 MB of disk space to install all available options, including the hierarchical storage management (HSM) client.

The AIX 4.1 installation requires at least 20 MB of free disk space to install all available options, including the HSM client, in American English only. It requires 2 MB of additional disk space to install each additional language package you select.

Note: The HSM client is a separately priced feature of ADSM. It is not functional on your system without a license.

When you install ADSM on an AIX workstation, most of the ADSM files for the installed client components reside in **/usr/lpp/adsm/bin**.

CAUTION:

Do not place any user-created datasets such as, include/exclude files, dsm.opt files, or dsm.sys files into /usr/lpp/adsm, the base directory into which the ADSM product is installed. The /usr/lpp/adsm directory is owned by the install process. Any user-created datasets in this directory might be deleted during installation.

On an AIX 3.2 workstation, additional subdirectories and the files they contain are installed for all available language packages.

On an AIX 4.1 workstation, additional subdirectories and the files they contain are installed for only those language packages you select.

For example, if you select the French language package, the **/usr/lpp/adsm/bin/fr_FR** directory is installed. An additional symbolic link is also created. For example, for the French language package, the **/usr/lib/nls/msg/fr_FR** directory is created with a symbolic link to the **dsmclient.cat** file in **/usr/lpp/adsm/bin/fr_FR**. The **dsmclient.cat** file contains the message file for ADSM.

See “ADSM Files for AIX” on page 23 for lists of files for each client component and information about where the files are stored.

Special Considerations When Installing HSM on an AIX Workstation

Attention

If you are reinstalling HSM, be sure that all activity has stopped on all file systems to which you previously added space management, and that those file systems are not being accessed. Otherwise, the install process will fail.

When you install the HSM client on an AIX workstation, the install process performs these steps:

- 1** Checks to see whether there are any file systems with a file system type of FSM:JFS. If there are, the install process unmounts the *file system migrator* (FSM) from those file systems.

File systems with a file system type of FSM:JFS exist only if the HSM client was previously installed. The file system type is FSM:JFS for any file system to which space management has been added.
- 2** Checks to see whether space management daemons are running. If they are, the install process stops the daemons.
- 3** Checks to see whether the HSM kernel extension exists. If it does, the install process unloads the kernel extension.
- 4** Checks to see whether the **/etc/inittab** file contains a statement that loads the kernel extension at boot time. If it does, the install process removes the statement from the file.
- 5** Extracts the HSM modules.
- 6** Loads the HSM kernel extension.
- 7** Starts the space management daemons.
- 8** Adds a statement to the **/etc/inittab** file that loads the kernel extension at boot time.

For more information about HSM, see *Using the UNIX HSM Clients*.

Virtual File System Number

When HSM is installed on an AIX workstation, it must obtain a virtual file system (vfs) number. Because numbers 0 through 7 are reserved, it attempts to obtain a number in the range of 8 through 15, beginning with the number 15 and working down in the range to find an unused number.

If a number in that range is not available, HSM displays an error message. You must:

- 1** Check the **/etc/vfs** file for current usage of vfs numbers.
- 2** Release a number in the 8 through 15 range.

- 3** Restart ADSM installation.

Group Numbers

When HSM is installed on an AIX workstation, it must obtain group numbers for HSM execution modes. It picks an unused range of group numbers beginning with the largest possible group number and working down. The range is xxxxxx00 through xxxxxx7F.

Installing the AIX Client Program for AIX Version 4.1

The AIX 4.1 system supports two versions of SMIT: ASCII and Motif. On the ASCII version, you select an item, and then press Enter. On the Motif version, you click on the item you want. The following procedure is written for the Motif version, but any significant differences for the ASCII version are noted.

- 1** Log in as the root user. (If you are using the Motif version of SMIT, you must be in the X Window System environment. Enter `xinit` if you are not.)

Then, enter the following command:

```
smi t
```

- 2** On the first window, click on Software Installation & Maintenance.
- 3** On the next window, click on Install / Update Software.
- 4** On the next window, click on Install / Update Selectable Software (Custom Install).
- 5** On the next window, do one of the following:
 - To install only the American English package and the language package appropriate for your system, click on Install Software Products at Latest Level.
On the next window, click on Install New Software Products at Latest Level.
 - To selectively install language packages, click on Install / Update From All Available Software.
- 6** On the next window, enter the name of the drive you are using for the installation by doing one of the following:
 - Click on List to access the device list and click on the drive you are going to use. (On the ASCII version, press F4 to get the list, and then select the drive and press Enter.)
 - Type the device information in the input field.

If you are installing from CD-ROM, type the location on the CD-ROM in the input field:

```
/CD-ROM/clients/aixv4/English/instp
```

Note: Substitute the word **CD-ROM** with the file system of the CD-ROM drive on your system.

Click on Do in the Motif version.

7 On the next window, change the OVERWRITE Existing Version option to yes by clicking on List, and then clicking on Yes. (On the ASCII version, use the arrow key to position the cursor on the OVERWRITE Existing version option and change it to Yes by pressing the Tab key.)

You can leave default settings for all other options.

8 Load tape (or insert the first diskette of the desired component) into the drive you selected, and then press Enter.

If you are installing from CD-ROM, insert the CD-ROM containing the client package into the CD-ROM drive and then press Enter.

ADSM asks ARE YOU SURE? Select OK, and then press Enter.

If you need to reinstall ADSM over an existing version, follow the preceding procedure to see the command that SMIT creates. When you attempt to reinstall ADSM, the final window shows that the installation failed. You are directed to add the `-F` flag to the installation command, which you can view in the upper part of the window. (Press F6 to see the command in the ASCII version.) You must enter the command separately because SMIT does not overwrite existing versions.

9 The software installation option window (Multi-select List) appears.

- Figure 9 on page 18 illustrates the window that appears if you clicked on Install Software Products at Latest Level.

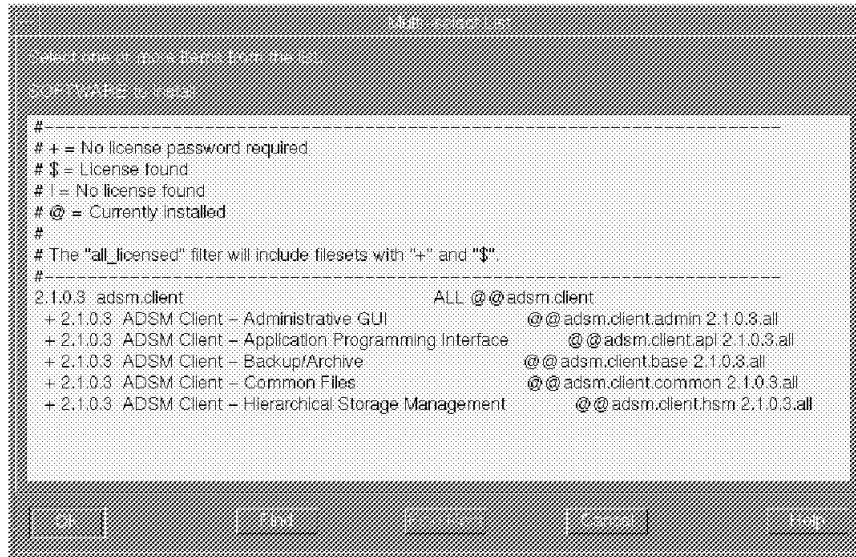


Figure 9. ADSM Software Installation Option (Multi-select List) Window. The ASCII window is similar.

Select the items you wish to install by clicking and highlighting each one. After you make all of your selections, click on the OK button. (In the ASCII version, move the cursor to an item and press F7 to select it.)

If you wish to install all of the options, select the adsm.client ALL item.

A minimum installation requires ADSM Client - Common Files and at least one of the remaining client options.

- Figure 10 on page 19 illustrates the window that appears if you clicked on Install / Update From All Available Software.

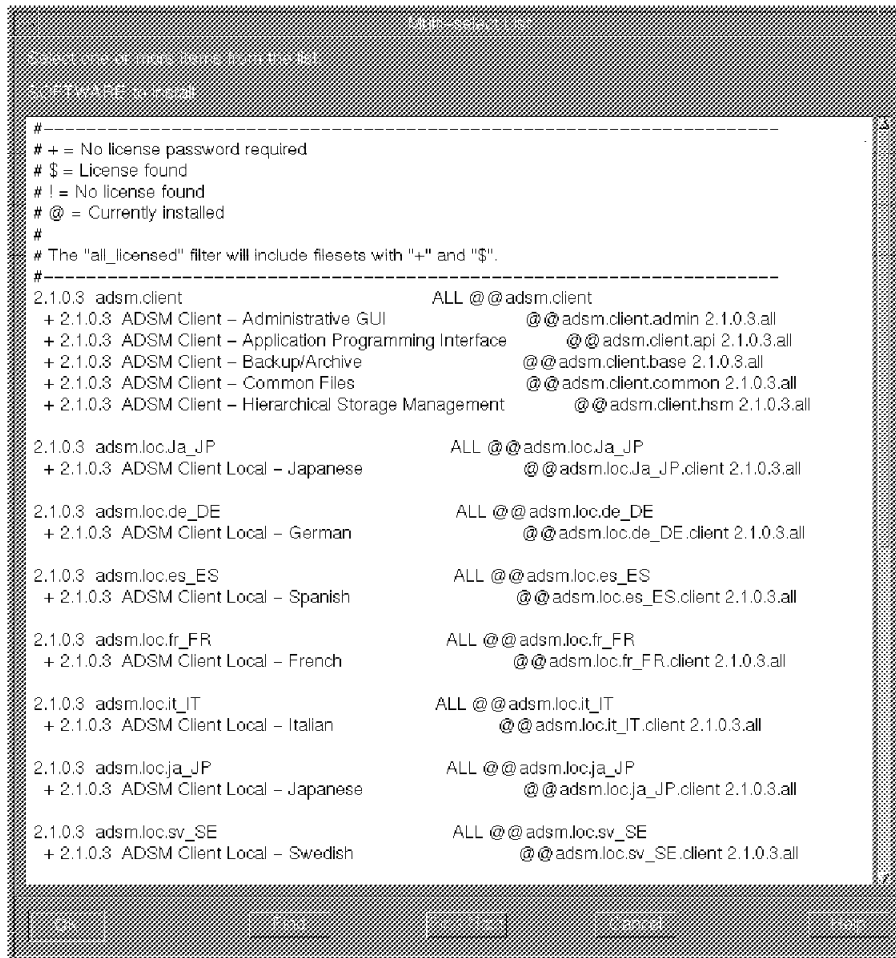


Figure 10. ADSM Software Installation Option (Multi-select List) Window. The ASCII window is similar.

Select the items you wish to install by clicking and highlighting each one. After you make all of your selections, click on the OK button. (In the ASCII version, move the cursor to an item and press F7 to select it.)

If you wish to install all of the options, select the adsm.client ALL item.

A minimum installation requires ADMSM Client - Common Files and at least one of the remaining client options.

If you wish to install an additional language package, you must select both of the options listed for a particular language. For example, if you want to install the Japanese language package, select both adsm.loc.Ja_JP and adsm.msg.Ja_JP.

10 In Motif, when the installation is complete, click on Done.

After installation, if you decide to move the ADSM files from the installation directory to another directory, be sure to maintain the same directory structure for all directories and files below **/usr/lpp/adsm/bin**.

If you move the ADSM files from the installation directory (**/usr/lpp/adsm/bin**) to another directory, you must also complete the following steps:

- 1** Make sure the permissions of the installed files have not changed.
- 2** Update the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been installed.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory and in the directory that contains symbolic links for each language package you install (for example, **/usr/lib/nls/msg/en_US**).
- 4** Ensure that every user of ADSM has set the **DSM_DIR** environment variable to the new directory.

Note: to run the Backup-Archive GUI on the AIX 4.1 client, install X11.base.rte.

Installing the AIX Client Program for AIX Version 3.2

The AIX 3.2 system supports two versions of SMIT: ASCII and Motif. On the ASCII version, you select an item, and then press Enter. On the Motif version, you click on the item you want. The following procedure is written for the Motif version, but any significant differences for the ASCII version are noted.

Later versions of AIX 3.2 incorporate slightly different SMIT screens than earlier versions. Where these differences exist, they are identified in the installation steps.

- 1** Log in as the root user. (If you are using the Motif version of SMIT, you must be in the X Window System environment. Enter `xinit` if you are not.)

Then, enter the following command:

```
smit
```

- 2** On the first window:
 - Earlier versions: click on Installation and Maintenance.
 - Later versions: click on Software Installation & Maintenance.

- 3** On the next window:

- Earlier versions: click on Standard Installation and Maintenance.
- Later versions: click on Install / Update Software.

4 On the next window:

- Earlier versions: click on Software Installation and Maintenance.
- Later versions: click on Install / Update Selectable Software (Custom Install).

5 On the next window:

- Earlier versions: click on Install / Update Software.
- Later versions: click on Install From All Available Software Packages. Proceed to step 7.

6 On the next window

- Earlier versions: click on Install Software Without Updates.
- Later versions: Proceed to the next step.

7 On the next window, enter the name of the drive you are using for the installation by doing one of the following:

- Click on List to access the device list and click on the drive you are going to use. (On the ASCII version, press F4 to get the list, and then select the drive and press Enter.)
- Type the device information in the input field.

If you are installing from CD-ROM, type the program location on the CD-ROM in the input field:

```
/CD-ROM/clients/aixv3/English/instp
```

Note: Substitute the word **CD-ROM** with the file system of the CD-ROM drive on your system.

Click on Do in the Motif version.

8 On the next window

- Earlier versions: change the Commit Software option to Yes by clicking on List, and then clicking on Yes. (On the ASCII version, use the arrow key to position the cursor on the Commit Software option and change it to Yes by pressing the Tab key.)
- Later versions: change the OVERWRITE Existing Version option to yes by clicking on List, and then clicking on Yes. (On the ASCII version, use the arrow key to position the cursor on the OVERWRITE Existing version option and change it to Yes by pressing the Tab key.)

You can leave default settings for all other options.

9 Load tape (or insert the first diskette of the desired component) into the drive you selected, and then press Enter.

If you are installing from CD-ROM, insert the CD-ROM containing the client package into the CD-ROM drive and then press Enter.

ADSM asks ARE YOU SURE? Select OK, and then press Enter.

If you need to reinstall ADSM over an existing version, follow the preceding procedure to see the command that SMIT creates. When you attempt to reinstall ADSM, the final window shows that the installation failed. You are directed to add the `-F` flag to the installation command, which you can view in the upper part of the window. (Press F6 to see the command in the ASCII version.) You must enter the command separately because SMIT does not overwrite existing versions.

For the Motif version, in some update levels of AIX 3.2, the Enter key might not be recognized. If you have this condition, move the mouse cursor *out* of the SMIT window and *into* the window where you started SMIT (typically, the AIXTERM window).

10 The software installation option window (Multi-select List) appears. Select the items you wish to install by clicking and highlighting each one. When you have made all of your selections, click on the OK button. (In the ASCII version, move the cursor to an item and press F7 to select it.)

If you wish to install all of the options, click on the Select All button instead (or, select the `adsm ALL` item), and then click on the OK button.

A minimum installation requires **`adsm.common.obj`**, which includes the common files, and at least one of the remaining client options.

<code>adsm.admin.obj</code>	Contains the files for the administrative client
<code>adsm.api.obj</code>	Contains the files for the base API and the X/Open API
<code>adsm.base.obj</code>	Contains the files for the backup-archive client
<code>adsm.spmgmt.obj</code>	Contains the files for the HSM client

Figure 11 on page 23 depicts the software installation option window (Motif version).

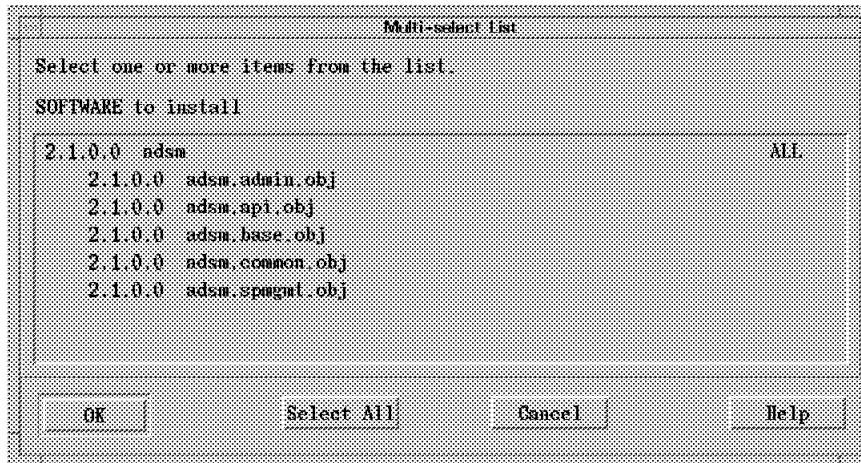


Figure 11. ADSM Software Installation Option (Multi-select List) Window. The ASCII window is similar.

11 In Motif, when the installation is complete, click on Done.

After installation, if you decide to move the ADSM files from the installation directory to another directory, be sure to maintain the same directory structure for all directories and files below **/usr/lpp/adsm/bin**.

If you move the ADSM files from the installation directory (**/usr/lpp/adsm/bin**) to another directory, you must also complete the following steps:

- 1** Make sure the permissions of the installed files have not changed.
- 2** Update the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been installed.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory and in the directories that contain symbolic links for each language package that is installed (for example, **/usr/lib/nls/msg/en_US**).
- 4** Ensure that every user of ADSM has set the **DSM_DIR** environment variable to the new directory.

ADSM Files for AIX

The following tables list the ADSM files that are selectively installed for the backup-archive, administrative, and HSM clients on an AIX workstation. Files are selected for installation depending on the client components you choose to install.

For information about the files that are copied into the installation directory when you install the Application Programming Interface, see “Application Programming Interface (API)” on page 58.

Common Files

The files listed in Figure 12 are used by all AIX client components and are stored in **/usr/lpp/adsm/bin**.

Figure 12. ADSM Common Files

File Name	Description
README	Last minute updates and other special information
dsm.sys.smp	Sample client system options file
dsm.opt.smp	Sample client user options file
dsmtca	Trusted Agent program
options.doc	Documentation for client options

Backup-Archive Client

The files listed in Figure 13 are used by the backup-archive client and are stored in **/usr/lpp/adsm/bin**.

Figure 13. ADSM Backup-Archive Client Files

File Name	Description
DSM.icon	Bitmap for ADSM icon
dsm	Executable file for the backup-archive client graphical user interface
dsm.afs	A version of dsm that requires AFS support to be installed on the workstation
dsmadm	Executable file for the administrative client command-line interface
dsmafs.drv	Andrew File System driver program
dsmc	Executable file for the backup-archive command-line interface
dsmc.afs	A version of dsmc that requires AFS support to be installed on the workstation
dsmna.drv	SNA driver program for APPC communications
ibmlogo.bit	Bit map for IBM logo
info.bit	Bit map for Info Box icon
question.bit	Bit map for Question Box icon
wait.bit	Bit map for Wait Box icon
warn.bit	Bit map for Warning Box icon

Backup-Archive Client Language Packages

The files listed in Figure 14 are used by the backup-archive client and are stored in **/usr/lpp/adsm/bin/en_US**. That directory contains the files required for the American English version of the client.

When you install the backup-archive client on an AIX 3.2 workstation, the files listed in Figure 14 are also stored in each of the following directories. When you install the backup-archive client on an AIX 4.1 workstation, the files are also stored in only those directories that correspond to the language packages you select.

/usr/lpp/adsm/bin/Ja_JP	Japanese
/usr/lpp/adsm/bin/de_DE	German
/usr/lpp/adsm/bin/es_ES	Spanish
/usr/lpp/adsm/bin/sv_SE	Swedish
/usr/lpp/adsm/bin/fr_FR	French
/usr/lpp/adsm/bin/it_IT	Italian
/usr/lpp/adsm/bin/zh_CN	Simplified Chinese

Figure 14. ADSM Backup-Archive Client Language Files

File Name	Description
DSMX	X Window System resource file
dsmc.hlp	Help file for the command-line interface
dsmx.hlp	Windowed Interface help file
dsmclient.cat	Message file

ADSM stores a symbolic link to the **dsmclient.cat** file in a directory named **/usr/lib/nls/msg/en_US**.

When you install the backup-archive client on an AIX 3.2 workstation, ADSM also stores a symbolic link to the **dsmclient.cat** file in each of the following directories. When you install the backup-archive client on an AIX 4.1 workstation, ADSM also stores a symbolic link to the **dsmclient.cat** file in only those directories that correspond to the language packages you select.

/usr/lib/nls/msg/Ja_JP	Japanese
/usr/lib/nls/msg/de_DE	German
/usr/lib/nls/msg/es_ES	Spanish
/usr/lib/nls/msg/sv_SE	Swedish
/usr/lib/nls/msg/fr_FR	French
/usr/lib/nls/msg/it_IT	Italian
/usr/lib/nls/msg/zh_CN	Simplified Chinese

Administrative GUI Client

The files listed in Figure 15 are used by the administrative GUI client and are stored in **/usr/lpp/adsm/bin**.

Figure 15. ADSM Administrative GUI Client

File Name	Description
dsmadm	Executable file for the administrative client graphical user interface
libipfx1.a	IPFX runtime library for Motif 1.1
libipfx2.a	IPFX runtime library for Motif 1.2
libdsm.a	32-bit version of the runtime library

Administrative GUI Client Language Packages

The files listed in Figure 16 are used by the administrative GUI client and are stored in **/usr/lpp/adsm/bin/en_US**.

When you install the administrative GUI client on an AIX 3.2 workstation, the files listed in Figure 16 are also stored in each of the following directories. When you install the administrative GUI client on an AIX 4.1 workstation, the files are also stored in only those directories that correspond to the language packages you select.

/usr/lpp/adsm/bin/Ja_JP	Japanese
/usr/lpp/adsm/bin/de_DE	German
/usr/lpp/adsm/bin/es_ES	Spanish
/usr/lpp/adsm/bin/sv_SE	Swedish
/usr/lpp/adsm/bin/fr_FR	French
/usr/lpp/adsm/bin/it_IT	Italian
/usr/lpp/adsm/bin/zh_CN	Simplified Chinese

Figure 16 (Page 1 of 2). ADSM Administrative GUI Client Language Files

File Name	Description
Dsmadm	Application Resource file
dsmadm.hlp	Online help file for the administrative client graphical user interface
dsmadm.pdl	Panel Definition Library
dsmadm.pml	Panel Message Library
dsmsys.hlp	System Online Help file
dsmsys.pdl	System Panel Definition Library
dsmsys.pml	System Panel Message Library
hmhelp.hlp	Help file for IPFX runtime

Figure 16 (Page 2 of 2). ADSM Administrative GUI Client Language Files

File Name	Description
ipf.cat	Message file for IPFX

HSM Client

The files listed in Figure 17 are used by the HSM client and are stored in **/usr/lpp/adsm/bin**.

Figure 17 (Page 1 of 2). ADSM HSM Client Files

File Name	Description
adsm.gif	Product graphic file
ddf	Symbolic link for dsmdf
ddu	Symbolic link for dsmdu
dhsview	Help executable file
dhsview.prf	Help preference file
dhsview.uid	Help UID file
dhsview.uil	Help UIL file
dls	Symbolic link for dsmls
dsmattr	Executable file for command-line interface
dsmautomig	Executable file for command-line interface
dsmdf	Executable file for command-line interface
dsmdu	Executable file for command-line interface
dsmls	Executable file for command-line interface
dsmmigfs	Executable file for command-line interface
dsmmigfstab.smp	Sample file system migrator file
dsmmighelp	Executable file for command-line interface
dsmmigquery	Executable file for command-line interface
dsmmigrate	Executable file for command-line interface
dsmmode	Executable file for command-line interface
dsmmonitor	Executable file to start the space monitor daemon
dsmq	Executable file for command-line interface
dsmrecall	Executable file for command-line interface
dsmrecalld	Executable file to start a recall daemon
dsmreconcile	Executable file for command-line interface
dsmrm	Executable file for command-line interface
dsmsetpw	Executable file for command-line interface
dsmhsm	Shell script-external command for HSM graphical user interface

Figure 17 (Page 2 of 2). ADSM HSM Client Files

File Name	Description
dsmsm	Executable file for the HSM graphical user interface for 3.2.3
dsmsm.325	Executable file for the HSM graphical user interface for 3.2.5
installfsm	Executable file to load and unload kernel extension for HSM
kext	Kernel extension for HSM
manager.xbm	Bitmap for HSM icon
fsmvfsmnhelp	Mount helper
migrate.xbm	Bitmap for Selective Migration icon
prod.xbm	Bitmap for Product icon
rc.adsmhsm	Shell script to mount fsm automatically
recall.xbm	Bitmap for Selective Recall icon

HSM Client Language Packages

The files listed in Figure 18 are used by the HSM client and are stored in **/usr/lpp/adsm/bin/en_US**. That directory contains the files required for the American English version of the client.

When you install the HSM client on an AIX 3.2 workstation, the files listed in Figure 18 are also stored in each of the following directories.

/usr/lpp/adsm/bin/Ja_JP	Japanese
/usr/lpp/adsm/bin/de_DE	German
/usr/lpp/adsm/bin/es_ES	Spanish
/usr/lpp/adsm/bin/sv_SE	Swedish
/usr/lpp/adsm/bin/fr_FR	French
/usr/lpp/adsm/bin/it_IT	Italian
/usr/lpp/adsm/bin/zh_CN	Simplified Chinese

Figure 18. ADSM HSM Client Files

File Name	Description
Sm	X Window System resource file
dsmig.hlp	Help text file for command-line interface
smhlpaix.csa	Help association file for AIX client
smhlpaix.csc	Help text file for AIX client

AT&T Client Environment

This section contains client environment information, including hardware and software requirements, for the AT&T platform.

Client Components

The following ADSM client components can be installed on an AT&T workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)
- API

Hardware Requirements

- AT&T System 3000 Series, including Model 5100
- Disk space: 5 MB (to install all client components)

Operating System

AT&T UNIX SVR4 MP-RAS Release 2.02 or 2.03

Communication Method

Figure 19. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with AT&T UNIX SVR4 MP-RAS	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT

Installing the AT&T UNIX SVR4 Client Program

Use the **pkgadd** utility to install the ADSM AT&T UNIX SVR4 MP-RAS 2.02 and 2.03 clients. Two packages are available on the installation medium:

adsm backup-archive client
adsmapi application programming interface

When you install the backup-archive client, the administrative client with command-line interface is also installed.

1 Log in as the root user.

2 Enter the following command:

```
root> pkgadd -d location adsm
```

where **location** is the location designator for the drive you are using such as */dev/dsk/f03ht/* (for diskette installation).

If you are installing from CD-ROM, substitute **location** with the location on the CD-ROM:

```
/CD-ROM/clients/att/English/pkgadd/att.pkg
```

Note: Replace the word **CD-ROM** with the file system of the CD-ROM drive on your system.

3 When the system prompts you to insert a diskette into the drive, insert the first installation diskette.

If you are installing from CD-ROM, insert the CD-ROM containing the client package into the CD-ROM drive.

Then type go, and press Enter.

The system then displays many installation messages.

4 Insert the second installation diskette (if you are installing from diskette) when prompted. Then type go, and press Enter.

Installation is complete when the following message appears:

```
Installation of <adsm> was successful.
```

After you have installed ADSM for AT&T UNIX SVR4 MP-RAS, the files from this package reside in the directory **/usr/adsm**. The files associated with each client component are listed in “ADSM Files for UNIX Clients” on page 56. If you want to move these files to another directory, do the following:

1 Ensure the permissions of the installed files have not been changed.

2 Update the directory locations of the bit map files, which reside in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been moved.

3 Update the symbolic links for the installed files in the **/usr/bin** directory.

4 Ensure that every user of ADSM has set the DSM_DIR environment variable to the new installation directory.

Bull DPX/2 300 B.O.S. Client Environment

This section contains client environment information, including hardware and software requirements, for the Bull DPX/2 300 Bull Open Software (B.O.S.) platform.

Client Components

The following ADSM client components can be installed on a Bull DPX/2 300 workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)
- API

Hardware Requirements

- A Bull DPX/2 300 workstation with 68000 processor
- Disk space: 5 MB (to install all client components)

Operating System

DPX/2 300 B.O.S. Release 2.00

Communication Method

Figure 20. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with INET software package	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT

Installing the Bull DPX/2 300 B.O.S. Client Program

Use the following procedure to install the ADSM Bull DPX/2 300 B.O.S. client. After the installation is complete, the system prompts you to install, optionally, the ADSM API for Bull DPX/2 300 B.O.S. When you install the backup-archive client, the administrative client with command line interface is also installed.

The installation requires at least 5 MB of free disk space.

1 Log in as the root user.

2 Create the installation directory by entering the following command:

```
mkdir /usr/adsm
```

Make **/usr/adsm** the current directory:

```
cd /usr/adsm
```

3 If you are installing from diskette, insert the first diskette of the desired component into the drive you are using for installation (or mount the installation tape if you are installing from tape).

If you are installing from CD-ROM, insert the CD-ROM containing the client package into the CD-ROM drive.

4 Copy the contents of the tape, diskette, or CD-ROM to the installation directory with the following command:

```
tar -xvf device
```

where **device** is the name of the tape special file, or diskette.

If you are installing from CD-ROM, substitute **device** with the location on the CD-ROM:

| /CD-ROM/clients/bull/English/tar/bull.tar
|
|

Note: Replace the word **CD-ROM** with the file system of the CD-ROM drive on your system.

5 After all the installation files are copied, enter the following command:

```
./dsm.install
```

The **dsm.install** command:

- Extracts the files
- Sets the permissions of the installed files to the correct values
- Updates the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the directory where ADSM is installed.
- Optionally creates symbolic links for the installed files

When prompted, enter directory names where symbolic links to the executable files can be written. You can add the symbolic links to directories that are in every user's path (such as **/usr/bin**), or you can add the directory to each user's path. Optionally, you can add symbolic links to multiple directories. This is useful if you are installing ADSM on a heterogeneous file server.

- Optionally installs the ADSM API for Bull DPX/2 300 B.O.S.. You can choose to install the ADSM API later by issuing this command:

```
./dsmapi.install
```

If, after the installation, you move the ADSM files from the installation directory (**/usr/adsm**) to another directory, you must also complete the following steps:

- 1** Make sure the permissions of the installed files have not changed.
- 2** Update the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been installed.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory.
- 4** Ensure that every user of ADSM has set the **DSM_DIR** environment variable to the new directory.

DEC ULTRIX Client Environment

This section contains client environment information, including hardware and software requirements, for the DEC ULTRIX platform.

Client Components

The following ADSM client components can be installed on a DEC ULTRIX workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)

Hardware Requirements

- Any DECstation
- Disk space: 5.5 MB (to install all available client components)

Operating System

DEC ULTRIX 4.2A, 4.3, or 4.4

Communication Method

Figure 21. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with DEC ULTRIX	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT

Installing the DEC ULTRIX Client Program

To install ADSM DEC ULTRIX clients, use the **setld -I** command and follow the instructions. The DEC ULTRIX installation requires at least 5.5 MB of free disk space. When you install ADSM on a DEC ULTRIX workstation, the ADSM files for the installed client components are copied into the **/usr/adsm** directory, except as noted. The files associated with each client component are listed in "ADSM Files for UNIX Clients" on page 56.

Use the following procedure to install ADSM DEC ULTRIX clients:

- 1** Log in as the root user.
- 2** Remove any previous versions of the ADSM backup-archive and administrative clients that are installed on your system. To do this, use the **setld** command:

```
setld -d name
```

where **name** is the previous ADSM subset name, such as *DSMADSM120*.
- 3** Insert the first diskette of the desired component into the drive you are using for installation (or mount the installation TK-50 tape if you are installing from tape).
If you are installing from CD-ROM, insert the CD-ROM containing the client package into the CD-ROM drive.

- 4** Copy the contents of the client installation package to the installation directory **/usr/adsm** with the following command:

```
setld -l location
```

where **location** is the location designator for the drive you are using, such as */dev/rmt0h*.

If you are installing from CD-ROM, substitute **location** with the location on the CD-ROM:

```
/CD-ROM/clients/dec/English/setld/dec.tar
```

Note: Replace the word **CD-ROM** with the file system of the CD-ROM drive on your system.

- 5** Before the files are copied, you are asked whether you want to continue. Enter Y to continue or N to exit.

After all the files are copied, symbolic links are created in **/usr/bin** directory for ADSM executables.

- 6** If this is the first time you have installed the DEC ULTRIX client, enter the following command from your home directory to establish access to the ADSM executable modules:

```
source .login
```

If, after the installation, you move the ADSM files from the installation directory (**usr/adsm**) to another directory, you must also complete the following steps:

- 1** Make sure the permissions of the installed files have not changed.
- 2** Update the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been installed.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory.
- 4** Ensure that every user of ADSM has set the **DSM_DIR** environment variable to the new installation directory.

Digital UNIX (DEC OSF/1) Client Environment

This section contains client environment information, including hardware and software requirements, for the Digital UNIX platform.

Client Components

The following ADSM client components can be installed on a Digital UNIX workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)
- API

Hardware Requirements

- DEC System 3000 Model 400 AXP
- Disk space: 5 MB (to install all available client components)

Operating System

Digital UNIX V3.2

Communication Method

Figure 22. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with Digital UNIX	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT

Installing the Digital UNIX (DEC OSF/1) Client Program

To install ADSM Digital UNIX (DEC OSF/1) clients, use the **setld -I** command and follow the instructions. The Digital UNIX installation requires at least 5 MB of disk space. When you install ADSM on a Digital UNIX workstation, the ADSM files for the installed client components are copied into the **/usr/opt/adsm** directory, except as noted. The files associated with each client component are listed in “ADSM Files for UNIX Clients” on page 56.

Use the following procedure to install ADSM Digital UNIX clients:

- 1** Log in as the root user.
- 2** Remove any previous versions of the ADSM backup-archive client, administrative client, or API that are installed on your system. To do this, use the **setld** command:


```
setld -d name
```

 where **name** is the previous ADSM subset name, such as *DSMBAC210* or *DSMAPI210*.
- 3** Create a temporary directory for the installation files:


```
mkdir /tmp/adsm
```

 Make **/tmp/adsm** the current directory:


```
cd /tmp/adsm
```

4 Insert the ADSM Client for Digital UNIX diskette into the diskette drive.

If you are installing from CD-ROM, insert the CD-ROM containing the client package into the CD-ROM drive.

5 Copy the contents of the installation package to the temporary directory with the following command:

```
tar -xvf device
```

where **device** is the name of the diskette drive such as `/dev/fd0`. Repeat this step for all diskettes.

If you are installing from CD-ROM, substitute **device** with the location on the CD-ROM:

```
/CD-ROM/clients/osf/English/setld/ofs.tar
```

Note: Replace **CD-ROM** with the file system of the CD-ROM drive on your system.

6 Install the ADSM Client for Digital UNIX to the installation directory `/usr/opt/adsm` with the following command:

```
setld -l .
```

7 Before the files are copied, you are asked whether you want to continue. Enter Y to continue or N to exit.

After all the files are copied, symbolic links are created in `/usr/bin` and `/usr/lib` directories for ADSM executables.

If, after the installation, you move the ADSM files from the installation directory (`/usr/opt/adsm`) to another directory, you must also complete the following steps:

1 Make sure the permissions of the installed files have not changed.

2 Update the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been installed.

3 Update the symbolic links for the installed files in the `/usr/bin` directory.

4 Ensure that every user of ADSM has set the `DSM_DIR` environment variable to the new installation directory.

HP-UX Client Environment

This section contains client environment information, including hardware and software requirements, for the HP-UX platform.

Client Components

The following ADSM client components can be installed on an HP-UX workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line and GUI)
- API

Hardware Requirements

- An HP 9000, Series 700 or Series 800 workstation
- Disk space: 11 MB (to install all client components)

Operating System

HP-UX 8.07, 9.01, 9.03, 9.04, or 10

Communication Method

Figure 23. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with HP-UX	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT

Installing the HP-UX Client Program

The HP-UX installation requires at least 11 MB of free disk space to install all available options. When you install ADSM on an HP-UX workstation, the ADSM files for the installed client components are copied into the **/usr/adsm** directory, except as noted. The files associated with each client component are listed in “ADSM Files for UNIX Clients” on page 56.

Installing ADSM on an HP-UX 10 Workstation:

To install ADSM on an HP-UX 10 workstation, issue the following command:

```
swinstall -v -s location IBMADSM
```

where **location** is the location designator for the drive you are using, such as */dev/rmt/0m*.

If you are installing from CD-ROM, insert the CD-ROM containing the client package into the CD-ROM drive. Substitute **location** with the location on the CD-ROM:

```
/CD-ROM/clients/hp10/English/swinst/hp10.img
```

Note: Replace **CD-ROM** with the file system of the CD-ROM drive on your system.

This installs the client in the **/usr/adsm** directory.

Installing ADSM on an HP-UX Workstation:

To install ADSM on an **HP-UX** workstation, use the **update** command.

Follow these steps to install the client components you want:

- 1** Remove any previous versions of the ADSM backup-archive and administrative clients that are installed on your system. To do this, use the **rmfn** command:

```
rmfn -l IBMADSM-CLIENT
```

IBMADSM-CLIENT is the name of the ADSM client package.

- 2** Issue the following commands to install the specified client components:

- All components (backup-archive, administrative, API)

```
update -s location IBMADSM-CLIENT
```
- Backup-archive (command-line and GUI) and administrative (command-line)

```
update -s location IBMADSM-COMMON  
update -s location IBMADSM-BASE
```
- Administrative (GUI) only:

```
update -s location IBMADSM-COMMON  
update -s location IBMADSM-ADMIN
```
- API only:

```
update -s location IBMADSM-COMMON  
update -s location IBMADSM-API
```

where **location** is the location designator for the drive you are using, such as */dev/rmt/0m*.

If you are installing from CD-ROM, insert the CD-ROM containing the client package into the CD-ROM drive. Substitute **location** with the location on the CD-ROM:

```
/CD-ROM/clients/hp/English/upd/hp.upd
```

Note: Replace **CD-ROM** with the file system of the CD-ROM drive on your system.

This installs the client in the **/usr/adsm** directory.

When the **update** command completes, check the **/tmp/update.log** file to be sure the ADSM installation and configuration completed successfully. Information is appended to the log file with each invocation of **update**, so you should scan down to the bottom of the file to check the ADSM client installation messages.

- 3** You should create initial versions of the two client options files. Sample options files are provided during the installation. To begin with, you can make working copies of the sample files.

For the client system options file, copy **/usr/adsm/dsm.sys.smp** to **/usr/adsm/dsm.sys**.

For the client user options file, copy **/usr/adsm/dsm.opt.smp** to **/usr/adsm/dsm.opt**.

You can then edit your **dsm.sys** and **dsm.opt** files as appropriate for your system.

If, after the installation, you move the ADSM files from the installation directory (**/usr/lpp/adsm/bin**) to another directory, you must also complete the following steps:

- 1** Make sure the permissions of the installed files have not changed.
- 2** Update the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been installed.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory.
- 4** Ensure that every user of ADSM has set the **DSM_DIR** environment variable to the new directory.

NEC Client Environment

This section contains client environment information, including hardware and software requirements, for the NEC platform.

Client Components

The following ADSM client components can be installed on an NEC workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)
- API

Hardware Requirements

- A NEC workstation EWS 4800 series, model 320SX
- Disk space: 5 MB (to install all available client components)

Operating System

NEC EWS-UX/V (Release 4.2) Revision 9.1, 9.2, 10.1 or 11.1

Communication Method

Figure 24. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with NEC EWS-UX/V	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT

Installing the NEC EWS-UX/V Client Program

Use the **pkgadd** utility to install ADSM NEC EWS-UX/V clients. When you install the backup-archive client, the administrative client with command-line interface is also installed. Two packages are available on the installation medium:

adsm backup-archive client
adsmapi application programming interface

Use the following procedure to install the packages of your choice.

1 Log in as the root user and enter the following command:

```
root> pkgadd -d location <adsm>
```

where **location** is the location designator for the drive you are using, such as */dev/rif/f0h18* (for diskette installation) and where *<adsm>* is the name of the package you want to install.

If you are installing from CD-ROM, substitute **location** with the location on the CD-ROM:

```
/CD-ROM/clients/nec/English/pkgadd/nec.pkg
```

Note: Replace the word **CD-ROM** with the system file of the CD-ROM drive on your system.

2 The system prompts you to insert a diskette into the drive. Insert the first installation diskette into the drive. Or, if you are installing from CD-ROM, insert the CD-ROM containing the client package into the CD-ROM drive. Then type *go* and press Enter.

The system displays many installation messages.

3 If you are installing from diskette, the system prompts you to insert the required diskettes into the drive. Insert the required diskette for the *<adsm>* package into the drive, and then type *go*.

4 Installation is complete when the following message appears:

```
Installation of <adsm> was successful.
```

After you have installed ADSM for NEC EWS-UX/V, the files from this package reside in the **/usr/adsm** directory. The files associated with each client component are listed in “ADSM Files for UNIX Clients” on page 56. If you wish to move these files to another directory, do the following:

- 1** Ensure that the permissions of the installed files have not been changed.
- 2** Update the directory locations of the bit map files, which reside in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been moved.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory.
- 4** Ensure that every user of ADSM has set the DSM_DIR environment variable to the new installation directory.

OpenEdition MVS Client Environment

This section contains client environment information, including hardware and software requirements, for the OpenEdition MVS platform.

Client Components

The following ADSM client components can be installed on an OpenEdition MVS workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)
- API

Hardware Requirements

- Any System 390
- Disk space: 6.2 MB (to install all client components) (Allocated as MVS data sets during installation)

Operating System

- IBM MVS/ESA SP 5.1 or higher, with:
 - DFSMS/MVS
 - RACF
 - SMP/E
 - TSO/E

Communication Method

Figure 25. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP 3.1	Standard with MVS/ESA SP 5.1 or higher	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM
SNA LU6.2 (APPC)	Standard with MVS/ESA SP 5.1 or higher	AIX, MVS, OS/2, OS/400, VM, VSE

Installing the OpenEdition MVS Client Program

For instructions to install ADSM on OpenEdition MVS, see *Program Directory for ADSTAR Distributed Storage Manager on OpenEdition MVS*.

Pyramid Nile Client Environment

This section contains client environment information, including hardware and software requirements, for the Pyramid Nile platform. The ADSM for SINIX client runs on the Pyramid Nile platform.

Client Components

The following ADSM client components can be installed on a Pyramid Nile workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)
- API

Hardware Requirements

- Pyramid Nile or RM1000
- Disk space: 5 MB (to install all available client components)

Operating System

- DC/OSx level 79 or later
- Reliant UNIX 1.0 or later

Communication Method

Figure 26. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with the supported operating systems	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM

Installing the Pyramid Nile Client Program

To install the ADSM for SINIX client on the Pyramid Nile platform, refer to the installation instructions in “Installing the Siemens Nixdorf SINIX Client Program” on page 48.

SCO Client Environment

This section contains client environment information, including hardware and software requirements, for the SCO platform.

Client Components

The following ADSM client components can be installed on an SCO workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)

Operating System

- SCO UNIX 386 3.2 v4.0
- SCO Open Desktop 2.0 or 3.0

Hardware Requirements

- Any 386SX or higher level personal computer or workstation
- Disk space: 6.8 MB (to install all available client components)

Communication Method

Figure 27. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with SCO Open Desktop 2.0 or 3.0. For SCO UNIX 386, TCP/IP is available by installing SCO TCP/IP Runtime System 1.1.3	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM

Installing the SCO Client Program

To install ADSM on an SCO workstation, use the **custom** utility. For detailed information about using **custom**, see *SCO UNIX Operating System: System Administrator's Reference, Document Version 3.2.4C*. The SCO installation requires approximately 6.8 MB of disk space. When you install ADSM on an SCO workstation, the ADSM files for the installed client components are copied into the **/usr/adsm** directory, except as noted. The files associated with each client component are listed in “ADSM Files for UNIX Clients” on page 56.

If you have a CD-ROM, you must first create diskettes (three diskettes are required), using the following steps:

- 1 Insert the CD-ROM containing the client package into the CD-ROM drive.

| **2** Change your directory to the following:

| `CD-ROM/clients/sco/English/dd`

| where **CD-ROM** is the path and name of the disk drive.

| **3** Issue the following command:

| `dd if=/sco.3d1 of=<floppydrive>`

| where <floppydrive> is the path of the floppy drive that you are using.

| **4** Repeat **Step 3** for the remaining two diskettes. Substitute **sco.3d1** with the appropriate file name for each diskette:

| `sco.3d2` (for the second diskette)

| `sco.3d3` (for the third diskette)

Use the following procedure to install ADSM SCO Open Desktop clients. When you install the backup-archive client, the administrative client with command-line interface is also installed.

1 Log in as the root user and enter the following command:

`custom`

2 On the first window, select Install, and press Enter.

3 On the next window, select A New Product, and press Enter.

4 On the next window, select Entire Product, and press Enter.

5 After the next window appears, insert the first installation diskette, select Continue, and press Enter. The **custom** utility creates a file list.

6 After the next window displays the product name and prompts you again for the first diskette, press Enter. The **custom** utility extracts the files and installs them in the **/usr/adsm** directory.

After the first diskette is copied, you are prompted for the next diskette.

7 After all diskettes have been copied, symbolic links are created in the **/usr/bin** directory for ADSM executables. The next window displays the names of the products that are currently installed. Select Quit, and press Enter.

If, after the installation, you move the ADSM files from the installation directory (**/usr/adsm**) to another directory, you must also complete the following steps:

- 1** Make sure the permissions of the installed files have not changed.
- 2** Update the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been installed.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory.
- 4** Ensure that every user of ADSM has set the DSM_DIR environment variable to the new installation directory.

Sequent PTX Client Environment

This section contains client environment information, including hardware and software requirements, for the Sequent PTX platform.

Client Components

The following ADSM client components can be installed on a Sequent PTX workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)

Hardware Requirements

- Sequent Symmetry 5000 System Model SE20, SE30, SE60, or SE70
- Sequent Symmetry 2000 System Model /200, /250, /290, /400, /450, /490, /700, /750, or /790
- Disk space: 10 MB (to install all client components)

Operating System

Sequent PTX UNIX Release 2.1.6

Communication Method

Figure 28. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
PTX TCP/IP V2.4.3	Standard with Sequent PTX UNIX	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM

Installing the Sequent PTX Client Program

The Sequent PTX installation requires approximately 10 MB of free disk space. When you install ADSM on a Sequent PTX workstation, the ADSM files for the installed client components are copied into the **/usr/adsm** directory, except as noted. The files associ-

ated with each client component are listed in "ADSM Files for UNIX Clients" on page 56.

Use the following procedure to install ADSM Sequent PTX 2.1.6. When you install the backup-archive client, the administrative client with command-line interface is also installed.

Sequent systems support QIC tapes and, in some cases, CD-ROMs. Diskette drives are not supported.

1 Put the Installation QIC tape in the tape device, or use the CD-ROM, if one is available. (You must mount the CD-ROM.)

2 Log in as the root user.

3 Copy the installation image from the QIC tape or CD-ROM to a file. (For CD-ROMs, you can leave the installation image on the CD.)

If you are using the QIC tape, enter this command after the root> prompt:

```
dd if=/dev/rmt/<device> of=<directory>/<filename>
```

where <device> is the name of your device such as */dev/rmt/tm0* (for tape installation) and <directory>/<filename> is the path and name of the output file such as */tmp/adsm/img*.

4 Install the ADSM client.

Enter the following command after the root> prompt:

```
pkgadd -d <directory>/<filename> adsm
```

If you are installing from CD-ROM, substitute <directory>/<filename> with the following:

```
/CD-ROM/clients/sqt/English/pkgadd/sequent.pkg
```

Note: Replace the word **CD-ROM** with the file system of the CD-ROM drive on your system.

For example:

```
pkgadd -d /tmp/adsm.img adsm
```

5 The system displays messages such as the following:

```

Installation in progress. Do not remove the media.

Processing package instance <adsm> from </tmp/adsm.img>

ADSM Client for Sequent PTX 2.1.6
Version 2.1.0.1 Symmetry S5000, S2000
ADSTAR Distributed Storage Manager
Licensed Materials - Property of IBM
(C) Copyright IBM Corporation 1990, 1995. All rights reserved.
Refer to Copyright Instructions Form Number G120-2083
## Processing package information.
## Processing system information.
    1 package pathname is already properly installed.
## Verifying package dependencies.
## Verifying disk space requirements.

Installing ADSM Client for Sequent PTX 2.1.6 as <adsm>

## Installing part 1 of 1.

```

6 Installation is complete when the following message appears:

```
Installation of <adsm> was successful.
```

After you have installed ADSM for Sequent PTX, the files from this package reside in the **/usr/adsm** directory. If you want to move these files to another directory, do the following:

- 1** Ensure the permissions of the installed files have not been changed.
- 2** Update the directory locations of the bit map files, which reside in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been moved.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory.
- 4** Ensure that every user of ADSM has set the **DSM_DIR** environment variable to the new installation directory.

Kernel Parameter **SHMGAP**

To indicate the amount of dynamic memory that a user-process is allowed to use, the Sequent PTX system provides the kernel parameter **SHMGAP**. The default value of **SHMGAP** is 2 MB. The value is less if **Backup by directory tree** is selected from the GUI menu.

If the value of **SHMGAP** has not already been increased, do the following:

- 1** Increase the value of **SHMGAP** to 32 MB.

2 Rebuild the kernel.

3 Reboot the system.

Siemens Nixdorf SINIX Client Environment

This section contains client environment information, including hardware and software requirements, for the Siemens Nixdorf SINIX platform.

Client Components

The following ADSM client components can be installed on a Siemens Nixdorf SINIX workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)
- API

Hardware Requirements

- Siemens Nixdorf RISC RM200, RM400, or RM600
- Any personal computer that runs SINIX-Z operating system
- Disk space: 5 MB (to install all available client components)

Operating System

- Siemens Nixdorf RISC SINIX-N or SINIX-P 5.4.2 RISC or
- Siemens Nixdorf SINIX-Z Version 5.4.1 386/486

Communication Method

Figure 29. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with the SINIX operating system	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM

Installing the Siemens Nixdorf SINIX Client Program

Use the **pkgadd** utility to install the ADSM for SINIX client. Two packages are available on the installation medium:

adsm backup-archive client

adsmapi application programming interface

When you install the backup-archive client, the administrative client with command-line interface is also installed. Use the following procedure to install the packages of your choice.

1 Log in as the root user.

2 Enter the following command:

```
root> pkgadd -d location
```

where **location** is the location designator for the drive you are using, such as */dev/dsk/f03ht* (for SINIX-Z) or */dev/ata/ftp/rfx3ht* (for SINIX-N or SINIX-P).

If you are installing from CD-ROM, substitute **location** with the program location on the CD-ROM:

```
For SINIX-Z:  
/CD-ROM/clients/sinix/English/snr/snr.pkg
```

```
For SINIX-N or XINIX-P:  
/CD-ROM/clients/sinix/English/snp/snp.pkg
```

Note: Replace the word **CD-ROM** with the file system of the CD-ROM drive on your system.

3 When the system prompts you to insert a diskette into the drive, insert the first installation diskette into the drive that you are using for installation. Or, if you are installing from CD-ROM, insert the CD-ROM containing the client package in the CD-ROM drive. Then type go and press Enter.

After you have installed the ADSM client, the files from this package reside in the **/usr/adsm** directory. The files associated with each client component are listed in “ADSM Files for UNIX Clients” on page 56. If you wish to move these files to another directory, do the following:

- 1** Ensure that the permissions of the installed files have not been changed.
- 2** Update the directory locations of the bit map files, which reside in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been moved.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory.
- 4** Ensure that every user of ADSM has set the DSM_DIR environment variable to the new installation directory.

Silicon Graphics IRIX Client Environment

This section contains client environment information, including hardware and software requirements, for the Silicon Graphics IRIX platform.

Client Components

The following ADSM client components can be installed on a Silicon Graphics IRIX workstation:

- Backup-archive client (command-line and GUI)

- Administrative client (command-line)
- API

Hardware Requirements

- A Silicon Graphics workstation with MIPS processor
- Disk space: 5 MB (to install all client components)

Operating System

IRIX UNIX Release 5.2 or 5.3 with efs- or xfs-Filesystem

Communication Method

Figure 30. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with IRIX UNIX	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM

Installing the Silicon Graphics IRIX Client Program

Use the following procedure to install the ADSM Silicon Graphics IRIX client. After the installation is complete, the system prompts you to install, optionally, the ADSM API for Silicon Graphics. When you install the backup-archive client, the administrative client with command line interface is also installed.

The installation requires at least 5 MB of free disk space.

1 Log in as the root user.

2 Create the installation directory by entering the following command:

```
mkdir /usr/adsm
```

Make **/usr/adsm** the current directory:

```
cd /usr/adsm
```

3 If you are installing from diskette, insert ADSM Client for Silicon Graphics diskette into the floptical (diskette) drive.

If you are installing from CD-ROM, insert the CD-ROM containing the client package into the CD-ROM drive.

4 Copy the contents of the diskette, or CD-ROM to the installation directory with the following command:

```
tar -xvf device
```

where **device** is the name of the drive. For example, `/dev/rdisk/fds0d4.3.5` (for 3.5-inch diskettes).

If you are installing from CD-ROM, substitute **device** with the program location on the CD-ROM:

```
/CD-ROM/clients/sgi/English/tar/sgi.tar
```

Note: Replace the word **CD-ROM** with the file system of the CD-ROM drive on your system.

5 After all the installation files are copied, enter the following command:

```
./dsm.install
```

The **dsm.install** command:

- Extracts the files
- Sets the permissions of the installed files to the correct values
- Updates the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the directory where ADSM is installed.
- Optionally creates symbolic links for the installed files

When prompted, enter directory names where symbolic links to the executables files can be written. You can add the symbolic links to directories that are in every user's path (such as **/usr/bin**), or you can add the directory to each user's path. Optionally, you can add symbolic links to multiple directories. This is useful if you are installing ADSM on a heterogeneous file server.

- Optionally installs the ADSM API for Silicon Graphics IRIX. You can choose to install the ADSM API later by issuing this command:

```
./dsmapi.install
```

If, after the installation, you move the ADSM files from the installation directory (**/usr/adsm**) to another directory, you must also complete the following steps:

- 1** Make sure the permissions of the installed files have not changed.
- 2** Update the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been installed.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory.
- 4** Ensure that every user of ADSM has set the **DSM_DIR** environment variable to the new directory.

SunOS and Sun Solaris Client Environment

This section contains client environment information, including hardware and software requirements, for the SunOS and Sun Solaris platforms.

Client Components

The following ADSM client components can be installed on a SunOS or Sun Solaris workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line and GUI)
- API
- X/Open API (Solaris only)

Hardware Requirements

- A Sun-4, SPARCstation, or compatible workstation
- Disk space: 15.8 MB (to install all client components)
- Memory: 16 MB

Operating System

- SunOS 4.1.3 or Solaris 2.3, 2.4, or 2.5 in native mode
- For administrative GUI: SunOS 4.1.3, Solaris 2.3, 2.4, or 2.5 in binary-compatibility mode.

Communication Method

Figure 31. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
TCP/IP	Standard with SunOS or Solaris	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM

Additional Software Requirements

- The backup-archive client graphical user interface requires an X Window server, such as OpenWindows 2.0, which comes standard with SunOS or Solaris.
- For the administrative graphical user interface, Solaris 2.3, 2.4, or 2.5 binary compatibility packages

Installing the SunOS or Solaris Client Program

The disk space requirement depends on the options you choose. When you install ADSM on a SunOS or Solaris workstation, the ADSM files for the installed client components are copied into the installation directory you choose. The files associated with each client component are listed in "ADSM Files for UNIX Clients" on page 56.

There are two installation files for you to choose from. The **pkg** file (pkgadd) is for a Solaris installation and is only available in CD-ROM. The **tar** file can be used for both the SunOS and Solaris installations.

Installing the Tar File from Tape, Diskette, or CD-ROM:

- 1** Log in as the root user.
- 2** Choose the directory where you want to install ADSM. If necessary, create the installation directory and its parent directories. For example, you might want to install ADSM in **/usr/adsm**. The installation directory and its parent directories must be owned by root. There is no default installation directory.

- 3** Change to the installation directory.

To install ADSM on a SunOS or Solaris workstation use the **tar** and **adsm.install** commands as follows:

If you are installing from tape or CD-ROM, you must install all components. If you are installing from diskettes, you can install the components you want by using these diskettes:

Component	Diskette
Backup-archive client	1, 2, and 3
Administrative client	4, 5, 6, 7, 8, and 9
API (SunOS)	10 and 11
API (Solaris)	10, 11, and 12

For example, you can install only the backup-archive client by using only diskettes 1, 2, and 3.

Note: On the Solaris platform, the API diskettes also include the X/Open API files.

- 4** Insert the first diskette of the desired component (or mount the installation tape if you are installing from tape).
If you are installing from CD-ROM, insert the CD-ROM containing the client package in the CD-ROM drive.

- 5** Copy the contents of the diskette, tape, or CD-ROM to the installation directory with the following command:

```
tar xvf device
```

where **device** is the device designator for the tape or diskette drive you are using, such as **/dev/rst0** or **/dev/rfd0c**. The tape or diskette contains the code for both the SunOS and Solaris programs.

If you are installing from CD-ROM, substitute **device** with the location on the CD-ROM:

```
/CD-ROM/clients/sunos/English/sunos.tar
```

Note: Replace the word **CD-ROM** with the file system of the CD-ROM drive on your system.

6 If you are installing from diskette, after the files from the first diskette are copied to the installation directory, enter `eject`.

Insert, copy, and eject each additional diskette. Then, go to Step 7.

7 If you are installing the backup-archive or administrative clients, do this step (do not use for API only). After all files are copied, enter the following command:

```
./adsm.install
```

The **adsm.install** command does the following:

- Sets the permissions of the installed files to the correct values.
- Updates the directory locations of the bit map files, which are in the ADSM X Window System resource file, to the directory where ADSM is installed.
- Optionally creates symbolic links for the installed files and libraries.

When prompted, enter directory names where symbolic links to the executable files can be written. You can add the symbolic links to directories that are in every user's path (such as **/usr/bin**), or you can add the symbolic links to each user's path. Optionally, you can add symbolic links to multiple directories. This is useful if you are installing ADSM on a heterogeneous file server.

If you prefer, ADSM users can add the directory where ADSM is installed to their path.

If, after the installation, you move the ADSM files from the installation directory (**/usr/lpp/adsm/bin**) to another directory, you must also complete the following steps:

- 1** Make sure the permissions of the installed files have not changed.
- 2** Update the directory locations of the bit map files, which are in the ADSM X Window System resource file (**DSMX**), to the new directory where ADSM has been installed.
- 3** Update the symbolic links for the installed files in the **/usr/bin** directory.
- 4** Ensure that every user of ADSM has set the **DSM_DIR** environment variable to the new directory.

Installing the Solaris Pkg File from CD-ROM:

This section contains information about the installation of the ADSM backup-archive client and the administrative client command-line or GUI interface for the Solaris platform. The installation package contains these three components:

Component	File
Backup-archive (command-line and GUI) and administrative (command-line)	IBMDSMba5
Administrative (GUI)	IBMDSMadm
API	IBMDSMap5

You can install any of the three components separately (considering backup-archive and command-line administrative client as one installation component).

To install the ADSM Solaris clients, follow these steps:

1 Insert the CD-ROM containing the client package in the CD-ROM drive.

2 Change your directory to where the **solaris.pkg** is located:

```
/CD-ROM/clients/solaris/English/pkgadd
```

Note: Replace the word **CD-ROM** with the file system of the CD-ROM drive on your system.

3 Issue the following command:

```
pkgadd -d ./solaris.pkg
```

By default, the client component files are installed in these directories:

Component Name	Directory
IBMDSMba5	/OPT/IBMDSMba5
IBMDSMadm	/OPT/IBMDSMadm
IBMDSMap5	/OPT/IBMDSMap5

If you wish to override **/opt** as the base directory, use the **-R** option of the **pkgadd** command.

The post install program within **pkgadd** automatically creates symbolic links for the ADSM executables in **/usr/bin** and the ADSM libraries in **/usr/lib**.

4 You should create initial versions of the two client options files. Sample options files are provided during the installation. To begin, you can make working copies of the sample files.

For the client system options file, copy **dsm.sys.smp** to **dsm.sys** in the installation directory.

For the client user options file, copy **dsm.opt.smp** to **dsm.opt** in the installation directory.

You can then edit your **dsm.sys** and **dsm.opt** files as appropriate for your system.

If you later wish to remove the backup-archive client and administrative client, or the API from your system, issue the following command:

```
pkgrm <component-name>
```

The preremove part of **pkgrm** automatically removes any symbolic links created in **/usr/sbin** and **/usr/lib**.

Understanding the Directory Structure

If you installed all ADSM Sun-4 and Solaris components, you have the following files in the installation directory (referred to as **.** in this table):

Directory	Contents
./	Common files (such as messages and help), 1.6 MB
./sun4	Sun-4 executable files, 1.9 MB
./solaris	Solaris executable files, 1.8 MB
./sun4adm	Administrative Graphical User Interface files, 9.0 MB
./api	Application Programming Interface files, 1.1 MB

Understanding SunOS System Requirements

ADSM requires the SunOS kernel to contain support for shared memory.

The default SunOS kernel (as shipped) supports shared memory. However, it is possible to customize the kernel to eliminate shared memory. If your system's kernel does not have the support for shared memory, you should reconfigure and rebuild the kernel before running ADSM. For more information about reconfiguring and rebuilding the operating system kernel, see your SunOS documentation.

The administrative GUI client supports Solaris 2.3 and 2.4 in the binary-compatibility mode on your Sun workstation. For more information about binary-compatibility packages, see your SunOS documentation.

For the SunOS 4.1.3 operating system, the kernel configuration file must include the following:

```
options IPCSEMAPHORE    ☿ System V IPC semaphore facility
options IPCSHMEM        ☿ System V IPC shared-memory facility
```

For the Solaris 2.3 or 2.4 operating systems, the IPCSEMAPHORE and IPCSHMEM options must be enabled in the kernel.

ADSM Files for UNIX Clients

The following tables list the ADSM files that are selectively installed for UNIX platforms. Files are selected for installation depending on the client components you choose to install.

Common Files

Figure 32. ADSM Common Files

File Name	Description
README	Last minute updates and other special information
dsm.sys.smp	Sample client system options file
dsm.opt.smp	Sample client user options file
dscameng.txt	American English message text file
dsmtca	(All except OpenEdition MVS) Trusted Agent program
options.doc	Documentation for client options

Backup-Archive Client

Figure 33. ADSM Backup-Archive Client Files

File Name	Description
DSM.icon	Bitmap for ADSM icon
DSMX	X Window System resource file
DSMX.OpenDesktop.svga	(SCO only) Resource file for OpenDesktop with super VGA monitors
DSMX.OpenDesktop.vga	(SCO only) Resource file for OpenDesktop with VGA monitors
DSMX.Xsight.svga	(SCO only) Resource file for Xsight with super VGA monitors
DSMX.Xsight.vga	(SCO only) Resource file for Xsight with VGA monitors
DSMX.vga	(AT&T, NEC, SGI, SINIX, Bull DPX/2, and Pyramid Nile only) Resource file for VGA monitors
DSMX.svga	(AT&T, NEC, SGI, SINIX, Bull DPX/2, and Pyramid Nile only) Resource file for super VGA monitors
dsm	Executable file for the backup-archive client graphical user interface
dsmadm	Executable file for the administrative client command-line interface
dsmc	Executable file for the backup-archive command-line interface
dsmc.hlp	Help file for the command-line interface
dsmx.hlp	Windowed Interface help file
ibmlogo.bit	Bit map for IBM logo
info.bit	Bit map for Info Box icon
question.bit	Bit map for Question Box icon
wait.bit	Bit map for Wait Box icon
warn.bit	Bit map for Warning Box icon

Administrative GUI Client

Figure 34. ADSM Administrative GUI Client

File Name	Description
Dsmadm	Application Resource file
dsgameng.txt	American English message text file for the administrative client graphical user interface
dsmadm	Executable file for the administrative client graphical user interface
dsmadm.hlp	Online help file for the administrative client graphical user interface
dsmadm.pdl	Panel Definition Library
dsmadm.pml	Panel Message Library
dsmsys.hlp	System Online Help file
dsmsys.pdl	System Panel Definition Library
dsmsys.pml	System Panel Message Library
libipfx1.a	IPFX runtime library for Motif 1.1
libipfx2.a	IPFX runtime library for Motif 1.2
libdsm.a	32-bit version of the runtime library
hmhelp.hlp	Help file for IPFX runtime for American English
ipf.cat	Message file for IPFX for American English (stored in /usr/lpp/ipfx/nls/En_US)

Application Programming Interface (API)

If you install the Application Programming Interface, the files in Figure 35 and Figure 36 on page 59 are copied into the installation directory.

Figure 35 (Page 1 of 2). ADSM API Files

File Name	Description
readme.api	Last minute updates and other special information for API
libApiDS.a 1	API shared library for AIX and OpenEdition MVS
libApiDS.sl	API shared library for HP-UX
libApiDS.so.1.0.sun41	API shared library for SunOS
libApiDS.so.sol2	API shared library for Solaris
libApiDS.so	API shared library for AT&T, NEC, SGI, SINIX, Pyramid Nile, Digital UNIX
libApiDS.a	API library for Bull DPX/2
liblpp.a	Required for SMIT, for AIX
dsmapioca.sun41	Trusted Communications Agent program for SunOS
dsmapioca.sol2	Trusted Communications Agent program for Solaris

Figure 35 (Page 2 of 2). ADSM API Files

File Name	Description
dsmaitca	Trusted Communications Agent program for all others

Note:

1. Your application could choose to store this file in a directory other than `/usr/lpp/adsm/api/bin`. If your application requires this file to be in another directory, contact your administrator for instructions to move this file to the appropriate directory.

The files in Figure 36 are provided for developers who write applications that communicate with an ADSM server.

Figure 36 (Page 1 of 2). ADSM API Files for Developers

File Name	Description
dsmrc.h	Return codes header file
dsmaitd.h	Type definitions header file
dsmaitfp.h	Function prototype header file
dapibkup.c dapidata.h dapiinit.c dapint64.h dapint64.c dapipref.c dapiproc.c dapipw.c dapiqry.c dapirc.c dapismp.c dapitype.h dapiutil.h dapiutil.c	Modules for the command-line driven sample application
makeapi.aix	Makefile to build dapismp for AIX
makeapi.oemvs	Makefile to build dapismp for OpenEdition MVS
makeapi.hp	Makefile to build dapismp for HP-UX
makeapi.sun	Makefile to build dapismp for SunOS
makeapi.sol	Makefile to build dapismp for Solaris
makeapi.att	Makefile to build dapismp for AT&T
makeapi.sinix	Makefile to build dapismp for SINIX and Pyramid Nile
makeapi.nec	Makefile to build dapismp for NEC
makeapi.sgi	Makefile to build dapismp for SGI
makeapi.osf	Makefile to build dapismp for Digital UNIX
makeapi.dpx2	Makefile to build dapismp for Bull DPX/2

Figure 36 (Page 2 of 2). ADSM API Files for Developers

File Name	Description
caller1.c	Simple example modules
caller2.c	
register.frm	Registration form for developers to get support

If you install the API on the AIX or Solaris platforms, both the base API and the X/Open API are installed. The files for the X/Open API are listed in Figure 37.

Figure 37. X/Open API Files

File Name	Description	
libXApi.a	X/Open API shared library for AIX	
libXApi.so	X/Open API shared library for Solaris	
custom.h	Platform custom integer definitions header file	
xbsa.h	Header file containing constants, return codes, structure and type definitions, and function prototypes for the Data Movement function group	
policy.h	Header file containing structure definitions relating to policy	
xapibkup.c	Modules for the command line driven sample application	
xapidata.h		
xapiinit.c		
xapint64.h		
xapint64.c		
xapipref.c		
xapiproc.c		
xapipw.c		
xapiqry.c		
xapirc.c		
xapismp.c		
xapitype.h		
xapiutil.h		
xapiutil.c		
makexapi.aix		Makefile to build xapismp for AIX
makexapi.sol		Makefile to build xapismp for Solaris

Figure 38 (Page 1 of 2). WebShell Client Interface

File Name	Description
BACLIENT<DIR> -- Backup Client Directory	
adsmprswd	Used to create/update adsmprswd.ws (ADSM password file)
mkwspswd	Used to create/update adsmweb.ws (WebShell Web authentication file)
webshell	WebShell client
webstart	WebShell client via /etc/inittab
webshell.txt	WebShell client readme

Figure 38 (Page 2 of 2). WebShell Client Interface

File Name	Description
BACLIENT\WSSTUFF<dir> --	WebShell support files
adsmhbk.html	Backup help
adsmhbs.html	Backup selection help
adsmhead.gif	WebShell masthead
adsmhelp.gif	Graphic for the ADSM WebShell help banner
adsmhrs.html	Restore selection help
adsmhrst.html	Restore help
adsmhsta.html	File system selection help
adsmpswd.ws	Web authentication file
adsmresp.ws	File used by WebShell to end response prompting by the ADSM server
backgrou.gif	Graphic for the background
backup.gif	Graphic for the backup to safe image displayed on the backup form
blank.gif	Graphic for small space filler
info.gif	Graphic for the ADSM WebShell help icon
rbospace.gif	Graphic for larger space filler
restore.gif	Graphic for the safe to restore image displayed on the restore form
wsreadme.html	WebShell online documentation

Step 2: Setting Environment Variables (Optional)

There are three environment variables that you can set to point to files that ADSM uses:

DSM_DIR

Points to the executable file (**dsmtca**), the resource files, and the **dsm.sys** file.

DSM_CONFIG

Points to the client user options file for users who create their own personalized file.

DSM_LOG

Points to the directory where you want the **dsmerror.log** file to reside. The error log file contains information about any errors that occur during processing.

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

If you define DSM_LOG, ADSM writes messages to **dsmerror.log** in the directory you specify. If ADSM cannot write in that directory, it writes messages to **dsmerror.log** in the current directory.

If you do not define DSM_LOG, ADSM writes messages to **dsmerror.log** in the current directory.

If ADSM attempts to write to the current directory and cannot, it issues a warning message that it cannot write to the log file and continues processing.

Setting Bourne and Korn Shell Variables

For the Bourne or Korn shell, enter the environment variables in the `.profile` file in your `$HOME` directory. For example:

```
DSM_DIR=/home/davehil  
DSM_CONFIG=/home/davehil/dsm.opt  
DSM_LOG=/home/davehil  
export DSM_DIR DSM_CONFIG DSM_LOG
```

where `/home/davehil/dsm.opt` is the path and file name for your client user options file, and `/home/davehil` is the directory where you want to store the `dsmerror.log` file, the executable file, the resource files, and the `dsm.sys` file.

Setting C Shell Variables

For the C shell, add the `DSM_CONFIG` and `DSM_LOG` variables to `.cshrc` in your `$HOME` directory. For example:

```
setenv DSM_CONFIG /home/davehil/dsm.opt  
setenv DSM_LOG /home/davehil
```

where `/home/davehil/dsm.opt` is the path and file name for your client user options file, and `/home/davehil` is the directory where you want to store the `dsmerror.log` file.

Setting API Environmental Variables

If you have installed the API, set the following environmental variables:

DSMI_DIR

Points to your installation directory. In particular, the files `dsmapi.ca`, `dsm.sys`, and `dscameng.txt` must reside in the directory pointed to by `DSMI_DIR`. This environment variable must be present.

For the SunOS platform, set `DSMI_DIR` to `/usr/adsm/sun4`. For the Sun Solaris platform, set `DSMI_DIR` to `/usr/adsm/solaris`. For other platforms, you can use the default setting.

DSMI_CONFIG

Points to your own client user options file (`dsm.opt`).

DSMI_LOG

Path for `dserror.log`.

Note: End users of applications developed with the API should consult the installation directions for that application for special path names or guidelines for options. The location of the API library is especially important.

Step 3: Creating Options Files (Required)

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 Chapter 10, “Setting Processing Options” on page 187 for detailed information about all the available options, their possible values, and the syntactic rules for using them.

Step 3A: Creating the Client System Options File (Required)

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.

In addition, if you have the HSM client installed on your workstation, the client system options file can contain space management options.

ADSM includes a sample client system options file named **dsm.sys.smp** that contains the minimum options required to get started using ADSM. 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. Figure 39 lists the location of **dsm.sys.smp** after the initial code installation by platform.

Figure 39. Location of dsm.sys.smp

Platform	Directory
AIX	/usr/lpp/adsm/bin
Digital UNIX	/usr/opt/adsm
AT&T UNIX SVR4	/usr/adsm or
Bull DPX/2 300 B.O.S.	the installation directory
DEC ULTRIX	
HP-UX	
NEC EWS-UX/V	
OpenEdition MVS	
Pyramid Nile	
SCO	
Sequent PTX	
Siemens Nixdorf SINIX-Z	
Silicon Graphics IRIX	
Solaris	
SunOS	

To create the client system options file, copy **dsm.sys.smp** to **dsm.sys**. The options file must reside in the directory listed in Figure 39.

Attention: If you are reinstalling ADSM, do not copy the **dsm.sys.smp** file to **dsm.sys** if you have already modified your **dsm.sys** file and do not want to overwrite it.

Required Entries

Figure 40 shows the options contained in the sample client system options file.

```
*Servername server_a
*COMMethod      TCPIP
*TCPport        1500
*TCPserveraddress node.domain.company.COM
```

Figure 40. Contents of Sample Client System Options File

All of the sample entries are entered as comments. Enter the appropriate value for an option, and then remove the leading asterisk (*).

Edit the file using the editor of your choice. You need to obtain server information from your ADSM administrator.

- 1** For the SERVERNAME option, enter a name you want to assign to a server to contact for services, for example, server_a.

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

- 2** For each SERVERNAME option entry, use the COMMETHOD option to choose the communication method to be used for client server communications. You can specify TCPIP for the TCP/IP communication method for any UNIX client or, if you are using an AIX client, you can also specify SNALU6.2 for the SNA LU6.2 (APPC) communication method, SHARED MEM for the Shared Memory communication method or, CLIO for the Client Input-Output/Sockets communication method.

TCP/IP

For TCP/IP, use:

TCPPORT

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

TCPSERVERADDRESS

Enter the TCP/IP internet address for an ADSM server. Obtain the server address from your ADSM administrator.

SNA LU6.2 (APPC)

For SNA LU6.2 (APPC), use one of these sets:

PARTNERLUNAME, TPNAME, CPICMODENAME

Contact your ADSM administrator for these names:

PARTNERLUNAME

The logical unit name used by the transaction program to identify the ADSM server in the SNA network.

TPNAME

A symbolic name for the transaction program name.

CPICMODENAME

The mode for identifying the SNA connection to the gateway and target logical unit.

SYMBOLICDESTINATION

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

Shared Memory

For Shared Memory, use:

SHMPORT

The TCP/IP port address that the server is listening on to establish a shared memory connection. Obtain the port address from your ADSM administrator. You do not need to set this option if the port is 1510.

CLIO

For CLIO, use one of these sets:

TCPPOINT

Enter the TCP/IP port address used to communicate with the ADSM server. Obtain the port address from your ADSM administrator.

Note: Ensure the AIX TCPPOINT number matches the MVS server CLIOPort option number.

TCPSEVERADDRESS

Enter the TCP/IP internet address for an ADSM server. Obtain the server address from your ADSM administrator.

TCPBUFFSIZE

Specifies the size you want to use for the ADSM internal TCP/IP communication buffer. When you specify COMMMETHOD CLIO, the maximum size is 512. CLIO/S performance improves with a larger TCPBUFFSIZE.

Repeat the steps for each ADSM server you want users to be able to contact. Enter options for each server in a separate stanza as shown in Figure 41 on page 66. Begin each stanza with the SERVERNAME option.

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, or by entering that option with an ADSM command.

You can also specify a default server and a migration server (if you have the HSM client installed on your workstation) in your client system options file. For more information, see “DEFAULTSERVER” on page 229 and “MIGRATESERVER” on page 260.

```
Servername      server_a
  COMMmethod    TCPip
  TCPport       1500
  TCPserveraddress  almvmd.almaden.ibm.com
  Passwordaccess  prompt
  Groups        adsm
  Users         sullivan mushock tallan
  Incl excl     /adm/adsm/backup.excl

Servername      server_b
  COMMmethod    SNA1u6.2
  PARTnerluname  raptor
  TPname        appcdcl
  CPICM0dename  appc
  Passwordaccess  generate
  Mailprog      /usr/bin/xsend root
  Groups        system adsm
  Incl excl     /adm/adsm/archive.excl
```

Figure 41. Sample Entries in a Client System Options File with Two Stanzas

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 Chapter 10, “Setting Processing Options” on page 187 for a complete list of options.

The following sections provide information about some options that you might want to consider setting with different values.

Setting Password Options: You can choose to set these password options:

PASSWORDACCESS

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

Note: If a password is required, and you have the HSM client installed on your workstation, the PASSWORDACCESS option must be set to GENERATE.

You can set PASSWORDACCESS to one of the following:

PROMPT

If you want ADSM to prompt users for the ADSM password for your workstation each time they request services from the server. This is the default if you do not modify this option.

GENERATE

If you do not want ADSM to prompt users for a password. The ADSM password for your workstation is encrypted and stored locally. ADSM automatically generates a new password when the current password expires.

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.

Setting Authorization Options: If you do not use these options to limit access, all groups and users on the workstation can use ADSM.

GROUPS

Lists the groups on your workstation allowed to request ADSM services.

USERS

Lists the users on your workstation allowed to request ADSM services.

Identifying an Include-Exclude Options File: Use the INCLEXCL option if you choose to create an include-exclude options file. For more information, see “Step 3C: Creating an Include-Exclude Options File (Optional)” on page 68.

Using Central Scheduling: If you plan to use central scheduling right away, see “Scheduling Options” on page 194 for information about scheduling options you might want to set.

Setting Space Management Options: If you have the HSM client installed on your workstation, see “Space Management Options” on page 197 for information about space management options you might want to set. For information about how to set space management options, see “Setting Space Management Options” on page 198.

Step 3B: Creating the Default Client User Options File (Required)

ADSM provides a sample client user options file named **dsm.opt.smp**. You must copy the sample file to create a default client user options file, but you are not required to make any changes to it. Figure 42 shows the contents of the sample client user options file.

* SErvername	A server name defined in the dsm.sys file
--------------	-------------------------------------------

Figure 42. Contents of the Sample Client User Options File

The **dsm.opt.smp** file is in the same directory as **dsm.sys.smp**, as shown in Figure 39 on page 63.

To create a default client user options file, copy **dsm.opt.smp** to **dsm.opt**. The **dsm.opt** file must reside in the directory listed in Figure 39 on page 63 or the directory pointed to by the DSM_CONFIG environment variable.

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

The client user options file contains an option that specifies which ADSM server to contact for backup-archive services if more than one server is specified in your client system options file.

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. Note that users can also override the specified server for backup-archive services by entering the SERVERNAME option with an ADSM command.

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, archive, restore, and retrieve processing. For example, you can use the DOMAIN option to specify the file systems for which you want ADSM to perform incremental backup services.

DOMAIN

You can use this option to specify the file systems for which you want ADSM to perform incremental backups. The default is all locally mounted file systems except **/tmp**.

If you want to set options in your default client user options file, see “Creating a Customized Client User Options File” on page 72.

Step 3C: Creating an Include-Exclude Options File (Optional)

An include-exclude options file contains statements that identify any files you want to specifically include or exclude from backup services. For example, you can exclude core files, local caches of network file systems, files that contain compiled object code easily reproducible by other methods, and operating system files. You can enter broad statements that exclude entire groups of 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 files or groups of files. ADSM uses a default management class for any 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.

Figure 43 shows a sample include-exclude options file.

```
exclude /.../core
include /home/.../* personal_files
include /home/davehil/dsnew/.../*
include /home/davehil/driver5/.../* source_code
exclude /home/root/cron.log
```

Figure 43. Sample Include-Exclude Options File

The specification you enter for an include or exclude statement must end with a file name. You can use a wildcard in place of a specific file name. In the sample include-exclude options file, *personal_files* and *source_code* identify management classes to assign to specific files.

For information that can help you decide whether to create an include-exclude options file and for information about management classes, see the user's guides listed in Figure 2 on page xiv. For more information about management classes, see "Using Management Classes with INCLUDE" on page 208.

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.
For detailed information about the INCLUDE and EXCLUDE options, see "Creating an Include-Exclude List" on page 201.
- 4** Enter the name of your include-exclude options file in your client system options file using the INCLEXCL option.

HSM and Include-Exclude Files

With the HSM client installed, the EXCLUDE statement excludes a file from migration as well as backup. The INCLUDE statement includes a file for both migration and backup.

If you previously had only the backup-archive client installed, and your include-exclude options file contains EXCLUDE statements, you must modify your include-exclude options file if you do not want all excluded files to be excluded from both backup and migration.

Use the following options to exclude files from either backup or migration:

EXCLUDE.BACKUP

Excludes a file from backup only.

EXCLUDE.SPACEMGMT

Excludes a file from migration only.

HSM and Management Classes

If you have both the backup-archive client and the HSM client installed on your workstation, and you want to migrate and back up a file, the management class you assign to a file must have the HSM attributes and the backup and archive copy groups you want ADSM to use for the file. You can assign only one management class to a specific file.

Note: The default for the SPACEMGMTECHNIQUE attribute is NONE in the management class named STANDARD that is shipped with ADSM. If you use that management class as the default, and your administrator has not changed the setting for that attribute, no files will be migrated from your workstation.

See *Using the UNIX HSM Clients* for more information about the HSM client.

Step 4: Registering Your Workstation with a Server (Required)

This is the final required step you must complete before you can begin using ADSM. If you plan to do any of the optional setup steps, you can complete those steps before or after you complete this one.

Before users can begin requesting services from an ADSM server, you must register your workstation with that server. You register your workstation as a single client node for all users.

Your ADSM administrator chooses whether registration is *closed* or *open*.

Using Closed Registration

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

If your enterprise uses closed registration, you need to provide the following information to your administrator (the administrator may provide some of this information):

- Your node name (the value returned by the HOSTNAME command)
- 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, defined by your ADSM administrator, that control how ADSM manages the files you back up, archive, and migrate.
- 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.

Using Open Registration

With open registration, a root user can register your workstation as a client node with the server. Your workstation must be registered before anyone can use ADSM on that node.

The first time you start an ADSM session, ADSM prompts you for information necessary to register your workstation with a server identified in your client system options file. You need to supply your node name, a password, and contact information. Use the **dsm** command to start a session with ADSM using the graphical user interface. Use a **dsmc** command to start a session with ADSM using the command-line interface.

To register your workstation with additional servers, enter the **dsm** command or a **dsmc** command with the SERVERNAME option for each one. For example:

```
dsm -servername=dsmserv
```

where **dsmserv** is the name of a server identified in your client system options file.

ADSM prompts you for the information necessary to register your workstation with the server you specify.

When you use open registration, the defaults for policy domain, compression, and deleting files in ADSM storage are as follows:

- Your client node is assigned to a policy domain named STANDARD.
- A root user on your workstation can define whether compression is used by setting the appropriate value for the COMPRESSION option in the client system options file.
- A root user on your workstation is allowed to delete archived copies of files from ADSM storage, but not backup versions of files. Users are allowed to delete archived files they own.

If necessary, your ADSM administrator can change those defaults later.

Creating a Customized Client User Options File

If you have different requirements for processing options than those identified in the default client user options file created by a root user on your workstation, you can create your own client user options file.

For example, you might want to specify different file systems for incremental backup than those specified with the DOMAIN option in the default client user options file. Or, you might want to specify the QUIET option to suppress lengthy messages instead of using the default VERBOSE option.

For information that can help you decide whether you need to create your own file and detailed information about each option you can set in the client user options file, see Chapter 10, “Setting Processing Options” on page 187.

To create your own client user options file, follow these steps:

- 1** Change to the directory where the sample file is stored. If ADSM is not in the directory listed in Figure 39 on page 63, contact the root user on your workstation to determine the location.
- 2** Copy **dsm.opt.smp** to **dsm.opt** or a new file name of your choice. You can store your client user options file in any directory to which you have write access.
- 3** Enter any options you want to change using the editor of your choice. You can also copy sample options from the **options.doc** file that is stored in the installation directory.

The SERVERNAME option in the sample client user options file is entered as a comment. If you enter a value for that option, remove the leading asterisk (*).
- 4** Set the DSM_CONFIG environment variable to point to your new client user options file. For instructions to set that variable, see section, “Step 2: Setting Environment Variables (Optional)” on page 61.

Special Considerations for Andrew File System (AFS)

If you install ADSM on an AIX workstation, and you plan to back up and archive AFS files, you can do the following:

- Use the AFS versions of executable files
- Identify AFS user accounts for backup and archive

Using the AFS Versions of Executable Files

ADSM includes executable files for the graphical user interface and for the command-line interface in both non-AFS versions and AFS versions.

The non-AFS versions are named **dsm** and **dsmc**. The AFS versions are named **dsm.afs** and **dsmc.afs**.

If you back up AFS files using the non-AFS versions of the executable files, ADSM backs up the files and saves standard UNIX access permissions and extended permissions, but does not back up AFS access control lists for directories.

If you want ADSM to back up AFS access control lists, you must use the AFS versions of the executable files. You can do that in one of the following ways:

- Enter **/usr/lpp/adsm/bin/dsm.afs** to start a graphical user interface session.
- Enter **/usr/lpp/adsm/bin/dsmc.afs** with ADSM commands to use the command-line interface.
- Make **/usr/lpp/adsm/bin** your current directory, and then enter **dsm.afs** to start a graphical user interface session.
- Make **/usr/lpp/adsm/bin** your current directory, and then enter **dsmc.afs** with ADSM commands to use the command-line interface.

Or, you can do the following:

- 1** Delete or rename the non-AFS versions of the executable files.
- 2** Rename the AFS versions to **dsm** and **dsmc**.
- 3** Enter **dsm** to start a graphical user interface session, and enter **dsmc** with ADSM commands to use the command-line interface.

Identifying AFS User Accounts for Backup and Archive

When you back up AFS files, you want ADSM to begin checking files for eligibility at the directory that begins a user account.

To identify where a user account begins, you can use the VIRTUALMOUNTPOINT option in the client system options file.

For example, to define a virtual mount point in AFS for a user named Steiner, you could enter the following:

```
virtualmountpoint /afs/almaden.ibm.com/u/steiner
```

Attention: If you do not specify a virtual mount point for AFS, ADSM must check the entire AFS directory tree beginning with **/afs** to find the files a user can back up. That can take a long time. You probably do not want to allow ADSM to check the entire AFS directory.

For more detailed information about using the VIRTUALMOUNTPOINT option, see “VIRTUALMOUNTPOINT” on page 321.

Starting ADSM

Before you can start a session with the ADSM graphical user interface, the X Window System must be running on your workstation. If you do not have the X Window System running on your workstation, you can use the ADSM command-line interface only.

The X Window System is started automatically when you log on to the following:

- An HP-UX workstation
- A Digital UNIX workstation
- A DEC ULTRIX workstation
- An NEC EWS-UX/V workstation
- An IRIX workstation
- A Bull DPX/2 workstation

If the X Window System is *not* running on an HP-UX, NEC EWS-UX/V, IRIX or Bull DPX/2 workstation, you can start it as follows:

- On an HP-UX workstation, enter **x11start**
- On an NEC EWS-UX/V workstation, enter **xinit**
- On an IRIX workstation, enter **xinit**
- On a Bull DPX/2 workstation, enter **xinit**

On other workstations, you can start the X Window System as follows:

- On an AIX workstation, enter **xinit**
- On an SCO workstation, enter **startx**
- On a SunOS or Solaris workstation, enter **openwin**
- On a SINIX workstation, enter **startx**
- On a Pyramid Nile workstation, enter **startx**
- On an AT&T UNIX workstation, enter **xinit**

For OpenEdition MVS, the X Window System must be started on the workstation you intend to use to display the ADSM graphical user interface. Ensure that the DISPLAY environment variable is set on the OpenEdition MVS system as follows:

```
export DISPLAY=IP.address:0
```

From your workstation, you can use the **rlogin** command to log on to the OpenEdition MVS system instead of using the 3270 terminal emulation so its behavior and appearance is more like UNIX.

If the X Window System is running, check to see whether an ADSM session is already started. Look on your workstation desktop for the ADSM icon shown in Figure 44 on page 75.



Figure 44. The ADSM Icon

If you see this icon on your desktop, ADSM is already running. You can double-click on the icon to open the ADSM window.

If the ADSM icon does not appear on your desktop, you must start ADSM using one of the following commands:

dsm Runs ADSM in the foreground.
dsm & Runs ADSM in the background.

Note: If you are working on an AIX workstation, and you want to back up or archive AFS files, check with the root user responsible for setting up ADSM on your workstation to find out whether you can use the AFS versions of ADSM. See “Special Considerations for Andrew File System (AFS)” on page 72 for more information.

Your ADSM administrator has the option to force you to use a password to connect to the ADSM server. ADSM prompts you for the password if one is required. Contact your administrator if you do not know your password.

Starting ADSM Automatically

You can start the ADSM client scheduler automatically when you start your operating system. If the ADSM administrator has defined schedules for your client node, starting the client scheduler allows ADSM to back up your machine automatically (or perform other scheduled actions). See *Using the UNIX Backup-Archive Clients* for more information about the client scheduler.

To start the client scheduler automatically, ensure that the `PASSWORDACCESS` option is set to `GENERATE` in your client system options file, and then add one of the following commands to the `/etc/inittab` file:

- For AIX:

```
adsm::once:/usr/lpp/adsm/bin/dsmc sched > /dev/null 2>&1 # ADSM scheduler
```
- For Digital UNIX:

```
adsm::once:/usr/opt/adsm/dsmc sched > /dev/null 2>&1 # ADSM scheduler
```
- For other UNIX clients:

```
adsm::once:/usr/adsm/dsmc sched > /dev/null 2>&1 # ADSM scheduler
```

Note: You **must** include the redirection to `/dev/null` in the command.

For OpenEdition MVS clients, add the following command to the `/etc/rc` file:

```
_BPX_JOBNAME='ADSM' /usr/adsm/dsmc schedule &
```

Starting ADSM: Advanced Considerations

You can include ADSM options when you issue **dsm** commands. For example, you can use options to modify the format used to display dates, times, and numbers, or you can use an option to include your password so that ADSM does not prompt you for it. (However, if you include the **PASSWORD** option, your password can be seen by anyone who sees you enter the command.)

You can use any of the following options when you start ADSM:

- **DATEFORMAT**
- **DOMAIN**
- **NODENAME**
- **NUMBERFORMAT**
- **PASSWORD**
- **SERVERNAME**
- **TIMEFORMAT**

For example, if you have more than one ADSM server available to you, and you want to contact a different server for backup-archive services than the one specified in your client user options file, you can enter the following, where *server_b* is the name of the server you want to contact:

```
dsm -servername=server_b
```

Starting the WebShell Client Interface

You can use the new WebShell client interface to manage backup and restore operations from any machine, on any platform, on any network. Using the WebShell, you can back up and restore your own data, or an ADSM administrator can centralize the backup/restore operations of many ADSM clients, regardless of platform. To use it, simply point your Web browser at any ADSM client machine that is running the WebShell client interface. It provides you with the following client operations:

- Status of backup operations
- Incremental and selective backup of new and changed files
- Restore operations

To use WebShell,

1. Enter **adsm`pswd` p <your password> <directory>** to inform WebShell of your password. This `adsmpswd.ws` password file resides in the `/etc/security/adsm` directory created during installation.
2. Enter the following command to inform WebShell of the userids on the system, their type (regular user or administrator), and the passwords to use for Web authentication:

```
mkwpswd p <username> <password> <flag> <directory>
```

This password file, `adsmweb.ws`, resides in the `etc/security/adsm` directory created during installation.

3. To start WebShell, enter:

**webshell <optional port number> <optional
location of Web authentication file>**

4. To access WebShell, enter this URL:

hp2. <http://YourMachineName:PortNumber/webshell>

Note: The default port number is 2121.

Chapter 3. Installing the OS/2 Client

This chapter provides instructions to install and set up ADSM on an OS/2 workstation.

OS/2 Client Environment

This section contains client environment information, including hardware and software requirements, for the OS/2 platform.

Client Components

The following ADSM client components can be installed on an OS/2 workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line and GUI)
- API
- WebShell Client

Hardware Requirements

- Any personal computer that supports OS/2
- Disk space: 10 MB (to install all client components)

The disk space is an approximate number which depends on the ADSM components you choose to install. The online installation instructions describe how much space is required for the selected options, and how much space is available on the hard disk.

Operating System

- IBM OS/2 2.0, 2.1, or 2.11
- IBM OS/2 WARP 3.0

Communication Methods

Figure 45 shows the communication protocols that this ADSM client can use, and the software required to use them.

Figure 45. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
3270	IBM Communications Manager/2 1.0	MVS, VM, VSE
IPX/SPX	NetWare Requestor for OS/2 V2.01	AIX, OS/2, Windows NT
Named Pipe	Standard with OS/2	OS/2, Windows NT
NETBIOS	Any of these: <ul style="list-style-type: none"> • IBM Network Transport Service/2 • IBM OS/2 LAN Server 2.0 Advanced Version 3.0 or 4.0 	AIX, OS/2, Windows NT
PWSCS	IBM VM Programmable Workstation Communications Services 1.1	VM
SNA LU6.2 (APPC)	Either of these: <ul style="list-style-type: none"> • IBM Communications Manager/2 1.0 • IBM SAA Networking Services/2 	AIX, MVS, OS/2, OS/400, VSE, VM
SNA LU6.2 (APPC)	IBM OS/2 Extended Services 1.0	OS/2, OS/400
TCP/IP	IBM TCP/IP 2.0 for OS/2	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT

Step 1: Installing the OS/2 Client Program (Required)

This section describes two installation methods:

- How to install ADSM using Configuration, Installation, and Distribution (CID).
- How to install ADSM from diskettes or CD-ROM (media).

Installing the OS/2 Client using CID

CID is an OS/2 based set of components that allows you to automate the software installation. An administrator who wants to let users install ADSM on their local machines through a LAN, instead of diskettes, can put all of the installation files into a single directory on a remotely attached disk or file server and make the necessary changes to the response and command files. Users can then link their workstations to that disk or file server and perform the installation by executing the **cidinst** command file.

Two files (**cidinst.cmd** and **adsmresp.dat**) are part of the installation package, and can be edited to fit individual requirements.

To prepare for the CID installation, the administrator of the file server must do the following:

- 1 Copy the ADSM diskettes to the file server. Use the **copy** or **xcopy** command.

2 Edit the **cidinst.cmd** command file to:

- Change the InstallFilesDirectory variable so that it points to the directory on the file server that contains the ADSM files
- Change the ErrorLog variable to the path and file name you want to use for the error log file

3 If necessary, edit the **adsmresp.dat** response file (which is used in conjunction with the **cidinst.cmd** file) to change the following:

- FILE—The directory in which to install the ADSM files
- WORK—The directory in which to install the DLL files
- COMP—The components you want installed
- CFGUPDATE—Whether you want the **config.sys** file updated
- DELETEBACKUP—Whether you want to delete a backup copy of the client (if it has been previously installed)
- OVERWRITE—Whether you want to overwrite existing files
- SAVEBACKUP—Whether you want to save a backup copy of the client (if it has been previously installed)

The OS/2 user can now attach to the remote disk or file server and start **cidinst.cmd** to install ADSM.

This procedure assumes that the CID environment is already set up. To start **cidinst.cmd**, either change your working directory to its location on the file server or add the location to the beginning of the PATH statement:

```
SET PATH=X:\adsm;%PATH%
```

Installing the OS/2 Client

To install the OS/2 client from a media (diskettes or CD-ROM):

1 Insert the first installation media into the proper drive.

2 At the prompt, enter:

From diskette: **a:install** and press Enter.

From a server CD-ROM: **h:\clients\os2\language\install**
Type **install** and press Enter.

Note: Replace 'language' with the language you want to install, and 'h' drive with the CD-ROM drive on your system.

After the install program loads temporary files, the ADSM Installation window and the Instructions window are displayed.

- 3 On the Instructions window, click on Continue to display the third window, or click on Cancel to end the installation.

- 4 If you do not want the installation program to update the **config.sys** file for you, click on the button next to Update CONFIG.SYS to remove the check mark.

If you do not have the installation program update your **config.sys** file, you can update it yourself after the ADSM files are installed using the instructions in "Step 2: Setting Environment Variables (Optional)" on page 85.

Click on OK to install the product, or click on Cancel to end the installation.

- 5 On the fourth window, click on the client component that you want to install.

You can also click on Select all or Deselect all.

Click on Descriptions to display descriptions of the components that you have selected.

Click on Disk space to display a window that shows how much disk space you have on all of your drives. The number of bytes needed to install the components is displayed below the component choices. If you do not have enough space for the installation, you can change to another drive by clicking on its name, and then clicking on Change directories to selected drive. When you are finished, click on OK.

If you do not want to use the defaults for the installation directories, enter new names in the input fields. The default directory for the executable files and the dynamic linked libraries is **c:\adsm**. The system gives you two path name entry areas to modify if necessary.

Click on Install when you are finished.

- 6 On the next window, click on Stop if you want to interrupt the installation. This window displays the progress of the installation. When a new diskette needs to be inserted, the Insert disk window is displayed. Follow the instructions, and then click on Continue.

- 7 After you read the next window, click on OK. Then click on Exit on the ADSM Installation window.

ADSM Files

Depending on your choice of components, some or all of the files in Figure 46 are copied into the installation directory.

Figure 46 (Page 1 of 2). ADSM files

File Name	Description
dsm.exe	Executable file for the backup-archive client graphical user interface

Figure 46 (Page 2 of 2). ADSM files

File Name	Description
dsmo.hlp	Help file for the backup-archive client graphical user interface
dsmc.exe	Executable file for the backup-archive client command-line interface
dsmc.hlp	Help file for the backup-archive client command-line interface
dsmadm.exe	Executable file for the administrative graphical user interface
dsmadm.dll	32-bit version of the runtime library
dsmllcom.dll	Low Level communications library
dsmadm.hlp	Online Help file
dsmadm.pdl	Panel Definition library
dsmadm.pml	Panel Message library
dsmsys.hlp	System Online Help file
dsmsys.pdl	System Panel Definition library
dsmsys.pml	System Panel Message library
dsgameng.txt	American English message text file for the administrator graphical user interface
dsmadm.exe	Executable file for the administrative client command-line interface
fclcnrp.dll	CUA Controls Library file
dscameng.txt	American English message text file for the backup-archive clients and the administrator command-line interface
dsm.smp	Sample options file for all clients
options.doc	Documentation of client options
read.me	Last minute updates and other special information
hpfs386.dll	HPFS Support

If you install the graphical user interfaces, icons for them are created on your desktop.

If you install the Application Programming Interface (API), the files in Figure 47 and Figure 48 are copied into the API installation directory. (The file **adsmos2.dll** is copied into the ADSM installation directory.)

Figure 47. ADSM Files for OS/2 API

File Name	Description
readme.api	Last minute updates and other special information for API
adsmos2.dll	The ADSM API library for OS/2
adsmos2.lib	Import library for adsmos2.dll

The files in Figure 48 are provided for developers who write applications that communicate with an ADSM server.

Figure 48. ADSM Files for OS/2 API for Developers

File Name	Description
dsmapifp.h	Function prototypes header file
dsmapihd.h	Type definitions header file
dsmrc.h	Return codes header file
dapismp.mak	Makefile for sample application dapismp.exe
dapismp.def	Definition file for sample application dapismp.exe
dapibkup.c dapidata.h dapiinit.c dapint64.c dapint64.h dapipref.c dapiproc.c dapipw.c dapiqry.c dapirc.c dapismp.c dapitype.h dapiutil.c dapiutil.h	The source code for a sample application dapismp.exe that demonstrates the use of the major ADSM API functions.
register.frm	Registration form for developers to get support

Figure 49 (Page 1 of 2). WebShell Client Interface

File Name	Description
BACLIENT<DIR> -- Backup Client Directory	
adsmppswd.exe	Used to create/update adsmppswd.ws (ADSM password file)
mkwspswd.exe	Used to create/update adsmweb.ws (WebShell Web authentication file)
webshell.exe	WebShell client
webshell.txt	WebShell client readme
BACLIENTWSSTUFF<dir> -- WebShell support files	
adsmhbk.html	Backup help
adsmhbs.html	Backup selection help
adsmhead.gif	WebShell masthead
adsmhelp.gif	Graphic for the ADSM WebShell help banner
adsmhrs.html	Restore selection help
adsmhrst.html	Restore help
adsmhsta.html	File system selection help
adsmppswd.ws	Web authentication file
adsmresp.ws	File used by WebShell to end response prompting by the ADSM server

Figure 49 (Page 2 of 2). WebShell Client Interface

File Name	Description
backgrou.gif	Graphic for the background
backup.gif	Graphic for the backup to safe image displayed on the backup form
blank.gif	Graphic for small space filler
info.gif	Graphic for the ADSM WebShell help icon
rbospace.gif	Graphic for larger space filler
restore.gif	Graphic for the safe to restore image displayed on the restore form
wsreadme.html	WebShell online documentation

Step 2: Setting Environment Variables (Optional)

If you did not choose to let the install program update your **config.sys** file, you must update it yourself.

Updating Your config.sys File

To update your **config.sys** file, do the following:

- 1 Add the directory where the executable files reside to the PATH statement. For example:

```
SET PATH=C:\ADSM...
```

- 2 If you installed the backup-archive graphical user interface, the backup-archive command-line interface, or the administrative command-line interface, define the DSM_CONFIG environment variable to point to where your client user options file resides. For example:

```
SET DSM_CONFIG=C:\ADSM\DSM.OPT
```

- 3 If you also installed the administrative graphical user interface, define the DSMG_CONFIG environment variable to point to where your client user options file resides. For example:

```
SET DSMG_CONFIG=C:\ADSM\DSM.OPT
```

- 4 If you installed the backup-archive graphical user interface, the backup-archive command-line interface, or the administrative command-line interface, define the DSM_DIR environment variable to point to the directory where all other files reside. For example:

```
SET DSM_DIR=C:\ADSM
```

- 5 If you also installed the administrative graphical user interface, define the DSMG_DIR environment variable to point to the directory where all other files reside. For example:

```
SET DSMG_DIR=C:\ADSM
```

- 6 If you installed the backup-archive command-line interface, the backup-archive graphical user interface, or the administrative command-line interface, you can define the DSM_LOG environment variable to point to the directory where **dsmerror.log** should reside. For example:

```
SET DSM_LOG=C:\ADSM
```

The error log is intended for IBM service personnel to help you diagnose severe errors. If you do not define this variable, the log is written to the current directory.

- 7 If you also installed the administrative graphical user interface, you may define the DSMG_LOG environment variable to point to the directory where **dsmerror.log** should reside. For example:

```
SET DSMG_LOG=C:\ADSM
```

The error log is intended for IBM service personnel to help you diagnose severe errors. If you do not define this variable, the log is written to the current directory.

- 8 Add the directory where the dynamic linked libraries reside to the LIBPATH statement. For example:

```
LIBPATH=C:\ADSM; . . .
```

- 9 Shut down the system, and then restart it by pressing:

```
CTRL+ALT+DEL
```

Instead of following the steps above to update your **config.sys** file, you can update it by:

- 1 Comparing it to the **config.add** file in the root directory.
- 2 Identifying the changes that have been made to the **config.add** file.
- 3 Adding the changes to your **config.sys** file.

ADSM creates the **config.add** file in the root directory during the installation when you choose not to have the installation program update your **config.sys** file. The **config.add** file contains all of your **config.sys** entries plus the changes that would have been made to it if you had chosen to have it updated during the installation.

As a final alternative for updating your **config.sys** file, you can give it another name, and then rename the **config.add** file to **config.sys**.

Setting API Environment Variables

If the installation program did not automatically update your **config.sys** file, you may want to update that file yourself, using the following instructions.

You must set the environment variables in your **config.sys** file to point to the directories where your ADSM API files are stored:

- 1** Add the directory where the executable file resides to the PATH statement. (The executable file **dapismp.exe** is created when you build the sample API application.) For example:

```
SET PATH=C:\ADSM\API...
```

- 2** Define the DSMI_CONFIG environment variable to point to where your client user options file resides. For example:

```
SET DSMI_CONFIG=C:\ADSM\API\DSM.OPT
```

- 3** Define the DSMI_DIR environment variable to point to the directory where all other files reside. For example:

```
SET DSMI_DIR=C:\ADSM
```

- 4** Define the DSMI_LOG environment variable to point to the directory where **dsierror.log** should reside. For example:

```
SET DSMI_LOG=C:\ADSM\API
```

The error log file contains information about any errors that occur during processing.

Note: End users of applications developed with the API should consult the installation directions for that application for special path names or guidelines for options. The location of the API library is especially important.

Step 3: Setting Up the Client Options File (Required)

ADSM includes options that control processing for user sessions. These options are stored in the client options file, usually called **dsm.opt**.

The options you want to include in the client options file are to:

- Define the communication protocol you are using to communicate with an ADSM server
- Set various parameters associated with the chosen communication protocol
- Choose whether to compress data files sent to the server

- Set up an *include-exclude list* in which you can enter options to include or exclude specific files or groups of files for backup services
- Specify which ADSM server to contact for services
- Define the formats to use for date, time, and numbers
- Identify your node name
- Tell ADSM what to do if you are restoring or retrieving a file, and the file already exists on your workstation

You can override an option contained in the client options file by entering a different value for the option with an appropriate ADSM command.

For more information about ADSM options, see Chapter 10, “Setting Processing Options” on page 187.

Step 3A: Creating the Client Options File (Required)

ADSM provides two sample options files:

dsm.smp contains a base you can use in creating your options file.

options.doc describes the client options you can set in the options file or enter on the command line.

You can read the information in the **options.doc** file before creating your own options file and refer back to it as often as necessary.

To create the required options file, **dsm.opt**, open an OS/2 window and change the current directory to **c:\adsm** (or wherever you have stored the files). Enter the following command:

```
copy dsm.smp dsm.opt
```

You then only need to remove the comment character (*) from the start of the lines you want to keep in your options file. By keeping the original file intact, you can always go back to the default settings for options if necessary. You can also create the **dsm.opt** file through the Drives window in the Presentation Manager OS/2 System folder.

After you have created this initial options file, you can customize it by adding options from the **options.doc** file. You can copy examples from the **options.doc** file to your options file, and then modify them to meet your individual needs.

For more information about the client options file syntax, see “Setting Options in a File” on page 197.

Step 3B: Enabling Communications (Required)

One of the most important purposes of the options file is to define the communication method used between your workstation and the server. You can use one of the following methods:

- 3270

- TCP/IP
- PWSCS
- SNA LU6.2 (APPC)
- NETBIOS
- IPX/SPX
- Named Pipe

Each of these methods has various options associated with it. For a detailed description of each option, see Chapter 10, "Setting Processing Options" on page 187.

Use the COMMMETHOD option to specify a communication method. For example, to use the TCP/IP communication method, specify:

```
COMMmethod TCPip
```

If you copied the **dsm.smp** file to **dsm.opt**, the COMMMETHOD options are already written in the file. You only need to remove the comment character (*) from the start of the line.

The default communication method is **3270**. Therefore, if you are using the 3270 communication protocol, you do not have to include the COMMMETHOD option in the options file.

The following sections discuss the option requirements for the various communication methods. Contact your ADSM administrator if you need help defining these communication options.

3270 Communications Requirements

If you are using 3270 communications, you must include the 3270HOSTCOMMAND option in the options file. This option specifies the command string to use to establish the connection to the server.

Configure your workstation to have at least one 3270 session free for ADSM to use. ADSM can use all 3270 emulation modes except asynchronous dial-up and Control Unit Terminal (CUT).

If you are using Attachmate Extra!, you must use the Attachmate Extra! configuration program to enable the low-level PC application programming interface component.

You can also use the following options, although they are not required, to modify ADSM defaults:

Option	Description
3270BUFFERSIZE	Modifies the size of the 3270 communication buffer. A size of at least 4000 bytes is recommended, but do not specify a buffer size of 35832 or more bytes (35KB-8). If you do not modify this option, ADSM uses the emulator's file transfer buffer size.
3270CHECKSUM	Indicates whether ADSM should check the validity of data sent between the server and your node. If you do not modify this option, ADSM checks the validity of the data.

Option	Description
3270HOSTCMDPAUSE	Changes the number of seconds ADSM waits between sending the parts of the command string specified on the 3270HOSTCOMMAND option. If your host's response is slow, you may need to increase the number of seconds from ADSM's default of 1 second.
3270HOSTCOMMAND	A sequence of commands to start a 3270 client/server session.
3270HOSTENDCOMMAND	A sequence of commands to send to the server at the end of an ADSM client session.
3270HOSTTIMEOUT	Changes the number of seconds ADSM waits to receive data from the host before assuming something is wrong with the host. If your host's response is slow, you may need to increase the number of seconds from ADSM's default of 10 seconds.
3270LOGICALTERMINALID	Tells ADSM which emulator session to use when communicating with the server. If you do not modify this option, ADSM uses the A session. If you want to use the A session for your own host-based work, specify a different session with this option.

PWSCS Communications Requirements

If you are using PWSCS communications, include the following option in the options file:

```
COMMmethod PWScs
```

You must also specify one of the following sets of options:

- Either these options:
TPNAME
PARTNERLUNAME
CPICMODENAME
- Or this option:
SYMBOLICDESTINATION

You can also specify this option:

```
CPICBUFFERSIZE
```

The following table provides a brief description of each option.

Option	Description
TPNAME	The name of the transaction program of the target logical unit.
PARTNERLUNAME	The logical unit name of the remote target.
CPICMODENAME	The name of the SNA session that connects to the partner logical unit.

Option	Description
CPICBUFFERSIZE	The size of the CPIC buffer. If you do not modify this option, ADSM uses a 31 KB buffer size.
SYMBOLICDESTINATION	The name that CPIC uses to connect to the server.

TCP/IP Communications Requirements

If you are using TCP/IP communications, include the following option in the options file:

```
COMMmethod TCPip
```

Also specify the following options.

Option	Description
TCPBUFFSIZE	The size, in kilobytes, of the ADSM internal TCP/IP communication buffer. The default is 31 KB.
TCPPORT	The server's TCP/IP port address. You do not need to set this option if your server's address is 1500 .
TCPSERVERADDRESS	The TCP/IP internet address for the server. The address can be a TCP/IP Internet Domain Name (for example, gldvm.end.ibm.com), or a dot address (for example, 9.103.21.200).
TCPWINDOWSIZE	The size, in kilobytes, of the TCP/IP sliding window for your client node.

NETBIOS Communications Requirements

If you are using NETBIOS communications, include the following option in the options file:

```
COMMmethod NETBios
```

Also specify the following options.

Option	Description
NETBIOSBUFFERSIZE	A buffer size for sending NETBIOS data. The default is 16 KB.
NETBIOSNAME	The NETBIOS name for your workstation. The default is the letters ADSM concatenated with a time-of-day value.
NETBIOSTIMEOUT	The number of seconds that must elapse before a timeout occurs for a NETBIOS send. The default is 60 seconds.
NETBIOSSERVERNAME	The NETBIOS name for an ADSM server. The default is ADSMSEV1 .

Option	Description
LANADAPTER	A communication adapter number. The default is 0 .

IPX/SPX Communications Requirements

If you are using IPX/SPX communications, include the following option in the options file:

```
COMMmethod IPXspx
```

Also specify the following options.

Option	Description
IPXSERVERADDRESS	The IPX/SPX server address on an OS/2, AIX, or Windows NT host. If you do not specify an address, ADSM assumes the server resides on your client workstation.
IPXSOCKET	The socket number of the ADSM server. The default is 8522 .
IPXBUFFERSIZE	The size you want to use, in kilobytes, for the IPX buffer used to transfer data between the client node and the server.

SNA LU6.2 (APPC) Communications Requirements

If you are using the SNA LU6.2 (APPC) protocol, include the following option in the options file:

```
COMMmethod SNA1u6.2
```

You must also specify one of the following sets of options:

- Either these options:
TPNAME
PARTNERLUNAME
CPICMODENAME
- Or this option:
SYMBOLICDESTINATION

You can also specify this option:

```
CPICBUFFERSIZE
```

The following table provides a brief description of each option.

Option	Description
TPNAME	The name of the transaction program of the target logical unit.
PARTNERLUNAME	The logical unit name of the remote target.

Option	Description
CPICMODENAME	The name of the SNA session that connects to the partner logical unit.
CPICBUFFERSIZE	The size of the CPIC buffer. If you do not modify this option, ADSM uses a 31 KB buffer size.
SYMBOLICDESTINATION	The name that CPIC uses to connect to the server.

Named Pipe Requirements

If *commmethod* is **NAMEdpipe**, the following option must be defined:

- NAMEDPIPENAME *name*

If NAMEDPIPENAME is not defined, the default is **\\PIPE\DSMSERV**.

Contact your ADSM administrator for server information or for help with defining these communication options.

Step 3C: Setting Your Node Name (Required)

Use the NODENAME option to indicate the name of your node so that you can register with the ADSM server. If your installation is using closed registration, the ADSM administrator must register you with the server and may select a name for you to use. Otherwise, in open registration, you can register your node with the server and choose your own name. For more information about registration requirements, see “Step 4: Registering Your Workstation with the Server (Required)” on page 95.

Step 3D: Creating an Include-Exclude List (Optional)

An include-exclude list contains statements that identify any files you want to specifically include or exclude from backup services. This list is contained in the **dsm.opt** file.

For example, you might want to exclude all swap files, easily reproducible files (such as object files), and operating system files. You can enter broad statements that exclude entire groups of files. Then, you can enter include statements to make exceptions to those broad statements.

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

If you do not create an include-exclude list, ADSM considers all files for backup services and uses the default management class.

The minimum recommended exclude list (assuming you boot from the **c:** drive) is shown in Figure 50 on page 94. You can delete the lines that do not apply to your version of OS/2.

```
exclude ?:\...\swapper.dat
exclude "*/\ea data. sf"
exclude c:\ibmbio.com
```

Figure 50. Minimum Recommended Exclude List

For information that can help you decide whether to create an include-exclude list, see “Creating an Include-Exclude List” on page 201. For more information about management classes, see “Using Management Classes with INCLUDE” on page 208.

To create an include-exclude list, follow these steps:

1 Determine your include and exclude requirements.

2 Enter your include and exclude statements in the **dsm.opt** file.

Because ADSM processes your include-exclude list in a specific sequence (from the bottom up), it is best to put all your include-exclude statements in the same section.

3 Save the **dsm.opt** file.

Example of a Client Options File

Figure 51 on page 95 shows an example of a client options file.

```

**** This is my options file.
NODENAME mynodename
COMMETHOD 3270
3270HOSTCOMMAND @Cst1vm30@E@ED serv1@E
3270HOSTCMDPAUSE 2
3270BUFFERSIZE 4000
3270LOGICALTERMINALID B
SUBDIR Y
REPLACE YES
SCROLLLINES 20
SCROLLPROMPT YES
exclude ?:\...\swapper.dat
exclude "*:lea data.sf"
exclude c:\libmbio.com
exclude c:\osldr
exclude :\oskrnl
exclude ?:\ibmdos.com
exclude ?:\msdos.sys
exclude ?:\io.sys
exclude ?:\...\spart.par
exclude ?:\...\386spart.par
include *:\adsm\...\* personal_files
include *:\adsm\smith\new\...\*
include *:\adsm\smith\driver5\...\* source_code
**** This ends my options file.

```

Figure 51. Example of a Client Options File

Step 4: Registering Your Workstation with the Server (Required)

Before you can begin requesting services from an ADSM server, the server must recognize your workstation. ADSM uses a node name and a password to identify each workstation. The process of setting up a node name and password is called *registration*. After you register your workstation with a server, you can begin using ADSM.

ADSM provides two types of registration: *open* and *closed*. Your ADSM administrator chooses the type of registration for your site. If the administrator sets the AUTHENTICATION option to OFF, an ADSM password is not required.

Using Closed Registration

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

If your enterprise uses closed registration, you need to provide the following information to your administrator:

- Your node name
- The initial password you want to use if 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, defined by your ADSM administrator, that control how ADSM manages the files you back up and archive.
- Whether you are allowed to choose to compress files before sending them to the server.
- Whether you are allowed to delete backup and archive data from server storage.

Using Open Registration

With open registration, you can register your workstation as a client node with the server.

The first time you start a session, ADSM prompts you for information necessary to register your workstation with the server identified in your options file. You need to supply your node name, a password, and contact information.

When you use open registration, the defaults for policy domain, compression, and deleting files from server storage are as follows:

- Your client node is assigned to a policy domain named STANDARD.
- You can define whether compression is used by entering the appropriate value for the COMPRESSION option in the options file. The default for the COMPRESSION option is OFF.
- You are allowed to delete archived copies of files from server storage, but not backup versions of files.

If necessary, your ADSM administrator can change those defaults later.

Starting ADSM

You can start the ADSM client by double-clicking on the ADSM icon (shown in Figure 52) or by entering START DSM on the command line. You must start ADSM from the ADSM directory or include the directory in the start command unless you update your **config.sys** file to include the directory in your path.



Figure 52. The ADSM Icon

Your ADSM administrator has the option to force you to use a password to connect to the ADSM server. ADSM prompts you for the password if one is required. Contact your administrator if you do not know your password.

Starting ADSM Automatically

You can start the ADSM client scheduler automatically when you start your machine. If the ADSM administrator has defined schedules for your client node, starting the client scheduler allows ADSM to back up your machine automatically (or perform other scheduled actions). See *Using the OS/2 Backup-Archive Client* for more information about the client scheduler.

To start the client scheduler automatically, add the following command to your **startup.cmd** file:

```
start dsmc schedule -password=adsmypass
```

In this example, *adsmypass* is your password. (If you do not include your password, ADSM prompts you for it—your password is more secure if you do not include it in your **startup.cmd** file.)

Your communication program must be started and available before you start ADSM. Be sure you add the statements required to start communications to **startup.cmd** before the entry for the ADSM client scheduler.

If your communication program has its own startup folder, you could add the SCHEDULE command to that folder. This would ensure that the communication software is running before OS/2 tries to start the ADSM client scheduler.

Starting ADSM: Advanced Considerations

You can include ADSM options when you invoke ADSM in an OS/2 command prompt, or by modifying the settings for the ADSM icon. For example, you can modify the format used to display dates, times, and numbers, or you can include your password so that ADSM does not prompt for it. (However, if you include the PASSWORD option, your password can be seen by someone who sees you enter the command or who looks in your icon settings).

These are some of the options you can use when you start ADSM:

```
DATEFORMAT  
DOMAIN  
NODENAME  
NUMBERFORMAT  
PASSWORD  
TIMEFORMAT
```

These and other options are described in the **options.doc** file.

For example, you might have two machines that back up data to an ADSM server under separate node names. If you want to recover a file from one machine (JONES1) while at the other machine (JONES2), you can start ADSM using the NODENAME option specifying JONES1:

```
start dsm -nodename=jones1
```

Be careful if you use ADSM in this way. Do not attempt to do an incremental backup from the JONES2 machine while connected to ADSM as JONES1. If the drive labels are the same on the JONES1 and JONES2 machines, the incremental backup will expire any files that are not on the JONES2 machine, even if they still exist on JONES1. You could lose some valuable backup generations.

Starting the WebShell Client Interface

You can use the new WebShell client interface to manage backup and restore operations from any machine, on any platform, on any network. Using the WebShell, you can back up and restore your own data, or an ADSM administrator can centralize the backup/restore operations of many ADSM clients, regardless of platform. To use it, simply point your Web browser at any ADSM client machine that is running the WebShell client interface. It provides you with the following client operations:

- Status of backup operations
- Incremental and selective backup of new and changed files
- Restore operations

To use WebShell,

1. Enter **adsm`pswd` p <your password> <directory>** to inform WebShell of your password. This `adsmpswd.ws` password file resides in the `wsstuff` directory created during installation.
2. Enter the following command to inform WebShell of the userids on the system, their type (regular user or administrator), and the passwords to use for Web authentication:

mkw`pswd` p <username> <password> <flag> <directory>

This password file, `adsmweb.ws`, resides in the `wsstuff` directory created during installation.

3. To start WebShell, enter:

webshell <optional port number> <optional location of Web authentication file>

4. To access WebShell, enter this URL:

hp2. <http://YourMachineName:PortNumber/webshell>

Note: The default port number is 2121.

Chapter 4. Installing the DOS Client

This chapter provides instructions to install and set up ADSM on a DOS workstation.

DOS Client Environment

This section contains client environment information, including hardware and software requirements, for the DOS platform.

Client Components

The following ADSM client components can be installed on a DOS workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line)

Hardware Requirements

- A personal computer capable of running the DOS operating system
- Disk space: 5 MB
- Memory: 512 KB

Operating System

DOS 5.0 or later

Communication Methods

Figure 53 shows the communication protocols that this ADSM client can use and the software required to use them.

Figure 53. Communication Software

To use this communication method:	Install this on the workstation:	To connect to these ADSM servers:
3270	Either of these: <ul style="list-style-type: none"> • IBM Personal Communications/3270 for DOS V3.0 • Attachment EXTRA! for DOS V2.3 	MVS, VM, VSE
IPX/SPX	NetWare Requestor for DOS V3.01	AIX, OS/2, Windows NT
NETBIOS	IBM LAN Support Program	AIX, OS/2, Windows NT
PWSCS	IBM VM Programmable Workstation Communication Services V1.1	VM
TCP/IP	Either of these: <ul style="list-style-type: none"> • TCP/IP 2.0 or 2.1 for DOS • FTP Software PC/TCP 3.0 for DOS 	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT
SNA LU6.2 (APPC)	Either of these: <ul style="list-style-type: none"> • IBM PC Support/400 for Extended DOS 2.3 • IBM Client Access/400 for Extended DOS 3.0 	OS/400

Step 1: Installing the DOS Client Program (Required)

You can install the client from diskette or, from the server installation CD-ROM. To install the DOS client from a media (diskettes or CD-ROM), follow the steps below.

1 Insert the first installation media into the proper drive.

2 At the prompt, enter:

From diskette: **DSINSTAL** and press Enter.

From a server CD-ROM: **h:\clients\dos\'language\'install**
Type **install** and press Enter.

Note: Replace 'language' with the language you want to install, and 'h' drive with the CD-ROM drive on your system.

3 Follow the online instructions.

ADSM Files

Figure 54 lists the files that are copied onto your hard disk depending on which components you choose to install.

Which files are installed depends on the communication method you intend to use. Therefore, the installation program might not prompt you for every installation diskette.

Note: The administrative client files are also listed, but you should install an administrative component only if you are an ADSM administrator.

Figure 54 (Page 1 of 2). ADSM files

File Name	Description
Files Common to All Components	
dscameng.txt	American English message text file
dsmc.hlp	Help file for the backup-archive client command-line interface
dsmd.hlp	Help file for the backup-archive full screen client interface
dsm.smp	Sample options file for all clients
options.doc	Documentation of client options
read.me	Last minute updates and other special information
3270 Component-Specific Files	
dsmadmca.exe	Executable file for the Attachmate EXTRA! administrative client
dsmadmc3.exe	Executable file for the PC3270 administrative client
dsmcatm.exe	Executable file for the Attachmate EXTRA! command-line client
dsmc3270.exe	Executable file for the PC3270 command-line client
dsmatm.exe	Executable file for the Attachmate EXTRA! full screen client
dsm3270.exe	Executable file for the PC3270 full screen client
PWSCS Component-Specific Files	
dsmadmcc.exe	Executable file for the PWSCS administrative client
dsmccpic.exe	Executable file for the PWSCS command-line client
dsmcpic.exe	Executable file for the PWSCS full screen client
TCP/IP Component-Specific Files	
dsmadmcf.exe	Executable file for the FTP TCP/IP administrative client
dsmadmci.exe	Executable file for the IBM TCP/IP 2.1 administrative client
dsmadmc0.exe	Executable file for the IBM TCP/IP 2.0 administrative client
dsmcftp.exe	Executable file for the FTP TCP/IP command-line client
dsmcibm.exe	Executable file for the IBM TCP/IP 2.1 command-line client
dsmci20.exe	Executable file for the IBM TCP/IP 2.0 command-line client
dsmftp.exe	Executable file for the FTP TCP/IP full screen client
dsmibm.exe	Executable file for the IBM TCP/IP 2.1 full screen client

Figure 54 (Page 2 of 2). ADSM files

File Name	Description
dsmibm20.exe	Executable file for the IBM TCP/IP 2.0 full screen client
NETBIOS Component-Specific Files	
dsmadmcn.exe	Executable file for the NETBIOS administrative client
dsmcnet.exe	Executable file for the NETBIOS command-line client
dsmnet.exe	Executable file for the NETBIOS full screen client
IPX/SPX Component-Specific Files	
dsmadmcs.exe	Executable file for the IPX/SPX administrative client
dsmcipx.exe	Executable file for the IPX/SPX command-line client
dsmipx.exe	Executable file for the IPX/SPX full screen client
SNA LU6.2 APPC Component-Specific Files	
dsmadmcd.exe	Executable file for the SNA LU6.2 administrative client
dsmcnscd.exe	Executable file for the SNA LU6.2 command-line client
dsmnsd.exe	Executable file for the SNA LU6.2 full screen client
PC Support/400 or Client Access/400 APPC Component-Specific Files	
dsmadmcs4.exe	Executable file for the PC Support/400 or Client Access/400 administrative client
dsmc400.exe	Executable file for the PC Support/400 or Client Access/400 command line client
dsm400.exe	Executable file for the PC Support/400 or Client Access/400 full screen client

Step 2: Setting Environment Variables (Optional)

After DSINSTALL ends, change the drive to the C: drive and edit the **autoexec.bat** file, making the following modifications:

- 1 Add the directory where the executable files reside to the PATH statement. For example:

```
SET PATH=C:\ADSM;...
```

- 2 Define the DSM_CONFIG environment variable to point to where your options file resides. For example:

```
SET DSM_CONFIG=C:\ADSM\DSM.OPT
```

- 3 Define the DSM_DIR environment variable to point to the directory where all other files reside. For example:

```
SET DSM_DIR=C:\ADSM
```

- 4** Define the DSM_LOG environment variable to specify the directory for the error log (**dsmerror.log**). The error log contains information about errors that occur during processing, and is meant to help service personnel diagnose and fix any severe problems with ADSM. Following is the recommended setting for this variable, assuming ADSM is installed on your C: drive:

```
SET DSM_LOG=C:\ADSM
```

- 5** If you want, you can use the TMP environment variable to control where ADSM keeps any temporary swap or spill files that it needs to create. For example:

```
SET TMP=C:\TEMP
```

Save and close the **autoexec.bat** file. Close any applications, and then restart the computer by pressing Ctrl+Alt+Del.

Step 3: Setting Up the Client Options File (Required)

ADSM uses an options file to specify certain information related to your ADSM session. This information includes your choice of communication protocols, the name of your node, backup and archive processing options, and scheduling options. You can override certain options if you are using ADSM commands by including the options with a command.

This section covers the options you should set before using ADSM. For more information about options, see Chapter 10, "Setting Processing Options" on page 187.

Step 3A: Creating the Client Options File (Required)

ADSM provides these sample options files:

dsm.smp contains a base you can use in creating your options file.

options.doc is a sample options file that describes all client options that can be entered from an options file or the command line.

You can read the information in the **options.doc** file before creating your own options file and refer back to it as often as needed.

To create the required ADSM options file, change the directory to the installation directory, such as **c:\adsm**, and copy the **dsm.smp** file to the options file (usually named **dsm.opt**):

```
copy dsm.smp dsm.opt
```

After you create the **dsm.opt** file, modify the file to define your specific workstation requirements. When you are finished modifying the file, save and close the file.

For more information about the client options file syntax, see "Setting Options in a File" on page 197.

Step 3B: Enabling Communications (Required)

One of the most important purposes of the options file is to define the communication method used between your workstation and the server. You can use one of the following methods:

- 3270
- PWSCS
- TCP/IP
- NETBIOS
- IPX/SPX
- PC Support/400
- Client Access/400

Each of these methods has various options associated with it. For a detailed description of each option, see Chapter 10, "Setting Processing Options" on page 187.

Use the COMMMETHOD option to specify a communication method. For example, to use the TCP/IP communication method, specify:

```
COMMmethod TCPip
```

If you copied the **dsm.smp** to **dsm.opt**, the COMMMETHOD options are already written in the file. You only need to remove the comment character (*).

The default communication method is **3270**. Therefore, if you are using the 3270 communication protocol, you do not have to include the COMMMETHOD option in the options file.

The following sections discuss the option requirements for the various communication methods. Contact your ADSM administrator if you need help defining these communication options.

3270 Communications Requirements

If you are using 3270 communications, you must include the 3270HOSTCOMMAND option in the options file. This option specifies the command string to use to establish the connection to the server.

Configure your workstation to have at least one 3270 session free for ADSM to use. ADSM can use all 3270 emulation modes except asynchronous dial-up and Control Unit Terminal (CUT).

If you are using Attachmate EXTRA!, you must use the Attachmate EXTRA! configuration program to enable the low-level PC application programming interface component.

You can also use the following options, although they are not required, to modify ADSM defaults:

Option	Description
3270BUFFERSIZE	Modifies the size of the 3270 communication buffer. A larger buffer can improve performance, but because DOS has memory constraints, an overly large buffer can make your communications system fail. A size of at least 4000 bytes is recommended, but do not specify a buffer size of 35 832 or more bytes (35KB-8). If you do not modify this option, ADSM uses the emulator's file transfer buffer size.
3270CHECKSUM	Indicates whether ADSM should check the validity of data sent between the server and your node. If you do not modify this option, ADSM checks the validity of the data.
3270HOSTCMDPAUSE	Changes the number of seconds ADSM waits between sending the parts of the command string specified on the 3270HOSTCOMMAND option. If your host's response is slow, you may need to increase the number of seconds from ADSM's default of 1 second.
3270HOSTCOMMAND	A sequence of commands to start a 3270 client/server session.
3270HOSTENDCOMMAND	A sequence of commands to send to the server at the end of an ADSM client session.
3270HOSTTIMEOUT	Changes the number of seconds ADSM waits to receive data from the host before assuming something is wrong with the host. If your host's response is slow, you may need to increase the number of seconds from ADSM's default of 10 seconds.
3270LOGICALTERMINALID	Tells ADSM which emulator session to use when communicating with the server. If you do not modify this option, ADSM uses the A session. If you want to use the A session for your own host-based work, specify a different session with this option.

PWSCS Communications Requirements

If you are using PWSCS communications, include the following option in the options file:

```
COMMmethod PWScs
```

You must also specify one of the following sets of options:

- Either these options:

```
TPNAME
PARTNERLUNAME
CPICMODENAME
```

- Or this option:

```
SYMBOLICDESTINATION
```

You can also specify this option:

```
CPICBUFFERSIZE
```

The following table provides a brief description of each option.

Option	Description
TPNAME	The name of the transaction program of the target logical unit.
PARTNERLUNAME	The logical unit name of the remote target.
CPICMODENAME	The name of the SNA session that connects to the partner logical unit.
CPICBUFFERSIZE	The size of the CPIC buffer. If you do not modify this option, ADSM uses a 16 KB buffer size.
SYMBOLICDESTINATION	The name that CPIC uses to connect to the server.

TCP/IP Communications Requirements

If you are using TCP/IP communications, include the following option in the options file:

```
COMMmethod TCPip
```

Also specify the following options.

Option	Description
TCPPORT	The server's TCP/IP port address. You do not need to set this option if your server's address is 1500 .
TCPSERVERADDRESS	The TCP/IP internet address for the server. The address can be a TCP/IP Internet Domain Name (for example, gldvm.end.ibm.com), or a dot address (for example, 9.103.21.200).

You can also modify the following options:

Option	Description
TCPBUFFSIZE	The size of the ADSM internal TCP communication buffer. A larger buffer can improve performance, but because DOS has memory constraints, an overly large buffer can create problems. If you do not modify this option, the buffer size is 16 KB .
TCPWINDOWSIZE	The size of the TCP sliding window for your client node. A larger size can improve performance, but because DOS has memory constraints, an overly large size can create problems. If you do not modify this option, the window size is 16 KB .

NETBIOS Communications Requirements

If you are using NETBIOS communications, include the following option in the options file:

```
COMMmethod NETBios
```

Also specify the following options.

Option	Description
NETBIOSBUFFERSIZE	A buffer size for sending NETBIOS data. The default is 16 KB .
NETBIOSNAME	The NETBIOS name for your workstation. The default is the letters ADSM concatenated with a time-of-day value.
NETBIOSTIMEOUT	The number of seconds that must elapse before a timeout occurs for a NETBIOS send. The default is 60 seconds.
NETBIOSSERVERNAME	The NETBIOS name for an ADSM server. The default is ADMSERV1 .
LANADAPTER	A communication adapter number. The default is 0 .

IPX/SPX Communications Requirements

If you are using IPX/SPX communications, include the following option in the options file:

```
COMMmethod IPXspx
```

Also specify the following options.

Option	Description
IPXSERVERADDRESS	The IPX/SPX server address on an OS/2, AIX, or Windows NT host. If you do not specify an address, ADSM assumes the server resides on your client workstation.
IPXSOCKET	The socket number of the ADSM server. The default is 8522 .
IPXBUFFERSIZE	The size you want to use, in kilobytes, for the IPX buffer used to transfer data between the client node and the server.

PC Support/400 and Client Access/400 APPC Communications Requirements

If you are using the PC Support/400 protocol, include the following option in the options file:

```
COMMmethod 400comm
```

You must also specify the following options.

Option	Description
400TPNAME	The name of the transaction program of the target logical unit.
400PARTNERLUNAME	The logical unit name of the remote target.

Option	Description
400COMMBUFFERBYTES	The buffer size in bytes, to be allocated for the PC Support/400 or Client Access/400 router communication buffer. If you do not modify this option, ADSM uses a buffer size of 16 KB .
400SENDERBUFFERBYTES	The buffer size in bytes, to be allocated for the client communication buffer. If you do not modify this option, ADSM uses a buffer size of 16 KB .

Step 3C: Setting Your Node Name (Required)

Use the NODENAME option to indicate the name of your node so that you can register with an ADSM server. If your installation is using closed registration, the ADSM administrator must register you with the server and may select a name for you to use. Otherwise, in open registration, you can register your node with the server and choose your own name. For more information about registration requirements, see "Step 4: Registering Your Workstation with the Server (Required)" on page 109.

Step 3D: Creating an Include-Exclude List (Optional)

An include-exclude list contains statements that identify any files you want to specifically include or exclude from backup services. This list is contained in the options file.

For example, you might want to exclude all ADSM executable and log files, operating system files, communication protocol files, and all files that contain compiled object code easily reproducible by other methods. Any file not explicitly excluded is implicitly included.

Before creating an include-exclude list:

- Determine which files on which drives you do not want backed up. Using that information, you can define broad exclude statements.
- Determine whether there should be any specific exceptions to the exclude statements. Using that information, you can define specific include statements.

Another important use for an include-exclude list is to assign specific management classes to specific files or groups of files with include statements. ADSM uses a default management class for any files to which you do not assign a specific management class. For information that can help you decide whether to create an include-exclude list, see "Creating an Include-Exclude List" on page 201. For more information about management classes, see "Using Management Classes with INCLUDE" on page 208.

If you do not create an include-exclude list, ADSM considers all files for backup services and uses the default management class.

Following is the minimum recommended exclude list (assuming you boot from the C: drive). You can delete the lines that do not apply to your version of DOS.


```

exclude C:\IBMBIO.COM
exclude C:\IBMDOS.COM
exclude C:\MSBIO.COM
exclude C:\MSDOS.COM
exclude C:\MSDOS.SYS
exclude C:\IO.SYS

```

Figure 55. Minimum Recommended Exclude List for DOS

Example of a Client Options File

The following is an example of an options file:

```

* Setting Options for the 3270 Communication Method
* -----
COMMMETHOD          3270
  3270LOGICALTERMINALID  B
  3270HOSTCOMMAND        @Cst1vm5@E@CD dmserv2@E
  3270BUFFERSIZE         4000
  3270HOSTCMDPAUSE       3
  3270HOSTTIMEOUT        30

* Setting Nodename
* -----

NODENAME              LKANUPP

* Include-exclude list
* -----

EXCLUDE                c:\ibmbio.com
EXCLUDE                c:\ibmdos.com
EXCLUDE                d:\adsm\*. *
EXCLUDE                d:\pc3270\*. *
EXCLUDE                c:\dos\*. *

```

Step 4: Registering Your Workstation with the Server (Required)

Before you can begin requesting services from an ADSM server, the server must recognize your workstation. ADSM uses a node name and a password to identify each workstation. The process of setting up a node name and password is called *registration*. After you register your workstation with a server, you can begin using ADSM.

ADSM provides two types of registration: *open* and *closed*. Your ADSM administrator chooses the type of registration for your site. If the administrator sets the AUTHENTICATION option to OFF, an ADSM password is not required.

Using Closed Registration

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

If your enterprise uses closed registration, you need to provide the following information to your administrator:

- Your node name
- The initial password you want to use, if 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, defined by your ADSM administrator, that control how ADSM manages the files you back up and archive.
- Whether you are allowed to choose to compress files before sending them to the server.
- Whether you are allowed to delete backup and archive data from server storage.

Using Open Registration

With open registration, you can register your workstation as a client node with the server.

The first time you start a session, ADSM prompts you for information necessary to register your workstation with the server identified in your options file. You need to supply your node name, a password, and contact information.

When you use open registration, the defaults for policy domain, compression, and deleting files on server storage are as follows:

- Your client node is assigned to a policy domain named STANDARD.
- You can define whether compression is used by entering the appropriate value for the COMPRESSION option in the options file. The default for the COMPRESSION option is OFF.
- You are allowed to delete archived copies of files from server storage, but not backup versions of files.

If necessary, your ADSM administrator can change those defaults later.

Starting ADSM

Start ADSM by entering one of the DSM commands listed in Figure 56 after the prompt. Or, you can double-click on the file in the DOS shell.

Use the command associated with the communication method that you are using.

Figure 56 (Page 1 of 2). DSM Commands for Starting the ADSM DOS Clients (GUI)

Command	Communication method
DSMATM	Attachmate EXTRA!
DSMCPIC	PWSCS (Programmable Workstation Communication Services)

Figure 56 (Page 2 of 2). DSM Commands for Starting the ADSM DOS Clients (GUI)

Command	Communication method
DSMFTP	FTP TCP/IP
DSMIBM	IBM TCP/IP Version 2.1
DSMIBM20	IBM TCP/IP Version 2.0
DSMIPX	IPX/SPX
DSMNET	NETBIOS
DSMNNSD	NS/DOS (SNA LU6.2)
DSM3270	PC3270 Version 3.0 or above
DSM400	PC Support/400 or Client Access/400

Your ADSM administrator has the option to force you to use a password to connect to the ADSM server. ADSM prompts you for the password if one is required. Contact your administrator if you do not know your password.

Starting ADSM the First Time

Before you can use ADSM, your client must be registered with the ADSM server.

Your ADSM administrator decides how you register your client with the server. If your site is using open registration, ADSM prompts you for your ADSM node name, password, and contact information. If your site is using closed registration, your administrator must register you to use ADSM.

Starting ADSM: Advanced Considerations

You can include ADSM options with the DSM commands. For example, you can modify the format used to display dates, times, and numbers, or you can include your password so that ADSM does not prompt for it. (However, if you include the PASSWORD option, your password can be seen by someone who sees you enter the command).

These are some of the options you can use when you start ADSM:

- DATEFORMAT
- DOMAIN
- NODENAME
- NUMBERFORMAT
- PASSWORD
- TIMEFORMAT

These and other options are described in the **options.doc** file.

For example, you might have two machines that back up files to ADSM under separate node names. If you want to recover a file from one machine (JONES1) while at the other machine (JONES2), you can start ADSM using the NODENAME option specifying JONES1:

```
dsmibm -nodename=jones1
```

Be careful if you use ADSM in this way. Do not attempt to do an incremental backup from the JONES2 machine while connected to ADSM as JONES1. If the drive labels are the same on the JONES1 and JONES2 machines, the incremental backup expires any files that are not on the JONES2 machine, even if they still exist on JONES1. You could lose some valuable backup versions.

(*Expiring* a file means that old backup versions of the file are deleted from ADSM storage. ADSM does not delete files from your workstation.)

Chapter 5. Installing the Microsoft Windows Client

This chapter provides instructions to install and set up ADSM for Microsoft Windows as a client workstation. The information covers both Windows 3.1 and later, and Windows for WorkGroups 3.11 and later. The text refers to both as simply "Windows." Installation of ADSM for Windows NT is covered in Chapter 6, "Installing Microsoft Windows NT and Windows 95 Clients" on page 131.

Windows Client Environment

This section contains client environment information, including hardware and software requirements, for the Windows platform.

Client Components

The following ADSM client components can be installed on a Windows workstation:

- Backup-archive client (GUI)
- Administrative client (command-line)
- API

Hardware Requirements

- Any personal computer capable of running Windows
- Disk space: 4.5 MB
- Memory: 4 MB

The online installation instructions show how much space is required for the selected installation options, and how much space is available on the hard disk.

Operating System

Microsoft Windows 3.1 or later, or Windows for WorkGroups 3.11 or later

Communication Methods

Figure 57. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
3270	IBM Personal Communications/3270 for DOS V3.0	VM, MVS, VSE
IPX/SPX	NetWare Workstation for Windows	AIX, OS/2
NETBIOS	IBM LAN Support Program	AIX, OS/2
PWSCS	IBM VM Programmable Workstation Communications Services 1.1	VM
TCP/IP	Any of these WinSock TCP/IP stacks: <ul style="list-style-type: none"> • FTP Software PC/TCP 3.0 for DOS • IBM TCP/IP 2.1 for DOS • NetManage Chameleon 4.0 for Windows • Novell Lan WorkPlace 4.1 and 4.2 for DOS • Trumpet TCP/IP 1.0 Rev. A • WollonGong PathWay Runtime 2.0 for DOS/Windows 	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM
SNA LU6.2 (APPC)	NS/Windows 1.0	AIX, MVS, OS/2, VM, VSE
SNA LU6.2 (APPC)	PC Support/400 Client Access/400 for Windows	OS/400

Additional Software Requirements

There may be prerequisite products for some APPC configurations; for example, NS/DOS previously required IBM's LAN Support Program. Please consult the current product documentation for the applicable products if you plan to use APPC communication protocol.

Note: If you have trouble backing up files with the IPX/SPX communication method for Windows 3.1, you might need to set your LAN adapter to run with 8 KB packets.

Step 1: Installing the Client Programs (Required)

This section describes two installation methods:

- How to install ADSM using Configuration, Installation, and Distribution (CID).
- How to install ADSM from diskettes or the server installation CD-ROM (media).

Installing the Windows Client using CID

CID is a DOS-based set of components that allows you to automate the software installation. An administrator who wants to let users install ADSM on their local machines through a LAN, instead of diskettes, can put all of the installation files into a machine on a remotely attached disk or file server and make the necessary changes to the

response and batch files. Users can link their workstations to that disk or file server and perform the installation by executing the **cidinst** batch file.

Two files (**cidinst.bat** and **adsmresp.dat**) are part of the installation package, and can be edited to fit individual requirements.

To prepare for the CID installation, the administrator of the file server must:

1 Do either of the following:

For diskette: Copy the ADSM diskettes to the file server, using the COPY command.

For CD-ROM: The files are on **h:\clients\win\language\install\install**, where 'language' is the language you are installing and 'h' drive is the CD-ROM drive on your system.

Copy the **cidinst.bat** and **adsmresp.dat** files to the hard drive.

2 Edit the **cidinst.bat** batch file to:

- Change the /C: parameter so that it points to the directory on the file server that contains the ADSM files.
- Change the /L1: parameter to the path and file name you want to use for the error log file.
- Change the /L2: parameter to the path and file name you want to use for the history log file.

Note: Look for **TRANS:** in the file to locate the section that needs to be changed.

3 If necessary, edit the **adsmresp.dat** response file (which is used in conjunction with the **cidinst.bat** file) to change the following:

- FILE—The directory in which to install the ADSM files
- AUX1—The directory in which to install the ADSM API files
- COMP—The components you want to install
- CFGUPDATE—Whether you want the **config.sys** file updated (the ADSM Windows client does not update the **config.sys** file)
- DELETEBACKUP—Whether you want to delete a backup copy of the client (if it has been previously installed)
- OVERWRITE—Whether you want to overwrite existing files
- SAVEBACKUP—Whether you want to save a backup copy of the client (if it has been previous installed)

Note: Look for **TRANS:** in the file to locate the section that needs to be changed.

The user can now attach to the remote disk or file server and start **cidinst.bat** in native DOS mode to install ADSM.

Installing the Windows Client from Diskette or CD-ROM

The following procedure assumes that Windows 3.1 or later, or Windows for WorkGroups 3.11 or later, is running on the client workstation.

To install the Windows client from a media (diskettes or CD-ROM):

1 Insert the first installation media into the proper drive.

2 Click on the **File** menu under the main Program Manager screen (the one that opens when you start Windows).

3 Click on **Run**.

4 At the prompt:

From diskette: Type **a:install** and press Enter.

From a server CD-ROM: Type **h:\clients\win\language\install\install** and press Enter.

Note: Replace 'language' with the language you want to install, and 'h' drive with the CD-ROM drive on your system.

(You can terminate the installation at any time by selecting **Exit**.)

5 On the Instructions window, click on Continue; or, click on Cancel to end the installation.

6 On the next window, click on the client components that you want to install.

You can also click on Select all or Deselect all.

Click on Descriptions to display descriptions of the components that you have selected.

Click on Disk space to display a window that shows how much disk space you have on all of your drives. The number of bytes needed to install the components is displayed below the component choices. If you do not have enough space for the installation, you can change to another drive by clicking on its name, and then clicking on Change directories to selected drive. When you are finished, click on OK.

If you do not want to use the defaults for the installation directories, enter new names in the input fields. The default directory for the executable files is **c:\adsm**. The default directory for the API is **c:\adsm\api**.

Click on Install when you are finished.

7 On the next window, click on Stop if you want to interrupt the installation. This window displays the progress of the installation. When a new diskette needs to be inserted, the Insert disk window is displayed. Follow the instructions, and then click on Continue.

8 After you read the next window, click on OK. Then click on Exit on the ADSM Installation window.

ADSM in the Windows Environment

The installation process creates a program group. The contents of the program group depends on the client components you chose to install. This program group allows easy access and running of the ADSM client within the Windows environment. When this program group is created, the corresponding program group (ADSMCLIO.GRP) file is added to the system. The system file, PROGMAN.INI, is also updated to reflect the new file.

If you are installing the ADSM client on a workstation from another machine (for example, a local server), you need to copy the **bwcc.dll** file to the client workstation's ADSM directory after the installation process is completed. This **bwcc.dll** file is located in the ADSM directory of the machine from which you start a Windows installation.

If there are other ADSM clients installed on the same system, caution should be taken when you switch from one client to another. The reason is that environment variables such as DSM_DIR can be shared by more than one client of different platforms (such as DOS and Windows). In the DOS and Windows environments, a solution is to have different **autoexec.bat** files for the two systems and select the proper batch file before running the desired client.

To ensure proper file accessing/sharing in the Windows environment, the SHARE program should be loaded prior to the running of the ADSM client (see your DOS operating manual for specific details on SHARE).

ADSM Files

The options you selected in the Client Setup – Option window determine which files are copied into the directory you specified. Figure 58 lists the files, other than API files, that are copied if you select all of the options. Figure 59 on page 118 and Figure 60 on page 118 list the files that are copied if you select the API.

Figure 58 (Page 1 of 2). ADSM files

File Name	Description
dsm.exe	Executable file for the backup-archive client
dsmadmc.exe	Executable file for the administrative client
dsms.exe	Executable file for the client scheduler

Figure 58 (Page 2 of 2). ADSM files

File Name	Description
options.wri	Information about options available
dsm.smp	Abridged version of the options file containing just communication options and a basic include-exclude list
dsw.hlp	Online help for the graphical user interface operations
dscameng.txt	American English message text file
dsm3270.dll	Support file for the 3270 communication protocol
bwcc.dll	Dynamic link file for Borland custom control
readme.txt	Last minute updates and other special information

API Files

If you install the Application Programming Interface (API), the files in Figure 59 and Figure 60 are copied into the installation directory.

Figure 59. ADSM API Files

File Name	Description
readme.api	README file for examples and other programming concerns
adsm.dll	The ADSM Windows API library
impadsm.lib	Import library for adsm.dll
options.wri	Documentation for user options
dscameng.txt	American English message text file
dsm.smp	Sample dsm.opt file

The files in Figure 60 are provided for developers who write applications that communicate with an ADSM server.

Figure 60 (Page 1 of 2). ADSM API Files for Developers

File Name	Description
dsmapifp.h	Function protocol header file
dsmapitd.h	Type definitions header file
dsmrc.h	Return codes header file
apidemo.c	A sample Windows application source module
apidemo.cfg	Configuration file for apidemo.mak
apidemo.def	Definition file for apidemo.exe
apidemo.h	Header file for apidemo.exe
apidemo.mak	Makefile for apidemo.exe
apidemo.prj	Project file for apidemo.exe
apidemo.rc	.RC file for apidemo.exe
apidemo.res	.RES file for apidemo.exe

Figure 60 (Page 2 of 2). ADSM API Files for Developers

File Name	Description
dapibkup.c	The components of a general non-Windows application that demonstrates the use of the major ADSM API functions.
dapidata.h	
dapiinit.c	
dapint64.c	
dapint64.h	
dapipref.c	
dapiproc.c	
dapipw.c	
dapiqry.c	
dapirc.c	
dapism.c	
dapism.c	
dapism.cfg	
dapism.def	
dapism.mak	
dapism.prj	
dapitype.h	
dapiutil.c	
dapiutil.h	
register.frm	

Reinstalling the Client

To reinstall the ADSM client, we recommend that you use the installation diskettes to install any files (the files on the installation diskettes are in compressed format).

Start the reinstallation the same way you started the first installation (see “Step 1: Installing the Client Programs (Required)” on page 114 for instructions). Installation backs up all existing files in the destination directory that have the same name as the files you are installing. The backup files have an extension of **.bak**. This prevents any accidental loss of existing files. If you install the ADSM client files in a different directory than the one where you previously installed them, you might want to delete the previously installed files to save disk space.

Step 2: Setting Environment Variables (Optional)

The backup-archive client and the client options file should reside in the same directory. If the C: drive is used, the files are usually located in the default directory:

```
c:\adsm
```

If you decide to run ADSM from a directory other than the directory used during installation, you need to do the following to your **autoexec.bat** file:

- 1 Ensure that the current PATH statement includes the directory where the ADSM executable files reside. For example:

```
SET PATH=C:\ADSM;...
```

- 2 Define the DSM_CONFIG environment variable to point to where your options file resides. For example:

```
SET DSM_CONFIG=C:\ADSM\DSM.OPT
```

- 3 Define the DSM_DIR environment variable to point to the directory where all other ADSM files reside. For example:

```
SET DSM_DIR=C:\ADSM
```

Each of the communication protocols has certain software associated with it. The ADSM client requires that the directory in which this software resides is in the current PATH statement. For 3270, this directory is usually PCSWIN. For TCP/IP, it is usually TCPDOS\BIN. For NETBIOS, this directory can be called anything. For IPX/SPX, it is usually NETWARE. For SNA LU6.2 (which is implemented by NS/DOS), it is usually \NSD. For PC Support/400 or Client Access/400, it is usually \PCS.

Remember that whenever an environment variable is changed or added, you must reboot Windows for the new value to take effect.

Setting API Environment Variables

To update the **autoexec.bat** file, use the following instructions.

You must set the environment variables in your **autoexec.bat** file to point to the directories where your ADSM API files are stored:

- 1 Add the directory where the executable files reside to the PATH statement. For example:

```
SET PATH=C:\ADSM\API...
```

- 2 Define the DSMI_CONFIG environment variable to point to where your client user options file resides. For example:

```
SET DSMI_CONFIG=C:\ADSM\API\DSM.OPT
```

- 3 Define the DSMI_DIR environment variable to point to the directory where all other files reside. For example:

```
SET DSMI_DIR=C:\ADSM\API
```

- 4 Define the DSMI_LOG environment variable to point to the directory where **dsierror.log** should reside. For example:

```
SET DSMI_LOG=C:\ADSM\API
```

The error log file contains information about any errors that occur during processing.

Note: End users of applications developed with the API should consult the installation directions for that application for special path names or guidelines for options. The location of the API library is especially important.

Step 3: Creating and Modifying the Options File (Required)

ADSM uses an options file to specify certain information related to your ADSM session. That information includes your choice of communication protocols, the name of your node, authorization options, backup and archive processing options, and scheduling options. These options are in effect for the entire ADSM session, but can be overridden by using command line options.

This section covers the options you should set before using ADSM. For more information about options, see Chapter 10, “Setting Processing Options” on page 187.

Step 3A: Creating the Client Options Files (Required)

ADSM provides these sample options files:

dsm.smp contains a base you can use in creating your options file.

options.wri is a sample options file that describes all user and system options that can be entered from an options file or the command line.

You can read the information in the **options.wri** file before creating your own options files and refer back to it as often as necessary.

To create the required options file, **dsm.opt**, do the following:

1 At the MS-DOS command prompt, change the current directory to **c:\adsm** (or to the directory where you have stored the files).

2 Enter the following command:

```
copy dsm.smp dsm.opt
```

By keeping the original file intact, you can always go back to the default settings for options if necessary. You can also create the **dsm.opt** file through the file manager.

After you have created this initial options file, you can customize it by adding options from the **options.wri** file. You can copy examples from that file to your options file, and then modify them to meet your individual needs.

For more information about the client options file syntax, see “Setting Options in a File” on page 197.

Step 3B: Enabling Communications (Required)

One of the most important functions of the options file is to define the communication protocol that enables communications between your workstation and the ADSM server. For Windows, you can use one of the following methods:

- 3270
- TCP/IP
- NETBIOS
- IPX/SPX
- SNA LU6.2
- PC Support/400 or Client Access/400
- PWSCS

Each of these has various options associated with it. For a detailed description of each option, see Chapter 10, “Setting Processing Options” on page 187.

Use the following option to specify a communication protocol:

- `COMMmethod commmethod`

The default value for `commmethod` is 3270. Therefore, if you are using the PC3270 communication protocol, `COMMmethod` does not need to be defined in the options file. However, either a **dsm.opt** file or the options file you pointed to in the `DSM_CONFIG` environment variable must exist.

If you are using PC3270 for Windows, one Distributed Function Terminal (DFT) emulation session must be free for the ADSM client to use. Note that ADSM does not support Control Unit Terminal (CUT) or asynchronous dial-up emulation modes.

If both the ADSM backup-archive client and the client scheduler are running, two free DFT emulation sessions are needed.

If are using PC3270 V.3.0 for Windows with ADSM client, and run into problems with the 3270 send error, apply the CSD4 or latest version to correct the problem. If you are using PC3270 V3.1 for Windows, apply CSD1 or the latest version.

Commmethod Options

If `commmethod = 3270`, the following option must be defined:

- `3270HOstcommand cmd_string`

Other 3270 options that are optional or have default values are:

- `3270HOSTEndcommand cmd_string`
- `3270Buffersize size`
- `3270Checksum on/off`
- `3270HOSTCMDPause seconds`
- `3270HOSTTlmeout seconds`
- `3270Logicalterminalid id`

If you are using PC3270, your administrator should have configured the host session to support the extended data stream. The extended data stream is a characteristic of the host defined session that provides extended capabilities such as transferring large amounts of data. Ask your session administrator if you have questions about the extended data stream.

If you are using IBM TCP/IP 2.1 for DOS/Windows, it must be configured to use the NDIS interface.

If *commmethod* = **TCPip**, the following option must be defined:

- TCPServeraddress *server_address*

Other TCP/IP options that are optional or have default values are:

- TCPPort *port_address*
- TCPBuffsize *size*
- TCPWindowSize *window_size*

If *commmethod* = **NETBios**, the following options have default values:

- NETBIOSBuffersize *size*
- NETbiosname *name*
- NETBIOSTimeout *seconds*
- NETBIOSServername *name*
- LANAdapter *adapter_number*

You can choose to change any of the default values for those options.

If *commmethod* = **IPXspx**, the following option can be defined:

- IPXServeraddress *server_address*

If IPXSERVERADDRESS is not defined, ADSM assumes the server resides on your client workstation.

Other IPX/SPX options that have default values are:

- IPXBuffersize *size*
- IPXSOcket *socketnumber*

Note: To use IPX/SPX, NetWare Workstation Kit for DOS/Windows v3.11 must be installed on your workstation and NetWare Requester for OS/2 2.01 or higher must be installed on the OS/2 server you contact for ADSM services.

To use IPX/SPX to communicate with an AIX server, NetWare Workstation Kit for DOS/Windows v3.11 must be installed on your workstation, and NetWare for AIX for RISC System/6000 from IBM Version 3.11 must be installed on the AIX server you contact for ADSM services.

If *commmethod* = **SNAlu6.2**, the following options must be defined:

- Either these:
 - TPname *name*
 - PARTnerluname *name*
 - CPICMOdename *name*
- Or this:
 - SYMboLicdestination *name*

Another SNA LU6.2 option that has a default value is:

- CPicbuffer size *size*

If *commethod* = **400comm**, the following options must be defined:

- 400Tpname *name*
- 400Partnerluname *name*

Other PC Support/400 or Client Access/400 options that are optional or have default values are:

- 400Commbufferbytes *bytes*
- 400Sendbufferbytes *bytes*

If *commethod* = **PWScs**, the following options must be defined:

- Either these:
 - Tpname *name*
 - PARTnerluname *name*
 - CPICMOdename *name*
- Or this:
 - SYMboリックdestination *name*

Another option that has a default value is:

- CPicbuffer size *size*

Contact your ADSM administrator for server information or for help with defining these communication options.

Step 3C: Setting Your Node Name (Required)

Use the NODENAME option to indicate the name of your node so that you can register with the ADSM server. If your installation is using closed registration, the ADSM administrator must register you with the server and may select a name for you to use. Otherwise, in open registration, you can register your node with the server and choose your own name. For more information about registration requirements, see “Step 4: Registering Your Workstation with the Server (Required)” on page 109.

Step 3D: Creating an Include-Exclude List (Required)

An include-exclude list contains statements that identify any files you want to specifically include or exclude from backup services. This list is contained in the **dsm.opt** file.

For example, you might want to exclude all swap files, easily reproducible files (such as object files), and operating system files. You can enter broad statements that exclude entire groups of files. Then, you can enter include statements to make exceptions to those broad statements.

The **dsm.opt** file provided at installation time contains an include-exclude list. You should use this list at a minimum even if you do not want to add anything to it.

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

If you do not create an include-exclude list, ADSM considers all files for incremental backup services and uses the default management class for backup and archive services.

Figure 61 shows a sample include-exclude list.

```
exclude *:\..\*.swp
include *:\adsm\..\* personal_files
include *:\adsm\smith\new\..\*
include *:\adsm\smith\driver5\..\* source_code
exclude "c:\IBMBIO.COM"
```

Figure 61. Sample include-exclude list

If you are using MS-DOS, your include-exclude list might look like the example in Figure 62.

```
exclude ":\IO.SYS"
exclude ":\MSDOS.SYS"
exclude ":\DBLSPACE.*"
exclude ":\IBMDOS.COM"
exclude ":\IBMBIO.COM"
exclude *:\..\*.PAR
```

Figure 62. Sample include-exclude list using MS-DOS

For information that can help you decide whether to create an include-exclude list, see “Creating an Include-Exclude List” on page 201. For more information about management classes, see “Using Management Classes with INCLUDE” on page 208.

To create an include-exclude list, follow these steps:

- 1** Determine your include and exclude requirements.
- 2** Locate the include-exclude section in your **dsm.opt** file.

3 Enter your include and exclude statements. See “Creating an Include-Exclude List” on page 201 for details.

4 Save the **dsm.opt** file.

Example of a Client Options File

Figure 63 is an example of a **dsm.opt** file. This client options file includes the required NODENAME and communication options, as well as several EXCLUDE statements and other options.

```
**** Sample client options file for Windows client
NODENAME mynodename
COMMMETHOD 3270
3270HOSTCOMMAND @Cst1vm30@E@ED serv1@E
3270HOSTCMDPAUSE 2
3270BUFFERSIZE 4000
3270LOGICALTERMINALID B
TIME 4
EXCLUDE *:\...\*.SWP
EXCLUDE *:\...\*.PAR
EXCLUDE "C:\IBMBIO.COM"
EXCLUDE "C:\IBMDOS.COM"
```

Figure 63. Example of Windows client options file

Creating Multiple Options Files

Suppose you want to back up your files to one ADSM server and archive files to a different ADSM server. Instead of editing **dsm.opt** each time you want to connect to a different server, you can set up more than one client options file, each one pointing to a different server.

For example, you might create the options files **a.opt**, **b.opt**, and **c.opt**, where each file contains the address of a different server. There are two ways to use one of these options files instead of the regular **dsm.opt** in an ADSM session.

- First, save your original **dsm.opt** by copying it to another file, such as **dsmtemp.opt**. Then, if you want to connect to the server listed in **b.opt**, copy **b.opt** to **dsm.opt**.
- Select the **Run** command from the **File** menu in the Program Manager or the File Manager. If **b.opt** is the options file you want to use, enter the following line in the command line box:

```
dsm -optfile=b.opt
```

Note that if the ADSM program files reside on a different drive than the Windows program files, you must specify the drive with the ADSM files in the command:

```
d:\adsm\dsm -optfile=b.opt
```

Click on **OK** to start ADSM.

In both cases, when you start an ADSM session, a connection is established to the server specified in **b.opt**.

Step 4: Registering Your Workstation with the Server (Required)

Before you can begin requesting services from an ADSM server, the server must recognize your workstation. ADSM uses a node name and a password to identify each workstation. ADSM maintains a password for each node name. The process of setting up a node name and password is called *registration*. After you register your workstation with a server, you can begin using ADSM to back up, archive, restore, and retrieve files.

ADSM provides two types of registration: *open* and *closed*. Your ADSM administrator chooses the type of registration for your site. If the ADSM server administrator set the AUTHENTICATION option to OFF, an ADSM password is not required.

Using Closed Registration

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

If your enterprise uses closed registration, you need to provide contact information, such as your name, user ID, and phone number, to your administrator.

Your administrator defines the following for you:

- Your node name.
- The initial password you want to use, if required.
- The policy domain to which your client node belongs. A policy domain contains policy sets and management classes, defined by your ADSM administrator, that control how ADSM manages the files you back up and archive.
- Whether you are allowed to choose to compress files before sending them to the server.
- Whether you are allowed to delete backup versions and archived copies from server storage.

Using Open Registration

With open registration, you can register your workstation as a client node with the server.

The first time you start a session, ADSM prompts you for information necessary to register your workstation with the server identified in your options file. You need to supply your node name and contact information. If your administrator has set AUTHENTICATION ON, you need to supply a password.

When you use open registration, the defaults for policy domain, compression, and deleting files from server storage are as follows:

- Your client node is assigned to a management class named STANDARD.
- You can define whether compression is used by entering the appropriate value for the COMPRESSION option in the **dsm.opt** file.
- You are allowed to delete archived copies of files from server storage, but not backup versions of files.

If necessary, your ADSM administrator can change those defaults later.

Starting ADSM

You can start the ADSM client by double-clicking on the ADSM icon (shown in Figure 64) or by using file manager. You must start ADSM from the ADSM directory or include the directory in the start command unless you update your environment. You can update your environment using the SET command in the **autoexec.bat** file.



Figure 64. The ADSM Icon

Your ADSM administrator has the option to force you to use a password to connect to the ADSM server. ADSM prompts you for the password if one is required. Contact your administrator if you do not know your password.

Starting ADSM Automatically

You can start the ADSM client scheduler automatically when you start your machine. If the ADSM administrator has defined schedules for your node, starting the client scheduler allows ADSM to back up your machine automatically (or perform other scheduled actions). See *Using the Windows Backup-Archive Clients* for more information about the client scheduler.

Starting the Windows 3.1 Client Scheduler

To start the client scheduler on Windows 3.1, double-click on the ADSM scheduler icon, or use the **File** menu; **Run** item, to start **dsms.exe**.

When you start the client scheduler, it runs continuously until you close the window, shut down your system, or log out of your system.

You can start the Windows 3.1 client automatically during system boot by dragging the ADSM scheduler icon into the startup group. Include the PASSWORD option in the options file to pass your ADSM password to the ADSM server.

The communication software must be running before you start ADSM. For some communication methods, the communication software is normally running before Windows starts (for example, TCP/IP, NETBIOS, and IPX/SPX). For other communication methods, it might be difficult to ensure the communication software is running as

required before Windows starts the ADSM scheduler (for example, the 3270 communication method).

Consult the documentation for your communication software for help in starting the communication program during system boot.

Starting ADSM: Advanced Considerations

You can include ADSM options on the FILE-RUN DSM command, or by modifying the settings for the ADSM icon. For example, you can modify the format used to display dates, times, and numbers, or you can include your password so that ADSM does not prompt for it. (However, if you include the PASSWORD option, your password can be seen by someone who sees you enter the command or who looks in your icon settings).

For example, you might have two machines that back up files to an ADSM server under separate node names. If you want to recover a file from one machine (JONES1) while at the other machine (JONES2), you can start ADSM using the NODENAME option specifying JONES1:

```
dsm -nodename=jones1
```

Be careful if you use ADSM in this way. Do not attempt to do an incremental backup from the JONES2 machine while connected to ADSM as JONES1. If the drive labels are the same on the JONES1 and JONES2 machines, the incremental backup will expire any files that are not on the JONES2 machine, even if they still exist on JONES1. You could lose some valuable backup generations.

For information about getting started with the ADSM Windows graphical user interface, see *Using the Windows Backup-Archive Clients*.

Chapter 6. Installing Microsoft Windows NT and Windows 95 Clients

This chapter provides instructions to install and set up ADSM for Microsoft Windows NT or Windows 95 as a client workstation. Information about installing ADSM for Windows and Windows for WorkGroups is provided in Chapter 5, "Installing the Microsoft Windows Client" on page 113.

Windows NT and Windows 95 Client Environment

This section contains client environment information, including hardware and software requirements, for the Windows NT and Windows 95 platforms.

Client Components

The following ADSM client components can be installed on a Windows NT or Windows 95 workstation:

- Backup-archive client (command-line and GUI)
- Administrative client (command-line and GUI)
- API
- WebShell Client Interface

Hardware Requirements

- Intel-based 80386 or greater
- Disk space: 15 MB required (to install all client components)
- Memory: 12 MB required, 16 MB recommended

The online installation instructions show how much space is required for the selected installation options, and how much space is available on the hard disk.

Operating System

- Microsoft Windows NT (Windows 3.51 or later)
- Microsoft Windows 95

Communication Methods

Figure 65. Communication Software

To use this communication method:	Install this on the workstation	To connect to these ADSM servers:
IPX/SPX	Standard with the Windows NT and Windows 95 product package	AIX, OS/2, Windows NT
Named Pipe	Standard with Windows NT	OS/2, Windows NT
NETBIOS	Standard with the Windows NT and Windows 95 product package	AIX, OS/2, Windows NT
TCP/IP	Standard with the Windows NT and Windows 95 product package	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT

The ADSM for Windows NT and Windows 95 clients cannot run on Windows 3.1 or Windows for WorkGroups systems.

Step 1: Installing the Client Program (Required)

The following instructions assume that Windows NT or Windows 95 is already running on the client workstation. To install the Windows NT or Windows 95 client portion of ADSM, do the following:

- 1** Insert the ADSM Windows Install diskette into the primary diskette drive, such as the A: drive.
- 2** Select **Run** on the File menu in the Program Manager or the File Manager.
- 3** Enter **a:setup** in the Command Line box and click on **OK**. The ADSM Client Welcome window appears.
- 4** Click on **Next**. The Setup Options window appears.
Note: Click on Exit at any time to end the installation.
- 5** Choose the installation setup type and the destination directory where the files will be stored.

Destination Directory

This directory indicates where the ADSM files will be stored. The default directory is **win32applibm\adsm** on the system partition.

To use a different directory, click on **Browse**. Enter the desired location in the box labeled **Path** and click on **OK**.

Note: The directory name you choose is limited to eight characters and the extension is limited to three characters.

Installation Setup Types:

There are three setup types:

- Full. This setup gives you the Backup-Archive Client, the Administrative Client, the Backup-Archive Utilities, and the WebShell client interface.
- Compact. This setup gives you the Backup-Archive Client only.
- Custom. This setup allows you to select the options you need. It also shows the disk space required for the installation.

Choose the clients you want to install.

Notes: You must install the client scheduler if you want to use the automated features of ADSM. Be sure to install support files for your communication method, if support files are required.

Select the Full installation setup type if you want to install everything. This will also install the new WebShell client interface which allows you to manage backup and restore operations from any machine, on any platform, on any network. You can also select Custom installation setup and choose the options you want, including the WebShell client interface.

The amount of disk space required for the installation options you chose and the amount of space you have available appear at the bottom of the window. Make sure there is enough disk space for the ADSM client files on the destination drive.

6 To edit the options file now, click on the Check box. To edit the options file later, click on **Finish**.

For more information about the different options available in the client options file, see Chapter 10, "Setting Processing Options" on page 187.

ADSM in the Windows NT and Windows 95 Environment

The installation process creates a program group. The contents of the program group depends on the client components you chose to install. This program group allows easy access and running of the ADSM client within the Windows environment.

If there are other ADSM clients installed on the same system, caution should be taken when you switch from one client to another because environment variables such as DSM_DIR can be shared by more than one client of different platforms (such as DOS and Windows).

ADSM Files

The options you selected in the Client Setup–Option window determine which files are copied into the directory you specified. Figure 66 lists the files that are copied if you select all of the options.

Figure 66 (Page 1 of 2). ADSM Files

File Name	Description
admcmdln.ico	Command line Administrator Client icon
admin.ico	GUI Administrator Client options
adminopt.ico	Administrator Client options file editing icon
adsmrun.cmd	Example batch file to use with NT AT command
baclient.txt	Backup/Archive client readme file
ba_dsm.opt	Backup/archive client sample options file
bwcc32.dll	Dynamic link file for Borland custom control
client.ico	Backup client icon
clntopt.ico	Options file icon
cmdln.ico	Backup-Archive Client command line client icon
ctl3d32.dll	Microsoft 3D controls DLL
customc.ini	Controls initial display of user-specified readme file
dscameng.txt	American English message text file
dsm.exe	Executable file for the backup-archive GUI client
dsm.ico	GUI client icon
dsm.opt	Client options file
dsmadm.cnt	Administrative Client GUI help contents
dsmadm.exe	Executable file for the Administrative Client GUI
dsmadm.hlp	Online help file
dsmadmc.exe	Command line Administrative Client
dsmc.exe	Executable file for the backup-archive command line scheduler client
dsmc.hlp	Help file for the command-line client
dsmc.ico	Command line backup/archive client icon
dsmcsvc.exe	Scheduler service client
dsmcsvci.exe	Scheduler service installation utility
dsmcsvci.txt	Scheduler service installation utility readme file
dsmnt.hlp	Online help for the graphical user interface operations
dsm ping.exe	ADSM server ping utility
dsw.ico	GUI icon
dswadm.ico	GUI icon
dsws.ico	Scheduler icon
incrback.mac	Sample macro used with adsmrun.cmd
inetwh16.dll	
inetwh32.dll	
mfc42.dll	Run time dynamic link library

Figure 66 (Page 2 of 2). ADSM Files

File Name	Description
mfc030.dll	Run time dynamic link library
msvcrt.dll	Shared DLL version of C Run-Time library
msvcrt40.dll	Run time dynamic link library
ntcons.exe	Alternate tracing console
options.wri	Information about all options available
packing.lst	Client file list (this file)
qref.ico	Quick reference icon
readmec.cnt	Readme help contents file
readmec.hlp	Readme help file (This only works with Win95 and NT 3.51+)
saclient.txt	Admin client readme
schdinst.ico	Scheduler installation icon
start.ico	Getting started icon
uninstal.exe	InstallShield uninstall program
sa_dsm.opt	Admin client sample options file
sched.ico	Scheduler client icon
showpw.exe	Registry password display utility
updatepw.exe	Registry password update utility
yourfile.txt	sample user-specified readme file

API Files

If you install the Application Programming Interface (API), the directory **api** is created in the **win32app** directory. The API files are copied into a set of directories in the **api** directory. Figure 67 lists the API files and the directories in which they reside.

Figure 67 (Page 1 of 3). ADSM API Files

File Name	Description
BIN -- Binary directory	
dapismp.exe	Sample program
adsm32.dll	The ADSM API library for Windows NT and Windows 95
dscameng.txt	Message repository
BLKHOOK -- Blocking Hook code directory	
blkhook.c	Sample blocking hook function
blkhook.def	Module definitions with exports for blkhook.dll
blkhook.mak	Makefile to make blkhook.dll
dapismp.mak	Makefile for sample application dapismp.exe
dapismp.vc	

Figure 67 (Page 2 of 3). ADSM API Files

File Name	Description
DLL -- Dynamic Link Libraries directory	
adsm32.dll	ADSM 32-bit Windows DLL for Windows NT and Windows 95
blkhook.dll	Blocking Hook user exit DLL
INCLUDE -- Header files directory	
dapidata.h	Sample program C header files
dapint64.h	
dapitype.h	
dapiutil.h	
dsmapidl.h	
dsmapifp.h	
dsmapihd.h	
dsmcrypt.h	
dsmint64.h	
dsm ping.h	
dsmrc.h	
LIB -- Implicit libraries directory	
adsm32.def	Implicit library for adsm32.def
adsm32.lib	Implicit library for adsm32.dll
adsm32vc.exp	Implicit library for adsm32vc.exp
adsm32vc.lib	Implicit library for adsm32vc.lib
blkhook.lib	Implicit library for blkhook.dll
OBJ -- Object code directory	
blkhook.map	Sample program object code files
blkhook.obj	
dapibkup.obj	
dapiinit.obj	
dapint64.obj	
dapipref.obj	
dapiproc.obj	
dapipw.obj	
dapiqry.obj	
dapirc.obj	
dapismp.map	
dapismp.obj	
dapiutil.obj	
SAMPRUN -- Sample program directory	
adsm32.dll	Sample program files
blkhook.dll	
dapismp.exe	
dscameng.txt	
SAMPSRC -- Source code directory	
dapismp.mak	Makefile to make dapismp.exe

Figure 67 (Page 3 of 3). ADSM API Files

File Name	Description
dapibkup.c	Sample program source code
dapiinit.c	
dapint64.c	
dapipref.c	
dapiproc.c	
dapipw.c	
dapiqry.c	
dapirc.c	
dapismc.c	
dapismc.vc	
dapiutil.c	
dynaload.c	
register.frm	

Figure 68. WebShell Client Interface

File Name	Description
BACLIENT<DIR> -- Backup Client Directory	
adsmppwd.exe	Used to create/update adsmppwd.ws (ADSM password file)
mkwspwd.exe	Used to create/update adsmweb.ws (WebShell Web authentication file)
webshell.exe	WebShell client
webshell.txt	WebShell client readme
BACLIENTWSSTUFF<dir> -- WebShell support files	
adsmhbk.html	Backup help
adsmhbs.html	Backup selection help
adsmhead.gif	WebShell masthead
adsmhelp.gif	Graphic for the ADSM WebShell help banner
adsmhrs.html	Restore selection help
adsmhrst.html	Restore help
adsmhsta.html	File system selection help
adsmppwd.ws	Web authentication file
adsmresp.ws	File used by WebShell to end response prompting by the ADSM server
backgrou.gif	Graphic for the background
backup.gif	Graphic for the backup to safe image displayed on the backup form
blank.gif	Graphic for small space filler
info.gif	Graphic for the ADSM WebShell help icon
rbospace.gif	Graphic for larger space filler
restore.gif	Graphic for the safe to restore image displayed on the restore form
wsreadme.html	WebShell online documentation

Reinstalling the Client

To reinstall the ADSM client, we recommend that you use the installation diskettes to install any files (the files on the installation diskettes are in compressed format).

Start the reinstallation the same way you started the first installation (see "Step 1: Installing the Client Program (Required)" on page 132 for instructions).

Note: Back up any files you want to retain before you reinstall the client.

If you install the ADSM client files in a different directory than the one where you previously installed them, you might want to delete the previously installed files to save disk space.

Step 2: Setting Environment Variables (Optional)

The Backup-Archive Client and the administrator client options file should reside in the same directory. If the C: drive is used, the files are usually located in the default directory:

```
c:\win32app\ibm\adsm
```

If you decide to run ADSM from a directory other than the directory used during installation, you need to set the following environment variables:

PATH This is the default search path the operating system uses to locate executable files. Set this to the fully qualified paths of the ADSM client directories. For example:

```
set
path=%PATH%;c:\win32app\ibm\adsm\baclient;\win32app\ibm\adsm\saclient;
```

DSM_CONFIG This is the file that ADSM uses to locate the client options file.

Note: Keep this file in a common location if both the back up and administrator clients use it.

DSM_DIR ADSM uses this environment variable to locate all other client files.

- 1** Ensure that the current PATH statement includes the directory where the ADSM executable files reside. For example:

```
SET PATH=C:\WIN32APP;...
```

- 2** Define the DSM_CONFIG environment variable to point to where your options file resides. For example:

```
SET DSM_CONFIG=C:\WIN32APP\DSM.OPT
```

- 3** If you also installed the administrative graphical user interface, define the DSMG_CONFIG environment variable to point to where your client user options file resides. For example:

```
SET DSM_CONFIG=C:\WIN32APP\DSM.OPT
```

- 4** Define the DSM_DIR environment variable to point to the directory where all other ADSM files reside. For example:

```
SET DSM_DIR=C:\WIN32APP
```

Communication protocols have certain software associated with them. The ADSM client requires that the directory in which this software resides is in the current PATH statement.

Step 3: Creating and Modifying the Options File (Required)

ADSM uses an options file to specify certain information related to your ADSM session. This information includes your choice of communication protocols, the name of your node, authorization options, backup and archive processing options, and scheduling options. These options are in effect for the entire ADSM session, but can be overridden by using command line options.

This section covers the options you should set before using ADSM. For more information about options, see Chapter 10, "Setting Processing Options" on page 187.

Step 3A: Creating the Options File (Optional)

ADSM provides sample options files called **ba_dsm.opt** and **sa_dsm.opt**. These are generic configuration files that contain communication parameters normally used in a Windows environment. During the installation process, **ba_dsm.opt** is copied to **dsm.opt**, and you are given the option to edit it. The file contains just the communication options, the NODENAME option, and a sample include-exclude list. These options are the basic options you need to get started quickly.

ADSM also provides an options reference file called **options.wri**. That reference file contains information about all of the options relevant to the Windows client. Options for how the server can be connected are also documented in the **dsm.opt** file. You can consult the **options.wri** file for information about the options you want to add to the **dsm.opt** file.

Step 3B: Enabling Communications (Required)

One of the most important functions of the options file is to define the communication protocol that enables communications between your workstation and the ADSM server. For Windows NT, you can use one of the following protocols:

- IPX/SPX
- Named Pipe
- NETBIOS
- TCP/IP

Each of these protocols has options associated with it. For a detailed description of each option, see Chapter 10, "Setting Processing Options" on page 187. For Windows NT and Windows 95, you must use the TCP/IP method.

Use the `COMMmethod` option to specify a communication protocol. For example, to use the TCP/IP communication method, enter:

COMMmethod TCPIP

The default value for `commmethod` is TCP/IP. Therefore, you do not need to define `COMMmethod` in the options file. However, either a `dsm.opt` file or the options file you pointed to in the `DSM_CONFIG` environment variable must exist.

Communication Options

The following sections discuss the option requirements for the various communication methods.

Contact your ADSM administrator if you need help defining these communication options.

For Windows NT and Windows 95, `commmethod = TCPIP` (the default),

IPX/SPX: If `commmethod = IPXspx`, you can define the following option:

`IPXServeraddress server_address`

If `IPXSERVERADDRESS` is not defined, ADSM assumes the server resides on your client workstation.

Other IPX/SPX options that have default values are:

- `IPXBufferSize size`
- `IPXSocket socketnumber`

Note: To use IPX/SPX, NetWare Workstation Kit for DOS/Windows v3.11 must be installed on your workstation and NetWare Requester for OS/2 2.01 or higher must be installed on the OS/2 server you contact for ADSM services.

To use IPX/SPX to communicate with an AIX server, NetWare Workstation Kit for DOS/Windows v3.11 must be installed on your workstation, and NetWare for AIX for RISC System/6000 from IBM Version 3.11 must be installed on the AIX server you contact for ADSM services.

Named Pipe: If `commmethod = NAMEpipe`, define the following option:

`NAMEdpipename name`

The default is `\pip\dsm serv`.

NETBios: If `commmethod = NETBios`, the following options have default values:

- `NETBIOSBufferSize size`
- `NETbiosname name`
- `NETBIOSTimeout seconds`
- `NETBIOSServername name`
- `LANAdapter adapter_number`

You can change any of the default values for those options.

TCP/IP: If *commmethod* = **TCPip**, define the following option:

TCPServeraddress *server_address*

Other TCP/IP options that are optional or have default values are:

- TCPPort *port_address*
- TCPBuffsize *size*
- TCPWindowSize *window_size*

Step 3C: Setting Your Node Name (Required for BA Client Only)

Use the NODENAME option to indicate the name of your node so that you can register with the ADSM server. If your installation is using closed registration, the ADSM administrator must register you with the server and may select a name for you to use. Otherwise, in open registration, you can register your node with the server and choose your own name. For more information about registration requirements, see “Step 4: Registering Your Workstation with the Server (Required)” on page 144.

Step 3D: Creating an Include-Exclude List (Required for BA Client Only)

An include-exclude list contains statements that identify any specific files you want to include or exclude from backup services. This list is contained in the **dsm.opt** file.

For example, you might want to exclude all swap files, easily reproducible files (such as object files), and operating system files. You can enter broad statements that exclude entire groups of files. Then, you can enter include statements to make exceptions to those broad statements.

The **dsm.opt** file provided at installation time contains an include-exclude list. You should use this list as a minimum even if you do not want to add anything to it.

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

If you do not create an include-exclude list, ADSM considers all files for incremental backup services and uses the default management class for backup and archive services.

Figure 69 on page 143 shows a sample include-exclude list.

```
exclude *:\..\*.swp
include *:\adsm32\...\* personal_files
include *:\adsm32\smith\new\...\*
include *:\adsm32\smith\driver5\...\* source_code
exclude "c:\IBMBIO.COM"
```

Figure 69. Sample Include-Exclude List

For information that can help you decide whether to create an include-exclude list, see “Creating an Include-Exclude List” on page 201. For more information about management classes, see “Using Management Classes with INCLUDE” on page 208.

To create an include-exclude list, follow these steps:

- 1** Determine your include and exclude requirements.
- 2** Locate the include-exclude section in your **dsm.opt** file.
- 3** Enter your include and exclude statements. See “Creating an Include-Exclude List” on page 201 for details.
- 4** Save the **dsm.opt** file.

Example of a Client Options File

Figure 70 is an example of a **dsm.opt** file. This client options file includes the required NODENAME and communication options, as well as several EXCLUDE statements and other options.

```
**** Sample client options file for Windows NT or Windows 95 client
NODENAME mynodename
COMMETHOD TCPIP
TCPSEVERADDRESS 129.33.249
TCPPOINT 1500
TCPBUFFSIZE 32
TCPWINDOWSIZE 32
TIME 4
EXCLUDE *:\..\*.SWP
EXCLUDE *:\..\*.PAR
EXCLUDE "C:\IBMBIO.COM"
EXCLUDE "C:\IBMDOS.COM"
```

Figure 70. Example of Windows NT or Windows 95 client options file

Creating Multiple Options Files (For BA Client Only)

Suppose you want to back up your files to one ADSM server and archive files to another ADSM server. Instead of editing the **dsm.opt** file each time you want to connect to a different server, you can set up more than one client options file, each one pointing to a different server.

For example, you might create the options files **a.opt**, **b.opt**, and **c.opt**, where each file contains the address of a different server. There are two ways to use one of these options files instead of the regular **dsm.opt** in an ADSM session.

- First, save your original **dsm.opt** file by copying it to another file, such as **dsmtemp.opt**. Then, if you want to connect to the server listed in **b.opt**, copy **b.opt** to **dsm.opt**.
- Select the **Run** command from the **File** menu in the Program Manager or the File Manager. If **b.opt** is the options file you want to use, enter the following line in the command line box:

```
dsm -optfile=b.opt
```

Note that if the ADSM program files reside on a different drive than the Windows program files, you must specify the drive with the ADSM files in the command:

```
d:\win32app\dsm -optfile=b.opt
```

Click on **OK** to start ADSM.

In both cases, when you start an ADSM session, a connection is established to the server specified in **b.opt**.

Step 4: Registering Your Workstation with the Server (Required)

Before you can begin requesting services from an ADSM server, the server must recognize your workstation. ADSM uses a node name and a password to identify each workstation. ADSM maintains a password for each node name. The process of setting up a node name and password is called *registration*. After you register your workstation with a server, you can begin using ADSM to back up, archive, restore, and retrieve files.

ADSM provides two types of registration: *open* and *closed*. Your ADSM administrator chooses the type of registration for your site. If the ADSM server administrator sets the AUTHENTICATION option to OFF, an ADSM password is not required.

Using Closed Registration

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

If your enterprise uses closed registration, you need to provide contact information, such as your name, user ID, and phone number, to your administrator.

Your administrator defines the following for you:

- Your node name.
- The initial password you want to use, if required.
- The policy domain to which your client node belongs. A policy domain contains policy sets and management classes, defined by your ADSM administrator, that control how ADSM manages the files you back up and archive.
- Whether you are allowed to choose to compress files before sending them to the server.
- Whether you are allowed to delete backup versions and archived copies from server storage.

Using Open Registration

With open registration, you can register your workstation as a client node with the server.

The first time you start a session, ADSM prompts you for information necessary to register your workstation with the server identified in your options file. You need to supply your node name and contact information. If your administrator has set AUTHENTICATION to ON, you need to supply a password.

When you use open registration, the defaults for policy domain, compression, and deleting files on server storage are as follows:

- Your client node is assigned to a management class named STANDARD.
- You can define whether compression is used by entering the appropriate value for the COMPRESSION option in the **dsm.opt** file.
- You are allowed to delete archived copies of files from server storage, but not backup versions of files.

If necessary, your ADSM administrator can change those defaults later.

Starting ADSM

The Windows NT and Windows 95 clients can only be run by a user who is a member of the administrator's group or the domain admin group.

You can start the ADSM Backup-Archive client by double-clicking on the ADSM icon (shown in Figure 71 on page 146) or by entering **dsm** on the command line. You can start the ADSM Administrator client by double-clicking on the ADSM icon or by entering **dsmadm.exe** on the command line.

You must start ADSM from the ADSM directory or include the directory in the start command unless you update your environment. You can update your environment using the SET command or the Control Panel.



Figure 71. The ADSM Icon

Your ADSM administrator has the option to force you to use a password to connect to the ADSM server. ADSM prompts you for the password if one is required. Contact your administrator if you do not know your password.

Starting the Client Scheduler

To start the client scheduler on Windows NT or Windows 95, issue the SCHEDULE command as follows:

```
dsmc schedule
```

When you start the client scheduler, it runs continuously until you close the window, shut down your system, or log out of your system.

The communication software must be running before you start ADSM.

You can use the AT command on Windows NT (but not Windows 95) to start the client scheduler at a preset time. The AT command allows the client scheduler to run as a batch job without a user being logged onto the system, while preserving the security of the system. (The ADSM client cannot run as a Windows NT service, however.)

For example, to start ADSM in batch every day at 1:00 AM on a machine called PDC, use:

```
AT \\PDC 1:00 /every:m,t,w,th,f,s,su c:\adsm\adsmrun.cmd
```

In this example, **c:\adsm\adsmrun.cmd** is a file that contains the ADSM commands you want to execute, for example (where *vmblock* is your password):

```
C:
CD ADSM
ERASE *.LOG
ERASE *.OUT
DSMC MACRO INCRBACK.MAC -PASSWORD=vmblock 1>ADSM.LOG 2>STDERR.OU
```

In order to successfully use the AT command with ADSM:

- Start the NT schedule service on the machine that is to run ADSM.
- Include the ADSM password either with the ADSM commands or in the ADSM options file (PASSWORD option).
- Ensure that the user account that the AT command logs on has administrator authority and is allowed to run as an NT service (the default user for AT, SYSTEM, has the appropriate authority).
- Because the ADSM client does not do NT event log reporting, redirect stdout and stderr to a file.

Consult the Windows NT documentation for more information about the AT command.

Starting ADSM: Advanced Considerations

You can include ADSM options on the DSM command, or by modifying the settings for the ADSM icon. For example, you can modify the format used to display dates, times, and numbers, or you can include your password so that ADSM does not prompt for it. (However, if you include the PASSWORD option, your password can be seen by someone who sees you enter the command or who looks in your icon settings).

For example, you might have two machines that back up files to an ADSM server under separate node names. If you want to recover a file from one machine (JONES1) while at the other machine (JONES2), you can start ADSM using the NODENAME option specifying JONES1:

```
start dsm -nodename=jones1
```

Be careful if you use ADSM in this way. Do not attempt to do an incremental backup from the JONES2 machine while connected to ADSM as JONES1. If the drive labels are the same on the JONES1 and JONES2 machines, the incremental backup will expire any files that are not on the JONES2 machine, even if they still exist on JONES1. You could lose some valuable backup generations.

For information about getting started with the ADSM Windows graphical user interface, see *Using the Windows Backup-Archive Clients*.

Starting the WebShell Client Interface

You can use the new WebShell client interface to manage backup and restore operations from any machine, on any platform, on any network. Using the WebShell, you can back up and restore your own data, or an ADSM administrator can centralize the backup/restore operations of many ADSM clients, regardless of platform. To use it, simply point your Web browser at any ADSM client machine that is running the WebShell client interface. It provides you with the following client operations:

- Status of backup operations
- Incremental and selective backup of new and changed files
- Restore operations

To use WebShell,

1. Enter **adsm`pswd` p <your password> <directory>** to inform WebShell of your password. This `adsmpswd.ws` password file resides in the `wsstuff` directory created during installation.
2. Enter the following command to inform WebShell of the users on the system, their type (regular user or administrator), and the passwords to use for Web authentication:

```
mkwpswd p <username> <password> <flag> <directory>
```

This password file, `adsmweb.ws`, resides in the `wsstuff` directory created during installation.

3. To start WebShell, enter:

webshell <optional port number> <optional location of Web authentication file>

4. To access WebShell, enter this URL:

hp2. <http://YourMachineName:PortNumber/webshell>

Note: The default port number is 2121.

Chapter 7. Installing the Novell NetWare Client

This chapter provides instructions to install and set up ADSM on a NetWare server.

Novell NetWare Client Environment

This section contains client environment information, including hardware and software requirements, for the NetWare platform.

Client Components

The following ADSM client components can be installed on a NetWare file server:

- Backup-archive client (command-line)
- API

Hardware Requirements

- Any personal computer or workstation running as a NetWare file server
- Disk space: 2 MB
- Memory: approximately 1 MB of RAM is needed for each 8,000 files per volume.

Operating System

Novell NetWare 3.11, 3.12, 4.01, 4.02, or 4.1

Communication Methods

Figure 72. Communication Software

To use this communication method:	Install this on the file server:	To connect to these ADSM servers:
SNA LU6.2 (APPC)	NetWare for SAA	AIX, MVS, OS/2, OS/400, VM, VSE
IPX/SPX	Standard with Novell NetWare	AIX, OS/2, Windows NT
TCP/IP	Standard with Novell NetWare	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM, Windows NT

NetWare Loadable Modules

For Novell NetWare versions listed in Figure 73, you must run the specified NetWare Loadable Modules (NLMs) on the same NetWare file server as ADSM.

Figure 73. NLM Requirements

Novell NetWare Versions	Novell Loadable Modules
NetWare 3.11	tsa311.nlm smdr.nlm
NetWare 3.12	tsa312.nlm smdr.nlm
NetWare 4.01 or 4.02	tsa400.nlm tsands.nlm smdr.nlm
NetWare 4.1	tsa410.nlm tsands.nlm smdr.nlm

Also, you must run TSA311.NLM, TSA312.NLM, or TSA400.NLM, on each remote NetWare server to back up remotely located files.

We recommend that you back up the NetWare Directory Services (NDS) from the 4.X NetWare server that contains the master copy of the NDS. If you do so, it is not necessary to back up from any of the servers containing a replica of the NDS. This is because NetWare replicates NDS to other servers in the network. Therefore, you should load TSANDS.NLM onto the server from which you will back up the NDS.

Step 1: Installing the Client Program (Required)

You can install ADSM directly from the supplied diskette, the server CD-ROM, or a designated hard drive onto which the installation files have been copied.

ADSM for Novell NetWare software is packaged on two 3.5-inch, double-density, double-sided diskettes. Before you install ADSM on a NetWare server, be aware of the following:

- You can use your local system console or a NetWare server remote console (rconsole) to enter the information required for this installation.
- Installing from the hard drive is faster and requires less resource to copy the files because it uses the NetWare partition instead of the DOS partition.
- ADSM creates a directory called ADSM on either the SYS: volume or on another volume you specify.

Note: Input containing both the slash (/) and the backslash (\) is valid. ADSM changes a \ to a /.

ADSM keystrokes on your NetWare server are not case sensitive. Input that contains uppercase and lowercase characters is valid. ADSM changes all input to uppercase characters.

Installing from Diskette or CD-ROM

To install the Novell NetWare client from a media (diskettes or CD-ROM):

1 Insert the first installation media into the proper drive.

2 At the prompt:

From diskette: Type **a:install** and press Enter.

From a server CD-ROM: Change the directory to **h:\clients\nov\english\install**.

Note: Replace the 'h' drive with the CD-ROM drive on your system.

Type **load instdsm** to start the installation program and press Enter.

The menu in Figure 74 appears:

```
ADSM Install Options
=====
Install ADSM
Install SMS Modules
Install API
Exit ADSM Install
```

Figure 74. ADSM Install Options

Attention: You cannot do anything to stop the installation immediately and safely after it has begun. Switching the CPU off during this installation procedure is *not* recommended. So, be sure that you are ready to complete the entire procedure without interruption.

If you want to end the installation *before* selecting Install ADSM, use the up and down arrow keys to select the Exit ADSM Install item, and then press Enter.

3 Use the up and down arrow keys to move the highlighted selection area. Select Install ADSM and press Enter. This starts your ADSM installation.

4 The system prompts you for the source of the installation files. Type the name of the diskette drive for the installation, and then press Enter.

5 Next, the system prompts you for a destination directory into which the installation files are placed. You can either supply a volume name and directory name for a local file server:

```
VOLUME:\INSTALL_DIRECTORY
```

or you can supply the name of a remote file server and designate an installation directory on that file server:

```
SERVERNAME\VOLUME:\INSTALL_DIRECTORY
```

After you type the names of your selected destination file server and directory, press Enter.

Note: If you have designated a remote file server as your installation destination, the system prompts you for a valid user ID and password for that file server. Type the required user ID and press Enter. Then, type the required password and press Enter again.

ADSM copies the ADSM installation files to the installation directory. The file names are listed in Figure 76 on page 155.

- 6 After all of the installation files are copied to the designated NetWare server, the installation program displays:

```
SUCCESSFUL!
```

Press Enter to continue. The installation options menu appears. Now select Install SMS Modules. If the Novell-supplied modules are not already in the installation subdirectory of the specified installation volume, they are copied there.

If the SMS modules already exist, you are prompted to choose between overwriting the files, skipping the files, or quitting the SMS installation. You may want to back up the files before overwriting them.

Note: For some NetWare servers, you must install a patch for the SMS modules. The patches are in the **patches** subdirectory on NetWare client diskette two. Refer to the **readme.txt** file for information about installing the patches.

- 7 When you are finished with the installation, select Exit ADSM Install, and press Enter.

Installing From a NetWare Hard Drive

Perform steps 1 through 4 in the following procedure at a NetWare client workstation, logged onto NetWare as a NetWare administrator, supervisor, or a user with administrator or supervisor equivalent authority. Perform steps 5 through 11 at a NetWare server.

To install from a NetWare hard drive, follow these steps:

- 1 From a NetWare workstation, create an installation source directory on a NetWare file server. To do this, type the following command, and then press Enter.

```
md SOURCE_DIRECTORY
```

where SOURCE_DIRECTORY is the directory in which the master set of ADSM installation files will reside.

The installation process copies a master set of the ADSM installation files into the source directory. You can create the source directory on one NetWare file server and run the ADSM installation program (**instdsm.nlm**) on the same NetWare file server or on a different NetWare file server. To do this, you must specify to the ADSM installation program the name of the NetWare file server where you will run the installation program.

- 2 Change directories to the ADSM installation source directory you have created. To do this, type the following command, and then press Enter.

```
cd SOURCE_DIRECTORY
```

- 3 Insert the supplied installation diskette into the workstation diskette drive.

- 4 Copy the contents of the diskette to the newly created source directory. To do this, type the following command, and then press Enter.

```
copy a:\
```

- 5 If you copied the master set of installation files onto a remote file server, to perform the installation procedure at a local file server, you must copy **instdsm.nlm** onto the local file server. To do this, create a directory to contain **instdsm.nlm** (for example, directory **instdsm**), change to that directory, and copy the file, as follows:

```
md instdsm
cd instdsm
copy a:\instdsm.nlm
```

- 6 On the local file server, provide the name of the directory containing **instdsm.nlm** with this command:

```
load volume:\instdsm
```

The menu in Figure 75 appears:

```
ADSM Install Options
=====
Install ADSM
Install SMS Modules
Install API
Exit ADSM Install
```

Figure 75. ADSM Install Options

Attention: You cannot do anything to stop the installation immediately and safely after it has begun. Switching the CPU off during this installation procedure

is *not* recommended. So, be sure that you are ready to complete the entire procedure without interruption.

If you want to end the installation *before* selecting Install ADSM, use the up and down arrow keys to select the Exit ADSM Install item, and then press Enter.

- 7** Use the up and down arrow keys to move the highlighted selection area. Select Install ADSM and press Enter. This starts your ADSM installation.

The system prompts you for a source directory where the master installation source files now reside. You can supply a volume name and directory name for a remote file server as in our example.

```
SERVERNAME\VOLUME:SOURCE_DIRECTORY
```

or, you can supply a volume name and source directory for a local file server.

```
VOLUME:\SOURCE_DIRECTORY
```

- 8** After you type the location of the source directory, press Enter.

ADSM copies the ADSM installation files to the installation source directory. The file names are listed in Figure 76 on page 155.

Note: SERVERNAME is optional. If not specified, the local file server is the default. If specified, the system prompts you for a valid user ID and password for that server. In that case, when prompted, type the required user NetWare ID and press Enter. Then, type the required password and press Enter again.

- 9** Next, the system prompts you for a destination directory into which the installation files are placed. You can either supply a volume name and directory name for a local file server:

```
VOLUME:\INSTALL_DIRECTORY
```

or you can supply the name of a remote file server and designate a volume name and installation directory on that file server:

```
SERVERNAME\VOLUME:\INSTALL_DIRECTORY
```

After you type the names of your selected destination file server and directory, press Enter.

Note: Again, SERVERNAME is optional. As with the source directory, if you don't specify it, the local file server is the default. If specified, the system prompts you for a valid user ID and password for that server. In that case, when prompted, type the required user NetWare ID and press Enter. Then, type the required password and press Enter again.

- 10** After all of the installation files are copied to your NetWare server, the installation program displays:

```
SUCCESSFUL!
```

Press Enter to continue. The installation options menu appears. Now select Install SMS Modules. If the Novell-supplied modules are not already in the installation subdirectory of the specified installation volume, they are copied there.

If the SMS modules already exist, you are prompted to choose between overwriting the files, skipping the files, or quitting the SMS installation. You may want to back up the files before overwriting them.

Note: For some NetWare servers, you must install a patch for the SMS modules. The patches are in the **patches** subdirectory on NetWare client diskette two. Refer to the **readme.txt** file for information about installing the patches.

- 11** When you are finished with the installation, select Exit ADSM Install, and press Enter.

ADSM Files

Figure 76 lists the ADSM files that are installed during this procedure.

Figure 76. ADSM files

File Name	Description
read.me	A text file containing the latest updates and other special installation information
dsm.smp	Sample client options file
options.doc	Information about all ADSM client options available for Novell NetWare
dsmc.nlm	Executable file for the backup-archive command-line interface
dsmc.hlp	Help file for the command-line interface
dscameng.txt	American English message text file
acpwsrvs.nlm	Communication stub file for VM PWSCS for NetWare V1.0
acpwtcpn.nlm	Communication stub file for TCP/IP
acpsaas1.nlm	Communication stub file for NetWare for SAA for NetWare V1
acpsaas2.nlm	Communication stub file for NetWare for SAA for NetWare V2
dsmc.ncf	Batch file that invokes DSMC in interactive mode

API Files

If you install the Application Programming Interface (API), a self-extracting file called **dsmsdk.exe** is copied into the installation directory. You must use the NetWare Requestor to expand this file. Type the file name, **dsmsdk**.

The files listed in Figure 77 and Figure 78 on page 156 are extracted and copied into the installation directory.

Figure 77. ADSM files in the Novell NetWare API package

File Name	Description
readme.sdk	API read me file
dsm.smp	Sample options file
options.doc	Options document
adsmapi.imp	Import file for sample build
dsmapi.nlm	API NLM library
dscameng.txt	Message repository for library
acpsaas1.nlm	NetWare SAA V1 stub NLM
acpsaas2.nlm	NetWare SAA V2 stub NLM
acpwtcps.nlm	TCP/IP stub NLM
acpwsrvs.nlm	PWSCS stub NLM

The files in Figure 78 are provided for developers who write applications that communicate with an ADSM server.

Figure 78. ADSM files in the Novell NetWare API package for developers

File Name	Description
dsmapifp.h	Prototype SDK header file
dsmapihd.h	Types SDK header file
dsmrc.h	Return code SDK header file
dapibkup.c	Source code for a sample application that demonstrates the use of the major ADSM API functions.
dapidata.h	
dapiinit.c	
dapipref.c	
dapiproc.c	
dapipw.c	
dapiqry.c	
dapirc.c	
dapismp.c	
dapismp.lnk	
dapismp.wat	
dapismp.nlm	
dapitype.h	
dapinwut.c	
dapiutil.c	
dapiutil.h	
register.frm	Registration form for developers to get support

Step 2: Updating AUTOEXEC.NCF (Required)

After the installation program ends, use a text editor to add the following entry to your NetWare server's **autoexec.ncf** file:


```
search add VOLUME:\INSTALL_DIRECTORY
```

where VOLUME:\INSTALL_DIRECTORY is the destination you specified for the installation files.

You can also add the following line to the end of your **autoexec.ncf** file:

```
load dsmc sched
```

This command starts the client scheduler at each server startup. Be sure to load all communication programs before loading the scheduler.

Step 3: Creating and Modifying the Options File (Required)

ADSM uses an options file to specify certain information related to your ADSM session. This information includes your choice of communication protocols, the name of your node, backup and archive processing options, and scheduling options. You can override certain options when using ADSM commands by including the options with the commands. For information about the options file, see Chapter 10, "Setting Processing Options" on page 187.

Step 3A: Creating the Client Options File (Required)

When you install ADSM on your NetWare server, the sample client options file (**dsm.smp**) is stored in **SYS:/adsm** by default or in another location selected at installation time. To view its contents, use a text editor. **LOAD EDIT** starts the NetWare text editor.

Attention: When editing is required, use the NetWare **LOAD EDIT** command with caution because loss of data can occur. This text editor is normally used to modify small text files. Do not edit large files with this utility.

To create a client options file:

- 1** From a NetWare requestor, change your current directory to the ADSM installation directory.
- 2** Copy **dsm.smp** to **dsm.opt** by entering:

```
copy dsm.smp dsm.opt
```
- 3** Use a text editor to enter the **COMMMETHOD** and **NODENAME** options, and any other options required by the particular communication protocol you are using.

Step 3B: Enabling Communication and Setting the Node Name (Required)

The following communication options must be defined in the **dsm.opt** client options file to enable communications between NetWare and ADSM servers:

```
NODename
```

COMMmethod

NetWare uses one of the following methods to communicate with an ADSM server:

TCP/IP
SNA LU6.2 (NetWare for SAA)
IPX/SPX

Setting TCP/IP (Token Ring) Communication Options

First, install TCP/IP on the NetWare server. For information about how to do this, see the *Novell NetWare 3.11 TCP/IP Transport Supervisor's Guide* (Document Number 100-000945-001).

If you are using TCP/IP communications, include the following option in the options file:

```
COMMmethod TCPip
```

Also specify the following options:

TCPPORT

To specify the ADSM server's TCP/IP port address. You do not need to set this option if your ADSM server's address is 1500.

TCPSERVERADDRESS

To specify the TCP/IP internet address for the ADSM server. The address can be a TCP/IP Internet Domain Name (for example, `gldvm.end.ibm.com`), or a dot address (for example, `9.103.21.200`).

You can also modify the following options:

TCPBUFFSIZE

To modify the size of the ADSM internal TCP communication buffer. A larger buffer can improve performance. If you do not modify this option, the buffer size is 31 KB.

TCPWINDOWSIZE

To modify the size of the TCP sliding window for your client node. If you do not modify this option, the window size is 32 KB.

Setting SNA LU6.2 (APPC) Communication Options

First, install SNA LU6.2 on the NetWare server. For information about how to install SNA, see *Novell NetWare for SAA Version 1.3 Administration Guide* (Document Number 100-001166-002).

If you are using SNA LU6.2 communications, include the following option in the options file:

```
COMMmethod SNA1u6.2
```

Also include one of the following sets of options.

- Specify the following options:

TPNAME

To specify the name of the transaction program of the target logical unit.

PARTNERLUNAME

To specify the logical unit name of the remote target.

CPICMODENAME

To specify the name of the SNA session that connects to the partner logical unit.

- Or specify this option:

SYMBOLICDESTINATION

To specify the name that CPIC uses to connect to the ADSM server.

You can also specify this option:

CPICBUFFERSIZE

To modify the size of the CPIC buffer. If you do not modify this option, ADSM uses a 31 KB buffer size.

Setting IPX/SPX Communication Options

If you are using IPX/SPX communications, include the following option in the options file:

```
COMMmethod IPXspx
```

Also specify the following options.

IPXSERVERADDRESS

Use this option to specify the IPX/SPX server address on an OS/2 or AIX host.

IPXSOCKET

Use this option to specify the socket number of the ADSM server. The default is 8522.

IPXBUFFERSIZE

Use this option to specify the size you want to use, in kilobytes, for the IPX buffer used to transfer data between the client node and the server.

Contact the ADSM server administrator for more information about these communication options and procedures.

Example of a Client Options File

Figure 79 on page 160 shows an example of a NetWare **dsm.opt** client options file that is using TCP/IP communication:

NODename	ABNERYOUNG
COMMmethod	TCP/IP
TCPPort	1520
TCPServeraddress	node.domain.company.com
DOMain	SERVA\SYS: SERVA\BINDERY
DOMain	SERVB\SYS: SERVB\BINDERY
DOMain	ADSM\SYS: ADSM\DATA:
DOMain	ADSM\DIRECTORY
COMPression	ON
TCPBuffsize	31
TCPWindowSize	32
MAXCMDRetries	2
RETRYPeriod	20
SCHEDLOGname	SYS:/logs/dsmsched.log
QUERYSCHEdperiod	12
SCHEDMODE	POLLing
TCPCLIENTAddress	node.domain.company.com
TCPCLIENTPort	1501
ERRORLOGname	SYS:/logs/dsmerror.log
EXclude	SERVA\SYS:/.../*.obj
EXclude	SERVB\SYS:/.../*.obj
REPlace	YES
NWWaitonerror	YES
SCROLLPrompt	YES
SCROLLLines	20

Figure 79. Example of NetWare Client Options File

Step 3C: Creating an Include-Exclude List (Optional)

An include-exclude list in your client options file contains statements that identify any files you want to include or exclude from backup services. For example, you might want to exclude all empty directories and files, all files that contain compiled object code that are easily reproducible by other methods, and operating system files. You can also enter broad statements that exclude entire groups of files. Then, you can enter INCLUDE statements to make exceptions to those broad statements.

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

The sample client options file contains a specific list of files that are to be excluded from backup. If you do not create an include-exclude list, ADSM considers all files for backup services and uses the default management class.

Figure 80 shows a sample include-exclude list.

```
exclude K9\SYS:/user/empty.txt
include K2\SYS:/bob/* personal_files
include KY\SYS:/home/ramke/.../*
include K0\SYS:/home/ramke/.../*source_code
exclude KC\SYS:/home/time.log
include adsm\directory net_directory
```

Figure 80. Sample Include-Exclude List

For information that can help you decide whether to create an include-exclude list, see “Creating an Include-Exclude List” on page 201. For more information about management classes, see “Using Management Classes with INCLUDE” on page 208.

To create an include-exclude list, perform these steps:

- 1** Determine your include and exclude requirements.
- 2** Edit the client options file.
This file is located in the default installation directory or the directory you chose as an alternate location.
- 3** Enter your INCLUDE and EXCLUDE statements.
Note: The order of the INCLUDE and EXCLUDE statements is very important. For more information, see “Creating an Include-Exclude List” on page 201.
- 4** Save the file.

Step 4: Registering Your Workstation with the Server (Required)

Before you can begin requesting services from an ADSM server, you must register your NetWare server client node with an ADSM server. After registration, you can begin using ADSM to back up, archive, restore, and retrieve files.

Depending on the registration procedures determined by your ADSM administrator, you can use either of the following methods to register your NetWare server with an ADSM server:

Closed registration
Open registration

Using Closed Registration

With closed registration, the ADSM administrator must register your NetWare server as a client node with the ADSM server. If your enterprise uses closed registration, you need to provide the following information to your ADSM administrator:

Your node name
The initial password to use
Contact information, such as your name, user ID, and phone number

The ADSM administrator determines the following for you:

- The policy domain to which your client node belongs
A policy domain contains policy sets and management classes defined by your ADSM administrator that control how ADSM manages your backup and archive files
- Privileges enabling you to choose whether to compress files before sending them to the ADSM server
- Privileges enabling you to delete backup versions and archived copies of files from ADSM storage

Using Open Registration

With open registration, you can register your NetWare server as a client node with the ADSM server.

The first time you start a session using the LOAD DSMC or LOAD DSMC LOOP command, ADSM prompts you for your password and contact information before a session is established with the ADSM server.

To register your NetWare server with additional ADSM servers, edit the **dsm.opt** file and change the communication options. Then, when you start a session, your NetWare server is registered.

When you use open registration, the defaults for policy domain, compression, and deleting files on ADSM storage are as follows:

- Your client node is set to a policy domain named STANDARD by default.
- The COMPRESSION option is set to No.
- You are allowed to delete archived copies of files from ADSM storage, but you cannot delete backup versions of files.

If necessary, your ADSM administrator can change these defaults later.

Starting ADSM

To start ADSM, first load DSMC onto your workstation.

Your ADSM administrator has the option to force you to use a password to connect to the ADSM server. ADSM prompts you for the password if one is required. Contact your administrator if you do not know your password.

Starting ADSM: Advanced Considerations

You can include ADSM options on the LOAD DSMC command. For example, you can modify the format used to display dates, times, and numbers, or you can include your password so that ADSM does not prompt for it. (However, if you include the PASSWORD option, your password can be seen by someone who sees you enter the command.)

Accessing Remote NetWare Servers

You can access other NetWare servers with ADSM if you have one of the following:

- The NetWare administrator password
- The supervisor password for each server
- A user ID and password with administrator or supervisor equivalence

To back up, restore, archive, and retrieve files on remote Version 3.11 NetWare servers, you must:

- Run SMDR.NLM on the local server.
- Run TSA311.NLM on the remote server.

To back up, restore, archive, and retrieve files on remote Version 3.12 NetWare servers, you must:

- Run SMDR.NLM on the local server.
- Run TSA312.NLM on the remote server.

To back up, restore, archive, and retrieve files on remote Version 4.01 NetWare servers, you must:

- Run SMDR.NLM on the local server.
- Run TSA400.NLM on the remote server.

To back up, restore, archive, and retrieve files on remote Version 4.02 NetWare servers, you must:

- Run SMDR.NLM on the local server.
- Run TSA400.NLM on the remote server.

To back up, restore, archive, and retrieve files on remote Version 4.1 NetWare servers, you must:

- Run SMDR.NLM on the local server.
- Run TSA410.NLM on the remote server.

When requesting ADSM services, specify the remote NetWare server name and volume at the beginning of any directory, file, or path name you want to operate on. When you try to contact a remote NetWare server, you are prompted for an ID and a password if one of the following occurs:

- You do not specify the NWUSER option.
- You first start an ADSM session and are prompted for your client node ID and password.
- You first connect to another NetWare server.
- Your supervisor password or passwords have expired.
- Your ADSM client node password has changed.

For details about the NWUSER option, see “NWUSER” on page 271.

Chapter 8. Installing the Apple Macintosh Client

This chapter provides instructions to install and set up ADSM on your Macintosh.

Apple Macintosh Client Environment

This section contains client environment information, including hardware and software requirements, for the Macintosh platform.

Client Components

The following ADSM client component can be installed on a Macintosh workstation:

Backup-archive client (GUI)

Hardware Requirements

- Apple Macintosh or Power Macintosh
- Disk space: 2.5 MB

Operating System

Macintosh Operating System 6.0.7 or System 7

Communication Method

Figure 81. Communication Software

To use this communication method:	Install this on the workstation:	To connect to these ADSM servers:
TCP/IP	MacTCP 2.0.4	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM

Step 1: Installing the Macintosh Client Program (Required)

You can install ADSM directly from the supplied diskette, the server CD-ROM, or from a designated hard drive onto which the installation files have been copied.

Installing the Program from Diskette

- 1** Insert the ADSM installation disk 1 into the diskette drive.
- 2** Double-click on the ADSM installer icon.
- 3** When the ADSM installation window appears, click on the Continue button.

4 When the Read Me file appears, read through the file to learn about recent updates and product changes. (You can print this file for later reference by clicking on the print button.) When you have finished reading this file, click on the Continue button.

5 In the next window, select one of the following processor types:

- 680x0
- PowerPC
- Universal

If you select 680x0 or PowerPC, only the files for that processor are installed. If you install the 680x0 files, then ADSM will run on either platform, but will run more slowly on a PowerPC than if you installed the PowerPC files. If you install the PowerPC files, ADSM will not run on a 680x0 platform.

If you select Universal, all of the files for both 680x0 and PowerPC are installed. This ensures that ADSM will run at its optimum speed on both platforms. The disadvantage is that the files for both platforms occupy more space than the files for either platform alone.

6 Decide where you want to store the ADSM files, and type the desired folder name in the installation folder field in the installation window. (ADSM is the default folder.) If you choose a folder name that is not already listed, a new folder is created for you. Click on the Install button (located in the lower right corner of the window) to begin the installation process.

| **Installing the Program from CD-ROM**

| **1** Insert the CD-ROM into the proper drive.

| **2** Double-click on the CD-ROM icon.

| **3** Go to the '**cd\clients\mac\english\install**' location, where 'cd' is the name of the CD-ROM drive on your system.

| **4** Press Enter.

| **5** Copy this file directly from the CD-ROM to your hard drive, or FTP the file from another machine that has mounted the CD-ROM. If you FTP the file, ensure that it is transferred in ASCII mode.

| **6** Locate a BinHex converter. The ADSM Macintosh installation file is stored in BinHex format. You must convert this file before installation by using a BinHex translator. Programs such as Stuffit Deluxe and Compact Pro can convert the files. Also, a freeware program called BinHex 4.0 can be found at most major

FTP sites (including ftp.apple.com) and from online services, such as CompuServe and America Online.

7 Use the BinHex translator and choose the HQX file located on your hard drive. Save the converted file to your hard drive. An installation program called “ADSM Installation” is created on your hard drive after you finish the BinHex conversion. This file requires 1.1 MB of disk space.

8 Double-click on the ADSM installer icon.

9 When the ADSM installation window appears, click on the Continue button.

10 When the Read Me file appears, read through the file to learn about recent updates and product changes. (You can print this file for later reference by clicking on the print button.) When you have finished reading this file, click on the Continue button.

11 In the next window, select one of the following processor types:

- 680x0
- PowerPC
- Universal

If you select 680x0 or PowerPC, only the files for that processor are installed. If you install the 680x0 files, then ADSM will run on either platform, but will run more slowly on a PowerPC than if you installed the PowerPC files. If you install the PowerPC files, ADSM will not run on a 680x0 platform.

If you select Universal, all of the files for both 680x0 and PowerPC are installed. This ensures that ADSM will run at its optimum speed on both platforms. The disadvantage is that the files for both platforms occupy more space than the files for either platform alone.

12 Decide where you want to store the ADSM files, and type the desired folder name in the installation folder field in the installation window. (ADSM is the default folder.) If you choose a folder name that is not already listed, a new folder is created for you. Click on the Install button (located in the lower right corner of the window) to begin the installation process.

After you have completed the installation steps, you can verify that all of the ADSM files have been copied into the designated ADSM folder. To do this, make sure that the files listed in Figure 82 on page 168 appear in your ADSM folder. If any files are missing, see your system administrator.

Updating a Previously Installed Version of ADSM

To update a previously installed version of ADSM:

- 1** Do steps 1 – 4 under “Step 1: Installing the Macintosh Client Program (Required)” on page 165.
- 2** Navigate to the folder that contains the ADSM folder, and then type the name of the folder where the ADSM files reside into the installation folder field in the installation window. The installer installs the updated files into this folder and overwrites the old ADSM files, but does not replace any existing preferences files (except for ADSM Preferences-Sample). Click on the install button to begin the automatic installation update process.

ADSM Files

Figure 82. ADSM files

File Name	Description
ADSM Backup	Executable file for the backup-archive client
ADSM Scheduler	Executable file for the client scheduler
ADSM Preferences Documentation	Information about all options available for Macintosh
ADSM Preferences-Sample	Abridged version of the Preferences file containing just communication options and a basic include-exclude list
ADSM Help	Help file for ADSM Backup
ADSM Messages	Message text file
ADSM Read Me	Last minute updates and other special information
ObjectSupportLib	Only for Power Macintosh on System 7.1.2. File is stored in the Extensions folder.

The ADSM program and support files are located in the designated ADSM folder on your Macintosh hard disk. You should keep these files together in the ADSM folder. However, the ADSM Preferences file can be moved to the System folder or to the System folder's Preferences folder.

Step 2: Creating and Modifying the Preferences File (Required)

The Preferences file specifies communication, authorization, scheduling, and other options. These preferences are in effect for the entire ADSM session, but you can change them as needed.

Step 2A: Creating the Preferences File (Required)

ADSM provides a sample preferences file called **ADSM Preferences—Sample**. This file contains an include-exclude list, and sample values for the server address, TCP port number, and node name—the basic options you need to start quickly.

To create and modify your Preferences file:

- 1** Make a duplicate of the **ADSM Preferences-Sample** file by selecting the file and pressing Command+D (or select Duplicate from the File menu). Rename the new file to **ADSM Preferences** or to a name of your choice.
- 2** Use TeachText or some other Macintosh text editor to tailor the Preferences file, adding the proper TCP/IP server address, port number, and node name.

You might need to check with your system administrator, and then edit the file to set the correct values.

For more information about setting options in the Preferences file, see Chapter 10, "Setting Processing Options" on page 187.

Note: When specifying folder path names, use a colon to separate folders. Specify the entire path, including the volume name. For example:

```
Data:Production:*
```

This selects all files (*) in a folder called Production in a volume called Data.

Step 2B: Enabling Communications (Required)

One of the most important functions of the Preferences file is to establish communications between your workstation and the ADSM server. Your Macintosh uses TCP/IP to do this. Using TCP/IP on your Macintosh requires Apple's MacTCP software. See your ADSM administrator if MacTCP is not yet installed and configured on your Macintosh.

Also specify the following options:

TCPPORT

To specify the server's TCP/IP port address. You do not need to set this option if your server's address is 1500.

TCPSEVERADDRESS

To specify the TCP/IP internet address for the server. The address can be a TCP/IP Internet Domain Name (for example, gldvm.end.ibm.com), or a dot address (for example, 9.103.21.200).

You can also modify the following options:

TCPBUFFSIZE

To modify the size of the ADSM internal TCP communication buffer. A larger buffer can improve performance. If you do not modify this option, the buffer size is 16 KB.

TCPWINDOWSIZE

To modify the size of the TCP sliding window for your client node. A larger size can improve performance. If you do not modify this option, the window size is 16 KB.

Contact the ADSM server administrator if you need further information to define these communication options.

Step 2C: Setting Your Node Name (Required)

Use the NODENAME option to indicate the name of your node so that you can register with the ADSM server. If your installation is using closed registration, the ADSM administrator must register you with the server and may select a name for you to use. Otherwise, in open registration, you can register your node with the server and choose your own name. For more information about registration requirements, see “Step 4: Registering Your Workstation with the Server (Required)” on page 109.

Step 2D: Creating an Include-Exclude List

Your Preferences file contains an include-exclude list that identifies specific files to include or exclude from backup services.

For example, you normally want to exclude some of the Macintosh Operating System files—the ones excluded in the sample Preferences file. You can use wildcard characters to exclude groups of files matching a search pattern. Then, if necessary, you can make exceptions, including some files that match that pattern.

The Preferences file provided at installation time contains an include-exclude list that you should use as a minimum.

If you do not create an include-exclude list, ADSM considers all files for incremental backup services and uses the default management class for backups and archives.

```
exclude "...:Desktop DB"
exclude "...:Desktop DF"
exclude "...:Desktop"
exclude "...:Trash:...:*"
exclude "...:Norton FileSaver Data"
exclude "...:Norton VolumeSaver Index"
exclude "...:Data:Test:Testdoc?"
include "...:Data:Test:Testdoc4"
```

Figure 83. Sample Include-Exclude List

Any specification you enter in the include-exclude list must end with a file name, not a folder name. The file name can contain wildcard characters.

For information that can help you decide whether to create an include-exclude list, see “Creating an Include-Exclude List” on page 201. For more information about management classes, see “Using Management Classes with INCLUDE” on page 208.

To create an include-exclude list, follow these steps:

- 1** Determine your include and exclude requirements.
- 2** Open your Preferences file with TeachText or another Macintosh text editor.

3 Locate the include-exclude section in your Preferences file.

4 Enter your include and exclude statements.

Attention: Remember that ADSM processes the statements from the bottom up, so the order in which you place the statements is important.

5 Save the file and close it.

6 Restart ADSM with your new Preferences file.

Example of a Preferences File

Following is a sample Preferences file, including the required NODENAME and communication options, as well as several exclude statements.

See “Step 2: Creating and Modifying the Preferences File (Required)” on page 168 for more information about setting up your Preferences file.

```
TCPPort 1500
TCPServeraddress 1.930.175.200
NODename alpha
exclude "...:Desktop DB"
exclude "...:Trash:...:*"
exclude "...:Norton FileSaver Data"
```

Creating Multiple Options Files

Suppose you want to back up your files to one ADSM server and archive them to another. Instead of editing your Preferences file each time you want to connect to a different server, you can create multiple Preferences files, each containing a different server address. Then, when you want to connect to a specific server, launch ADSM with the Preferences file that addresses that server.

Suppose you have two servers named Alpha and Bravo. Create two Preferences files named, for example, **Prefs Alpha** and **Prefs Bravo**. When you want to connect to Bravo, locate **Prefs Bravo** in your ADSM folder on your Macintosh. Drag and drop it onto the ADSM icon. ADSM starts using all options specified in **Prefs Bravo**, including the server address.

If you are not running System 7.0 or higher on your Macintosh, you cannot launch ADSM with drag-and-drop, but you can still create multiple Preferences files and launch ADSM by double-clicking on the Preferences file of your choice.

Note: Remember to make duplicates of your original Preferences file and modify the duplicates. Always keep the original Preferences file intact.

Step 3: Registering Your Macintosh with the Server (Required)

Before you can begin using ADSM, you must set up a node name and password so that the ADSM server can recognize your Macintosh as an ADSM client. The process of setting up a node name and password is called *registration*.

ADSM provides “open registration” for Macintosh clients. This means you (not your ADSM administrator) register your Macintosh as a client node the first time you start ADSM. You are prompted for a node name, a password, and some contact information. However, if your administrator has set AUTHENTICATION to OFF, you need not supply a password.

When you use open registration, the defaults for policy domain, compression, and deleting files on server storage are as follows:

- Your client node is assigned to a management class named STANDARD.
- The default for compression is OFF.
- You are allowed to delete archived copies of files from server storage, but not backup versions of files.

If necessary, your ADSM administrator can change those defaults later.

Launching the ADSTAR Distributed Storage Manager

To launch ADSM, double-click on the ADSM Backup icon or double click on the Preferences file. If you are running System 7, you can drag your Preferences file and drop it onto the ADSM Backup icon.

Chapter 9. Installing the ADSM Lotus Notes Backup Agent

This chapter provides instructions to install and set up the ADSM Lotus Notes Backup Agent on your workstation.

There are three main tasks that you must perform before you can use the ADSM Lotus Notes Backup Agent on your workstation:

- 1** Install the backup agent by copying the necessary files from the installation diskettes to your hard disk.
- 2** Set up your client options file (**dsm.opt**) to enable your workstation to communicate with an ADSM server.
- 3** Register your workstation with the chosen ADSM server.

Each of these steps is discussed in detail in the following sections.

Lotus Notes Backup Agent Environment

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

Hardware Requirements

- A personal computer that supports OS/2
- Disk space: 1.2 MB

Operating System

- IBM OS/2 2.0, 2.1, or 2.11
- IBM OS/2 WARP 3.0

To run the ADSM Lotus Notes Backup Agent, you must also run the ADSM API for OS/2. You do not need to run the OS/2 backup-archive client. See Chapter 3, "Installing the OS/2 Client" on page 79 for information about installing the OS/2 API.

Communication Methods

Figure 84 shows the communication protocols that the ADSM Lotus Notes Backup Agent can use, and the software required to use them.

Figure 84. Communication Software

To use this communication method:	Install this on the workstation:	To connect to these ADSM servers:
3270	IBM Communications Manager/2 1.0	MVS, VM, VSE
IPX/SPX	NetWare Requestor for OS/2 V2.01	AIX, OS/2
Named Pipe	OS/2	OS/2
NETBIOS	Any of these: <ul style="list-style-type: none"> • IBM Network Transport Service/2 • IBM OS/2 LAN Server 2.0 Advanced Version 3.0 or 4.0 	AIX, OS/2
PWSCS	IBM VM Programmable Workstation Communications Services 1.1	VM
SNA LU6.2 (APPC)	Either of these: <ul style="list-style-type: none"> • IBM Communications Manager/2 1.0 • IBM SAA Networking Services/2 	AIX, MVS, OS/2, OS/400, VSE, VM
SNA LU6.2 (APPC)	IBM OS/2 Extended Services 1.0	OS/2, OS/400
TCP/IP	IBM TCP/IP 2.0 for OS/2	AIX, HP-UX, MVS, OS/2, OS/400, Sun, VM

Step 1: Installing the ADSM Lotus Notes Backup Agent

This section describes two installation methods:

- Installing the ADSM Lotus Notes Backup Agent using Configuration, Installation, and Distribution (CID)
- Installing the ADSM Lotus Notes Backup Agent from diskettes or CD-ROM

Installing the ADSM Lotus Notes Backup Agent Using CID

CID is an OS/2 based set of components that allows you to automate the software installation. An administrator who wants to let users install ADSM on their local machines through a LAN, instead of diskettes, can put all of the installation files into a single directory on a remotely attached disk or file server and make the necessary changes to the response and command files. Users can then link their workstations to that disk or file server and perform the installation by executing the **cidinstl** command file.

Two files (**cidinstl.cmd** and **dsmresp.dat**) are part of the installation package and can be edited to fit individual requirements.

When editing the files to fit individual requirements, it is very important to set the AUX1 variable in the **dsmresp.dat** file correctly. This variable identifies the directory of the **notes.ini** file that resides on the target workstation. It is possible that this value will be different for different workstations that wish to install the backup agent. In that situation, using CID might not be a viable solution.

To prepare for CID installation, the administrator of the file server must do the following:

- 1** Copy the ADSM media to the file server. Use the **copy** or **xcopy** command.
- 2** Edit the **cidinstl.cmd** command file to:
 - Change the InstallFilesDirectory variable so that it indicates the drive and directory where the ADSM Lotus Notes Backup Agent files are located.
 - Change the ErrorLog variable to the path and file name you want to use for the CID error log file.
 - Change the HistoryLog variable to the path and file name you want to use for the CID history log file.
- 3** If necessary, edit the **dsmresp.dat** response file (which is used in conjunction with the **cidinstl.cmd** file) to change the following:
 - FILE—Change the FILE variable so that it points to the directory on the file server that contains the ADSM Lotus Notes Backup Agent files
 - AUX1—Change the AUX1 variable so that it points to the directory on the workstation that contains the workstation's **notes.ini** file
 - COM—The components you want to install
 - CFGUPDATE—Whether you want the **config.sys** file updated (this also controls whether the **notes.ini** file is updated automatically)
 - DELETEBACKUP—Whether you want to delete a backup copy of the client (if it has been previously installed)
 - OVERWRITE—Whether you want to overwrite existing files
 - SAVEBACKUP—Whether you want to save a backup copy of the client (if it has been previously installed)

The OS/2 user can now attach to the remote disk or file server and start **cidinstl.cmd** to install the backup agent.

This procedure assumes that the CID environment is already set up. To start the **cidinstl.cmd**, either change your working directory to its location on the file server, or add the location to the beginning of the PATH statement.

Installing the ADSM Lotus Notes Backup Agent from Media

To install the backup agent from a media (diskettes or CD-ROM):

- 1** If a Lotus Notes Client workspace is running on the workstation on which you are installing the ADSM Lotus Notes Backup Agent, shut down that workspace before performing the installation. It is not necessary to shut down the Lotus Notes Server.

2 Insert the first installation media into the proper drive.

3 At the prompt:

From diskette: Type **a:install** and press Enter.

From a server CD-ROM: Change the directory to **h:\clients\os2\english\l\inst.**

Note: Replace the 'h' drive with the CD-ROM drive on your system.

Type **install** and press Enter.

After the install program loads temporary files, the Installation window and Instructions window are displayed.

4 On the Instructions window, click on Continue to display the next window, or click on Cancel to end the installation.

5 Allowing the installation program to update your **config.sys** file also allows the program to update your **notes.ini** file. If you do not want the installation program to update your **config.sys** file or your **notes.ini** file, you must update them yourself after the files are installed.

Click on OK to install the product, or click on Cancel to end the installation.

6 On the next window, click on the component to install. There is only one choice.

If you do not want to use the defaults for the installation directories, enter new names in the input fields.

The default value for the directory in which the **notes.ini** file is expected to reside is **c:\notes**. It is important that the value for this directory be entered correctly in the installation window.

7 On the next window, click on Stop if you want to interrupt the installation. This window displays the progress of the installation.

8 After the installation is complete, you can click on OK for the final message window and on EXIT to exit the Installation window.

ADSM Files

Figure 85 lists the files that are on your workstation after this installation:

Figure 85 (Page 1 of 2). ADSM Lotus Notes Backup Agent Files

File Name	Description
dsmnotes.exe	Executable for ADSM Lotus Notes Backup Agent command-line functions

Figure 85 (Page 2 of 2). ADSM Lotus Notes Backup Agent Files

File Name	Description
dsmnotes.dll	ADSM Lotus Notes Backup Agent runtime library
dsmnoted.dll	ADSM Lotus Notes Backup Agent resources
dsmIn.hlp	ADSM Lotus Notes Backup Agent help file
optionsl.doc	Document of applicable ADSM options
readme.dln	Last minute updates and other special information

Step 2: Setting Environment Variables

Updating Your notes.ini File

The ADSM Lotus Notes Backup Agent installation program automatically adds the AddInMenus variable to your **notes.ini** file. AddInMenus ties ADSM to the Lotus Notes Workspace. For example, the entry in your **notes.ini** file might look as follows:

```
AddInMenus=c:\dsmnotes\dsmnotes.dll
```

If this line is not added to the **notes.ini** file automatically during installation, you can add it manually. The path name is the fully qualified path name of the **dsmnotes.dll** file.

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

DSMNOTES_AUTO_PW

Use DSMNOTES_AUTO_PW to enable the automatic password handler for the ADSM Lotus Notes Backup Agent. For example, the entry in your **notes.ini** file might look as follows:

```
DSMNOTES_AUTO_PW=on
```

When the password handler is on, the file **dsmnotes.pwd** is created and stored in the directory to which the environment variable DSMNOTES_PWDIR points. Your password is stored in this file.

The default is for the password handler to be off.

DSMNOTES_PWDIR

Use DSMNOTES_PWDIR to point to the directory where the file **dsmnotes.pwd** is located. For example, the entry in your **notes.ini** file might look as follows:

```
DSMNOTES_PWDIR=c:\dsmnotes\secret
```

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

DSMNOTES_PWDIR is effective only when the automatic password handler is being used (DSMNOTES_AUTO_PW=on).

If you do not have a Notes data directory, this environment variable is required for the automatic password handler to work.

DSMNOTES_LOGDIR

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=c:\dsmnotes\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.

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 may appear on the screen:

- One or more dots (.), indicating that processing is continuing. Depending on the environment, you may experience delays between dots. For example, delays may occur when searching very large Notes databases for deleted documents. There may also be delays when waiting for offline 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 and 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.

For these environment variables to take effect, shut down the Notes Workspace and bring it back up.

Setting Your config.sys File

ADSM Lotus Notes Backup Agent uses the same library and client options file as the ADSM OS/2 API client. Environment variables that relate to these files must be set in the **config.sys** file.

During the installation, you are given the choice of having the installation program automatically update your **config.sys** file or doing it yourself. If you chose the latter option,

use the following instructions to update your **config.sys** file. (The examples given in these steps assume that the ADSM files have been stored in the directory **c:\adsm\api**.)

- 1 Define the DSMI_CONFIG environment variable to point to where your client options file resides. For example:

```
SET DSMI_CONFIG=C:\ADSM\API\DSM.OPT
```

- 2 Define the DSMI_DIR environment variable to point to the directory where all other files reside. For example:

```
SET DSMI_DIR=C:\ADSM
```

- 3 Define the DSMI_LOG environment variable to point to the directory where **dsierror.log** should reside. For example:

```
SET DSMI_LOG=C:\ADSM\API
```

The error log file contains information about any errors that occur during processing. It is intended for IBM service personnel to help you diagnose severe errors.

- 4 Shut down the system, and then restart it by pressing CTRL+ALT+DEL.

Step 3: Setting Up the Client Options File

ADSM uses a client options file called **dsm.opt** to specify certain information related to your ADSM Lotus Notes Backup Agent session.

The **dsm.opt** file for the backup agent must include a unique node name, and that node must be registered on the ADSM server. The options in **dsm.opt** enable you to do the following tasks:

- Choose the communication protocol that you use to communicate with an ADSM server
- Set various parameters associated with the chosen communication protocol
- Specify which ADSM server to contact for services
- Identify your node name
- Choose whether to compress documents sent to the server
- Set up an *include-exclude list* in which you can exclude specific databases from backup services and assign a management class to all databases affected by an incremental backup

These options are in effect for the entire ADSM session.

During the initial installation and setup of ADSM on your workstation, you are provided with a sample client options file called **dsm.smp**. The **dsm.smp** file contains just the

communication options, the NODENAME option, and a sample include-exclude list. These basic options are the ones you need to get started quickly.

The client options file resides in your ADSM API installation directory. The sample options files distributed with the ADSM API can be used for the backup agent.

Step 3A: Creating the Client Options File

The **dsm.smp** file contains the minimal options required to support communications between your workstation and the server. A file named **optionsl.doc**, which is distributed with the backup agent, lists the options in the **options.doc** file that can be used for the backup agent.

To create the required options file, **dsm.opt**, open an OS/2 window and change the current directory to the installation directory. Enter the following line after a command prompt:

```
copy dsm.smp dsm.opt
```

By keeping the original file intact, you can always go back to the default settings for options if necessary. You can also create the **dsm.opt** file through the Drives window in the Presentation Manager OS/2 System folder.

Note that initially all of the entries in **dsm.opt** are commented out. You must remove the asterisk (*) from the start of each line that contains an option you want to use.

At a minimum, you need to set up the communication and NODENAME options, which provide information that the application client needs to establish communications with an ADSM server.

After you have created this initial options file, you can customize it by adding options from the **options.doc** file. As mentioned earlier, this file describes every option available to your client node. You can copy the examples within the file to your options file, and then modify them to meet your individual needs.

When entering options in your client options file, follow these rules:

- A file name must include letters or numbers.
- A drive must be specified by using the rules in the *OS/2 User's Guide*.
- When specifying directory path names, a final backslash is optional. For example:
c:\test\
is interpreted as:
c:\test
- Keywords may be in mixed case, except for the 3270HOSTCOMMAND and 3270HOSTENDCOMMAND options. Control characters used in these options are case sensitive.
- Comment lines have an asterisk (*) as the first non-blank character in a line.
- Blank lines are allowed in the file and are interpreted as comments.

For more information about the client options file syntax, see “Setting Options in a File” on page 197.

Step 3B: Enabling Communications

One of the most important functions of the options file is to define the communication protocol that enables communications between your workstation and the ADSM server. You can use one of seven different protocols: 3270, TCP/IP, PWSCS, SNA LU6.2, NETBIOS, IPX/SPX, or Named Pipe. Each of these protocols has various options associated with it. These options are described in more detail in “Communication Options” on page 188 and in the **options1.doc** file.

Use the following option to specify a communication protocol:

- COMMMethod *commmethod*

The default value for *commmethod* is 3270. Therefore, if you are using the 3270 communication protocol, COMMMETHOD does not need to be defined in the options file.

3270 protocol

If *commmethod* is **3270**, the following option must be defined:

- 3270Hostcommand *cmd_string*

Other 3270 options that are optional or have default values are:

- 3270Buffersize *size*
- 3270Checksum *on/off*
- 3270HOSTCMDPause *seconds*
- 3270HOSTEndcommand *cmd_string*
- 3270HOSTTlmeout *seconds*
- 3270Logicalterminalid *id*

If you are using 3270, you must configure your workstation to have at least one 3270 session free for ADSM to use. ADSM supports all 3270 emulation modes except asynchronous dial-up.

TCP/IP protocol

If *commmethod* is **TCPIP**, the following option must be defined:

- TCPServeraddress *server_address*

Other TCP/IP options that are optional or have default values are:

- TCPBuffsize *size*
- TCPWindowSize *window_size*
- TCPPort *port_address*
- TCPCLIENTPort *client_port*
- TCPCLIENTAddress *client_address*

PWSCS and SNA LU6.2 protocols

If *commmethod* is **PWScs** or **SNALu6.2** (APPC protocol), the following options must be defined:

- Either these:
 - TPname *name*
 - PARTnerluname *name*
 - CPICMOdename *name*
- Or this:
 - SYMboLicdestination *name*

Another PWSCS or SNA LU6.2 option that has a default value is:

- CPicbuffersize *size*

Note that PWSCS is only supported with the VM server.

NETBIOS protocol

If *commmethod* = **NETBios**, the following options have default values:

- NETBIOSBuffersize *size*
- NETbiosname *name*
- NETBIOSTimeout *seconds*
- NETBIOSServername *name*
- LANAdapter *adapter_number*

You can choose to change any of the default values for the NETBIOS options.

IPX/SPX protocol

If *commmethod* = **IPXspx**, the following option can be defined:

- IPXSErveraddress *server_address*

If IPXSERVERADDRESS is not defined, ADSM assumes the server resides on your client workstation.

Other IPX/SPX options that have default values are:

- IPXBuffersize *size*
- IPXSOcket *socketnumber*

Note: To use IPX/SPX to communicate with an OS/2 server, NetWare Requestor for OS/2 Version 2.01 must be installed on both your workstation and the OS/2 server that you contact for ADSM services.

To use IPX/SPX to communicate with an AIX server, NetWare Requestor for OS/2 Version 2.10 must be installed on your workstation, and NetWare for AIX for RISC System/6000 from IBM Version 3.11 must be installed on the AIX server that you contact for ADSM services.

Named Pipe protocol

If *commmethod* is **NAMEdpipe**, the following option may be defined:

- NAMEdpipe *name*

If NAMEDPIPENAME is not defined, the default is **\pipe\dsm serv**.

Contact your ADSM administrator for server information or if you need help defining these communication options.

Step 3C: Creating an Include-Exclude List

An include-exclude list contains statements that identify any databases you want to specifically exclude from backup services. The list can also contain a statement that assigns a particular management class to all Lotus Notes databases affected by an incremental backup.

You enter an include-exclude list in the **dsm.opt** file, just as you do for an ADSM backup-archive client. The statements you enter are processed from the bottom up. If you enter an INCLUDE option to assign a management class to the databases that are affected by an incremental backup, it must be the first statement in your include-exclude list.

However, there are differences in the way you use an include-exclude list for the ADSM Lotus Notes Backup Agent. Figure 86 shows a sample include-exclude list.

```
INCLUDE ?:* MGMT1
EXCLUDE ?:\ta11an\db1.nsf\*
EXCLUDE ?:\masada\p1an.nsf\*
```

Figure 86. Sample include-exclude list

The following sections explain how to use the EXCLUDE and INCLUDE options for the ADSM Lotus Notes Backup Agent.

Excluding a Lotus Notes Database

To exclude a Lotus Notes database from an incremental backup, enter an EXCLUDE option as follows:

```
EXCLUDE ?:\notes\mydata\abc.nsf\*
```

The drive letter in an include-exclude statement for the ADSM Lotus Notes Backup Agent is always a question mark (?).

You must enter the wildcard character (*) to indicate that the statement applies to all notes in the specified database.

To exclude a Lotus Notes database that resides in the Notes data directory, you need to specify only the database name and the wildcard character (*). For example:

```
EXCLUDE ?:\abc.nsf\*
```

To exclude a Lotus Notes database that resides in a subdirectory of the Notes data directory, you need to specify only the subdirectory name, the database name, and the wildcard character (*). For example, if the Notes data directory is **c:\notes\data**, and the path for the database is **c:\notes\data\example\abc.nsf**, enter the following:

```
EXCLUDE ?:\example\abc.nsf\*
```

Or, you can enter this statement:

```
EXCLUDE ?:\...\example\abc.nsf\*
```

Assigning a Management Class to Lotus Notes Databases

You can use the INCLUDE option to assign a management class to all Lotus Notes databases that are affected by an incremental backup session. For example, to assign a management class named MGMT1 to all databases that are backed up during an incremental backup, enter this statement:

```
INCLUDE ?:* MGMT1
```

You cannot assign different management classes to individual databases during a single incremental backup session.

Attention: After an incremental backup has been run against a database, it is important not to change the management class assigned to that database. When the ADSM Lotus Notes Backup Agent backs up a database, it binds each note it backs up to the specified management class. If you subsequently change the assigned management class for a database to a management class that retains backup versions for a different length of time, it might not be possible to restore the entire database.

Example of a Client Options File

Figure 87 on page 185 is an example of a **dsm.opt** file. This client options file includes the required NODENAME and communication options, as well as EXCLUDE statements and other options.

```
NODENAME mynodename
COMMETHOD 3270
3270HOSTCOMMAND @Cst1vm300E@ED serv10E
3270HOSTCMDPAUSE 2
3270BUFFERSIZE 4000
3270LOGICALTERMINALID B
COMPRESSION on
INCLUDE ?:* MGMT2
EXCLUDE ?:\notes\plan2.nsf\*
EXCLUDE ?:\notes\plan1.nsf\*
```

Figure 87. Example of a Client Options File

Step 4: Registering Your Workstation with the Server

Before you can begin requesting services from an ADSM server, the server must recognize your workstation. ADSM uses a node name and a password (if one is required) to identify each workstation. ADSM maintains a password for each node name. The process of setting up a node name and password is called *registration*.

Note: If your ADSM administrator sets the AUTHENTICATION option to OFF, an ADSM password is not required.

Your ADSM administrator must register your workstation as a client with the server. You can then back up and restore documents from the server.

You need to provide the following information to your administrator:

- Your node name
- 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, defined by your ADSM administrator, that control how ADSM manages the objects you back up.
- Whether your application allows you to choose to compress objects before sending them to the server
- Whether your application allows you to delete backup data from ADSM storage

Note: If an ADSM client already exists on your workstation, you will need to assign a separate and unique node name for a backup agent on the same workstation.

Security

An automatic ADSM password handler is available in ADSM Lotus Notes Backup Agent. The password handler is enabled by putting the following line in **notes.ini**:

```
DSMNOTES_AUTO_PW=on
```

If DSMNOTES_AUTO_PW is set to ON, the first time you invoke an ADSM Lotus Notes Backup Agent function (such as incremental backup), you need to enter your ADSM password. ADSM creates a file called **dsmnotes.pwd** to hold the password and stores it in the Lotus Notes data directory. In later sessions, the ADSM Lotus Notes Backup Agent automatically gets the password from this file. This saves you from having to type the ADSM password each time you connect to the ADSM server.

If the ADSM password has expired and DSMNOTES_AUTO_PW is set to ON, a new password is automatically generated for the workstation and sent to the ADSM server. The updated password is stored in **dsmnotes.pwd**.

Remember, when you set up your client options file (**dsm.opt**) for the ADSM Lotus Notes Backup Agent, it must include a unique node name, and that node must be registered with the ADSM server.

Performance Considerations

The first time you back up an entire Lotus Notes database, the operation is significantly slower using the ADSM Lotus Notes Backup Agent than with using a regular ADSM client. Extra processing occurs with the backup agent because it needs to interface with Lotus Notes in order to break down the contents of the database into individual notes that can be restored later. You need to decide whether backup and restore through the ADSM Lotus Notes Backup Agent or a regular ADSM client better serves your purpose for a particular database.

Chapter 10. Setting Processing Options

You can allow ADSM to use defaults for processing options, or you can tailor processing options to meet specific needs. This chapter provides an overview of processing options. It also covers these topics:

- How to set options in a file
- How to use options with commands
- How to set space management options
- How to create an include-exclude list

Following those topics, you'll find detailed reference information for each processing option.

Understanding Processing Options

ADSM uses *processing options* to control communications, backup-archive processing, and other types of processing.

This section provides an overview of the options you can enter in your client options file. The options are arranged in groups by these categories:

- Communication options
- Server and node options
- Backup and archive processing options
- Restore and retrieve processing options
- Scheduling options
- Format and language options
- Command processing options
- Authorization options
- Error processing options
- Information availability option
- Transaction processing option
- Space management options

On UNIX systems, these options reside in three types of files:

- Client system options file (controlled by the root user)
- Client user options file
- Include-exclude options file (controlled by the root user)

On all other platforms, all options reside in the client options file (Preferences file for Macintosh).

There are also options that are used *only* with ADSM commands. For more information about those options, see the following publications:

- *Using the UNIX Backup-Archive Clients*
- *Using the OS/2 Backup-Archive Client*
- *Using the NetWare Backup-Archive Client*

- *Using the DOS Backup-Archive Client*
- *Using the Windows Backup-Archive Clients*

Communication Options

You use communication options to specify how your client node communicates with an ADSM server. The particular options you specify depend on your choice of communication protocol.

Not all communication methods are supported on every platform. Figure 88 shows which communication protocols are supported for the various ADSM client platforms. The supported platforms are also shown after each individual option in the following sections.

Figure 88. Communication Protocols by Client

Protocol	DOS	Macintosh	NetWare	OS/2	UNIX	Windows 3.1	Windows NT and 95
3270	✓			✓		✓	
IPX/SPX	✓		✓	✓		✓	✓
Named Pipe				✓			✓
NETBIOS	✓			✓		✓	✓
PC Support/400 or Client Access/400	✓					✓	
PWSCS	✓			✓		✓	
Shared Memory					✓ ¹		
SNA LU6.2	✓		✓	✓	✓ ²	✓	
TCP/IP	✓	✓	✓	✓	✓	✓	✓

Note:

1. AIX only
2. AIX and OpenEdition MVS only

Sometimes the communication method you use also depends on the type of ADSM server you have. Your administrator can help you understand the protocols available given the ADSM server platform.

Use the **COMMETHOD** option to choose the communication method and the options listed in the following sections. See “**COMMETHOD**” on page 222 for more information.

Ask your ADSM administrator for assistance in setting your communication options.

3270 Options

Used for: DOS, OS/2, Windows 3.1

To use 3270 communications, you must include the 3270HOSTCOMMAND option. The other 3270 options have default values. You need to modify these other options only if you want to change the default values.

Figure 89. 3270 Options

Option	Description	Reference
3270BUFFERSIZE	The size, in bytes, of the ADSM internal 3270 communication buffer.	Page 323
3270CHECKSUM	Whether ADSM should check the validity of the data being sent between a 3270 client session and the server.	Page 324
3270HOSTCMDPAUSE	The number of seconds to pause between sending AID (attention) keys to the host.	Page 325
3270HOSTCOMMAND	A sequence of commands to start a 3270 client/server session.	Page 326
3270HOSTENDCOMMAND	A sequence of commands to send to the server at the end of an ADSM client session.	Page 328
3270HOSTTIMEOUT	The number of seconds the client node waits to receive a data packet from the server before timing out.	Page 329
3270LOGICALTERMINALID	A 3270 logical terminal session for use by a client.	Page 330

TCP/IP Options

Used for: All platforms (except TCPNODELAY, which is used for AIX, Windows NT, and Windows 95 only)

To use the TCP/IP protocol, you must include the TCPSERVERADDRESS option. The other TCP/IP options have default values. You need to modify these other options only if you want to change the default values.

Figure 90. TCP/IP Options

Option	Description	Reference
TCPBUFFSIZE	The size, in kilobytes, of the ADSM internal TCP/IP communication buffer.	Page 308
TCPNODELAY	Whether ADSM immediately sends small transactions to the server. (AIX, Windows NT, and Windows 95)	Page 311
TCPPORT	The TCP/IP port address for an ADSM server.	Page 312
TCPSERVERADDRESS	The TCP/IP address for an ADSM server.	Page 313
TCPWINDOWSIZE	The size, in kilobytes, of the TCP/IP sliding window for your client node.	Page 314

PWSCS and SNA LU6.2 (APPC) Options

Used for:

PWSCS for DOS, OS/2, Windows 3.1.

SNA LU6.2 for DOS, Novell, OS/2, AIX, Windows 3.1.

PWSCS and SNA LU6.2 use the same communication options. To use one of these protocols, you must include either the SYMBOLICDESTINATION option or all three of the following options: CPICMODENAME, PARTNERLUNAME, and TPNAME.

Figure 91. PWSCS and SNA LU6.2 (APPC) Options

Option	Description	Reference
CPICBUFFERSIZE	The buffer size for SNA LU6.2 or VM PWSCS communication.	Page 226
CPICMODENAME	The mode name for SNA LU6.2 or PWSCS communication.	Page 227
PARTNERLUNAME	A logical unit name used by the transaction program to identify the ADSM server in the SNA network.	Page 275
SYMBOLICDESTINATION	A symbolic ADSM server name.	Page 306
TPNAME	A symbolic name for a transaction program in an SNA network. The transaction program identifies the target logical unit (LU), which is the ADSM server.	Page 316

IPX/SPX Options

Used for: DOS, Novell, OS/2, Windows 3.1, Windows NT

The communication options for IPX/SPX, all of which have default values, are:

Figure 92. IPX/SPX Options

Option	Description	Reference
IPXBUFFERSIZE	The size, in kilobytes, of the IPX/SPX communication buffer.	Page 246
IPXSERVERADDRESS	The IPX/SPX address for an ADSM server.	Page 247
IPXSOCKET	The IPX/SPX socket number for an ADSM server.	Page 248

NETBIOS Options

Used for: DOS, OS/2, Windows 3.1, Windows NT

The communication options for NETBIOS, all of which have default values, are:

Figure 93. NETBIOS Options

Option	Description	Reference
LANADAPTER	A communication adapter number for NETBIOS.	Page 250
NETBIOSBUFFERSIZE	The size, in kilobytes, of the NETBIOS communication buffer.	Page 264
NETBIOSNAME	A NETBIOS name for your workstation.	Page 265
NETBIOSSERVERNAME	The NETBIOS name for an ADSM server.	Page 266
NETBIOSTIMEOUT	The number of seconds that must elapse before a timeout occurs for a NETBIOS send or receive operation.	Page 267

PC Support/400 and Client Access/400 Options

Used for: DOS, Windows 3.1

The communication options for PC Support/400 and Client Access/400 are:

Figure 94. PC Support/400 and Client Access/400 Options

Option	Description	Reference
400COMMBUFFERBYTES	The size, in bytes, of the PC Support/400 or Client Access/400 router communication buffer.	Page 331
400PARTNERLUNAME	The name of the AS/400 system running the ADSM/400 server.	Page 332
400SENDERBUFFERBYTES	The size, in bytes, of the client communication buffer.	Page 333
400TPNAME	The name of the ADSM/400 server.	Page 334

Named Pipe Option

Used for: OS/2, Windows NT

The communication option for Named Pipe is:

Figure 95. Named Pipe Option

Option	Description	Reference
NAMEDPIPENAME	The name of a named pipe to use for communications between an ADSM client and an ADSM server on the same workstation.	Page 263

Shared Memory Option

Used for: AIX

The communication option for Shared Memory is:

Figure 96. Shared Memory Option

Option	Description	Reference
SHMPORT	The TCP/IP port address that the server is listening on to establish a shared memory connection. All shared memory communications begin with a TCP/IP connection.	Page 303

Server and Node Options

Use the following options to specify:

- Which server to contact for services
- The client node for which you want to request services

Figure 97. Server and Node Options

Option	Description	Reference
NODENAME	One of the following: <ul style="list-style-type: none"> The name of your client node that is used to establish communications with an ADSM server. The name of another client node. Use this if you want to restore or retrieve your files from an ADSM server to a different client node than the one from which you stored the files. 	Page 268
SERVERNAME	The ADSM server to contact for services.	Page 301
DEFAULTSERVER	The name of the ADSM server to contact for backup-archive services by default if more than one server is defined in the client system options file. Also specifies the ADSM server to contact for space management services if you have the HSM client installed and do not specify a server with the MIGRATESERVER option. (UNIX only)	Page 229

Backup and Archive Processing Options

You can use the following options to control some aspects of backup and archive processing:

Figure 98 (Page 1 of 2). Backup and Archive Processing Options

Option	Description	Reference
AUTOMOUNT	A symbolic link to an NFS mount point monitored by the automount daemon (SunOS) or the automounter (Solaris) that you want ADSM to consider as a valid domain for incremental backup.	Page 216
BACKUPREG	Whether to back up the Windows NT registry.	Page 217
CHANGINGRETRIES	The number of retries for attempting to back up or archive a file that is in use. (All platforms)	Page 220
COMPRESSALWAYS	Whether to compress files or send them if compression causes them to grow. (All platforms)	Page 224
COMPRESSION	Whether to compress files before sending them to the ADSM server. (All platforms)	Page 225
DIRMC	The management class to use for directories. If not specified, ADSM uses the management class with the longest retention period. (All platforms)	Page 230
DOMAIN	The volumes included in your default client domain for incremental backup. (All platforms)	Page 231
DOTDIRCHECK	Whether ADSM checks for "." and ". ." entries in a directory during an incremental backup. (UNIX)	Page 233
EXCLUDE	A file or group of files you want to exclude from backup services. Any file in your client domain that is not specifically excluded with this option is considered for backup. (All platforms)	Page 238

Figure 98 (Page 2 of 2). Backup and Archive Processing Options

Option	Description	Reference
INCLEXCL	The path and file name of your include-exclude options file. (UNIX only)	Page 243
INCLUDE	One of the following: <ul style="list-style-type: none"> Files within a broad group of excluded files that you want to specifically include for backup services. Files to which you want to assign a specific management class and the management class name. A management class to assign to all files to which you do not explicitly assign a management class. (All platforms)	Page 244
SLOWINCREMENTAL	A memory-saving backup algorithm for incremental backups for use with the INCREMENTAL command. (All platforms)	Page 304
SUBDIR	Whether to include subdirectories of a specified directory. (All except Macintosh)	Page 305
TAPEPROMPT	Whether you want ADSM to wait for a tape required for a backup or archive process, or prompt you for your choice. (All platforms)	Page 307
VIRTUALMOUNTPOINT	A directory to serve as a virtual mount point for a file system. This provides a direct path to the files you want ADSM to consider, thus saving processing time. (UNIX only)	Page 321

Restore and Retrieve Processing Options

The following options relate to restore and retrieve processing and apply most often when you issue a RESTORE or RETRIEVE command.

Figure 99. Restore and Retrieve Processing Options

Option	Description	Reference
FOLLOWSYMBOLIC	Whether you want ADSM to restore files to symbolic directory links and to allow a symbolic link to be used as a virtual mount point. (UNIX only)	Page 240
REPLACE	Whether to overwrite an existing file or prompt you for your choice when restoring or retrieving files. (DOS, Novell, OS/2, and UNIX)	Page 289
RESTOREMIGSTATE	Whether to restore migrated and premigrated files to a resident or migrated state. (AIX only)	Page 290
SUBDIR	Whether to include subdirectories of a specified directory. (All except Macintosh)	Page 305
TAPEPROMPT	Whether you want ADSM to wait for a tape required for a restore or retrieve process, or prompt you for your choice. (All platforms)	Page 307

Scheduling Options

Some of the options in the client options file regulate central scheduling. You can use these options to provide information that ADSM needs when performing scheduled work. ADSM uses scheduling options only when the SCHEDULE command is running.

Most of the options discussed in this section can be overridden by ADSM server settings after the backup-archive client program on your workstation makes contact with the ADSM server.

Figure 100. Scheduling Options

Option	Description	Reference
MAXCMDRETRIES	The maximum number of times the client scheduler attempts to process a scheduled command that fails. (All platforms)	Page 255
POSTSCHEDULECMD	A command to process after running a schedule. (DOS, Novell, OS/2, Macintosh, UNIX, Windows NT, and Windows 95)	Page 281
PRESCHEDULECMD	A command to process before running a schedule. (DOS, Novell, OS/2, Macintosh, UNIX, Windows NT, and Windows 95)	Page 283
QUERYSCHEDPERIOD	The number of hours the client scheduler waits between unsuccessful attempts to contact the ADSM server for scheduled work. (All platforms)	Page 286
RETRYPERIOD	The number of minutes the client scheduler waits between attempts to process a scheduled command that fails or between unsuccessful attempts to report results to the server. (All platforms)	Page 292
SCHEDCOMPLETEACTION	Specifies an action to take after a schedule has been completed. (Macintosh platform only)	Page 293
SCHEDLOGNAME	The name of the file where schedule log information is stored. (All platforms)	Page 294
SCHEDLOGRETENTION	The number of days to keep log file entries in the schedule log, and whether to save pruned entries. (All platforms)	Page 295
SCHEDMODE	The schedule mode to use, POLLING or PROMPTED. (DOS, Novell, OS/2, and UNIX)	Page 297
TCPCLIENTADDRESS	The TCP/IP address of your client node. Used only with the SCHEDULE command when SCHEDMODE is PROMPTED. (DOS, Novell, OS/2, and UNIX)	Page 309
TCPCLIENTPORT	The TCP/IP port number of your client node. Used only with the SCHEDULE command when SCHEDMODE is PROMPTED. (DOS, Novell, OS/2, and UNIX)	Page 310

Format and Language Options

You can use options to choose different formats for date, time, numbers, and different languages if you have the appropriate client installed for that language.

These options are valid for all clients except AIX. For the AIX client, the language and formats are determined at installation.

Figure 101. Format and Language Options

Option	Description	Reference
DATEFORMAT	The format for displaying dates. (All platforms except AIX)	Page 228
LANGUAGE	The language used to display messages. (All platforms except AIX)	Page 251
NUMBERFORMAT	The format for displaying numbers. (All platforms except AIX)	Page 269
TIMEFORMAT	The format for displaying times. (All platforms except AIX)	Page 315

Command Processing Options

The following options apply only when you use certain ADSM commands.

Figure 102. Command Processing Options

Option	Description	Reference
MATCHALLCHAR	The character to use as a match-all wildcard character. (Macintosh only)	Page 253
MATCHONECHAR	The character to use as a match-one-character wildcard character. (Macintosh only)	Page 254
QUIET	ADSM does not show processing information on your screen. (All except Windows)	Page 287
SCROLLLINES	The number of lines to display at one time when displaying a list of items. Used only when SCROLLPROMPT is YES. (DOS, Novell, OS/2, and UNIX)	Page 299
SCROLLPROMPT	Whether you want ADSM to stop after displaying the number of lines specified by SCROLLLINES or to scroll to end of list. (DOS, Novell, OS/2, and UNIX)	Page 300
VERBOSE	ADSM displays processing information on your screen. The alternative is QUIET. (All except Windows)	Page 320

Authorization Options

These options control access to an ADSM server.

Figure 103 (Page 1 of 2). Authorization Options

Option	Description	Reference
GROUPS	The groups on your workstation that you want to be able to request services from the ADSM server. (UNIX only)	Page 242
MAILPROG	The program and user ID to which you want ADSM to send a newly generated password when the old one expires. (UNIX only)	Page 252

Figure 103 (Page 2 of 2). Authorization Options

Option	Description	Reference
NWPWFILE	Whether ADSM encrypts a NetWare user's ID and password and saves them to a .pwd file. (Novell only)	Page 270
NWUSER	A user ID and password to connect to a NetWare server when you start an ADSM session. (Novell only)	Page 271
OPTFILE	The options file you want ADSM to use when you start an ADSM session. (Windows only)	Page 273
PASSWORD	An ADSM password. (Macintosh and Windows)	Page 276
PASSWORDACCESS	How ADSM handles a password if one is required for your workstation. (UNIX and OS/2)	Page 277
PASSWORDDIR	The directory in which you want ADSM to store an automatically generated password for your client node. (OS/2 only)	Page 280
USERS	Particular users on your workstation who can request services from an ADSM server. (UNIX only)	Page 319

Error Processing Options

These options control the name of the error log file and how ADSM treats the entries in the log file.

Figure 104. Error Processing Options

Option	Description	Reference
ERRORLOGNAME	The path and name of the error log. (Macintosh and Novell)	Page 234
ERRORLOGRETENTION	The number of days to keep log file entries in the error log, and whether to save pruned entries. (All platforms)	Page 235
NWWAITONERROR	Whether a NetWare client should wait if it receives an error when exiting from an ADSM session.	Page 272

Information Availability Option

The BOOKS option allows you to make the ADSM online publications available through the graphical user interface.

Figure 105. Information Availability Option

Option	Description	Reference
BOOKS	A command that starts the online book reader. (Macintosh, OS/2, Windows, and UNIX)	Page 218

Transaction Processing Option

You can use the following option to control how ADSM processes transactions between the client and server.

Figure 106. Transaction Processing Option

Option	Description	Reference
TXNBYTELIMIT	The number of kilobytes ADSM can buffer in a transaction before sending data to the server.	Page 317

Space Management Options

You can use the following options to control how ADSM uses the HSM features. All of the following options are only for the AIX platform.

Figure 107. Space Management Options

Option	Description	Reference
CHECKTHRESHOLDS	How often the space monitor daemon checks space usage on your file system.	Page 221
ERRORPROG	The path and file name of the program ADSM notifies if a severe error occurs during HSM processing.	Page 237
KERNELMESSAGES	Whether HSM related messages issued by the kernel are displayed.	Page 249
MAXRECALLDAEMONS	The maximum number of recall daemons you want to run at one time.	Page 256
MAXRECONCILEPROC	The maximum number of automatic reconciliation processes HSM can perform at one time.	Page 257
MAXTHRESHOLDPROC	The maximum number of automatic threshold migration processes ADSM can perform at one time.	Page 258
MIGFILEEXPIRATION	The number of days a migrated or premigrated file remains in ADSM storage after the file is modified on the local file system or is erased from the local file system.	Page 259
MIGRATESERVER	The name of the server to which you want to migrate files for your client node.	Page 260
MINRECALLDAEMONS	The minimum number of recall daemons to retain.	Page 262
OPTIONFORMAT	The format users must use when entering ADSM HSM commands. (This option is in the client user options file.)	Page 274
RECONCILEINTERVAL	How often ADSM automatically reconciles the file systems on your workstation.	Page 288

Setting Options in a File

This section provides instructions for setting options in an options file.

You can set options in an options file so that you do not need to enter the options when you issue commands.

To set an option in an options file, type the option name, followed by one or more blank spaces, followed by the option parameters. For example:

```
compression on
nodename      client_a
```

Some options consist of only the option name. For example:

```
verbose
quiet
```

You can write the entire option name or an abbreviation for the option name. For example, for the INCLUDE option, you can write either of the following:

```
include
in
```

The following are additional general rules for entering options in a file:

- You can begin an option in any column of the line.
- You can leave blank lines between options.
- You can enter comments in an options file by entering an asterisk (*) as the first character in a line.
- Put each option on a separate line, and enter all parameters for an option on the same line.
- Put one or more blank spaces between each parameter.

Using Options With Commands

If your client supports ADSM commands, you can override some of the options set in your options file by entering them with appropriate ADSM backup/archive commands. You cannot override options by entering them with HSM commands. See the client publications listed on page 187 for more information.

Setting Space Management Options

The HSM client provides space management options that you can set in your client system options file. The values you set for space management options determine which ADSM server your client node contacts for space management services and affect automatic migration, reconciliation, and recall.

HSM also provides the OPTIONFORMAT option that you can set in your client user options file to specify how users can enter HSM commands.

In your client system options file, you group options into stanzas for each ADSM server your client node contacts for backup, archive, and space management services.

All of the space management options except the ERRORPROG option must be placed *before* the stanzas for each ADSM server defined in your client system options file. For example, if you want to specify a default server for backup and archive services, a migration server, and new values for other space management options, you can place the options in your client system options file as shown in Figure 108 on page 199.

```

DEFAULTServer          server1
MIGRATEServer         server2
CHECKthresholds       2
RECONcileinterval     12
MAXRECONcileproc      5
MAXThreshoIdproc      5
MIGFILEEXpiration    10
MINRECALLdaemons     5
MAXRECALLdaemons     15
KERNelmessages       no

Servername    server1
  COMMmethod  TCPip
  TCPport     1500
  TCPserveraddress alvmd.almaden.ibm.com
  Passwordaccess generate
  Mailprog    /usr/bin/xsend root
  Groups      system adsm
  Users       steiner chron wang nguyen
  Incl excl   /adm/adsm/backup.excl
  ERRORprog   /bin/cat

Servername    server2
  COMMmethod  SNA1u6.2
  PARTnerluname raptor
  TPname      appcdcl
  CPICM0dename appc
  Passwordaccess generate
  Mailprog    /usr/bin/xsend root
  Groups      system adsm
  Users       sullivan tang schaefer
  Incl excl   /adm/adsm/migrate.excl
  ERRORprog   /bin/cat

```

Figure 108. Example of Client System Options File with HSM Options

You set space management options when you install and set up ADSM on your workstation or file server. You can also modify space management options later. However, there are special considerations for modifying server options, modifying options that are used by space management daemons, and modifying the KERNELMESSAGES option.

Modifying Server Options

You can migrate files from your workstation to only one ADSM server. After HSM begins migrating files to ADSM storage, modify the options you use to specify which server your client node contacts for space management services only if your ADSM administrator exports your migrated files from one server and imports them to another. Otherwise, ADSM will not be able to locate your migrated files until you change the options to point to the appropriate server.

You can specify which server to contact for space management services using the following options:

- **MIGRATESERVER**—Specifies the name of the server to contact for space management services. The server must be defined in a stanza in your client system options file.

Users cannot override the migration server by using the **SERVERNAME** option in a client user options file or with a command.

- **DEFAULTSERVER**—Specifies the name of the server to contact by default for backup and archive services. It also specifies which server to use for space management services if a server is not specified with the **MIGRATESERVER** option.

Users can override the default server by using the **SERVERNAME** option in a client user options file or with a command for backup and archive services, but cannot override the default server for space management services.

If you do not specify a server with the **MIGRATESERVER** option or the **DEFAULTSERVER** option, ADSM contacts the server specified in the first stanza of your client system options file for space management services and for backup-archive services by default. Users can override the default server for backup-archive services, but not for space management services.

Modifying Options Used by Space Management Daemons

There are several options you can modify that are used by space management daemons. Those options are:

CHECKTHRESHOLDS
ERRORPROC
MAXRECALLDAEMONS
MAXRECONCILEPROC
MAXTHRESHOLDPROC
MINRECALLDAEMONS
RECONCILEINTERVAL

For example, if you want the space monitor daemon to check space usage on your file systems more frequently or less frequently, you can change the value specified for the **CHECKTHRESHOLDS** option. Or, if you frequently use an application that opens multiple files at one time, and that application uses all available recall daemons because all of the files are migrated, you might want to increase the value specified for the **MAXRECALLDAEMONS** option. If HSM is unable to start a recall daemon for another process that attempts to access a migrated file, that process will be unable to continue until a recall daemon is available.

If you change the values specified for options used by space management daemons, the new values do not take effect until you reboot your system or kill and restart the space monitor daemon and any recall daemons that are running.

For detailed information about the space monitor daemon and recall daemons, see *Using the UNIX HSM Clients*.

To kill the space monitor daemon and recall daemons:

- 1** Use the **dsmq** command to obtain the recall ID and the recall daemon process ID for each recall process that is currently in the queue.
- 2** Use the **dsrmr** command to remove each recall process from the queue.
- 3** Use the **kill -9** command to kill the space monitor daemon (**dsmonitord**) and any recall daemons (**dsrecalld**) that are running.
- 4** Verify that the daemons are no longer running.

To restart the daemons, issue these commands:

```
dsmonitord  
dsrecalld
```

Modifying the KERNELMESSAGES Option

If you change the value specified for the KERNELMESSAGES option, the new value does not take effect until the next time the HSM kernel extension is loaded for your workstation.

The kernel extension is loaded each time you reboot your system or, if none of the file systems to which you add space management are automatically mounted when you reboot, whenever you mount the first of one or more file systems to which you have added space management.

Creating an Include-Exclude List

Figure 109 provides brief descriptions of the INCLUDE and EXCLUDE options that you can specify in your options file and references to more detailed information about each option. For UNIX, these options are placed in the include-exclude options file.

Figure 109 (Page 1 of 2). Include-Exclude Options in the Client Options File

Option	Description	Reference
EXCLUDE	A file or group of files you want to exclude from backup services. Any file in your client domain that is not specifically excluded with this option is considered for backup. (All platforms)	Page 238

Figure 109 (Page 2 of 2). Include-Exclude Options in the Client Options File

Option	Description	Reference
INCLUDE	One of the following: <ul style="list-style-type: none">Files within a broad group of excluded files that you want to specifically include for backup (and migration, if you have the HSM client installed).Files to which you want to assign a specific management class and the management class name.A management class to assign to all files to which you do not explicitly assign a management class. (All platforms)	Page 244

Excluding System Files

We recommend at least the following include-exclude lists:

Minimum Exclude Lists

DOS

```
exclude c:\ibmbio.com
exclude c:\ibmdos.com
exclude c:\msbio.com
exclude c:\msdos.com
exclude c:\msdos.sys
exclude c:\io.sys
exclude c:\...\*.dll
```

Macintosh

```
exclude "...:Desktop DB"
exclude "...:Desktop DF"
exclude "...:Desktop"
exclude "...:Trash:*"
exclude "...:VM Storage"
exclude "...:Norton FileSaver Data"
exclude "...:Norton VolumeSaver Data"
exclude "...:Norton VolumeSaver Index"
```

NetWare

```
exclude servera\*/.../VOL$LOG.ERR
exclude servera\*/.../TTS$LOG.ERR
exclude servera\*/.../SYS$LOG.ERR
exclude servera\*/.../EVENTS.LOG
exclude servera\*/.../SECAUDIT.LOG
exclude servera\*/.../SYSTEM.LOG
exclude servera\*/.../NET$OBJ.SYS
exclude servera\*/.../NET$PROP.SYS
exclude servera\*/.../NET$VAL.SYS
exclude servera\SYS:/SYSTEM/CMaster.DBA
exclude servera\SYS:/SYSTEM/BTRIEVE.TRN
exclude servera\SYS:/SYSTEM/TSA/TSA$TEMP.*
```

OS/2

```
exclude ?:\...\swapper.dat
exclude "*/\ea data. sf"
exclude c:\ibmbio.com
exclude c:\os2ldr
exclude c:\oskrnl
exclude ?:\ibmdos.com
exclude ?:\msdos.sys
exclude ?:\io.sys
exclude ?:\...\spart.par
exclude ?:\...\386spart.par
```

UNIX

```
exclude /unix
exclude /.../core
exclude /.../.SpaceMan/.../*
```

If you are using AFS, also specify:

```
exclude /usr/vice/cache/*
exclude /var/vice/cache/*
```

Windows

```
exclude *:\...\*.swp
exclude *:\...\win386.swp
exclude *:\...\386spart.par
exclude *:\...\*.par
exclude c:\ibmbio.com
exclude c:\ibmdos.com
```

These files are all system files that can not be recovered without possibly corrupting the operating system.

Including and Excluding Groups of Files

To specify groups of files that you want to include or exclude, you can use the wildcard characters listed in Figure 110 on page 204.

Note that this table only applies to include and exclude statements. For information about using wildcard characters in ADSM commands, see the individual ADSM client publications.

Figure 110 (Page 1 of 2). Wildcard and Other Special Characters

Character	Function
?	The match one character matches any single character except the directory separator; it does not match the end of the string. It cannot be used in directory or volume names.
*	The match all character matches zero or more characters, but it does not cross a directory boundary. It cannot be used in directory or volume names.
[The open character class character is used to begin the enumeration of a character class. For example: xxx[abc] matches xxxa, xxxb, or xxxc.
-	The character class range includes characters from the first character specified up to and including the last character specified. For example: xxx[a-z] matches xxxa, xxxb, xxxc, ... xxxz.
]	The close character class character ends the enumeration of a character class.
\	The literal escape character, when used within a character class, causes the next character to be treated literally. When used outside a character class, it is not specially treated.
DOS, OS/2, and Windows specific	
\...	The match <i>n</i> character matches zero or more directories.
\	The directory separator character limits the scope of the search for the matching <i>n</i> characters and directories. If a pattern does not begin with a directory separator (or one does not follow the drive specification), a match all directories is appended to the pattern. For example, these patterns are equivalent: c:* c:\...*
:	The drive separator character separates a file specification. The characters before the colon identify a drive name. The characters after the colon identify either a directory name or file name. For example: d:\direct\file.nam
Macintosh specific	
...:	Matches all volumes or folders. For example: ...:.* matches any file in any folder on any volume. The first group specifies the volume and the second group specifies the folder. Note: This is three periods followed by a colon, not an ellipsis followed by a colon.

Figure 110 (Page 2 of 2). Wildcard and Other Special Characters

Character	Function
:	The volume or folder separator. It limits the scope of search for matching all characters and matching all volumes.
UNIX specific	
/...	The match <i>n</i> character matches zero or more directories.
/	The directory separator character limits the scope of the search for the matching <i>n</i> characters and directories. If a pattern does not begin with a directory separator (or one does not follow the drive specification), a match all directories is appended to the pattern. For example, these patterns are equivalent: <div style="margin-left: 40px;"> core /.../core </div>
Novell specific	
/...	The match <i>n</i> character matches zero or more directories.
/	The directory separator character limits the scope of the search for the matching <i>n</i> characters and directories. If a pattern does not begin with a directory separator (or one does not follow the drive specification), a match all directories is appended to the pattern. For example, these patterns are equivalent: <div style="margin-left: 40px;"> servera\sys:*.*nlm servera\sys:/.../*.*nlm </div>
\	When used outside a character class, it is used as a directory separator. ADSM changes a \ to a /, unless it is used within a character class. This is also a server name delimiter when it is placed before a volume delimiter (:).
:	The volume-separator character separates a file specification. The characters after the colon identify either a directory name or a file name. The characters before the colon identify a volume name. For example: <div style="margin-left: 40px;"> volumename:/directoryname/file.name </div>

Examples Using Wildcards in EXCLUDE and INCLUDE Patterns

DOS, OS/2, and Windows

Evaluate the following EXCLUDE statements:

```

exclude [ce-g]:\...\.obj
exclude d:\*.obj
exclude ?:tmp\...\.obj
    
```

1. **[ce-g]:\...\.obj** matches any **.obj** file in any directory on the **c:**, **e:**, **f:**, and **g:** drives.
2. **d:*.obj** only matches the **.obj** files found in the root directory in the **d:** drive.
3. **?:tmp\...\.obj** matches any file found on any drive that resides under the **tmp** directory.

Macintosh

Exclude all files that end with **doc**, except those found on volume **La Pomme** in the **Documents** folder.

```
exclude "...:.*:*.doc"
include "La Pomme:Documents:*.doc"
```

Novell

Exclude all files and directories under any **tmp** directory that may exist on servera, *except* for the one file **vol:/tmp/save.fil**. Include this file.

```
exclude servera\*/.../tmp/.../*
include servera\vol:/tmp/save.fil
```

UNIX

Exclude all files and directories under any **tmp** directory that may exist, *except* for the one file **/u/tmp/save.fil**. Include this file.

```
exclude /.../tmp/.../*
include /u/tmp/save.fil
```

Processing INCLUDE and EXCLUDE Options

ADSM processes the EXCLUDE and INCLUDE options as follows:

- Directories are *not* checked, only files are. Therefore, if you define a default domain using the DOMAIN option, all directories in that domain are backed up regardless of what you defined for your EXCLUDE and INCLUDE options, even if the files in those directories are not backed up.
- **The order that these options are checked is from the bottom up until a match is found.** If a match is found, the processing stops and looks at whether the option is INCLUDE or EXCLUDE. If the option is INCLUDE, the file is backed up. If the option is EXCLUDE, the file is *not* backed up.
- If a match is *not* found, files listed are implicitly included and therefore backed up.
- If policy administration is in effect, files are backed up according to the default management class or the management class you specify.

Here are some other examples of *bottom up* processing.

DOS, OS/2, and Windows

Assume that **C:** is defined as the domain in the DOMAIN option and you have this defined for the EXCLUDE and INCLUDE options.

```
exclude ?:\*.obj
include c:\foo\...\*.obj
exclude c:\foo\junk\*.obj
```

The current file being processed is **c:\foo\dev\test.obj**.

The processing follows these steps:

1. Rule 3 (the last INCLUDE or EXCLUDE defined) is checked first because of *bottom up* processing.

c:\foo\junk*.obj does not match the current filename being processed.

2. Processing moves to Rule 2 and checks.
This time, **c:\fool\...*.obj** matches the current file name being processed.
3. Processing stops, the option is checked, and it is INCLUDE.
4. **c:\fool\dev\test.obj** is backed up.

Macintosh

Assume that **La Pomme** is defined as the domain in the DOMAIN option, and you have this defined for the EXCLUDE and INCLUDE options.

```
exclude "...:*.cpp"
include "La Pomme:Foo:...:*.cpp"
exclude "La Pomme:Foo:Junk:*.cpp"
```

The current file being processed is **La Pomme:Widget:Sample File**.

The processing follows these steps:

1. Rule 3 is checked and finds no match.
2. Rule 2 is checked and finds no match.
3. Rule 1 is checked and finds no match.
4. Because no match is found, **La Pomme:Widget:Sample File** falls into the implicit INCLUDE option and is backed up.

Novell

Assume that **serveralsys** is defined as the domain in the DOMAIN option and you have this defined for the EXCLUDE and INCLUDE options.

```
exclude servera\sys:/proj2/*
include servera\sys:/proj2/text/chap2
```

The current file being processed is **serveralsys:/proj2/text/chap2**.

The processing follows these steps:

1. Rule 2 is checked and a match is found.
2. Processing stops, the option is checked, and it is INCLUDE.
3. **serveralsys:/proj2/text/chap2** is backed up.

UNIX

Assume that **/usr** is defined as the domain in the DOMAIN option and you have this defined for the EXCLUDE and INCLUDE options.

```
include /usr/proj2/text/chap2
exclude /usr/proj2/text/*
```

The current file being processed is **/usr/proj2/text/chap2**.

The processing follows these steps:

1. Rule 2 is checked and a match is found.
2. Processing stops, the option is checked, and it is EXCLUDE.
3. **/usr/proj2/text/chap2** is not backed up.

Using Management Classes with INCLUDE

A management class defines when your files are included in a backup or archive, how long they are kept on the ADSM server, and how many versions of the file the ADSM server should keep.

The ADSM server administrator chooses a default management class. Optionally, you can override the default management class by specifying your own management class.

This is an example (shown for UNIX) of using a management class:

```
exclude /.../*.sno
include /u/winter/.../*.ice mcweekly
include /u/winter/december/*.ice mcdaily
include /u/winter/january/*.ice mcmonthly
include /u/winter/winter/white.sno
```

The processing follows these steps:

1. The file named **white.sno** is backed up because of *bottom up* processing. Because you did not specify a management class, the file is bound to the default management class.
2. Any file with an **ice** extension in the directory **/u/winter/january** is bound to the management class MCMONTHLY.
3. Any file with an **ice** extension in the directory **/u/winter/december** is bound to the management class MCDAILY.
4. Any other files with an **ice** extension in any directory under **/u/winter** are bound to MCWEEKLY.
5. Any file with a **sno** extension (except **/u/winter/winter/white.sno**) in any directory is excluded from backup.

To specify your own default management class for files that are not explicitly included, specify:

DOS, OS/2, and Windows:

```
INCLUDE ?:* mgmt_class_name
```

Macintosh

```
INCLUDE "...:*" mgmt_class_name
```

Novell

```
INCLUDE */.../* mgmt_class_name
```

UNIX

```
INCLUDE * mgmt_class_name
```

This must be the first statement in your include-exclude list.

If archiving files with the ARCHIVE command, you can override the INCLUDE management class or choose the default management class using the ARCHMC option.

To specifically define a management class for directories, use the DIRMC option. For details, see “DIRMC” on page 230.

Client Options Reference

The following sections contain detailed information about each of the ADSM processing options. These options are arranged in alphabetical order. Information for each option includes:

- A description of the option
- Supported clients
- For UNIX options, the associated options file
- A diagram that shows the syntax of the option

The option name is shown in a combination of uppercase and lowercase characters. The uppercase characters indicate the minimum abbreviation you can use for the option name.

- Detailed descriptions of the option parameters. If the parameter is a constant, its minimum abbreviation is shown in uppercase letters.
- Example of using the option in the client options file (if applicable)
- Example of using the option on the command line (if applicable)

DOS Options

Figure 111 lists the options available for the DOS platform.

Figure 111. DOS Options Reference

CHANGINGRETRIES	RETRYPERIOD
COMMMETHOD	SCHEDLOGNAME
COMPRESSALWAYS	SCHEDLOGRETENTION
COMPRESSION	SCHEDMODE
CPICBUFFERSIZE	SCROLLINES
CPICMODENAME	SCROLLPROMPT
DATEFORMAT	SLOWINCREMENTAL
DIRMC	SUBDIR
DOMAIN	SYMBOLICDESTINATION
ERRORLOGRETENTION	TAPEPROMPT
EXCLUDE	TCPBUFFSIZE
FSTYPES	TCPCLIENTADDRESS
INCLUDE	TCPCLIENTPORT
IPXBUFFERSIZE	TCPPORT
IPXSERVERADDRESS	TCPSERVERADDRESS
IPXSOCKET	TCPWINDOWSIZE
LANADAPTER	TIMEFORMAT
LANGUAGE	TPNAME
MAXCMDRETRIES	TXNBYTELIMIT
NETBIOSBUFFERSIZE	VERBOSE
NETBIOSNAME	3270BUFFERSIZE
NETBIOSSERVERNAME	3270CHECKSUM
NETBIOSTIMEOUT	3270HOSTCMDPAUSE
NODENAME	3270HOSTCOMMAND
NUMBERFORMAT	3270HOSTENDCOMMAND
PARTNERLUNAME	3270HOSTTIMEOUT
POSTSCHEDULECMD	3270LOGICALTERMINALID
PRESCHEDULECMD	400COMMBUFFERBYTES
QUERYSCHEDULEPERIOD	400PARTNERLUNAME
QUIET	400SENDERBUFFERBYTES
REPLACE	400TPNAME

Apple Macintosh Options

Figure 112 lists the options available for the Apple Macintosh platform.

Figure 112. Macintosh Options Reference

BOOKS	PASSWORD
CHANGINGRETRIES	POSTSCHEDULECMD
COMMMETHOD	PRESCHEDULECMD
COMPRESSALWAYS	QUERYSCHEDPERIOD
COMPRESSION	QUIET
DATEFORMAT	RETRYPERIOD
DIRMC	SCHEDCOMPLETEACTION
DOMAIN	SCHEDLOGNAME
ERRORLOGNAME	SCHEDLOGRETENTION
ERRORLOGRETENTION	SLOWINCREMENTAL
EXCLUDE	TAPEPROMPT
INCLUDE	TCPBUFFSIZE
LANGUAGE	TCPPORT
MATCHALLCHAR	TCPSERVERADDRESS
MATCHONECHAR	TCPWINDOWSIZE
MAXCMDRETRIES	TIMEFORMAT
NODENAME	VERBOSE
NUMBERFORMAT	

Novell NetWare Options

Figure 113 lists the options available for the Novell NetWare platform.

Figure 113. NetWare Options Reference

CHANGINGRETRIES	PRESCHEDULECMD
COMMMETHOD	PROCESSORUTILIZATION
COMPRESSALWAYS	QUERYSCHEDPERIOD
COMPRESSION	QUIET
CPICBUFFERSIZE	REPLACE
CPICMODENAME	RETRYPERIOD
DATEFORMAT	SCHEDLOGNAME
DIRMC	SCHEDLOGRETENTION
DOMAIN	SCHEDMODE
ERRORLOGNAME	SCROLLLINES
ERRORLOGRETENTION	SCROLLPROMPT
EXCLUDE	SLOWINCREMENTAL
INCLUDE	SUBDIR
IPXBUFFERSIZE	SYMBOLICDESTINATION
IPXSERVERADDRESS	TAPEPROMPT
IPXSOCKET	TCPBUFFSIZE
LANGUAGE	TCPCLIENTADDRESS
MAXCMDRETRIES	TCPCLIENTPORT
NODENAME	TCPPORT
NUMBERFORMAT	TCPSERVERADDRESS
NWPWFILE	TCPWINDOWSIZE
NWUSER	TIMEFORMAT
NWWAITONERROR	TPNAME
PARTNERLUNAME	TXNBYTELIMIT
POSTSCHEDULECMD	VERBOSE

OS/2 Options

Figure 114 lists the options available for the OS/2 platform.

Figure 114. OS/2 Options Reference

BOOKS	QUERYSCHEDPERIOD
CHANGINGRETRIES	QUIET
COMMMETHOD	REPLACE
COMPRESSALWAYS	RETRYPERIOD
COMPRESSION	SCHEDLOGNAME
CPICBUFFERSIZE	SCHEDLOGRETENTION
CPICMODENAME	SCHEDMODE
DATEFORMAT	SCROLLLINES
DIRMC	SCROLLPROMPT
DOMAIN	SLOWINCREMENTAL
ERRORLOGRETENTION	SUBDIR
EXCLUDE	SYMBOLICDESTINATION
INCLUDE	TAPEPROMPT
IPXBUFFERSIZE	TCPBUFFSIZE
IPXSERVERADDRESS	TCPCLIENTADDRESS
IPXSOCKET	TCPCLIENTPORT
LANADAPTER	TCPPORT
LANGUAGE	TCPSERVERADDRESS
MAXCMDRETRIES	TCPWINDOWSIZE
NAMEDPIPENAME	TIMEFORMAT
NETBIOSBUFFERSIZE	TPNAME
NETBIOSNAME	TXNBYTELIMIT
NETBIOSSERVERNAME	VERBOSE
NETBIOSTIMEOUT	3270BUFFERSIZE
NODENAME	3270CHECKSUM
NUMBERFORMAT	3270HOSTCMDPAUSE
PARTNERLUNAME	3270HOSTCOMMAND
PASSWORDACCESS	3270HOSTENDCOMMAND
PASSWORDDIR	3270HOSTTIMEOUT
POSTSCHEDULECMD	3270LOGICALTERMINALID
PRESCHEDULECMD	

UNIX Options

ADSM processing options reside in these files:

- Client system options file (**dsm.sys**)

This file contains required communication options, authorization options, a subset of options that relate to backup and archive processing, scheduling options, and options that relate to HSM.

If you are a root user, you are responsible for creating and modifying the client system options file.

- Client user options file (**dsm.opt**)

The client user options file contains options that control processing for sessions with ADSM, including some additional options that relate to backup, archive, restore, and retrieve processing.

If you are a root user, you create a default client user options file that can be used by all users on your workstation.

If you are a user and want to use different options than those specified in the default client user options file, you can create your own options file.

You can always override any of the options set in the client user options file you use by entering the options with appropriate ADSM commands. For more information, see “Using Options With Commands” on page 198.

- Include-exclude options file

The include-exclude options file contains a list of the include and exclude options. See “Creating an Include-Exclude List” on page 201 for detailed examples on each platform.

Figure 115 lists the options available for the UNIX platform.

Figure 115. UNIX Options Reference

System Options	
AUTOMOUNT	PASSWORDACCESS
CHANGINGRETRIES	POSTSCHEDULECMD
CHECKTHRESHOLDS	PRESCCHEDULECMD
COMMMETHOD	QUERYSCHEDPERIOD
COMPRESSION	RECONCILEINTERVAL
CPICBUFFERSIZE	RETRYPERIOD
CPICMODENAME	SCHEDLOGNAME
DEFAULTSERVER	SCHEDLOGRETENTION
DIRMC	SCHEDMODE
ERRORPROG	SERVERNAME
GROUPS	SHMPORT
INCLEXCL	SYMBOLICDESTINATION
KERNELMESSAGES	TCPBUFFSIZE
MAILPROG	TCPCLIENTADDRESS
MAXCMDRETRIES	TCPCLIENTPORT
MAXRECALLDAEMONS	TCPNODELAY
MAXRECONCILEPROC	TCPPORT
MAXTHRESHOLDPROC	TCPSERVERADDRESS
MIGFILEEXPIRATION	TCPWINDOWSIZE
MIGRATESERVER	TPNAME
MINRECALLDAEMONS	TXNBYTELIMIT
NODENAME	USERS
PARTNERLUNAME	VIRTUALMOUNTPOINT
User Options	
BOOKS	QUIET
COMPRESSALWAYS	REPLACE
DATEFORMAT	SCROLLLINES
DOMAIN	SCROLLPROMPT
ERRORLOGRETENTION	SERVERNAME
FOLLOWSYMBOLIC	SLOWINCREMENTAL
LANGUAGE	SUBDIR
NODENAME	TAPEPROMPT
NUMBERFORMAT	TIMEFORMAT
OPTIONFORMAT	VERBOSE
Include-Exclude Options	
EXCLUDE	INCLUDE

Windows 3.1 Options

Figure 116 lists the options available for the Microsoft Windows 3.1 platform.

Figure 116. Windows 3.1 Options Reference

BOOKS	PASSWORD
CHANGINGRETRIES	QUERYSCHEDPERIOD
COMMMETHOD	RETRYPERIOD
COMPRESSALWAYS	SCHEDLOGNAME
COMPRESSION	SCHEDLOGRETENTION
CPICBUFFERSIZE	SLOWINCREMENTAL
CPICMODENAME	SUBDIR
DATEFORMAT	SYMBOLICDESTINATION
DIRMC	TAPEPROMPT
DOMAIN	TCPBUFFSIZE
ERRORLOGRETENTION	TCPPORT
EXCLUDE	TCPSERVERADDRESS
FSTYPES	TCPWINDOWSIZE
INCLUDE	TIMEFORMAT
IPXBUFFERSIZE	TPNAME
IPXSERVERADDRESS	TXNBYTELIMIT
IPXSOCKET	3270BUFFERSIZE
LANADAPTER	3270CHECKSUM
LANGUAGE	3270HOSTCMDPAUSE
MAXCMDRETRIES	3270HOSTCOMMAND
NETBIOSBUFFERSIZE	3270HOSTENDCOMMAND
NETBIOSNAME	3270HOSTTIMEOUT
NETBIOSSERVERNAME	3270LOGICALTERMINALID
NETBIOSTIMEOUT	400COMMBUFFERBYTES
NODENAME	400PARTNERLUNAME
NUMBERFORMAT	400SENDERBUFFERBYTES
OPTFILE	400TPNAME
PARTNERLUNAME	

Windows NT Options

Figure 117 lists the options available for the Microsoft Windows NT platform.

Figure 117. Windows NT Options Reference

BACKUPREG	QUIET
BOOKS	REPLACE
CHANGINGRETRIES	RETRYPERIOD
COMMMETHOD	SCHEDLOGNAME
COMPRESSALWAYS	SCHEDLOGRETENTION
COMPRESSION	SCHEDMODE
DATEFORMAT	SCROLLLINES
DIRMC	SCROLLPROMPT
DOMAIN	SLOWINCREMENTAL
ERRORLOGRETENTION	SUBDIR
EXCLUDE	TAPEPROMPT
INCLUDE	TCPBUFFSIZE
LANGUAGE	TCPCLIENTADDRESS
MAXCMDRETRIES	TCPCLIENTPORT
NODENAME	TCPNODELAY
NUMBERFORMAT	TCPPORT
OPTFILE	TCPSERVERADDRESS
PASSWORD	TCPWINDOWSIZE
POSTSCHEDULECMD	TIMEFORMAT
PRESCHEDULECMD	TXNBYTELIMIT
QUERYSCHEDPERIOD	VERBOSE

Windows 95 Options

Figure 118 lists the options available for the Microsoft Windows 95 platform.

Figure 118. Windows 95 Options Reference

BOOKS	REPLACE
CHANGINGRETRIES	RETRYPERIOD
COMMMETHOD	SCHEDLOGNAME
COMPRESSALWAYS	SCHEDLOGRETENTION
COMPRESSION	SCHEDMODE
DATEFORMAT	SCROLLLINES
DIRMC	SCROLLPROMPT
DOMAIN	SLOWINCREMENTAL
ERRORLOGRETENTION	SUBDIR
EXCLUDE	TAPEPROMPT
INCLUDE	TCPBUFFSIZE
LANGUAGE	TCPCLIENTADDRESS
MAXCMDRETRIES	TCPCLIENTPORT
NODENAME	TCPNODELAY
NUMBERFORMAT	TCPPORT
OPTFILE	TCPSERVERADDRESS
PASSWORD	TCPWINDOWSIZE
POSTSCHEDULECMD	TIMEFORMAT
PRESCHEDULECMD	TXNBYTELIMIT
QUERYSCHEDPERIOD	VERBOSE
QUIET	

AUTOMOUNT

AUTOMOUNT

Use the AUTOMOUNT option to specify a symbolic link to an NFS mount point monitored by the automount daemon (SunOS) or a mount point monitored by the automounter (Solaris). The automount filesystem specified in this option is considered as a valid domain for ADSM incremental backup.

This option is required if you want ADSM to add the automount filesystem to the **File Systems for Backup/Archive** part of the File System Information window in the ADSM GUI. It is also required if you want to include the automount filesystem in an incremental backup using the command-line client or the client scheduler when the symbolic link points to a mount point monitored by automounter using indirect map.

Supported Clients

Clients that can use this option: UNIX.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is valid for a SunOS or Solaris workstation only.

Syntax

```
▶▶AUTOMOUNT filesystem◀◀
```

Parameters

filesystem

A symbolic link to an NFS mount point monitored by the automount daemon (SunOS) or a mount point monitored by the automounter (Solaris).

Examples

Options file example: `automount /home/user1`
 Where `/home/user1 -> /tmp_mnt/home/user1`

Command line example: Not applicable

BACKUPREG

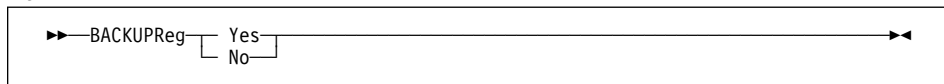
BACKUPREG

Use the BACKUPREG option to specify whether ADSM should back up the NT registry during incremental backups.

Supported Clients

Clients that can use this option: Windows NT.

Syntax



Parameters

Yes

ADSM backs up the registry during incremental backups.

This is the default.

No

ADSM does not back up the registry.

Examples

Options file example: backupreg no

Command line example: -backupreg=yes

BOOKS

BOOKS

Use the BOOKS option to make the ADSM online publications available through the ADSM graphical user interface.

If you set the option in the options file, you can read the online publications by clicking on the **Help** menu; **View Books** item. If you do not set the option, you can still read the online books by starting the online book reader outside of ADSM.

Supported Clients

Clients that can use this option: Macintosh, OS/2, UNIX, and Windows.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax

```
▶▶—BOOKS command—————▶▶
```

Parameters

command

A command that starts the online book reader. The exact command depends on which reader you are using, where the reader is installed, where the books are installed, and whether those items are available in your command path.

These platforms can use the readers listed here:

OS/2 and Windows

The readers available are IBM BookManager and Electronic Book Technologies DynaText (running under Windows).

UNIX

The readers available are IBM BookManager and Electronic Book Technologies DynaText on AIX, and DynaText on selected other platforms.

Macintosh

The reader available is Electronic Book Technologies DynaText.

The *ADSM Online Product Library* contains the online books and readers for the supported platforms. You or your administrator must install the books and readers separately from the product, as described in the information booklet included with the CD-ROM.

Because of the large amount of disk space required to hold the reader programs and ADSM publications, we recommend that the ADSM administrator install the readers and publications on a LAN server or other machine easily accessible to client users.

BOOKS

Attention

When users select the **View Books** item from the GUI, ADSM starts the online book reader as a separate program.

Online book readers might use a large amount of system resources, because they display graphics and process large files. The reader might require more resources than are available on your machine, and if run at the same time as ADSM (or any other program), the workstation might freeze.

If your workstation freezes in this manner, do not use **View Books**. Instead, to read the online books, first stop ADSM and other programs that use large amounts of system resources, and then start the program.

You do not have to use the **BOOKS** option in order to use the ADSM online library.

Also, ADSM does not stop the reader program when the user stops ADSM.

Examples

Options file example: books bookmgr

or

books dtext

Command line example: Not applicable

CHANGINGRETRIES

CHANGINGRETRIES

Use the CHANGINGRETRIES option to specify how many additional times you want ADSM to attempt to back up or archive a file that is in use during the first attempt.

This option relates to serialization, which is an attribute in a management class copy group. ADSM uses this option only when serialization is shared static or shared dynamic.

With shared static, if a file is in use during the first backup or archive attempt, ADSM retries the operation the number of times specified with this option. If the file is in use during each attempt, the operation is not completed.

With shared dynamic, if a file is in use during the first backup or archive attempt, ADSM retries the operation the number of times specified with this option. The backup or archive occurs during the last attempt regardless of whether the file is currently in use.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—Changingretries numberretries————▶▶
```

Parameters

numberretries

The number of times ADSM retries a backup or archive operation if the file is in use during the first attempt.

The range of values is 0 to 4.

The default is 4.

Examples

Options file example: `changingretries 3`

Command line example: `-ch=0`

CHECKTHRESHOLDS

CHECKTHRESHOLDS

Use the CHECKTHRESHOLDS option to specify how often the space monitor daemon checks space usage on your file systems. The space monitor daemon checks each file system to which you have added space management.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is used only when the ADSM HSM client is installed on your workstation. It must be placed at the beginning of the client system options file before any server stanzas.

Syntax

```
▶▶—CHecKthresholds interval————▶▶
```

Parameters

interval

The number of minutes that must elapse between each successive time the space monitor daemon checks space usage on your file systems.

The range of values is 1 to 9999.

The default is 5.

Examples

Options file example: checkthresholds 10

Command line example: Not applicable

COMMMETHOD

COMMMETHOD

Use the COMMMETHOD option to specify the communication method you are using to provide connectivity for client-server communication.

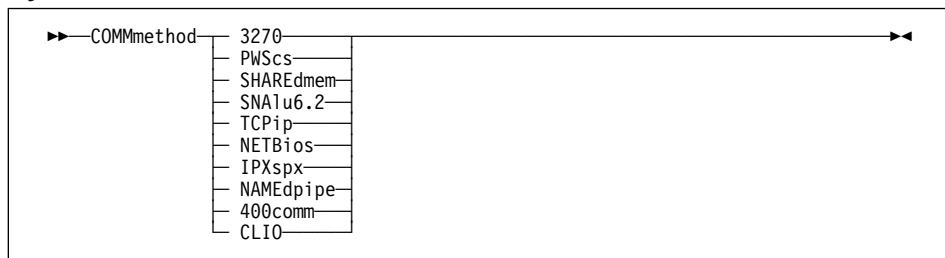
Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax



Parameters

3270

The 3270 communication method. This is the default communication method for DOS, OS/2, and Windows.

PWScs

The Programmable Workstation Communication Services (PWSCS) communication method. You can only use this method with a VM server.

SHAREdmem

The Shared Memory communication method.

Note: On an AIX 4.1 server, you can establish a maximum of 10 concurrent shared memory communications sessions.

SNA1u6.2

The Systems Network Architecture (SNA) logical unit 6.2 (LU6.2) communication method.

TCPip

The Transmission Control Protocol/Internet Protocol (TCP/IP) communication method.

NETBios

The Network Basic Input/Output System (NETBIOS) communication method.

COMMMETHOD

IPXspx

The Internetwork Packet Exchange/Sequenced Packet Exchange (IPX/SPX) communication method. You can only use this communication method with OS/2, AIX, and Windows NT servers.

NAMEdpipe

The Named Pipe communication method.

400comm

The PC Support/400 Advanced Program-to-Program or Client Access/400 communication method.

CLIO (For AIX users only)

Sets the communication method to Client Input-Output/sockets (CLIO/S). When using COMMMethod CLIO, ensure the AIX TCPPort number matches the MVS server option, CLIOPort. The maximum limit for TCPBuffsize is 512 when you specify COMMMethod CLIO.

Examples

Options file example: COMM sna

Command line example: -COMMMETHOD=IPX

COMPRESSALWAYS

COMPRESSALWAYS

Use the COMPRESSALWAYS option to control what ADSM does when a file grows during compression. You can cause ADSM to either continue compressing or not to send the object if it grows during compression. This option has no effect unless the COMPRESSION option is set to Yes.

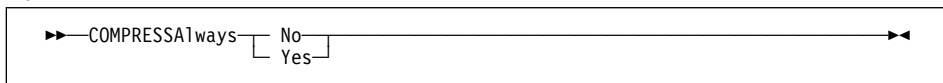
Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax



Parameters

No

Object is not sent if it grows during compression.

This is the default.

Yes

File compression continues even if the file grows as a result of compression.

Examples

Options file example: COMPRESSALWAYS Yes

Command line example: -COMPRESSA=No

COMPRESSION

COMPRESSION

Use the `COMPRESSION` option to specify whether ADSM should compress files before sending them to the ADSM server. Compressing your files decreases the amount of data storage required to store backup versions of files, archived copies of files, and migrated files. However, it can affect ADSM throughput. Typically, a fast processor on a slow line benefits from compression, but a slow processor on a fast line does not.

This option controls compression only if your ADSM administrator specifies that the choice is determined by your client node.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—COMPression— [ No ]  
                  [ Yes ]▶▶
```

Parameters

No

Files are not compressed before being sent to the server. You can also specify No as OFF, False, or 0.

This is the default.

Yes

Files are compressed before being sent to the server. You can also specify Yes as ON, True, or 1.

Examples

Options file example: `COMPRESSION Yes`

Command line example: `-COMP=No`

CPICBUFFERSIZE

CPICBUFFERSIZE

Use the CPICBUFFERSIZE option to specify the size of the CPIC buffer for SNA LU6.2 or PWSCS (APPC) communication. A larger buffer can improve communication performance, but uses more memory.

Supported Clients

Clients that can use this option: All except Macintosh, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—CPicbuffersize size————▶▶
```

Parameters

size

The size of an SNA LU6.2 or PWSCS communication buffer, in kilobytes.

The range of values is 1 to 31.

The default for UNIX, OS/2, and NetWare is 31. The default for DOS and Windows 3.1 is 16.

Examples

Options file example: CPICBUFFERSIZE 31

Command line example: -CP=20

CPICMODENAME

CPICMODENAME

Use the CPICMODENAME option to define the mode name for the SNA LU6.2 or PWSCS communication methods. For CPIC, this option identifies the SNA connection to the gateway and target logical unit. The CPIC mode name is used if the symbolic destination is not provided and the partner LU is located on another system. The mode name must be known on both the local and remote systems.

If you use this option, you must also use the TPNAME and the PARTNERLUNAME options.

Supported Clients

Clients that can use this option: All except Macintosh, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

▶—CPICMOdename *name*—▶

Parameters

name

The mode name for SNA LU6.2 or PWSCS communication.

There is no default.

Examples

Options file example: cpicmodename vmmode

Command line example: -cpicmo=vmmode

DATEFORMAT

DATEFORMAT

Use the DATEFORMAT option to select the format you want ADSM to use for displaying dates.

Supported Clients

Clients that can use this option: All except AIX.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax

```
▶▶—DATEformat number————▶▶
```

Parameters

number

One of the following date formats:

- 1 Displays the date in this format: MM/DD/YYYY
This is the default.
- 2 Displays the date in this format: DD-MM-YYYY
- 3 Displays the date in this format: YYYY-MM-DD
- 4 Displays the date in this format: DD.MM.YYYY
- 5 Displays the date in this format: YYYY.MM.DD

Examples

Options file example: DATEFORM 3

Command line example: -DATE=4

DEFAULTSERVER

DEFAULTSERVER

Use the DEFAULTSERVER option to specify the server to which ADSM backs up and archives files from your local systems by default.

If you have the ADSM HSM client installed on your workstation, and you do not specify a migration server with the MIGRATESERVER option, this option also specifies the ADSM server to which ADSM migrates files from your local file systems.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file. It must be placed at the beginning of the client system options file before any server stanzas.

Syntax

```
▶▶—DEFAULTserver servername————▶▶
```

Parameters

servername

The name of the server to which ADSM backs up and archives files by default, and the server to which ADSM migrates files from your local file systems if a migration server is not specified with the MIGRATESERVER option.

Examples

Options file example: DEFAULT server_a

Command line example: Not applicable

DIRMC

DIRMC

Use the DIRMC option to specify the management class you want ADSM to use for directories. If you do not use this option to associate a management class with directories, ADSM uses the management class in the active policy set of your policy domain that has the longest retention period.

When choosing a management class for directories, be sure to choose one that allows ADSM to retain directories at least as long as it retains the files associated with them.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—DIRMc mgmtclassname————▶▶
```

Parameters

mgmtclassname

The name of the management class you want to associate with directories. ADSM uses the management class you specify for all directories it backs up.

The default is the management class in the active policy set of your policy domain with the longest retention period.

Examples

Options file example: DIRM managdir

Command line example: Not applicable

DOMAIN

This description applies generally to all platforms. Consider the term *local drives* to mean *volumes* or *file systems* if one of those terms applies to your platform. For more specific information about this option, see the “Setting Processing Options” section of the appropriate *Using the Backup-Archive Client* book for your platform.

Use the DOMAIN option to specify the drives you want to include in your client domain for incremental backup. When you use this option in your client options file, it defines your *default client domain*. ADSM uses your default client domain to determine which local drives to process during an incremental backup in these situations:

- You run an incremental backup using the INCREMENTAL command without specifying which local drives to process.
- Your ADSM administrator defines a schedule to run an incremental backup for you, but does not specify which local drives to process.

If you do not specify local drives with the DOMAIN option in your client options file, the default is all local drives.

When you use this option with the INCREMENTAL command, it adds the local drives you specify to what is defined in your client options file. For example, if you enter DOMAIN c: d: e: in the client options file and you enter `dsmc incremental -domain="g: h:"` on the command line, ADSM performs an incremental backup for your **c:**, **d:**, **e:**, **g:**, and **h:** local drives.

If you use both the *drives* parameter and the DOMAIN option on the INCREMENTAL command, ADSM ignores the DOMAIN option and processes only those drives in the *drives* parameter. For example, if you enter the following, ADSM performs an incremental backup only for the **e:** and **f:**.

```
dsmc incremental e: f: -domain="g: h:"
```

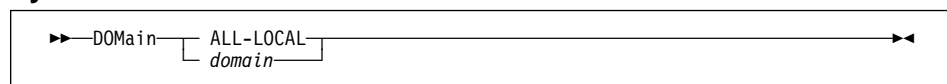
Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax



Parameters

domain

In your client options file, it is the drives to include in your default client domain.

When used with the INCREMENTAL command, it is the drives to process in addition to those specified in your default client domain.

DOMAIN

The default value for this option is **ALL-LOCAL**, which specifies that all local hard drives are to be backed up.

Examples

Options file example: domain c: d: e:

Command line example: -domain="c: d:"

DOTDIRCHECK

DOTDIRCHECK

Use the DOTDIRCHECK option to specify whether you want ADSM to check for “.” and “. .” entries in a directory during an incremental backup.

Setting this option to Yes allows you to back up VM NFS-mounted minidisks that do not contain those entries.

Supported Clients

Clients that can use this option: UNIX.

Options File for UNIX Platforms

This option goes in the client user options file.

Syntax

<pre>▶—DOTDIRcheck <input type="checkbox"/> Yes <input type="checkbox"/> No</pre>

Parameters

Yes

ADSM checks for “.” and “. .” entries in a directory during an incremental backup. If the entries do not exist, the backup fails.

This is the default.

No

ADSM does not check for “.” and “. .” entries in a directory during an incremental backup.

Examples

Options file example: DOTDIRCHECK NO

Command line example: -DOTDIR=NO

ERRORLOGNAME

ERRORLOGNAME

Use the ERRORLOGNAME option to specify the path and name of the file where you want ADSM to store information about errors that occur during processing.

Supported Clients

Clients that can use this option: Macintosh and Novell.

Syntax

A syntax diagram enclosed in a rectangular box. It shows the command structure: a right-pointing arrow followed by the text "ERRORLOGname", then the word "filespec" in italics, followed by a horizontal line with a right-pointing arrow at its end. This indicates that "filespec" is a required parameter.

```
▶▶—ERRORLOGname filespec————▶▶
```

Parameters

filespec

The path and file name where you want ADSM to store error log information.

The default is the installation directory with a file name of **dsmerror.log**.

Examples

Options file example: ERRORLOGNAME d:\tmp\adsmerr.log

Command line example: -ERRORLOG=d:\tmp\adsmerr.log

ERRORLOGRETENTION

ERRORLOGRETENTION

Use the ERRORLOGRETENTION option to specify:

- The number of days to keep entries in the error log
- Whether to save the pruned entries

The error log is pruned when the first error is written to the log after an ADSM session is started and after every schedule is run. If the only ADSM session you run is the scheduler, and you run it 24 hours a day, the error log might not be pruned according to your expectations. You must stop the session and restart it to allow the log to be pruned when the next error is written.

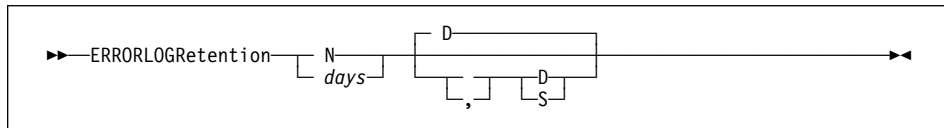
Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax



Parameters

N or *days*

How long to wait before pruning the error log.

N

Do not prune the error log. This allows the error log to grow indefinitely.

This is the default.

days

The number of days to keep log file entries before pruning the log.

The range of values is 0 to 9999.

D or S

Whether to save the pruned entries.

If you specify anything but D or S, ADSM uses the default D. You must use a space or comma to separate this parameter from the previous one.

D

Discard the log entries when pruning the log.

This is the default.

ERRORLOGRETENTION

S

Save the log entries when pruning the log.

ADSM copies the entries pruned from the error log to **dsmerlog.pru**. This file is in the same directory as the error log.

Examples

Options file example: ERRORLOGRETENTION 400 S

Command line example: -ERRORLOGRETENTION=400,S

ERRORPROG

ERRORPROG

Use the ERRORPROG option to specify a program you want ADSM to execute if a severe error occurs during HSM processing.

For example, ADSM executes the program if the space monitor daemon stops running, an orphaned stub file is found when ADSM reconciles a file system, or ADSM is unable to locate a migrated file in ADSM storage when attempting to recall the file.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is used only when the ADSM HSM client is installed on your workstation.

Syntax

```
▶▶—ERRORPROG program-name————▶▶
```

Parameters

program-name

The path and file name of the program you want ADSM to execute if a severe error occurs during HSM processing.

The program you specify must accept standard input.

Examples

Options file example: errorprog /bin/cat

Command line example: Not applicable

EXCLUDE

EXCLUDE

Use the EXCLUDE option to exclude a file or group of files from ADSM backup services. When you back up files, any files you exclude with this option are not considered for backup.

For example, you might want to exclude all temporary files, any local caches of network files, all files that contain compiled object code that you can easily reproduce using other methods, and operating system files.

You can use wildcard characters to exclude a broad range of files. See “Including and Excluding Groups of Files” on page 203 for a list of wildcards you can use. Then, if necessary, you can use the INCLUDE option to make exceptions.

See “Creating an Include-Exclude List” on page 201 for more information. See also the list of files in “Excluding System Files” on page 202 that should always be excluded for each platform.

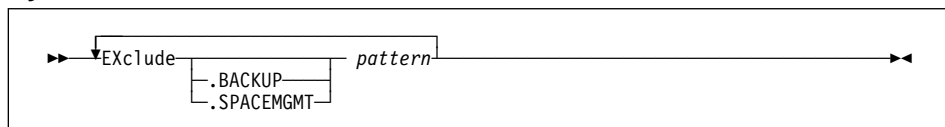
Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the include-exclude options file.

Syntax



Parameters

.BACKUP

Excludes a file or group of files from backup. For example:

```
EXCLUDE.BACKUP /users/home1/file1
```

.SPACEMGMT

Excludes a file from HSM services only. For example:

```
EXCLUDE.SPACEMGMT /users/home1/file1
```

pattern

The file or group of files that you want to exclude. The pattern must end with a file specification.

If the pattern contains a blank space, you must enclose the pattern in quotation marks.

Note: If you have the HSM client installed on your workstation, specifying EXCLUDE by itself excludes a file from *both* backup and migration. For example:

```
EXCLUDE /users/home1/file1
```

EXCLUDE

Examples

Options file example:

```
exclude ?:\...\swapper.dat
exclude "*/\ea data. sf"
exclude ?:\io.sys
exclude ?:\...\spart.par
exclude c:\*\budget.fin
exclude c:\devel\*
```

Command line example: Not applicable

FSTYPES

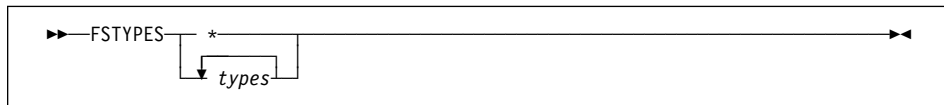
FSTYPES

Use the FSTYPES option to specify which types of file systems you want to see when looking at another node's file spaces on the ADSM server. This is only used when you are querying, restoring, or retrieving files from another node, allowing you to see non-FAT drives.

Supported Clients

Clients that can use this option: Windows 3.1, DOS.

Syntax



Parameters

- * Show all types of file spaces for the selected node. You can restore or retrieve files from the file spaces listed under *types*. (Although other types of file spaces might be listed, the results of restoring or retrieving files from those file spaces is unpredictable.)

types

Show these specific types of file spaces for the selected node:

FAT	File Attribute Table drives
RMT-FAT	Remote FAT drives
HPFS	High-Performance File System drives (OS/2, Windows NT, and Windows 95)
RMT-HPFS	Remote HPFS drives
NTFS	NT File System drives (Windows NT)
RMT-NTFS	Remote NTFS drives

The default is to show FAT and RMT-FAT drives only.

Examples

Options file example: `fstypes *`

Command line example: `-fstypes="HPFS RMT-HPFS"`

GROUPS

GROUPS

tem options file, UNIX

Use the GROUPS option to authorize specific groups on your workstation to request ADSM services.

You can use the GROUPS option more than once to authorize a large number of groups.

If you do not specify group names with the GROUPS option or user IDs with the USERS option, all users can request ADSM services. If you use the GROUPS option, the USERS option, or both, only users included in one of the specified groups or included in the list of users can request ADSM services.

A root user is always authorized to request services.

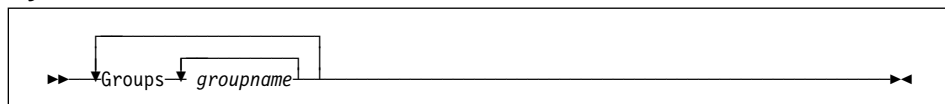
Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax



Parameters

groupname

The name of a group you want to authorize to request ADSM services.

Examples

Options file example:

```
groups dsmcdev group1 test1 test2 design1
groups endicott almaden qadev qadev1 tools23
groups tools31 tools35 toolsdv toolsdv1
```

Command line example: Not applicable

INCLEXCL

INCLEXCL

Use the INCLEXCL option to specify the path and file name of your include-exclude options file if you choose to use one.

You can use an include-exclude options file to exclude specific files or groups of files from backup (and migration if you have the HSM client installed). You can also use an include-exclude options file to assign management classes to specific files or groups of files.

For detailed information about excluding and including files, see “Creating an Include-Exclude List” on page 201.

In a SunOS environment, if ADSM is accessed through a Heterogeneous File Server, be sure that your include-exclude options file is in a file system, such as **/usr/share**, that is accessible to all different types of clients.

In other UNIX environments, be sure that your include-exclude options file is in a directory, such as **/etc**, to which all users have read access.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

▶—Incl <code>excl</code> <i>filespec</i> ————▶◀

Parameters

filespec

The path and file name of your include-exclude options file.

Examples

Options file example:

```
inclexcl /usr/dsm/backup.excl
inclexcl /etc/inclexcl.def
```

Command line example: Not applicable

INCLUDE

INCLUDE

Use the INCLUDE option to specify one of the following:

- A subset of a broad group of excluded files that you want to specifically include for backup services (and space management services if you have the ADSM HSM client installed). You can specify a file or a group of files.
- A file or group of files to which you want to assign a specific management class and the management class name.
- A management class to assign to all files to which you do not assign a specific management class.

If you do not assign a specific management class to files, ADSM uses the default management class in the active policy set of your policy domain.

See “Creating an Include-Exclude List” on page 201 for more information.

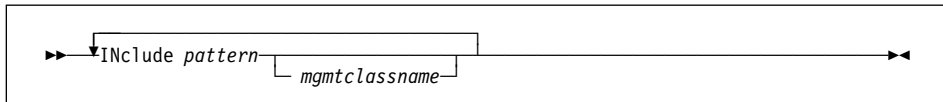
Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the include-exclude options file.

Syntax



Parameters

pattern

The specific files you want to include for services, or the file or group of files to which you want to assign a specific management class.

You must end this variable with a file specification.

If the pattern contains a blank, you must enclose the pattern in quotation marks.

mgmtclassname

The name of the management class you want to assign to the files. If you do not specify a management class, ADSM uses the default management class.

INCLUDE

Examples

Options file example:

Example 1

Explicitly include a subset of files that are excluded:

```
exclude c:\proj\text\*
include c:\proj\text\devel.*
```

Example 2

Assign a management class to a group of files:

```
include c:\proj\text\* textfiles
```

Example 3

Specify a management class to assign to all files to which you have not assigned a specific management class:

```
include ?:* managall
```

This must be the *first* statement in your include-exclude list.

Use this method to assign a management class to all files to which you have not already assigned a specific management class and for which you do not want ADSM to use the default management class.

Command line example: Not applicable

IPXBUFFERSIZE

IPXBUFFERSIZE

Use the IPXBUFFERSIZE option to specify the size you want to use for the IPX buffer used to transfer data between the client node and the server.

A larger buffer can improve communication performance, but uses more memory.

Supported Clients

Clients that can use this option: DOS, Novell, OS/2, Windows 3.1, Windows 95, and Windows NT.

Syntax

▶▶—IPXBuffersize *number*—▶▶

Parameters

number

The size you want to use, in kilobytes, for the IPX/SPX communication buffer.

The range of values is 1 to 16.

The default is 16.

Examples

Option file example: ipxb 8

Command line example: -ipxbuffersize=12

IPXSERVERADDRESS

IPXSERVERADDRESS

Use the IPXSERVERADDRESS option to specify the IPX/SPX address of an ADSM server on an OS/2, AIX, or Windows NT host.

Supported Clients

Clients that can use this option: DOS, Novell, OS/2, Windows 3.1, Windows 95 and Windows NT.

Syntax

```
▶—IPXServeraddress server_address—▶◀
```

Parameters

server_address

An IPX/SPX address for an ADSM server. It must consist of exactly 20 hexadecimal digits.

An IPX/SPX address is a concatenation of the following:

- The first 8 hexadecimal digits identify the ADSM server network address.
- The last 12 digits identify the ADSM server node address.

Each field must be padded with leading zeros if the value is shorter than the specified length.

If an IPX/SPX address is not specified, the default address for the server is the same as the address for the client workstation.

Examples

Option file example: `ipxse 0000000210005af6e7cc`

Command line example: `-ipxserveraddress=0000000210005af6e7cc`

IPXSOCKET

IPXSOCKET

Use the IPXSOCKET option to specify the socket number for an ADSM server on an OS/2, AIX, or Windows NT host.

Supported Clients

Clients that can use this option: DOS, Novell, OS/2, Windows 3.1, Windows 95, and Windows NT.

Syntax

►►—IPXSOcket *socketnumber*—————◄◄

Parameters

socketnumber

A 4 digit ADSM server socket number. The socket number is assigned by Novell.

The default is 8522.

Examples

Option file example: ipxso 8524

Command line example: -ipxsocket=8524

KERNELMESSAGES

KERNELMESSAGES

Use the KERNELMESSAGES option to specify whether you want ADSM to display HSM-related messages issued by the kernel during processing.

Note: For transparent recall, if more than one process accesses the same migrated file at one time, the kernel issues a message for the first process that accesses the file only.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is used only when the ADSM HSM client is installed on your workstation. It must be placed at the beginning of the client system options file before any server stanzas.

Syntax

▶—KERNeImessages— <input type="checkbox"/> Yes <input type="checkbox"/> No	▶▶
-------------------------------------------------------------------------------	----

Parameters

Yes

HSM-related messages issued by the kernel are displayed. You can also specify Yes as ON, True, or 1.

This is the default.

No

HSM-related messages issued by the kernel are *not* displayed. You can also specify No as OFF, False, or 0.

Examples

Options file example: KERNELMESSAGES NO

Command line example: Not applicable

LANADAPTER

LANADAPTER

Use the LANADAPTER option to specify a communication adapter number when using the NETBIOS communication method.

Supported Clients

Clients that can use this option: DOS, OS/2, and Windows 3.1.

Syntax

```
▶▶—LANAdapter adapter_number————▶▶
```

Parameters

adapter_number

An adapter number for a communication adapter. It is used by NETBIOS.

The number must be 0 or 1.

The default is 0.

Examples

Options file example: lana 0

Command line example: -lanadapter=1

LANGUAGE

LANGUAGE

Use the LANGUAGE option to specify the national language for presenting client messages.

Supported Clients

Clients that can use this option: All except AIX.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax

```
▶▶—LANGUage language————▶▶
```

Parameters

language

The language to use for client messages. American English (AMENG) can be used for all client platforms.

Some platforms support other languages. Refer to the individual client books listed in Figure 2 on page xiv for more information.

Examples

Option file example: LANGUAGE AMENG

Command line example: -LANG=AMENG

MAILPROG

MAILPROG

Use the MAILPROG option to specify the program and user ID to which you want ADSM to send a newly generated password when the old one expires.

Use this option only when you choose GENERATE for PASSWORDACCESS.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶Mailprog filespec userid◀◀
```

Parameters

filespec

The path and file name of the program to which you want ADSM to send a newly generated password. The program you specify must accept standard output.

userid

The user ID of the user to whom you want ADSM to send a newly generated password. For OpenEdition MVS clients, the user ID must be in all uppercase letters (see example).

Examples

Option file example:

```
mailprog /usr/bin/xsend root  
mailprog /bin/mailx USER1 (for OpenEdition MVS)
```

Note: You must run the ENROLL command before ADSM can use xsend.

Command line example: Not applicable

MATCHALLCHAR

MATCHALLCHAR

Use the MATCHALLCHAR option to specify the character to use as a match-all wildcard character. For example, **File*** matches **File1**, **FileA1**, and **File**.

This option must appear before any INCLUDE or EXCLUDE statements in the Preferences file.

Supported Clients

Clients that can use this option: Macintosh only.

Syntax

▶—MATCHALLchar *character*—▶

Parameters

character

A character to be used as a match-all wildcard character. The default is an asterisk (*).

You can use any valid ASCII character for MATCHALLCHAR except Control+X or Control+Y. Do not use the same character for both MATCHALLCHAR and MATCHONECHAR.

Examples

Preferences file example: matchallchar @

MATCHONECHAR

MATCHONECHAR

Use the MATCHONECHAR option to specify the character to use as a match-one wildcard character. For example, File? matches File1, but not File or File10.

This option must appear before any INCLUDE or EXCLUDE statements in the Preferences file.

Supported Clients

Clients that can use this option: Macintosh only.

Syntax

▶▶MATCHOnechar <i>character</i> ▶▶

Parameters

character

The character to be used as a match-one wildcard character. The default is a question mark (?).

You can use any valid ASCII character for MATCHONECHAR, except Control+X or Control+Y. Do not use the same character for both MATCHALLCHAR and MATCHONECHAR.

Examples

Preferences file example: matchonechar #

MAXCMDRETRIES

MAXCMDRETRIES

Use the MAXCMDRETRIES option to specify the maximum number of times you want the client scheduler on your workstation to attempt to process a scheduled command that fails.

ADSM uses this option only when the SCHEDULE command is running.

Your ADSM administrator can also set this option. If your ADSM administrator specifies a value for this option, that value overrides what you specify in the client options file after your client node successfully contacts the ADSM server.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—MAXCMDRetries maxcmdretries————▶▶
```

Parameters

maxcmdretries

The number of times the client scheduler can attempt to process a scheduled command that fails.

The range of values is 0 to 9999.

The default value is 2.

Examples

Options file example: MAXCMDR 4

Command line example: -MAXCMDRETRIES=3

MAXRECALLDAEMONS

MAXRECALLDAEMONS

Use the MAXRECALLDAEMONS option to specify the maximum number of ADSM recall daemons you want to run at one time to perform recalls for your client node.

During your normal operations, if you notice that the number of recall daemons running at one time is often close to the maximum number allowed, increase the value specified for the MAXRECALLDAEMONS option. For example, if you use an application that opens multiple files at one time, and all of the files it opens are migrated, that application could use all available recall daemons. If ADSM is unable to start a recall daemon for another process that attempts to access a migrated file, that process will be unable to continue until a recall daemon is available.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is used only when the ADSM HSM client is installed on your workstation. It must be placed at the beginning of the client system options file before any server stanzas.

Syntax

```
▶▶—MAXRecalldaemons number—▶▶
```

Parameters

number

The maximum number of recall daemons you want to run at one time to perform recalls.

The range of values is 2 to 99.

The default is 20.

Examples

Options file example: maxrecalldaemons 5

Command line example: Not applicable

MAXRECONCILEPROC

MAXRECONCILEPROC

Use the MAXRECONCILEPROC option to specify the maximum number of automatic reconciliation processes HSM can perform at one time.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is used only when the ADSM HSM client is installed on your workstation. It must be placed at the beginning of the client system options file before any server stanzas.

Syntax

```
▶▶—MAXRECOncileproc maxreconcileproc————▶▶
```

Parameters

maxreconcileproc

The maximum number of automatic reconciliation processes HSM can perform at one time.

The range of values is 1 to 99.

The default is 3.

Examples

Options file example: maxreconcileproc 5

Command line example: Not applicable

MAXTHRESHOLDPROC

MAXTHRESHOLDPROC

Use the MAXTHRESHOLDPROC option to specify the maximum number of automatic threshold migration processes HSM can perform at one time.

Note: When a file system runs out of space, ADSM does not check to see whether the maximum number of threshold migration processes are already running. It starts threshold migration as part of the demand migration process regardless of the number of threshold migration processes that are currently in progress.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is used only when the ADSM HSM client is installed on your workstation. It must be placed at the beginning of the client system options file before any server stanzas.

Syntax

```
▶▶—MAXThresholdproc maxthresholdproc—————▶▶
```

Parameters

maxthresholdproc

The maximum number of automatic threshold migration processes HSM can perform at one time.

The range of values is 1 to 99.

The default is 3.

Examples

Options file example: maxthresholdproc 5

Command line example: Not applicable

MIGFILEEXPIRATION

MIGFILEEXPIRATION

Use the MIGFILEEXPIRATION option to specify the number of days ADSM keeps copies of migrated or premigrated files on the ADSM server after they are modified on your local file system or deleted from your local file system.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is used only when the ADSM HSM client is installed on your workstation. It must be placed at the beginning of the client system options file before any server stanzas.

Syntax

```
▶▶MIGFILEEXPIration days◀◀
```

Parameters

days

The number of days a copy of a migrated or premigrated file remains in ADSM storage after the file is modified on your local file system or deleted from your local file system.

The range of values is 0 to 9999.

The default is 7.

Examples

Options file example: migfileexpiration 5

Command line example: Not applicable

MIGRATESERVER

MIGRATESERVER

Use the MIGRATESERVER option to specify the name of the ADSM server to which you want to migrate files from your client node. You can specify only one migration server for each client node, and users *cannot* override the server you specify for migration in a client user options file or when issuing a command.

If you do not specify a server with the MIGRATESERVER option, ADSM migrates your files to the server identified with the DEFAULTSERVER option. If you do not specify a server with the MIGRATESERVER option or the DEFAULTSERVER option, ADSM migrates your files to the server identified in the first stanza of your client system options file by default.

After ADSM begins migrating files to the server you specify with this option or to the default server, do not make any changes to your client system options file that cause ADSM to contact a different server for migration unless your ADSM administrator exports your migrated files from the currently specified server and imports them to another. Otherwise, ADSM will be unable to locate your migrated files until you modify options in your client system options file to contact the server to which your files were originally migrated.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is used only when the ADSM HSM client is installed on your workstation. It must be placed at the beginning of the client system options file before any server stanzas.

Syntax

```
▶▶—MIgrateserver servername————▶▶
```

Parameters

servername

The name of the server to which you want to migrate files for your client node.

Your client system options file must contain a stanza, beginning with the SERVERNAME option, that contains at least the required communication options for the server you specify with the MIGRATESERVER option.

MIGRATESERVER

Examples

Options file example:

```
MIGRATEServer server_b

SErvername server_a
  COMMmethod TCPip
  TCPPort 1500
  TCPServeraddress almvmd.almaden.ibm.com
  Incl excl /adm/adsm/excl.list

SErvername server_b
  COMMmethod SNA1u6.2
  PARTnerluname raptor
  TPname appcdel
  CPICMODename appc
  Incl excl /adm/adsm/migex1.list
```

Command line example: Not applicable

MINRECALLDAEMONS

MINRECALLDAEMONS

Use the MINRECALLDAEMONS option to specify the minimum number of ADSM recall daemons you want to retain to perform recalls for your client node.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is used only when the ADSM HSM client is installed on your workstation. It must be placed at the beginning of the client system options file before any server stanzas.

Syntax

```
▶▶—MINRecalldaemons number————▶▶
```

Parameters

number

The minimum number of recall daemons you want to retain to perform recalls.

The range of values is 1 to 99.

The default is 3.

Examples

Options file example: minrecalldaemons 5

Command line example: Not applicable

NAMEDPIPENAME

NAMEDPIPENAME

Use the NAMEDPIPENAME option to specify the name of a named pipe to use for communications between an ADSM client and an ADSM server on the same workstation.

Supported Clients

Clients that can use this option: OS/2 only.

Syntax

```
▶—NAMEdpipename—▶◀
```

Parameters

name

The name of a named pipe.

The default is **\PIPE\DSMSERV**.

Examples

Option file example: namedpipe*name* \PIPE\DSMSERV1

Command line example: -namedpipe*name*=\PIPE\DSMSERV1

NETBIOSBUFFERSIZE

NETBIOSBUFFERSIZE

Use the NETBIOSBUFFERSIZE option to specify the size you want to use, in kilobytes, for the NETBIOS communication buffer.

Supported Clients

Clients that can use this option: DOS, OS/2, Windows 3.1, and Windows NT.

Syntax

```
▶▶—NETBIOSbuffersize size————▶▶
```

Parameters

size

The size you want to use for the NETBIOS communication buffer.

The range of values is 1 to 31.

The default is 16.

Examples

Options file example: netbiosb 1

Command line example: -netbiosbuffersize=1

NETBIOSNAME

NETBIOSNAME

Use the NETBIOSNAME option to specify a NETBIOS name for your workstation.

Supported Clients

Clients that can use this option: DOS, OS/2, Windows 3.1, and Windows 95.

Syntax

```
▶—NETbiosname name—▶◀
```

Parameters

name

A NETBIOS name for your workstation.

The name can be a maximum of 16 characters and is case sensitive. The first character cannot be an asterisk (*), and the first three characters cannot be the letters IBM.

The default is ADSM concatenated with a time of day value.

Examples

Options file example: `netbiosname adsmjohn`

Command line example: `-netbiosname=adsmwkst1`

NETBIOSSERVERNAME

NETBIOSSERVERNAME

Use the NETBIOSSERVERNAME option to specify a NETBIOS name for an ADSM server.

Supported Clients

Clients that can use this option: DOS, OS/2, Windows 3.1, Windows 95, and Windows NT.

Syntax

▶▶—NETBIOSServername *name*————▶▶

Parameters

name

A NETBIOS name for an ADSM server.

The name can be a maximum of 16 characters and is case sensitive. The first character cannot be an asterisk (*), and the first three characters cannot be the letters IBM.

The default is ADSMSERV1.

Examples

Options file example: netbioss admserv2

Command line example: -netbiosservername=admserv2

NETBIOS_TIMEOUT

NETBIOS_TIMEOUT

Use the NETBIOS_TIMEOUT option to specify the number of seconds that must elapse before a timeout occurs for a NETBIOS send or receive. If your LAN environment has slow response times or you are backing up directly to tape, it is recommended that you use a value of 0.

Supported Clients

Clients that can use this option: DOS, OS/2, Windows 3.1, Windows 95, and Windows NT.

Syntax



A rectangular box containing the text: `▶—NETBIOSTimeout seconds—▶`. The text is centered within the box, with a long horizontal line extending from the word "seconds" to the right, ending in a double-headed arrowhead. There is also a small arrowhead at the beginning of the line.

Parameters

seconds

The number of seconds that must elapse before a timeout occurs for a NETBIOS send or receive.

The range of values is 1 to 120. A value of 0 results in no timeout.

The default is 60.

Examples

Options file example: `netbiostimeout 30`

Command line example: `-netbiostimeout=30`

NODENAME

NODENAME

Use the NODENAME option to identify your workstation to the server. You can use different node names to identify multiple systems on your workstation. For example, if your machine is running both DOS and OS/2, you can specify *dosuser* for the first client system and *os2user* for the second client system.

You can also use the NODENAME option if you want to restore or retrieve files from the server while you are working from a different workstation. When you use the NODENAME option, ADSM prompts you for the ADSM password assigned to the node you specify if a password is required. On a UNIX client, if you enter the correct password for the node you specify, you become a virtual root user and can access all backups and archives that originated from the specified node.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option can be used in the client system options file to specify the name of your client node, or in the client user options file to specify the name of a different client node. When used in the client user options file or with a command, the node name specified must be different than the name returned by the **hostname** command.

Syntax

```
▶▶—NODename nodename————▶▶
```

Parameters

nodename

A 1 to 64 character name to identify the node for which you want to request ADSM services.

For Windows NT and Windows 95, the default is the name of the machine if you do not use this option. We recommend that you do not use the NODENAME option on Windows NT or Windows 95, allowing the node name to default to the machine name.

For UNIX, the default is the same as the name returned by the **hostname** command.

Examples

Option file example: NODENAME cougar

Command line example: -NOD=banshee

NUMBERFORMAT

NUMBERFORMAT

Use the NUMBERFORMAT option to specify the format you want ADSM to use for displaying numbers.

Supported Clients

Clients that can use this option: All clients except AIX.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax

```
▶—NUMBERformat number—▶◀
```

Parameters

number

One of the following number formats:

- 1 Displays numbers in this format: 1,000.00
This is the default.
- 2 Displays numbers in this format: 1,000,00
- 3 Displays numbers in this format: 1 000,00
- 4 Displays numbers in this format: 1 000.00
- 5 Displays numbers in this format: 1.000,00
- 6 Displays numbers in this format: 1'000,00

Examples

Options file example: num 4

Command line example: -numberformat=4

NWPWFILE

NWPWFILE

Use the NWPWFILE option to encrypt the user ID and password for a NetWare server and to save them in a file in the installation directory.

If you set NWPWFILE to Yes, the first time you issue a command for a remote NetWare server, ADSM encrypts the user ID and password you provide and stores that information in a file with an extension of *.pwd* in your installation directory. When you issue subsequent commands for that server, ADSM obtains the password information from that file instead of issuing a prompt.

If you set NWPWFILE to No, ADSM prompts you for the user IDs and passwords for remote NetWare servers each time you issue a command to back up or archive files stored on those servers.

Supported Clients

Clients that can use this option: Novell only.

Syntax

```
▶▶-NWPWFile [ Yes ] [ No ]▶▶
```

Parameters

Yes

A NetWare client user ID and password are encrypted in a password file. You can also specify Yes as ON, True, or 1.

This is the default.

No

A NetWare client user ID and password are not encrypted in a password file. You can also specify No as off, False, or 0.

Examples

Options file example: NWPWF off

Command line example: -NWPWFILE=N

NWWAITONERROR

NWWAITONERROR

Use the NWWAITONERROR option to control what happens if ADSM encounters an error while exiting. You can direct ADSM to do one of the following:

- Display an error message and wait before returning to the NetWare console
- Return immediately to the NetWare console

Supported Clients

Clients that can use this option: Novell only.

Syntax

<pre>▶▶—NWWaitonerror [Yes] [No]</pre>

Parameters

Yes

If ADSM encounters an error while exiting, it displays an error message. You must press Enter to return to the NetWare console.

This is the default.

You can also specify Yes as ON, True, or 1.

No

If ADSM encounters an error while exiting, it immediately returns to the NetWare console. No error message is displayed.

You can also specify No as OFF, False, or 0.

Examples

Options file example: NWWAITONERROR NO

Command line example: -NWW=YES

OPTFILE

OPTFILE

Use the OPTFILE option to specify the options file you want ADSM to use when you start an ADSM session. This option can only be used on the command line.

If you do not use this option, ADSM uses the default options file **dsm.opt**.

Supported Clients

Clients that can use this option: Windows only.

Syntax

```
▶▶—OPTFILE file_name————▶▶
```

Parameters

file_name

An alternate client options file.

Examples

Options file example: Not applicable

Command line example: -optfile=myopts.opt

For this option, the entry shown as a command line example is specified in the command box of the icon properties.

OPTIONFORMAT

OPTIONFORMAT

Use the OPTIONFORMAT option to specify the format users must use when issuing ADSM HSM client commands.

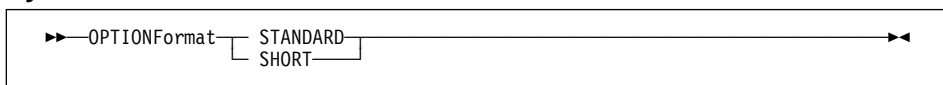
Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file and is used only when the ADSM HSM client is installed on your workstation.

Syntax



Parameters

STANDARD

Allows you to enter ADSM HSM commands in a format similar to ADSM backup-archive commands, as shown in these examples:

```
dsmmigrate -Recursive -Detail /home/user1/file1  
dsmmigrate -r -d /home/user1/file1
```

This is the default.

SHORT

Allows you to enter ADSM HSM commands in a format similar to your operating system commands, as shown in these examples:

```
dsmmigrate -Rv /home/user1/file1  
dsmmigrate -v -R /home/user1/file1
```

Refer to *Using the UNIX HSM Clients* for details regarding these two command formats.

Examples

Options file example: optionformat short

Command line example: Not applicable

PARTNERLUNAME

PARTNERLUNAME

Use the PARTNERLUNAME option to specify a logical unit name used by the transaction program to identify the ADSM server in the SNA network.

The partner logical unit name is used if the symbolic destination name is not provided for either SNA LU6.2 or PWSCS communications.

If you use this option, you must also define the CPICMODENAME and TPNAME options.

Supported Clients

Clients that can use this option: All except Macintosh, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶—PARTnerluname logical_unit_name—▶◀
```

Parameters

logical_unit_name

A 1 to 64 character LU name used to identify the remote target in a SNA network. Contact your system administrator for this name.

There is no default.

Examples

Options file example: partnerlu ALMVMA

Command line example: -par=SANJOSEVM

PASSWORD

PASSWORD

Use the PASSWORD option to specify an ADSM password.

If your administrator has set authentication to On, and you do not enter a password with this option when you start an ADSM session, ADSM prompts you for a password.

Be careful when using this option. If ADSM prompts you for a password, ADSM ensures the password is not displayed as you type it in. However, the password cannot be hidden when you enter it with the PASSWORD option.

Supported Clients

Clients that can use this option: Macintosh and Windows.

Syntax

```
▶▶—PASsword password————▶▶
```

Parameters

password

A 1 to 64 character password. Valid characters are:

Characters	Description
A–Z	any letter, A through Z, upper or lower case
0–9	any number, 0 through 9
+	plus
.	period
_	underscore
-	hyphen
&	ampersand

A password is not case sensitive.

Examples

Options file example: password secretword

Command line example: -password=secretword

PASSWORDACCESS

PASSWORDACCESS

Use the PASSWORDACCESS option to specify how you want to handle the ADSM password for your client node if one is required.

An ADSM password is required for your client node only when your ADSM administrator enables the authentication feature. Check with your administrator to verify whether you need a password.

If a password is required, you can choose to:

- Set the password for your client node yourself and have ADSM prompt for it each time you request services.

On a UNIX workstation, each user must know the ADSM password for your client node. Any user who knows the ADSM password for your client node can gain access to *all* backups and archives that originate from your client node.

- Let ADSM automatically generate a new password for your client node each time it expires, encrypt and store the password in a file, and retrieve the password from that file when you request services. You are not prompted for the password.

On a UNIX workstation, users do not need to know the ADSM password for your client node. Any user who does not know the ADSM password for your client node can access *only* the backups and archives the user owns and those to which the user has been granted access by other users.

Note: If you have the ADSM HSM client installed on your workstation, the PASSWORDACCESS option must be set to GENERATE. This is required because the HSM client provides several automatic services such as threshold and demand migration, transparent recall, and reconciliation.

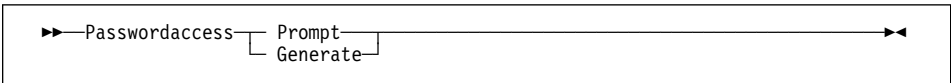
Supported Clients

Clients that can use this option: UNIX and OS/2.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax



Parameters

Prompt

ADSM prompts for the ADSM password for your client node each time you request services from the server.

This is the default.

Attention: If you set PASSWORDACCESS to PROMPT, be aware of the following:

PASSWORDACCESS

- On a UNIX workstation, a user who knows the ADSM password for your client node can become a virtual root user and can access all backups and archives originating from your client node.

For example, if the user enters the node name and password for your client node from a different client node, the user becomes a virtual root user.

Or, if you change the name of your client node (using the NODENAME option in the **dsm.sys** file), and the same node name is specified in the **dsm.opt** file, a user who enters the correct password becomes a virtual root user. The same is true if a user specifies the same node name by using the NODENAME option with a command and enters the correct password.

- To keep the password for your client node secure, users should enter ADSM commands without the password, and wait for ADSM to prompt them for it. That method provides better security in two ways. When a user types a password after being prompted for it:
 - ADSM does not display the characters on the screen for anyone else to see.
 - On a UNIX workstation, the user eliminates the possibility that the password will be displayed if another user subsequently issues a UNIX `ps` command to see a list of processes currently running in the system. On some UNIX clients, if a user enters a password with an ADSM command, a subsequent UNIX `ps` command may also display the password with the command.

For API applications, ADSM does not prompt for a password directly. If `PASSWORDACCESS` is set to `PROMPT`, the password must be supplied when a session is initiated. The application is responsible for obtaining the ADSM password.

Generate

ADSM automatically generates a new password for your client node each time the password expires, places the encrypted password in a locally stored file, and retrieves the password from that file when users request services.

ADSM does not prompt you for a password when you request services. However, you are prompted for a password if:

- You register your client node with an ADSM server using open registration
- Your ADSM administrator manually changes your password

On a UNIX workstation, when you set the `PASSWORDACCESS` option to `GENERATE`, you can use the `MAILPROG` option to specify a program and user ID to which you want ADSM to send the new password each time the old one expires.

On an OS/2 workstation, you can set the `PASSWORDDIR` option to specify the directory in which you want ADSM to store the file that contains your password. The name of the file is based on the server name and ends with **.PWD**. If you do not specify a directory with the `PASSWORDDIR` option, ADSM stores the password file in the directory specified with the `DSM_DIR` variable. If a directory is

PASSWORDACCESS

not specified with the DSM_DIR variable, ADSM stores the password file in the C:\ directory.

Attention: On a UNIX workstation, when PASSWORDACCESS is set to GENERATE, be aware of the following:

- If a user enters the ADSM password for your client node, the user becomes a virtual root user and can access all backups and archives that originated from your client node.

If you want users to be able to access *only* the backups and archives they own and those to which they have been granted access by other users, set PASSWORDACCESS to GENERATE and do *not* give the ADSM password for your client node to users.

- If you change the name of your client node (using the NODENAME option in the **dsm.sys** file), and the same node name is specified in the **dsm.opt** file, ADSM prompts users for the ADSM password for your client node. If a user enters the correct password, the user becomes a virtual root user. The same is true if a user specifies the same node name by using the NODENAME option with a command.

Examples

Options file example: passwordaccess generate

Command line example: Not applicable

PASSWORDDIR

PASSWORDDIR

Use the PASSWORDDIR option to specify the directory in which you want ADSM to store a file that contains your encrypted password. Use this option only when you specify Generate for the PASSWORDACCESS option.

When you specify Generate for the PASSWORDACCESS option, ADSM automatically generates a new password for your client node each time the password expires. It stores the password in an encrypted format in a file, and stores the file in a directory based on the following order of precedence:

1. The directory specified with the PASSWORDDIR option
2. The directory specified with the DSM_DIR environment variable
3. The C:\ directory

The name of the password file is based on the server name and ends with **.PWD**.

Supported Clients

Clients that can use this option/ OS/2 only.

Syntax

```
▶—PASSWORDDIR directory_path—▶
```

Parameters

directory_path

The directory in which you want ADSM to store an automatically generated password for your client node.

The default is the directory specified with the DSM_DIR environment variable, or if no directory is specified with that variable, the C:\ directory.

Examples

Options file example: passworddir c:\security

Command line example: -passworddir=c:\security

POSTSCHEDULECMD

POSTSCHEDULECMD

Use the POSTSCHEDULECMD option to specify a command that ADSM should process after running a schedule.

For Macintosh and UNIX, if you want ADSM to wait for the command to complete before continuing with other processing, specify POSTschedulecmd. If you don't want it to wait, specify POSTNschedulecmd.

For OS/2 and DOS, ADSM waits for the command to complete before continuing with other processing.

For Novell, ADSM does not wait for the command to complete before continuing with other processing.

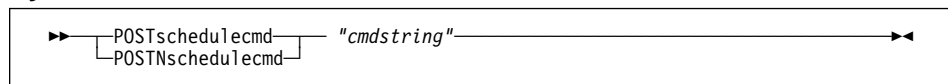
Supported Clients

Clients that can use this option: DOS, Macintosh, Novell, OS/2, UNIX, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax



Parameters

"cmdstring"

The command to process.

You can use only one POSTSCHEDULECMD option. You can also issue a command before a schedule using the PRESCHEDULECMD option.

Use a blank or null string for *cmdstring* if you want to prevent any commands that the ADSM administrator uses for POSTSCHEDULECMD and PRESCHEDULECMD from running. If you specify a blank or a null string for *either* option, it prevents the administrator from using a command on *both* options.

However, if your administrator uses a blank or a null string for the POSTSCHEDULECMD option, that prevents you from running a post-schedule command.

If the command string contains blanks, you must enclose it in double quotes. If you have double quotes within the command string, use single quotes to enclose them.

For Macintosh, *cmdstring* should specify an AppleScript to launch. If *cmdstring* is only a file name, such as "Database Script," ADSM looks for that file in the

POSTSCHEDULECMD

Scripts folder inside the ADSM folder. Otherwise, *cmdstring* should contain the full path of the file, such as "La Pomme:Scripting:Database Script."

Examples

- Options file example:** `postschedulecmd "restart database"`
where the command string is a valid command for restarting your database.
- Command line example:** Not applicable

PRESCHEDULECMD

PRESCHEDULECMD

Use the PRESCHEDULECMD option to specify a command that ADSM should process before running a schedule.

For Macintosh and UNIX, if you want ADSM to wait for the command to complete before continuing with other processing, specify PREschedulecmd. If you don't want it to wait, specify PRENschedulecmd.

For DOS and OS/2, ADSM waits for the command to complete before continuing with other processing.

For Novell, ADSM does not wait for the command to complete before continuing with other processing.

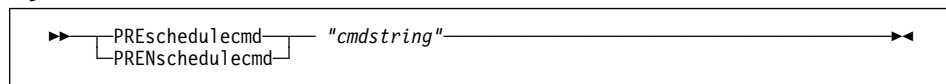
Supported Clients

Clients that can use this option: DOS, Macintosh, Novell, OS/2, UNIX, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax



Parameters

"cmdstring"

The command to process.

You can use only one PRESCHEDULECMD option. You can also issue a command after a schedule using the POSTSCHEDULECMD option.

Use a blank or null string for *cmdstring* if you want to prevent any commands that the ADSM administrator uses for POSTSCHEDULECMD and PRESCHEDULECMD from running. If you specify a blank or null string for *either* option, it prevents the administrator from using a command on *both* options.

However, if your administrator uses a blank or a null string for the PRESCHEDULECMD option, that prevents you from running a pre-schedule command.

If the command string contains blanks, you must enclose it in double quotes. If you have double quotes within the command string, use single quotes to enclose them.

For Macintosh, *cmdstring* should specify an AppleScript to launch. If *cmdstring* is only a file name, such as "Database Script," ADSM looks for that file in the Scripts folder inside the ADSM folder. Otherwise, *cmdstring* should contain the full path of the file, such as "La Pomme:Scripting:Database Script."

PRESCHEDULECMD

Examples

- Options file example:** `preschedulecmd "quiesce database"`
where the command string is a valid command for quiescing your database.
- Command line example:** Not applicable

PROCESSORUTILIZATION

PROCESSORUTILIZATION

Use the PROCESSORUTILIZATION option to control the percentage of CPU time allotted to ADSM.

Because this option can affect other applications running on your client node, use it only when speed is of the utmost importance.

Supported Clients

Clients that can use this option: Novell only.

Syntax

▶—PROCESSORutilization *number*—▶

Parameters

number

The relative amount of CPU utilization that ADSM is allowed. The higher the value of *number*, the more CPU time is allotted to ADSM.

The minimum value is 0. There is no maximum value.

The default is 1.

Examples

Options file example: PROCESSOR 2

Command line example: -PROCESSORUTILIZATION=10

QUERYSCHEDPERIOD

QUERYSCHEDPERIOD

Use the QUERYSCHEDPERIOD option to specify the number of hours you want the client scheduler to wait between attempts to contact the ADSM server for scheduled work.

This option applies only when the SCHEDMODE option is set to POLLING. ADSM uses this option only when the SCHEDULE command is running.

Your ADSM administrator can also set this option. If your ADSM administrator specifies a value for this option, that value overrides what you specify in the client options file after your client node successfully contacts the ADSM server.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—QUERYSCHedperiod hours—————▶▶
```

Parameters

hours

The number of hours the client scheduler waits between attempts to contact the ADSM server for scheduled work.

The range of values is 1 to 9999.

The default is 12.

Examples

Options file example: QUERYSCH 6

Command line example: -QUERYSCHEDPERIOD=8

QUIET

QUIET

Use the QUIET option to keep messages from being displayed on your screen during ADSM processing.

For example, when you run the INCREMENTAL or SELECTIVE command, ADSM displays information about each file it backs up. You can use the QUIET option if you do not wish to view that information.

When you use the QUIET option, certain error information still appears on your screen, and messages are written to log files.

If you do not specify QUIET, ADSM uses the VERBOSE option by default.

Supported Clients

Clients that can use this option: All except Windows 3.1.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax

```
▶—quiet—▶▶
```

Examples

Options file example: quiet

Command line example: -q

RECONCILEINTERVAL

RECONCILEINTERVAL

Use the RECONCILEINTERVAL option to specify how often ADSM automatically reconciles your file systems. ADSM reconciles each file system for which space management is active.

The reconciliation process synchronizes the client and server and builds a new migration candidates list for each file system.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file and is used only when the ADSM HSM client is installed on your workstation. It must be placed at the beginning of the client system options file before any server stanzas.

Syntax

```
►►—RECOncileinterval interval—————◄◄
```

Parameters

interval

The number of hours that must elapse between each successive time ADSM automatically reconciles the file systems on your workstation.

If you specify a value of 0, ADSM does *not* automatically reconcile your file systems.

The range of values is 0 to 9999.

The default is 24.

Examples

Options file example: reconcileinterval 12

Command line example: Not applicable

REPLACE

REPLACE

Use the REPLACE option to specify what you want ADSM to do when restoring files that already exist on your workstation. This applies only to the RESTORE and RETRIEVE commands.

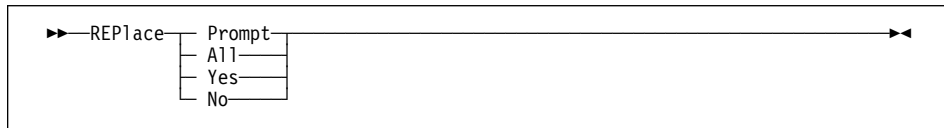
Supported Clients

Clients that can use this option: DOS, Novell, OS/2, UNIX, Windows NT and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax



Parameters

Prompt

ADSM prompts you for your choice for overwriting a file when it encounters an existing file during a restore or retrieve process. If the existing file is a read-only file, you cannot overwrite it.

This is the default.

All

ADSM overwrites any existing files, including read-only files.

Yes

ADSM overwrites any existing files, except read-only files. You can also specify Yes as True, 1, or ON.

No

ADSM does not overwrite any existing files. You can also specify No as False, 0, or OFF.

Examples

Options file example: `replace all`

Command line example: `-replace=off`

RESTOREMIGSTATE

RESTOREMIGSTATE

Use the RESTOREMIGSTATE option to specify whether you want ADSM to restore stub files for migrated and premigrated files (placing them in a migrated state) or restore backup versions of migrated and premigrated files (placing them in a resident state) during a restore operation.

ADSM can restore a stub file for a migrated or premigrated file only when:

- The ADSM HSM client is installed and active
- The file exists in the migration storage pool
- The file is backed up and migrated to the same server

When a stub file for a migrated file or the original copy of a premigrated file is erased from a local file system, ADSM marks the migrated file for expiration the next time reconciliation is run. When the number of days specified with the MIGFILEEXPIRATION option elapse, ADSM removes the migrated file from ADSM storage.

If you set RESTOREMIGSTATE to Yes (the default), and if the migrated or premigrated file has not expired, ADSM restores the file to a stub file, regardless of whether it has been marked for expiration.

Attention

The RESTOREMIGSTATE option does not support hardlinked files. If you attempt to restore a stub file for a hardlinked file, a stub file is not restored unless all of the files that are hardlinked together have been deleted from the local file system.

When one file in a set of hardlinked files is migrated, all of the hardlinked files in the set become stub files. When you issue the RESTORE command with the RESTOREMIGSTATE option, and ADSM restores a stub file for a hardlinked file, the stub file has the same name as the file that was originally migrated. Stub files are not restored for any other files that were previously in the hardlinked set of files.

Supported Clients

Clients that can use this option: AIX only.

Options File for UNIX Platforms

For AIX clients, this option goes in the client user options file and is used only when the ADSM HSM client is installed on your workstation.

Syntax

```
▶▶—RESToremigstate [ Yes ]————▶▶  
                  [ No ]
```

RESTOREMIGSTATE

Parameters

Yes

ADSM restores migrated and premigrated files to stub files on the local file system during a restore operation. The files remain migrated.

This is the default.

Note: A stub file created during a restore operation contains the information necessary to recall the migrated file from ADSM storage. It does not contain any leading bytes of data from the file. In addition, any recall mode previously set for the migrated file (for example, migrate-on-close or read-without-recall) is not stored in the stub file. The recall mode is set to normal for all files restored to stub files.

No

ADSM restores backup versions of migrated files to the local file system during a restore operation. The files become resident.

Examples

Options file example: RESTOREMIGSTATE YES

Command line example: --restoremigstate=no

RETRYPERIOD

RETRYPERIOD

Use the `RETRYPERIOD` option to specify the number of minutes you want the client scheduler to wait between attempts to process a scheduled command that fails or between unsuccessful attempts to report results to the server.

ADSM uses this option only when the `SCHEDULE` command is running.

Your ADSM administrator can also set this option. If your ADSM administrator specifies a value for this option, that value overrides what you specify in the client options file after your client node successfully contacts the ADSM server.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—RETRYPeriod minutes————▶▶
```

Parameters

minutes

The number of minutes the client scheduler waits between attempts to contact the ADSM server or attempts to process a scheduled command that fails.

The range of values is 1 to 9999.

The default is 20.

Examples

Options file example: `RETRYP 10`

Command line example: `-RETRYPERIOD=15`

SCHEDCOMPLETEACTION

SCHEDCOMPLETEACTION

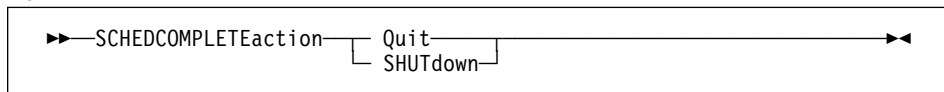
Use the SCHEDCOMPLETEACTION to specify an action to take after a schedule has been completed.

ADSM uses this option only when the scheduler is running.

Supported Clients

Client that can use this option: Macintosh

Syntax



Parameters

Quit

Tells the scheduler application to quit once a schedule has completed.

SHUTdown

Causes your machine to be shutdown once a schedule has completed. If there are other applications opened with unsaved data, those applications may prompt the user to choose whether to save the data. That can prevent the machine from shutting down until the prompt is dismissed.

Examples

Preferences file example: `schedcompleteaction shutdown`

SCHEDLOGNAME

SCHEDLOGNAME

Use the SCHEDLOGNAME option to specify the name and location of a file where you want ADSM to store the schedule log.

When you run the SCHEDULE command, output from scheduled commands appears on your screen. It is also directed to the file you specify with this option.

ADSM uses this option only when the SCHEDULE command is running.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

▶—SCHEDLOGname *filespec*————▶

Parameters

filespec

The path and file name where you want ADSM to store schedule log information when processing scheduled work. If you specify only a file name, ADSM stores the file in your current directory.

The default is the current directory with a file name of **dsmsched.log**.

Examples

Options file example: schedlogname c:\mydir\schedlog.jan

Command line example: -schedlog=c:\mydir\schedlog.jan

SCHEDLOGRETENTION

SCHEDLOGRETENTION

Use the SCHEDLOGRETENTION option to specify:

- The number of days to keep entries in the schedule log
- Whether to save the pruned entries

ADSM prunes the log after every schedule is run.

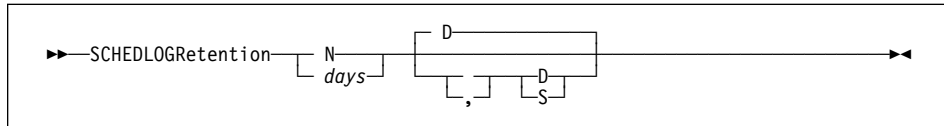
Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax



Parameters

N or *days*

How long to wait before pruning the schedule log.

N

Do not prune the log. This allows the log to grow indefinitely.

This is the default.

days

The number of days to keep log file entries before pruning the log.

The range of values is 0 to 9999.

D or S

Whether to save the pruned entries.

If you specify anything but D or S, ADSM uses the default D. You must use a space or comma to separate this parameter from the previous one.

D

Discard the log entries when pruning the log.

This is the default.

S

Save the log entries when pruning the log. ADSM copies the entries pruned from the log to **dsmsched.pru**.

SCHEDLOGRETENTION

Examples

Options file example: SCHEDLOGRETENTION 30 S
Command line example: -SCHEDLOGRETENTION=30,S

SCHEDMODE

SCHEDMODE

This option applies only if you are using the TCP/IP communication method, and the SCHEDULE command is running.

Use the SCHEDMODE option to specify which ADSM schedule mode to use. The schedule mode determines whether your client node periodically asks the ADSM server for scheduled work (POLLING), or whether the ADSM server contacts your client node when it is time to start a scheduled operation (PROMPTED).

All communication methods except TCP/IP only use POLLING.

Your ADSM administrator can specify that either mode is supported by the ADSM server, or only one mode is supported. If your ADSM administrator specifies either, you can choose the schedule mode. If your ADSM administrator specifies only one mode, you must specify that same mode in your client options file. Otherwise, scheduled work is not processed.

If the scheduling mode is PROMPTED, you can supply values for the TCPCLIENTADDRESS and TCPCLIENTPORT with the SCHEDULE command. This allows you to be contacted at an address or port other than the one that made initial contact with the server.

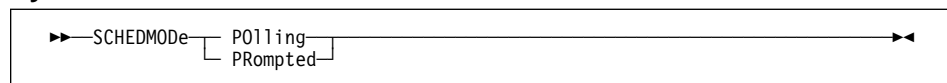
Supported Clients

Clients that can use this option: DOS, Novell, OS/2, UNIX, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax



Parameters

POLLING

The client scheduler should query the ADSM server for scheduled work at prescribed time intervals set with the QUERYSCHEDPERIOD option.

This is the default.

PROMPTED

The client scheduler should wait for the ADSM server to contact your client node when scheduled work needs to be done.

Examples

SCHEDMODE

Options file example: SCHEDMODE PROMPTED

Command line example: -SCHEDMOD=P0

SCROLLINES

SCROLLINES

Use the SCROLLINES option to specify the number of lines you want to appear at one time when ADSM displays lists of information on your screen.

ADSM uses this option only when you set the SCROLLPROMPT option to Yes, and you are using ADSM commands.

Supported Clients

Clients that can use this option: DOS, Novell, OS/2, UNIX, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax

```
▶—SCROLLlines number—▶
```

Parameters

number

The number of lines you want ADSM to display at one time when displaying lists of information on your screen.

The range of values is 1 to 80.

The default is 20.

Examples

Options file example: SCROLLINES 25

Command line example: -SCROLL=25

SCROLLPROMPT

SCROLLPROMPT

Use the SCROLLPROMPT option to specify whether you want ADSM to stop and wait after displaying the number of lines you specify with the SCROLLLINES option, or scroll through all lines and stop at the end of the list.

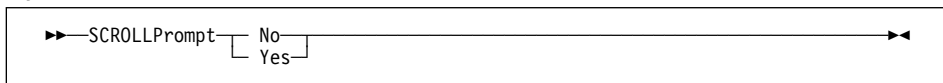
Supported Clients

Clients that can use this option: DOS, Novell, OS/2, UNIX, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax



Parameters

No

ADSM scrolls to the end of the list and stops. You can also specify No as OFF, False, or 0.

This is the default.

Yes

ADSM stops and waits after displaying the number of lines indicated with the SCROLLLINES option. ADSM displays the following prompt at the bottom of the screen:

Press 'Q' to quit, 'C' to continuous scroll, or 'Enter' to continue.

You can also specify Yes as On, True, or 1.

Examples

Options file example: SCROLLPRO Yes

Command line example: -SCROLLP=Yes

SERVERNAME

SERVERNAME

Use the SERVERNAME option in your client system options file to specify the name you want to use to identify an ADSM server and to begin a stanza containing options for that server. You can name and specify options for more than one server.

The following is an example of specifying options for two different servers:

```
SErvername      server_a
  COMMmethod      TCPip
  TCPport         1500
  TCPserveraddress almvmd.almaden.ibm.com
  Passwordaccess  prompt
  Groups          adsm
  Users           sullivan mushock tallan
  Incl excl       /adm/adsm/backup.excl

SErvername      server_b
  COMMmethod      SNA1u6.2
  PARTnerlunname  raptor
  TPname         appcdcl
  CPICMODename   appc
  Passwordaccess  generate
  Mailprog       /usr/bin/xsend root
  Groups         system adsm
  Incl excl       /adm/adsm/archive.excl
```

If you specify multiple servers, users can choose the server to contact for backup-archive services by using the SERVERNAME option when starting ADSM. For example:

```
dsm -servername=server_b
dsmc incremental /u -servername=server_b
```

You can also specify which server to contact for backup-archive services by placing the SERVERNAME option in the client user options file.

For backup-archive services, the order of precedence for which server to contact is:

1. The server specified with the SERVERNAME option on the command line.
2. The server specified with the SERVERNAME option in the client user options file.
3. The server specified with the DEFAULTSERVER option in the client system options file.
4. The first server specified with the SERVERNAME option in the client system options file. This default is used only when both the SERVERNAME and DEFAULTSERVER options are not used.

For HSM services, the order of precedence for which server to contact is:

1. The server specified with the MIGRATESERVER option in the client system options file.

SERVERNAME

2. The server specified with the DEFAULTSERVER option in the client system options file if the MIGRATESERVER option is not used.
3. The first server specified with the SERVERNAME option in the client system options file if both the MIGRATESERVER option and the DEFAULTSERVER option are not used.

Users cannot override the migrate server specified in the client system options file.

Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in both the client system options file and the client user options file.

Syntax

```
▶—SErvername servername—▶
```

Parameters

servername

In the client system options file, the name you want to assign to a particular ADSM server. In the client user options file or on the command line, the name of the server you want your client node to contact for backup-archive services.

A server name can be as many as 64 characters long and is not case sensitive.

Examples

Options file example: `servername server_a`

Command line example: `-se=server_b`

SHMPORT

SHMPORT

Use the SHMPORT option to specify the TCP/IP port address that the server is listening on to establish a shared memory connection. Shared memory communication is supported between AIX clients and servers on the same workstation. To use shared memory, TCP/IP must be installed on the workstation.

Note: The value specified for this option in the client system options file (**dsm.sys**) must match the value specified for the SHMPORT option in the **dsmserv.opt** file for the server.

Supported Clients

Clients that can use this option: AIX only.

Options File for UNIX Platforms

For AIX clients, this option goes in the client system options file.

Syntax

```
▶—SHMPort port_address—▶
```

Parameters

port_address

The TCP/IP address that the server is listening on to establish a shared memory connection.

The range of values is 1000 to 32767.

The default is 1510.

Examples

Options file example: shmport 1520

Command line example: Not applicable

SLOWINCREMENTAL

SLOWINCREMENTAL

Use the SLOWINCREMENTAL option to specify a slower algorithm for processing incremental backups. With the SLOWINCREMENTAL option, ADSM backs up one directory at a time, thus using less memory.

Use this option with the INCREMENTAL command when your machine is running low on memory.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax

<pre>▶▶—Slowincremental <input type="checkbox"/> No <input type="checkbox"/> Yes</pre>

Parameters

No

Your client node uses the fastest, most memory-intensive method when processing incremental backups. You can also specify No as OFF, False, or 0.

This is the default for DOS, OS/2, UNIX, Windows NT, and Windows 95.

Yes

Your client node uses the method that uses less memory when processing incremental backups. You can also specify Yes as ON, True, or 1.

This is the default for Macintosh, Windows 3.1, and NetWare

Examples

Options file example: slowincremental yes

Command line example: -s1=no

SUBDIR

SUBDIR

Use the SUBDIR option to specify whether you want ADSM to include subdirectories of specified directories on the following commands:

- ARCHIVE
- DELETE ARCHIVE
- QUERY ARCHIVE
- QUERY BACKUP
- RESTORE
- RETRIEVE
- SELECTIVE

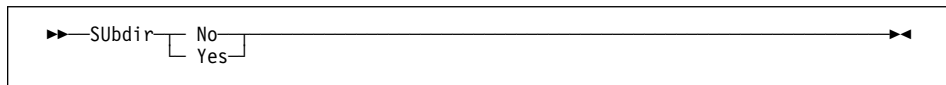
Supported Clients

Clients that can use this option: All except Macintosh.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax



Parameters

No

ADSM does not process subdirectories. You can also specify No as OFF, False, or 0.

This is the default.

Yes

ADSM processes subdirectories. You can also specify Yes as ON, True, or 1.

For UNIX systems, if a subdirectory is a file system in itself, it is not processed even if SUBDIR is **Yes**.

Because ADSM searches all the subdirectories of a directory being processed, it can take longer for ADSM to complete the requested task than if SUBDIR were **No**. Therefore, we recommend you use **Yes** only when necessary.

Examples

Options file example: SUBDIR Yes

Command line example: -SU=Yes

SYMBOLICDESTINATION

SYMBOLICDESTINATION

Use the SYMBOLICDESTINATION option to specify a symbolic ADSM server name. Contact your ADSM administrator to get the correct name. The symbolic destination name indexes SNA routing and security parameters that are stored in communication directory files.

When a symbolic destination is used with the COMMETHOD option for SNA LU6.2 or PWSCS communication, you do not have to specify the TPNAME, PARTNERLUNAME, or CPICMODENAME options.

This option is required if your communication protocol is SNA LU6.2 or PWSCS, and a transaction program name or partner logical unit name is not provided.

Supported Clients

Clients that can use this option: All except Macintosh, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶—SYMboIcdestInatIon sym_dest_name—————▶
```

Parameters

sym_dest_name

A 1 to 8 character symbolic destination name for the ADSM server. Contact your ADSM administrator to get this name.

There is no default.

Examples

Options file example: symbolicdestination adsm

Command line example: -sym=anrserv

TAPEPROMPT

TAPEPROMPT

Use the TAPEPROMPT option to specify whether you want ADSM to wait for a tape to be mounted if required for a backup, archive, restore, or retrieve process, or prompt you for your choice. If you have the HSM client installed on your workstation, the TAPEPROMPT option also specifies whether you want ADSM to wait for a tape to be mounted if required for selective migration.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax

▶▶—TAPEPrompt <input type="checkbox"/> No <input type="checkbox"/> Yes—▶▶

Parameters

No

You are not prompted for your choice. ADSM waits for the appropriate tape to be mounted. You can also specify No as OFF, False, or 0.

Note: For API applications, this is recommended to allow backup directly to tape.

This is the default.

Yes

ADSM prompts you when a tape is required for a backup, archive, restore, or retrieve process. If you have the HSM client installed, ADSM also prompts you when a tape is required for a selective migration. At the prompt, you can choose whether to wait for the appropriate tape to be mounted. If you choose not to wait, the file is not backed up, archived, restored, retrieved, or migrated. You can also specify Yes as ON, True, or 1.

Examples

Options file example: TAPEPROMPT YES

Command line example: -TAPEP=YES

TCPBUFFSIZE

TCPBUFFSIZE

Use the TCPBUFFSIZE option to specify the size you want to use for the ADSM internal TCP/IP communication buffer.

A larger buffer can improve communication performance, but uses more memory.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

▶▶—TCPBuffsize *size*————▶▶

Parameters

size

The size you want to use, in kilobytes, for the ADSM internal TCP/IP communication buffer.

The range of values is 1 to 32.

The default for UNIX, OS/2, NetWare, Windows NT, and Windows 95 is 31.

The default for Macintosh is 16.

The default for DOS and Windows 3.1 is 8.

For AIX users only: If you specify COMMMethod CLIO, the maximum size for TCPBuffsize is 512. CLIO/S performance will improve with a larger TCPBuffsize.

Examples

Options file example: tcpb 16

Command line example: -tcpbuffsize=16

TCPCLIENTADDRESS

TCPCLIENTADDRESS

Use the TCPCLIENTADDRESS option to specify a TCP/IP address if your client node has more than one address, and you want the server to contact a different address than the one used to make initial contact with the server.

You can use this option only if you are using PROMPTED for SCHEDMODE.

ADSM uses this option only when the SCHEDULE command is running.

Supported Clients

Clients that can use this option: DOS, Novell, OS/2, UNIX, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶—TCPCLIENTAddress client_address————▶◀
```

Parameters

client_address

The TCP/IP address you want the ADSM server to use to contact your client node.

The value you specify for this parameter can be a TCP/IP Internet domain name or a dot address.

Examples

Options file example: `tcpclienta dsmclnt.sanjose.ibm.com`

Command line example: `-tcpclientaddress=128.33.10.249`

TCPCLIENTPORT

TCPCLIENTPORT

Use the TCPCLIENTPORT option to specify a TCP/IP port number if you want the ADSM server to contact a different port than the one used to make initial contact with the server.

You can use this option only if you are using PROMPTED for SCHEDMODE.

ADSM uses this option only when the SCHEDULE command is running.

If the default or specified port is busy, ADSM attempts to use any other available port.

Supported Clients

Clients that can use this option: DOS, Novell, OS/2, UNIX, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—TCPCLIENTPort client_port_address—————▶▶
```

Parameters

client_port_address

The TCP/IP port address you want the ADSM server to use to contact your client node.

The range of values is 1000 to 32767.

The default is 1501.

Examples

Options file example: tcpclientp 1502

Command line example: -tcpclientport=1492

TCPNODELAY

TCPNODELAY

Use the TCPNODELAY option to have an ADSM transaction sent immediately to the server, rather than having small transactions buffered before sending. A *small transaction* is one that is smaller than the byte limit set with the TXNBYTELIMIT option. TCPNODELAY might improve performance in higher-speed networks, especially within an IBM SP2 computer.

You can use this option with an AIX, Windows NT, or Windows 95 client only. All other clients buffer small transactions before sending them to the server.

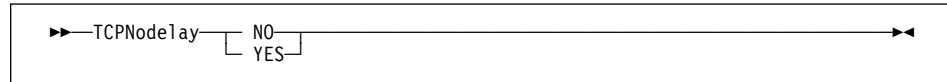
Supported Clients

Clients that can use this option: AIX, Windows NT, and Windows 95.

Options File for UNIX Platforms

For AIX clients, this option goes in the client system options file.

Syntax



Parameters

NO

Do not send small transactions without buffering them first.

This is the default.

YES

Send small transactions without first buffering them.

Examples

Options file example: tcpnodelay yes

Command line example: -tcpnodelay=yes

TCPPORT

TCPPORT

Use the TCPPORT option to specify a server's TCP/IP port address.

Obtain this port address from your ADSM administrator.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—TCPPort port_address—————▶▶
```

Parameters

port_address

The TCP/IP port address used to communicate with an ADSM server.

The range of values is 1000 to 32767.

The default is 1500.

Examples

Options file example: tcpp 1501

Command line example: -tcpport=1492

TCPSERVERADDRESS

TCPSERVERADDRESS

Use the TCPSERVERADDRESS option to specify the TCP/IP address for an ADSM server.

Obtain this server address from your ADSM administrator.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶—TCPServeraddress server_address—▶
```

Parameters

server_address

A 1 to 64 character TCP/IP address for an ADSM server.

The value you specify for this parameter can be a TCP/IP Internet domain name or a dot address.

Examples

Options file example: `tcps dsmchost.endicott.ibm.com`

Command line example: `-tcpserveraddress=129.33.249`

TCPWINDOWSIZE

TCPWINDOWSIZE

Use the TCPWINDOWSIZE option to specify the size of the TCP/IP sliding window you want to use for your client node. This is the size of the buffer used when sending or receiving data.

A larger size can improve communication performance, but uses more memory.

Supported Clients

Clients that can use this option: All.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—TCPWindowsize window_size————▶▶
```

Parameters

window_size

The size you want to use, in kilobytes, for the TCP/IP sliding window for your client node.

The range of values is:

DOS and Windows	1 to 24
UNIX, OS/2, Windows NT, and Windows 95	1 to 2048
NetWare	1 to 64
Macintosh	1 to 128

The default for UNIX, OS/2, NetWare, Windows NT, and Windows 95 is 32. The default for Macintosh, DOS, and Windows 3.1 is 16.

Examples

Options file example: tcpwindowsize 1

Command line example: -tcpw=24

TIMEFORMAT

TIMEFORMAT

Use the TIMEFORMAT option to select the format you want ADSM to use for displaying the system time.

Supported Clients

Clients that can use this option: All except AIX.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax

```
▶—TIMEformat format_number—▶◀
```

Parameters

format_number

One of the following time formats:

- 1 Displays time in this format: 23:00:00
This is the default.
- 2 Displays time in this format: 23,00,00
- 3 Displays time in this format: 23.00.00
- 4 Displays time in this format: 12:00:00A/P

Examples

Options file example: TIMEFORMAT 4

Command line example: -TIME=3

TPNAME

TPNAME

Use the TPNAME option to specify a symbolic name for the transaction program name. The transaction program name is required if the symbolic destination name is not provided for either SNA LU6.2 or PWSCS communication.

If you use this option, you must also define the CPICMODENAME and PARTNERLUNAME options.

Supported Clients

Clients that can use this option: All except Macintosh, Windows NT, and Windows 95.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax

```
▶▶—TPname symbolic_name————▶▶
```

Parameters

symbolic_name

The 1 to 64 character transaction program name of the target logical unit (the ADSM server).

Contact your ADSM administrator for this name.

There is no default.

Note: To communicate with an AIX ADSM server, the *symbolic_name* must be **dsmserv** in all lower-case letters.

Examples

Options file example: tpname adsm

Command line example: -tp=adsm

TXNBYTELIMIT

TXNBYTELIMIT

Use the TXNBYTELIMIT option to select the number of kilobytes ADSM should buffer before sending a transaction to the server. This limit applies when files are batched together during backup. It is also used when receiving files from the server during restore.

A *transaction* for ADSM can have two meanings:

1. The action taken for each file or directory processed due to client request. This result is displayed in the GUI clients on the Status window, and in the command-line clients in the output associated with a command. These kinds of transactions can include successful backing up, archiving, deleting, and so forth, of a file or directory.
2. The action taken between ADSM server data commitments. Because ADSM can transfer more than one file or directory between the client and server before committing the data to server storage, a transaction in this sense can contain more than one file or directory. This is sometimes referred to as a *transaction group*.

The transaction processing option relates to the second meaning of *transaction*. To alter the speed with which your client performs work, you can use the TXNBYTELIMIT option to specify the amount of data that can be sent between the client and server before the server commits the data and changes the server database.

The server can limit the number of files or directories contained within a group transaction, however, so the actual size of a transaction can be less than your limit.

The number of kilobytes buffered is limited by the TXNGROUPMAX option set on the ADSM server. TXNGROUPMAX determines the number of files or directories that can be sent in a single transaction. Once this number is reached, the client sends the files to the server even if the transaction byte limit is not reached.

Supported Clients

Clients that can use this option: All except Macintosh.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax



►—TXNBytelimit *number*—◄

Parameters

number

The number of kilobytes ADSM can buffer together in a transaction before sending data to the server.

The range of values is 1 to 25600 (25 MB).

TXNBYTELIMIT

| The default for UNIX, OS/2, NetWare, Windows NT, and Windows 95 is 2048.
| The default for DOS and Windows 3.1 is 1024.

Examples

Options file example: txnb 1024

Command line example: -txnb=1024

USERS

USERS

Use the **USERS** option to authorize specific users on your workstation to request services from an ADSM server.

You can use this option more than once to specify a large number of user IDs.

If you do not specify group names with the **GROUPS** option or user IDs with the **USERS** option, all users can request ADSM services. If you use the **GROUPS** option, the **USERS** option, or both, only users included in one of the specified groups or included in the list of users can request ADSM services.

You can use the **USERS** option to exclude all other users from accessing the server by defining only your root user name.

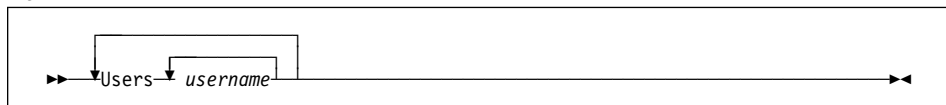
Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax



Parameters

username

A user you want to authorize to request ADSM services.

Examples

Options file example:

```
users carol larry davecd kathyba michelle
users amyb msmith kbsmith kjones srjames
users davidp mtallan marylbt johnrd armand
```

Command line example: Not applicable

VERBOSE

VERBOSE

Use the VERBOSE option to specify that you want processing information to appear on your screen.

For example, when you run the INCREMENTAL command, ADSM generates information about each file it backs up. You can use the VERBOSE option if you want ADSM to display that information on your screen.

The alternative is the QUIET option. If you do not specify either option, VERBOSE is the default.

Supported Clients

Clients that can use this option: All except Windows 3.1.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client user options file.

Syntax

```
▶▶—Verbose—————▶▶
```

Examples

Options file example: VERBOSE

Command line example: -V

VIRTUALMOUNTPOINT

VIRTUALMOUNTPOINT

Use the VIRTUALMOUNTPOINT option to define a virtual mount point for a file system if you want ADSM to consider files for backup beginning with a specific directory within that file system.

Using the VIRTUALMOUNTPOINT option to identify a directory within a file system provides a direct path to the files you want to back up, thus saving processing time. It is more efficient to define a virtual mount point within a file system than to define the file system with the DOMAIN option, and then use the EXCLUDE option in your include-exclude options file to exclude the files you do not want ADSM to consider for backup.

You can use the VIRTUALMOUNTPOINT option to define virtual mount points for multiple file systems, and you can define more than one virtual mount point within the same file system. You can use the VIRTUALMOUNTPOINT option to define virtual mount points for both local and remote file systems.

Note: If the directory you want to specify as a virtual mount point is a symbolic link, be sure to set the FOLLOWSYMBOLIC option to Yes. If that option is set to No, which is the default, ADSM does not allow a symbolic link to be used as a virtual mount point.

After you define a virtual mount point, you can include it for incremental backup services by specifying the path and directory name in the DOMAIN option in either the default client user options file or in the INCREMENTAL command. Users can also specify the path and directory name of the virtual mount point with the DOMAIN option in their own client user options files and with the INCREMENTAL command.

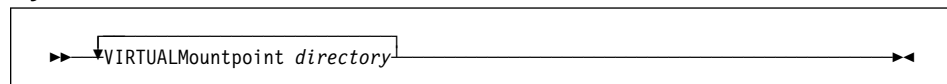
Supported Clients

Clients that can use this option: UNIX only.

Options File for UNIX Platforms

For UNIX clients, this option goes in the client system options file.

Syntax



Parameters

directory

The path and directory name for the directory you want to use as the virtual mount point for a file system.

You cannot use wildcard characters in the path or directory names.

Define only one virtual mount point with each VIRTUALMOUNTPOINT option you include in your client system options file. Use the VIRTUALMOUNTPOINT option as many times as necessary to define all of the virtual mount points you want to use.

VIRTUALMOUNTPOINT

Examples

Options file example:

```
virtualmountpoint /afs/xyzcorp.com/u/bob  
virtualmountpoint /afs/xyzcorp.com/u/bob/test/data
```

Command line example: Not applicable

3270BUFFERSIZE

3270BUFFERSIZE

Use the 3270BUFFERSIZE option to specify the size of the 3270 communication buffer, which is used to transfer data between the client node and the server. A large buffer size may increase the data transfer rate. However, it also requires more memory, and may cause the termination of a 3270 terminal session. Set a buffer size of at least 4000 bytes unless memory constraints or line conditions dictate otherwise.

Attention: Raising the value too high may cause your 3270 terminal session to fail.

Supported Clients

Clients that can use this option: DOS, OS/2, and Windows 3.1.

Syntax

▶—3270buffersize <i>bytes</i> ————▶◀

Parameters

bytes

The size of the buffer in bytes. Contact your system administrator for the recommended size.

The range of values is 512 to 65508.

The default is obtained from the emulator file transfer buffer size.

Examples

Options file example: 3270buffersize 4000

Command line example: -3270buffersize=4000

3270CHECKSUM

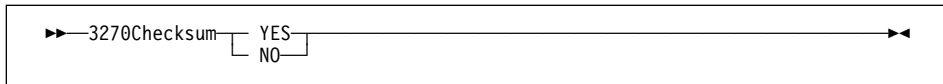
3270CHECKSUM

Use the 3270CHECKSUM option to specify whether ADSM should check the validity of the data being sent between a 3270 client session and the server. To ensure data integrity, ADSM checks to see if the data contains a trailing two-byte checksum.

Supported Clients

Clients that can use this option: DOS, OS/2, and Windows 3.1.

Syntax



Parameters

YES

Turns validity checking on.

This is the default.

NO

Turns validity checking off.

Examples

Options file example: 3270checksum no

Command line example: -3270checksum=no

3270HOSTCMDPAUSE

3270HOSTCMDPAUSE

Use the 3270HOSTCMDPAUSE option to specify the number of seconds to pause between sending AID (attention) keys to the host, as specified by the 3270 host command option.

Use this option when the host response time is slow. If the value of the seconds parameter is too small and the host response time is slow, errors may occur when sending keystrokes to the host session. When system response time is slow, a value of 3 to 5 seconds may be appropriate.

Supported Clients

Clients that can use this option: DOS, OS/2, and Windows 3.1.

Syntax

```
▶▶—3270HOSTCMDPause seconds————▶▶
```

Parameters

seconds

The number of seconds to pause between sending interrupts.

The default is 1.

Examples

Options file example: 3270hostcmdpause 3

Command line example: -3270hostcmdpause=3

3270HOSTCOMMAND

3270HOSTCOMMAND

Use the 3270HOSTCOMMAND option to specify a sequence of commands to start a 3270 client/server session. Because the connection to the server uses the 3270 datastream dialup interface, the terminal session should not have an active user at the time the session is started. You can embed special control characters in the command string. Any character not preceded by the control character @ is read as text.

The control characters and their associated function are listed below. Control characters are case sensitive.

Figure 119. Control Characters for the 3270 host command. Control characters are case sensitive.

@B (Left Tab)	@C (Clear)	@D (Delete)	@E (Enter)
@F (Erase EOF)	@I (Insert)	@L (Cursor Left)	@N (New Line)
@R (Reset)	@T (Right Tab)	@U (Cursor Up)	@V (Cursor Down)
@Z (Cursor Right)	@0 (Home)	@1 (PF1)	@2 (PF2)
@3 (PF3)	@4 (PF4)	@5 (PF5)	@6 (PF6)
@7 (PF7)	@8 (PF8)	@9 (PF9)	@a (PF10)
@b (PF11)	@c (PF12)	@d (PF13)	@e (PF14)
@f (PF15)	@g (PF16)	@h (PF17)	@i (PF18)
@j (PF19)	@k (PF20)	@l (PF21)	@m (PF22)
@n (PF23)	@o (PF24)	@x (PA1)	@y (PA2)
@z (PA3)	@@ (@)	@\$ (Alternate Cursor)	@< (Backspace Erase)
@AF (Erase Input)	@AH (System Request)	@AJ (Cursor Select)	@AQ (Attention)

Supported Clients

Clients that can use this option: DOS, OS/2, and Windows 3.1.

Syntax

▶▶—3270HOSTCommand <i>cmd_string</i> —▶▶

Parameters

cmd_string

A sequence of commands used to start a 3270 client/server session. This command string is limited to 255 characters. Up to 20 control characters are allowed in the string.

3270HOSTCOMMAND

Examples

Options file example: 3270hostcommand @Cdial anrserv@E

Command line example: -3270hostcommand="@Cdial anrserv@E"

3270HOSTENDCOMMAND

3270HOSTENDCOMMAND

Use the 3270HOSTENDCOMMAND option to issue a command to your server at the end of an ADSM client session to bring the host to the desired state. This parameter specifies what character stream is sent to the server when a 3270 client session ends.

Supported Clients

Clients that can use this option: DOS, OS/2, and Windows 3.1.

Syntax



►►—3270HOSTEndcommand *cmd_string*—◄◄

Parameters

cmd_string

A command string to be sent to the server when a 3270 client/server session ends. The command string is limited to 255 characters. No more than 20 control characters are permitted in the string. See Figure 119 on page 326 for more information.

Examples

Options file example: 3270hoste @3

Command line example: -3270hostendcommand="@3"

3270HOSTTIMEOUT

3270HOSTTIMEOUT

Use the 3270HOSTTIMEOUT option to specify the number of seconds the client node waits to receive a data packet from the server before timing out. You may need a larger value than 10 seconds when host response time is extremely slow or when you restore large files.

Supported Clients

Clients that can use this option: DOS, OS/2, and Windows 3.1.

Syntax

```
▶▶—3270HOSTTImeout seconds————▶▶
```

Parameters

seconds

The number of seconds a client node waits to receive data from the server before timing out.

The minimum value is 1.

The default is 10.

Examples

Options file example: 3270hosttimeout 20

Command line example: -3270hostti=20

3270LOGICALTERMINALID

3270LOGICALTERMINALID

Use the 3270LOGICALTERMINALID option to specify a 3270 logical terminal session the ADSM client should use.

Supported Clients

Clients that can use this option: DOS, OS/2, and Windows 3.1.

Syntax

```
▶▶—3270Logicalterminalid id————▶▶
```

Parameters

id

A logical terminal session.

The default is A.

Examples

Options file example: 3270logicalterminalid c

Command line example: -32701=c

400COMMBUFFERBYTES

400COMMBUFFERBYTES

Use the 400COMMBUFFERBYTES option to specify the size of the router communication buffer. A larger buffer can improve communication performance but requires more memory.

This option is used with the PC Support/400 or Client Access/400 APPC communication methods.

Supported Clients

Clients that can use this option: DOS and Windows 3.1.

Syntax

```
▶—400Commbufferbytes bytes—▶
```

Parameters

bytes

The size of the buffer in bytes.

The range of values is 271 to 32767.

The default is 16384 (16 KB).

Examples

Options file example: 400Commbufferbytes 4096

Command line example: -400C=2048

400PARTNERLUNAME

400PARTNERLUNAME

Use the 400PARTNERLUNAME option to specify the name of the AS/400 system running the ADSM server.

Supported Clients

Clients that can use this option: DOS and Windows 3.1.

Syntax

```
▶▶—400Partnerluname name————▶▶
```

Parameters

name

The name of the AS/400 system running the ADSM server.

The name can be as many as 17 characters in length.

Examples

Option file example: 400Partnerluname AS400

Command line example: -400P=AS400

400SENDBUFFERBYTES

400SENDBUFFERBYTES

Use the 400SENDBUFFERBYTES option to specify the size of the client communication buffer, which is used to transfer data between the client node and the server.

A larger buffer can improve communication performance but requires more memory.

This option is used with the PC Support/400 or Client Access/400 APPC communication methods.

Supported Clients

Clients that can use this option: DOS and Windows 3.1.

Syntax

```
▶—400Sendbufferbytes bytes————▶◀
```

Parameters

bytes

The size of the buffer in bytes.

The range of values is 271 to 32767.

The default is 16384 (16 KB).

Examples

Options file example: 400Sendbufferbytes 16384

Command line example: -400S=12288

400TPNAME

400TPNAME

Use the 400TPNAME option to specify the name of the ADSM server on OS/400.

Supported Clients

Clients that can use this option: DOS and Windows 3.1.

Syntax

```
▶▶—400Tpname tpname————▶▶
```

Parameters

tpname

The 1 to 64 character transaction program name of the ADSM server for OS/400.
Contact your system administrator for this name.

Examples

Option file example: 400Tpname QANRTP.QADSM

Command line example: -400T=QANRTP.QADSM

Appendix. Installing the ADSM AS/400 API Client

This chapter provides instructions to install the ADSM API Client on an AS/400 system.

Requirements for the ADSM API

- An AS/400 system with at least 6MB of available disk space
- AS/400 V3R1 or higher
- One of the following communications protocols:
 - TCP/IP, included with AS/400
 - APPC (LU 6.2), included with AS/400

Note

The ADSM AS/400 API Client is packaged as an ILE Service Program. An Integrated Language Environment (ILE) is required to use the API. The first ILE compiler available is ILE C/400.

Installing the API Client Program

Note

To complete the following steps, you must be signed on to the system with a user profile of QSECOFR authority:

1. At the AS/400 Main Menu, enter:

```
CHGMSGQ MSGQ(QSYSOPR) DLVRY(*BREAK) SEV(95)
```

To ensure that the delivery setting is in *BREAK mode and the severity code filter is set to 95.

2. If necessary, insert the API installation media into your AS/400 machine.
3. Enter:

```
RSTLICPGM
```

To install the licensed program. Figure 120 on page 336 shows an example of the display.

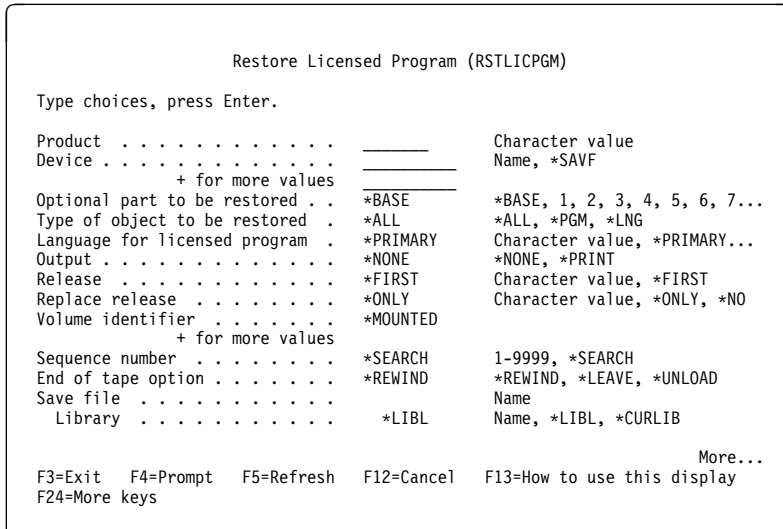


Figure 120. Restore Licensed Program Screen

4. Type the following parameter values in the specified fields:

Product	Type the program number
Device	Type the location of the program:
	*SAVF Program is in a save file
	Device Name Program is on media

5. Accept the other defaults, and press the Enter key.

The system restores the ADSM AS/400 API Client to your system and then displays a completion message on the command line.

6. If necessary, remove the media from the device.

7. The installation created a readme file, **QANSAPI/QAANSDOC(README)**, that contains the latest updates and other special installation information. You should read this file now.

ADSM AS/400 API Client Files

When you install the ADSM API on an AS/400 system, you get the files listed in Figure 121. This list includes all of the files that allow an application program to utilize the API, plus some additional files for developers. The files are installed in the QANSAPI library.

Figure 121. ADSM AS/400 API Client Files

File Name	Description	
QANSAPI	API ILE Service Program	
QAANSAMENG	American English message text file	
Members of file QANSAPI/QAANSDOC		
Member Name	Description	
APIOPTSMP	Sample API options file	
README	Last minute updates and other special information	
REGISTER	Registration form for developers	
Members of file QANSAPI/H		
Member Name	Description	
dsmrc	Return codes header file	
dsmapitd	Type definitions header file	
dsmapifp	Function prototype header file	
Members of file QANSAPI/H		
Member Name	Description	
dapidata	Sample application C header files	
dapint64		
dapitype		
dapiutil		
Members of file QANSAPI/QCSRC		
Member Name	Description	
dapibkup	Source Code for the sample application	
dapiinit		
dapint64		
dapipref		
dapiproc		
dapipw		
dapiqry		
dapirc		
dapismp		
dapiutil		
Members of file QANSAPI/QCLSRC		
Member Name		Description
CRTAPISMP	Source for a CL Program to create Sample Application.	

The Sample Application

The ADSM AS/400 API Client program includes a sample application. This sample application demonstrates the use of the API function calls in context. You should install the sample application and look at its source code to better understand how the function calls can be used.

When you build the sample application, the procedure to follow can be found in *ADSTAR Distributed Storage Manager Using the Application Programming Interface* .

The terms in this glossary are defined as they pertain to the ADSM library. If you do not find a term you are looking for, you can refer to the *IBM Dictionary of Computing*, McGraw-Hill, 1994. In the United States and Canada you can order this publication by calling McGraw Hill at 1-800-2MC-GRAW.

This glossary may include terms and definitions from:

- The *American National Standard Dictionary for Information Systems*, ANSI X3.172-1990, copyright (ANSI). Copies may be purchased from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036.
- The *Information Technology Vocabulary*, developed by Subcommittee 1, Joint Technical Committee 1, of the International Organization for Standardization and the International Electrotechnical Commission (ISO/IEC JTC2/SC1).

A

absolute. A copy group mode value that indicates that a file is considered for incremental backup even if it has not changed since the last time it was backed up. See *mode*. Contrast with *modified*.

active policy set. The policy set within a policy domain that contains the most recently activated policy. This policy set is used by all client nodes assigned to the current policy domain. See *policy set*.

active version. The most recent backup copy of a file stored in ADSM storage for a file that currently exists on a file server or workstation. An active version remains active and exempt from deletion until it is replaced by a new backup version, or ADSM detects during an incremental backup that the user has deleted the original file from a file server or workstation.

administrative client. A program that runs on a file server, workstation, or mainframe. This program allows administrators to control and monitor ADSM servers through ADSM administrator commands. Contrast with *backup-archive client*.

administrator. A user who has been registered to the server as an administrator. Administrators can be assigned one or more privilege classes. Administrators can use the administrative client to enter ADSM server commands and queries according to their privileges.

ADSM. ADSTAR Distributed Storage Manager

ADSTAR Distributed Storage Manager (ADSM). A client/server program that provides storage management and data access services to customers in a multivendor computer environment.

Advanced Program-to-Program Communications (APPC). An implementation of the SNA LU6.2 protocol that allows interconnected systems to communicate and share the processing of programs. See *Systems Network Architecture Logical Unit 6.2* and *Common Programming Interface Communications*.

APPC. Advanced program-to-program communications.

archive. A function that allows users to copy one or more files to a long-term storage device. Archive copies may be accompanied by descriptive information, may imply data compression software usage, and may be retrieved by archive date, file name, or description. Contrast with *retrieve*.

archive copy. A file or group of files residing in an archive storage pool in ADSM storage.

archive copy group. A policy object that contains attributes which control the generation, destination, and expiration of archive files. The archive copy group belongs to a management class.

archive retention grace period. The number of days ADSM retains an archive copy when the server is unable to rebind the file to an appropriate management class.

authentication. The process of checking and authorizing a user's password before allowing that user access to the ADSM server. Authentication can be turned on or off by an administrator with system privilege.

authorization rule. A specification that allows another user to either restore or retrieve a user's files from ADSM storage.

B

backup. A function that allows users to copy one or more files to a storage pool to protect against data loss. Contrast with *restore*.

backup-archive client. A program that runs on a file server, PC, or workstation and provides a means for ADSM users to back up, archive, restore, and retrieve files. Contrast with *administrative client*.

backup copy group. A policy object that contains attributes which control the generation, destination, and expiration of backup files. The backup copy group belongs to a management class.

backup retention grace period. The number of days ADSM retains a backup version when the server is unable to rebind the file to an appropriate management class.

backup version. A file, directory, or file space that a user has backed up that resides in a backup storage pool in ADSM storage. Though there may be more than one backup version of a file in ADSM storage, only one is considered the active version. See *active version* and *inactive version*.

bindery. A database that consists of three system files for a NetWare 3.11 or 3.12 server. The files contain user IDs and user restrictions.

binding. The process of associating a file with a management class name.

C

central scheduling. A function that allows an administrator to schedule backup and archive operations from a central location. The operations can be scheduled on a periodic basis or on an explicit date.

client. A program running on a file server, PC, workstation or terminal that requests services of another program called the server. There are two types of ADSM clients: administrative client and backup-archive client. See *administrative client* and *backup-archive client*.

Client Access/400. A software product that supports advanced program-to-program communications (APPC) in the DOS, OS/2, and Microsoft Windows environments and provides a set of end user services.

client domain. The set of drives, file systems, or volumes selected by a user for processing during a backup or archive operation.

client node. A file server or workstation on which the backup-archive client program has been installed that has been registered with the server.

client options file. A user-editable file that contains processing options to identify ADSM servers, select communication methods, specify backup, archive,

restore, and retrieve options, define scheduling options, and to choose formats for date, time, and numbers. Also called the **dsm.opt** file.

client polling. A client/server communication technique where the client node queries the server for scheduled work.

client/server. A communications network architecture in which one or more programs (clients) request computing or data services from another program (the server).

client system options file. A file, used on UNIX clients, that contains a number of processing options which identify the ADSM servers to be contacted for services. This file also specifies communications options, backup and archive processing options, and scheduling options. Also called the **dsm.sys** file. See *client user options file*.

client user options file. A user-editable file, used on UNIX clients, that contains processing options to identify the ADSM server to contact, to specify backup, archive, restore, and retrieve options, and to select formats for date, time, and numbers. Also called the **dsm.opt** file. See the *client systems options* file.

closed registration. A registration process in which an ADSM administrator must register workstations as client nodes with the server. Contrast with *open registration*.

command line interface. A type of user interface where commands are specified on the command line. Contrast with *graphical user interface*.

Common Programming Interface Communications (CPIC). A programming interface that allows program-to-program communication using SNA LU6.2. See *Systems Network Architecture Logical Unit 6.2*.

communication method. The method by which a client and server exchange information. For ADSM backup-archive clients, the method can be 3270, PWSCS, SNA LU6.2, or TCP/IP. See *Programmable Workstation Communication Service*, *Systems Network Architecture Logical Unit 6.2*, and *Transmission Control Protocol/Internet Protocol*.

communication protocol. A set of defined interfaces that allows computers to communicate with each other.

copy group. A policy object that contains attributes which control the generation, destination, and expiration of backup and archive files. There are two kinds of copy

groups: backup copy group and archive copy group. Copy groups belong to management classes. See *frequency*, *destination*, *mode*, *retention*, *serialization*, and *version*.

CPIC. Common Programming Interface Communications.

D

default management class. A management class assigned to a policy set that is used to govern backed up or archived files when a user does not explicitly associate a file with a specific management class through the include-exclude list.

destination. A copy group attribute that specifies the storage pool to which a file will be backed up or archived. At installation, ADSM provides two storage destinations named BACKUPPOOL and ARCHIVEPOOL.

domain. See *policy domain* or *client domain*.

dsm.opt file. See *client options file* and *client user options file*.

dsm.sys file. See *client system options file*.

dynamic. A copy group serialization value that specifies that ADSM accepts the first attempt to back up or archive an object, regardless of any changes made during backup or archive processing. See *serialization*. Contrast with *shared dynamic*, *shared static*, and *static*.

E

error log. A text file written on disk that contains ADSM processing error messages. These errors are detected and saved by the ADSM server.

exclude. The process of identifying files in an include-exclude list to prevent them from being backed up whenever a user or schedule issues an incremental or selective backup operation.

expiration. The process by which files are identified for deletion because their expiration date or retention period has passed. Backed up or archived files are marked for

deletion based on the criteria defined in the backup or archive copy group.

F

file server. A dedicated computer and its peripheral storage devices that are connected to a local area network that stores both programs and files that are shared by users on the network.

file space. A logical space on the ADSM server that contains a group of files. In ADSM, users can restore, retrieve, or delete file spaces from ADSM storage. On systems such as DOS or OS/2, a file space is a logical partition and is identified by a volume label. On UNIX systems, a file space is a logical space that contains a group of files backed up or archived from the same file system (or part of a file system defined with the VIRTUALMOUNTPOINT option in the client system options file).

frequency. A copy group attribute that specifies the minimum interval, in days, between incremental backups.

fuzzy backup. A backup version of a file that might not accurately reflect what is currently in the file because ADSM backed up the file while the file was being modified.

fuzzy copy. An archive copy of a file that might not accurately reflect what is currently in the file because ADSM archived the file while the file was being modified.

G

gigabyte (GB). (1) One billion (10⁹) bytes. (2) When referring to memory capacity, 1 073 741 824 in decimal notation.

graphical user interface (GUI). A type of user interface that takes advantage of a high-resolution monitor, includes a combination of graphics, the object-action paradigm, and the use of pointing devices, menu bars, overlapping windows, and icons. Contrast with *command line interface*. See *windowed interface*.

GUI. Graphical user interface.

H

hierarchical storage management client. A program that runs on a workstation or file server to provide space management services. It automatically migrates eligible files to ADSM storage to maintain specific levels of free space on local file systems, and automatically recalls migrated files when they are accessed. It also allows users to migrate and recall specific files.

hive. On Windows NT, a registry subkey that corresponds to a set of files in the `\system32\config` directory.

HSM. Hierarchical Storage Management.

I

inactive version. A copy of a backup file in ADSM storage that either is not the most recent version or the corresponding original file has been deleted from the client file system. Inactive backup versions are eligible for expiration according to the management class assigned to the file.

include-exclude file. On UNIX clients, a file that contains statements which ADSM uses to determine whether to back up certain files and to determine the associated management classes to use for backup or archive. See *include-exclude list*.

include-exclude list. A list of INCLUDE and EXCLUDE options that include or exclude selected files for backup. An EXCLUDE option identifies files that should not be backed up. An INCLUDE option identifies files that are exempt from the exclusion rules or assigns a management class to a file or a group of files for backup or archive services. The include-exclude list is defined either in the include-exclude file (for UNIX clients) or in the client options file.

incremental backup. A function that allows users to back up files or directories from a client domain that are not excluded in the include-exclude list and that meet the requirements for frequency, mode, and serialization as defined by a backup copy group of the management class assigned to each file. Contrast with *selective backup*.

IPX/SPX. Internetwork Packet Exchange/Sequenced Packet Exchange.

L

Local Area Network (LAN). A variable-sized communications network placed in one location. It connects servers, PCs, workstations, a network operating system, access methods, and communications software and links.

M

management class. A policy object that is a named collection of copy groups. A management class is associated with a file to specify how the server should manage backup versions or archive copies of workstation files. See *binding* and *copy group*.

migration. The process of copying a file from a local file system to ADSM storage and replacing the file with a stub file on the local file system.

mode. A copy group attribute that specifies whether a backup file should be created for a file that was not modified since the last time the file was backed up. See *absolute* and *modified*.

modified. A backup copy group attribute that indicates that a file is considered for backup only if it has been changed since the last backup. A file is considered changed if the date, size, owner, or permissions have changed. See *absolute* and *mode*.

N

Named Pipe. A type of interprocess communication which allows message data streams to be passed between peer processes, such as between a client and a server.

NDS. NetWare Directory Services.

NETBIOS. Network Basic Input/Output System. An operating system interface for application programs used on IBM personal computers that are attached to the IBM Token-Ring Network.

NetWare Directory Services (NDS). A database used by Novell NetWare to organize resources for an entire network of NetWare servers. The database itself can be distributed across the network and accessed by all servers. The NDS is available in NetWare Version 4.0 and higher.

NetWare Loadable Module (NLM). Novell NetWare software that provides extended server capability. Support for various ADSM and NetWare platforms are examples of NLMs.

Networking Services/DOS (NS/DOS). A software product that supports advanced program-to-program communications (APPC) in the DOS and Microsoft Windows 3.1 environments. With NS/DOS, communications applications on your workstation can 'talk to' partner applications on other systems that support APPC.

NLM. NetWare Loadable Module.

node. See *client node*.

node name. A unique name used to identify a workstation, file server, or PC to the server.

NS/DOS. Networking Services/DOS.

NTFS. The NT file system on Windows NT.

O

open registration. A registration process in which users can register their own workstations or PCs as client nodes with the server. Contrast with *closed registration*.

owner. The owner of backup-archive files sent from a multi-user client node, such as AIX.

P

pattern-matching character. See *wildcard character*.

PC Support/400. A software product that supports advanced program-to-program communications (APPC) in the DOS, OS/2, and Microsoft Windows environments and provides a set of end user services.

policy domain. A policy object that contains one or more policy sets. Client nodes are associated with a policy domain. See *policy set*, *management class*, and *copy group*.

policy set. A policy object that contains a group of management class definitions that exist for a policy domain. At any one time, there can be many policy sets within a policy domain, but only one policy set can be active. See *active policy set* and *management class*.

Programmable Workstation Communication Services (PWSCS). A product that provides transparent high performance communications between programs running on workstations or on host systems.

PWSCS. Programmable Workstation Communication Services.

R

registration. The process of identifying a client node or administrator to the server by specifying a user ID, password, and contact information. For client nodes, a policy domain, compression status, and deletion privileges are also specified.

registry. On Windows NT, a central database that contains information about hardware, applications, and operating system settings for each machine on the network. Provides security and control over system, security, and account settings.

restore. A function that allows users to copy a version of a backup file from the storage pool to a workstation or file server. The backup copy in the storage pool is not affected. Contrast with *backup*.

retention. The amount of time, in days, that inactive backed up or archived files are retained in the storage pool before they are deleted. The following copy group attributes define retention: retain extra versions, retain only version, retain version.

retrieve. A function that allows users to copy an archive file from the storage pool to the workstation or file server. The archive copy in the storage pool is not affected. Contrast with *archive*.

S

scheduling mode. The type of scheduling operation for the server and client node. ADSM supports two scheduling modes: client-polling and server-prompted.

selective backup. A function that allows users to back up files from a client domain that are not excluded in the include-exclude list and that meet the requirement for serialization in the backup copy group of the management class assigned to each file. Contrast with *incremental backup*.

serialization. A copy group attribute that specifies whether a file can be modified during a backup or

archive operation and what to do if it is. See *static*, *dynamic*, *shared static*, and *shared dynamic*.

server. A program running on a mainframe, workstation, or file server that provides shared services such as back up and archive to other various (often remote) programs called clients.

server-prompted scheduling. A client/server communication technique where the server contacts the client node when work needs to be done.

session. A period of time in which a user can communicate with a server to perform backup, archive, restore, or retrieve requests.

shared dynamic. An ADSM copy group serialization mode. This mode specifies that if a file changes during backup or archive and continues to be changed after a number of retries, the last retry commits the file to the ADSM server whether or not it changed during backup or archive.

shared static. A copy group serialization value that specifies that a file must not be modified during a backup or archive operation. ADSM attempts to retry the operation a number of times. If the file is in use during each attempt, the file is not backed up or archived. See *serialization*. Contrast with *dynamic*, *shared static*, and *static*.

SNA LU6.2. Systems Network Architecture Logical Unit 6.2.

space management attributes. Attributes contained in a management class that specify whether automatic migration is allowed for a file, whether selective migration is allowed for a file, how many days must elapse since a file was last accessed before it is eligible for automatic migration, whether a backup version of a file must exist before the file can be migrated, and the ADSM storage pool to which files are migrated.

static. A copy group serialization value that specifies that a file must not be modified during a backup or archive operation. If the file is in use during the first attempt, ADSM will not back up or archive the file. See *serialization*. Contrast with *dynamic*, *shared static*, and *static*.

storage pool. A named set of storage volumes that is used as the destination of backup or archive copies.

system drive or partition. On Windows NT, the drive or partition on which Windows NT is installed. The

Windows NT directory is usually called WINNT or WINNT35.

Systems Network Architecture Logical Unit 6.2 (SNA LU6.2). A set of rules for data to be transmitted in a network. Application programs communicate with each other using a layer of SNA called Advanced Program-to-Program Communication (APPC).

T

TCP/IP. Transmission Control Protocol/Internet Protocol.

timeout. (1) An event that occurs at the end of a predetermined period of time that began at the occurrence of another specified event. (2) A time interval allotted for certain operations to occur; for example, response to polling or addressing before system operation is interrupted and must be restarted. (3) A terminal feature that logs off a user if an entry is not made within a specified period of time.

Transmission Control Protocol/Internet Protocol (TCP/IP). A standard set of communication protocols that supports peer-to-peer connectivity of functions for both local and wide-area networks.

V

version. The maximum number of different backup copies of files retained for files. The following backup copy group attributes define version criteria: versions data exists and versions data deleted.

W

wildcard character. An asterisk (*) or question mark (?) character that is used to search for various or certain combinations of alphanumeric and symbolic names. These names can reflect file names or character strings within a file, for example.

windowed interface. A type of user interface that is either a graphical user interface or a text-based interface. The text-based interface maintains a close affinity to the graphical user interface, including action bars and their associated pull-down menus and windows. See *graphical user interface*.

workstation. A programmable high level workstation (usually on a network) with its own processing hardware

such as a high-performance personal computer. In a local area network, a personal computer that acts as a

single user or client. A workstation can also be used as a server.

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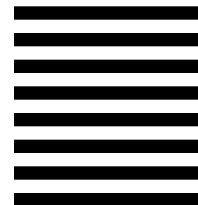
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