

ADSTAR® Distributed Storage Manager



# Disaster Recovery Manager: Stand-alone Disk Image Dump and Restore Guide

*Version 3*



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*Version 3*

**Note!**

Before using this information and the product it supports, be sure to read the general information under Appendix A, "Notices" on page 55.

**First Edition (March 1998)**

This edition applies to Version 3 of the ADSTAR Distributed Storage Manager (program numbers 5639-C59, 5639-D91, 5639-D92, 5655-A30, and 5765-C43) and to any subsequent releases until otherwise indicated in new editions or technical newsletters. Ensure that you are using the correct edition for the level of the product.

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Your feedback is important in helping to provide the most accurate and high-quality information. If you have comments about this book or any other ADSM documentation, please see "Do You Have Comments or Suggestions?" on page viii.

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## About This Book

The Stand-alone Disk Image Dump and Restore program is part of the Disaster Recovery Manager feature of ADSTAR Distributed Storage Manager (ADSM). The Stand-alone Disk Image Dump and Restore program backs up and restores disk images by using an ADSM Version 3 server.

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## How to Use This Guide

This guide is intended for anyone using the Stand-alone Disk Image Dump and Restore program of the ADSM Disaster Recovery Manager feature. Not all users will perform all tasks described in this guide.

ADSM administrators (users who are responsible for an ADSM server that has the DRM feature) may need the entire guide. This guide assumes that ADSM administrators are familiar with ADSM and the other ADSM guides and references.

Users who want to use the Stand-alone Disk Image Dump and Restore program on their workstations need to obtain diskettes and installation-specific information from the administrator of the ADSM server to which their workstations connect. Users then need to use the section Chapter 2, "Using the Stand-alone Disk Image Dump and Restore Program" on page 5.

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## ADSTAR Distributed Storage Manager Publications

The following table lists ADSM publications.

Short Title	Publication Title	Order Number
ADSM Messages	<i>ADSTAR Distributed Storage Manager: Messages</i>	GC35-0271
ADSM License Information	<i>ADSTAR Distributed Storage Manager for AIX: License Information</i>	SC35-0283
ADSM Quick Start	<i>ADSTAR Distributed Storage Manager for AIX: Quick Start</i>	GC35-0273
ADSM Administrator's Guide	<i>ADSTAR Distributed Storage Manager for AIX: Administrator's Guide</i>	GC35-0274
ADSM Administrator's Reference	<i>ADSTAR Distributed Storage Manager for AIX: Administrator's Reference</i>	GC35-0275
ADSM Licensed Program Specifications	<i>ADSTAR Distributed Storage Manager for MVS: Licensed Program Specifications</i>	SC35-0284
ADSM Quick Start	<i>ADSTAR Distributed Storage Manager for MVS: Quick Start</i>	GC35-0276
ADSM Administrator's Guide	<i>ADSTAR Distributed Storage Manager for MVS: Administrator's Guide</i>	GC35-0277

<b>Short Title</b>	<b>Publication Title</b>	<b>Order Number</b>
ADSM Administrator's Reference	<i>ADSTAR Distributed Storage Manager for MVS: Administrator's Reference</i>	GC35-0278
ADSM License Information	<i>ADSTAR Distributed Storage Manager for Windows NT: License Information</i>	SC35-0294
ADSM Quick Start	<i>ADSTAR Distributed Storage Manager for Windows NT: Quick Start</i>	GC35-0295
ADSM Administrator's Guide	<i>ADSTAR Distributed Storage Manager for Windows NT: Administrator's Guide</i>	GC35-0292
ADSM Administrator's Reference	<i>ADSTAR Distributed Storage Manager for Windows NT: Administrator's Reference</i>	GC35-0293
ADSM License Information	<i>ADSTAR Distributed Storage Manager for HP-UX: License Information</i>	SC35-0323
ADSM Quick Start	<i>ADSTAR Distributed Storage Manager for HP-UX: Quick Start</i>	GC35-0322
ADSM Administrator's Guide	<i>ADSTAR Distributed Storage Manager for HP-UX: Administrator's Guide</i>	GC35-0320
ADSM Administrator's Reference	<i>ADSTAR Distributed Storage Manager for HP-UX: Administrator's Reference</i>	GC35-0321
ADSM License Information	<i>ADSTAR Distributed Storage Manager for Sun Solaris: License Information</i>	SC35-0331
ADSM Quick Start	<i>ADSTAR Distributed Storage Manager for Sun Solaris: Quick Start</i>	GC35-0330
ADSM Administrator's Guide	<i>ADSTAR Distributed Storage Manager for Sun Solaris: Administrator's Guide</i>	GC35-0328
ADSM Administrator's Reference	<i>ADSTAR Distributed Storage Manager for Sun Solaris: Administrator's Reference</i>	GC35-0329
ADSM V3 Using the UNIX HSM Clients	<i>ADSTAR Distributed Storage Manager Version 3: Using the UNIX Hierarchical Storage Management Clients</i>	SH26-4083
ADSM V3 Using the Apple Macintosh Backup-Archive Client	<i>ADSTAR Distributed Storage Manager Version 3: Using the Apple Macintosh Backup-Archive Client</i>	SH26-4079
ADSM V3 Using the UNIX Backup-Archive Clients	<i>ADSTAR Distributed Storage Manager Version 3: Using the UNIX Backup-Archive Clients</i>	SH26-4075
ADSM V3 Using the OS/2 Backup-Archive Client	<i>ADSTAR Distributed Storage Manager Version 3: Using the OS/2 Backup-Archive Client</i>	SH26-4076
ADSM V3 Using the Novell NetWare Backup-Archive Client	<i>ADSTAR Distributed Storage Manager Version 3: Using the Novell NetWare Backup-Archive Client</i>	SH26-4077



<b>Short Title</b>	<b>Publication Title</b>	<b>Order Number</b>
ADSM V3 Using the Microsoft Windows Backup-Archive Clients	<i>ADSTAR Distributed Storage Manager Version 3: Using the Microsoft Windows Backup-Archive Clients</i>	SH26-4078
ADSM V3 Using the OS/2 Lotus Notes Backup Agent	<i>ADSTAR Distributed Storage Manager Version 3: Using the OS/2 Lotus Notes Backup Agent</i>	SH26-4084
ADSM V3 Installing the Clients	<i>ADSTAR Distributed Storage Manager Version 3: Installing the Clients</i>	SH26-4080
ADSM V3 Client Reference Cards	<i>ADSTAR Distributed Storage Manager Version 3: Client Reference Cards</i>	SX26-6019
ADSM V3 Using the Application Program Interface	<i>ADSTAR Distributed Storage Manager Version 3: Using the Application Program Interface</i>	SH26-4081
ADSM V3 AFS/DFS Backup Clients	<i>ADSTAR Distributed Storage Manager Version 3 AFS/DFS Backup Clients</i>	SH26-4085

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## **IBM International Technical Support Center Publications (Redbooks)**

The International Technical Support Center (ITSC) publishes redbooks, which are books on specialized topics such as using ADSM to back up databases. You can order publications through your IBM representative or the IBM branch office serving your locality. You can also search for and order books of interest to you by visiting the IBM Redbooks home page on the World Wide Web at this address:

<http://www.redbooks.ibm.com/redbooks>

For examples of alternatives to using the Stand-alone Disk Image Dump and Restore program for clients using OS/2, Windows, Novell NetWare, or AIX, see *ADSM Client Disaster Recovery: Bare Metal Restore*, SG24-4880.

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## **Software Developer's Program**

The IBM Storage Systems Division (SSD) Software Developer's Program provides a range of services to software developers who want to use the ADSM application program interface (API). Information about the SSD Software Developer's Program is available in the SSD Software Developer's Program Information Package.

To obtain the Software Developer's Program Information Package:

1. Call 800-4-IBMSSD (800-442-6773). Outside the U.S.A., call 408-256-0000.
2. Listen for the Storage Systems Division Software Developer's Program prompt.
3. Request the Software Developer's Program Information Package.

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## Translations

Selected ADSM publications have been translated into languages other than American English. Contact your IBM representative for more information about the translated publications and whether these translations are available in your country.

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## Chapter 1. Overview

The Stand-alone Disk Image Dump and Restore program allows you to back up and restore disk images from IDE and SCSI disk drives in personal computer systems that are compatible with the OS/2 operating system. You can back up and restore all content of the disk, including partitions, boot managers, file systems, and operating systems. The backup copies all sectors of the disk, and the restore operation writes all sectors to the disk. The program stores the disk image as an object in the storage of an ADSM Version 3 server that has the licensed Disaster Recovery Manager feature.

Use of the program is independent of the operating system on the workstation. The program works on a wide variety of personal computers that are capable of using OS/2 as an embedded operating system. The program includes an embedded OS/2 operating system, TCP/IP communications, and an ADSM Version 3 application program interface (API) client.

---

### How It Works

An ADSM administrator creates a set of diskettes using the distribution media for the ADSM server program. The administrator or the end user then configures the diskettes for a particular workstation.

When a user boots the workstation with the configured diskettes, the user can connect the workstation as a client to an ADSM Version 3 server. The user can back up a disk image, restore a disk image, or query the ADSM server for information on disk backups for the workstation.

As the system boots from the diskettes, the program installs the OS/2 operating system in RAM on a virtual disk created by the program. The program does **not** install the OS/2 operating system on the machine's disk drive.

---

### System Requirements

To use the program, you must have access to an ADSM Version 3 server with the Disaster Recovery Manager (DRM) licensed feature.

**Note:** Because an ADSM Single Server Edition Server cannot run a Disk Image Dump and Restore program on itself, the Disk Image Dump and Restore program is available for networked clients only.

The machine that you wish to back up must meet the following requirements:

- Be a personal computer system that is compatible with the OS/2 operating system.
- Have a 1.44MB diskette drive
- Have at least 16MB random access memory.
- Have a disk drive and network adapter for which OS/2 device driver support is available.

- Have a disk drive or drives that use sectors of 512 bytes.
- Be able to communicate with an ADSM Version 3 server via TCP/IP.
- Be registered as an ADSM client node, with a unique ID and password. (Ensure that you have the correct licenses to register the additional clients to the ADSM server.)

To restore a disk image, you must have the following:

- A disk drive with the same geometry as the disk that was backed up. The geometry consists of the combination of cylinder, head, and sector numbers. (See “A Note on Disk Geometry: Cylinder/Head/Sector Terminology” on page 19.)

**Note:** If the disk does not have the same geometry, you may be able to use the disk image backup, with some restrictions. See Chapter 4, “Solving Problems” on page 17 for details.

- The same machine from which the disk image was backed up. The operating system on the restored image will be configured according to the original machine hardware.

If the same machine is not available, it may be possible to restore the disk image to a machine that has a similar hardware configuration.

- The machine must be able to communicate with the ADSM Version 3 server via TCP/IP.

---

## When to Back Up a Disk Image

Back up the disk image before a major change to the machine, and after a successful, major change to the machine.

You must boot the machine with the program diskettes to back up the disk image. Plan to back up the disk image during a time when the machine is not in use.

---

## What Disks to Back Up

You can best use the Stand-alone Disk Image Dump and Restore program to back up the primary disk drive on a machine. The primary disk drive contains the operating system and most programs. On a Windows NT system, for example, the primary disk is often the c: drive, which contains the Windows NT system partition and the Windows NT boot directory. Because the disk image backup requires you to shut down your production environment and boot the machine using the program diskettes, you may not want to do the backup often. Also, files on the primary disk tend to change less often than application data, requiring less frequent backup.

Use the ADSM backup-archive client together with this program to maintain a more complete backup of a machine. Use the backup-archive client to back up files that change between image backups. When you use the backup-archive client to back up the disk, the initial backup essentially copies the files on the disk. (Note that this is different from the sector-by-sector copying done by the image backup.) Later

incremental backups by the backup-archive client ensure that the ADSM server has current backup copies of files.

When you need to restore the primary disk, restore the disk image first. Then restore any files changed since that image was created by using the backup-archive client and restoring files with the IFNEWER option. For more information about installing and using the ADSM backup-archive client, see *ADSM V3 Installing the Clients* and the appropriate user guide for the backup-archive client.

**Note:** When you restore files by using the backup-archive client, the files that ADSM restores can include files that were deleted from the disk after the disk image was created. As a result, you may not have enough space on the disk. Delete or move files to make enough space for the restore operation to complete.

For disk drives that mainly contain data that changes frequently, use the ADSM backup-archive client to maintain backup versions in ADSM storage.

---

## Where the Program Stores the Disk Image

The disk image backed up with this program is stored in the ADSM server's storage. Where the server stores the image backup depends on the policy domain to which the ADSM client node is assigned. As the administrator, you may want to create a policy domain just for machines that will be using the Stand-alone Disk Image Dump and Restore program. Doing this allows you to set up a default management class and other management classes that are appropriate for client nodes to use for their disk image backups.

When a user backs up a disk image using this program, ADSM stores the image as a single object. ADSM manages the object by using a management class. The management class is either the default for the domain in which the ADSM client is registered, or the management class specified with the INCLUDE option. The backup copy group of the management class determines where the object is stored and how long the object is stored.

For information about how to specify the INCLUDE option, see "CFGCOMM (Configure Communications and ADSM Options)" on page 24. For information about other options you have in storing the disk images, see "Where to Store Disk Images in ADSM Storage" on page 14.

For more information on how an ADSM administrator can set up management classes and policy domains, see *ADSM Administrator's Guide*.

---

## Who Uses the Program?

The program is intended for use on users' workstations. However, an ADSM administrator (typically the person responsible for installing or maintaining the ADSM server) must use the distribution media containing the server program to create diskettes for workstations that intend to use the program. The administrator must also ensure policy is appropriate and that storage space on the server is adequate.

The diskettes created by the administrator must be taken to the workstation where they will be used. Whether the administrator or end users use the diskettes depends on the local situation.

---

## Chapter 2. Using the Stand-alone Disk Image Dump and Restore Program

To use the program for the first time on a machine, you must configure diskettes so that they are unique to that machine. After you configure these diskettes, use them to perform these tasks:

1. Back up a disk image to ADSM
2. Query the ADSM server to determine the disk image backups that are stored for this machine
3. Restore a disk image from ADSM

---

### Configuring Diskettes for a Machine

To configure diskettes for a machine, do the following:

1. Create diskettes to use on the client machine
2. Boot the machine using the diskettes and set options for the machine

### Creating Diskettes

The administrator must make a set of diskettes for each machine that will use the Stand-alone Disk Image Dump and Restore program. The server program distribution media includes the six diskette image files that you need. For a description of these diskette image files, see Appendix B, "Program Diskette Image Files" on page 57.

Use a system with a CD-ROM drive and one of the following operating systems: Microsoft DOS, Microsoft Windows, Microsoft Windows 95, Microsoft Windows NT, or IBM OS/2. Do the following:

1. Ensure that you have six blank, high-density diskettes available.
2. Insert the ADSM Version 3 server CD-ROM into the drive.
3. Open a window to an operating system command prompt.
4. At the command prompt, change the directory to point to the CD-ROM drive.
5. Change to the directory that contains the diskette images, as follows:

```
cd \DRMIMAGE\DISKETTE
```

6. Insert a diskette, and enter this command:

```
loadskf drmbot.dsk a
```

Label the diskette DRMBOOT when the copy is complete.

7. Repeat step 6, inserting a new diskette each time and using the following commands:

```
loadskf drmsk1.dsk a
```

```
loadskf drmsk2.dsk a
```

```
1oaddiskf drmadsm.dsk a
```

```
1oaddiskf drmadpt.dsk a
```

Label each diskette.

8. If you need support for PCMCIA (for example, for notebook personal computers), insert a diskette, and enter this command:

```
1oaddiskf drmpcmc.dsk a
```

Label the diskette DRMPCMC when the copy is complete.

9. If you want to customize these diskettes for a single user or a set of users, do so now. See “Supplying Customized Stand-alone Disk Image Dump and Restore Program Diskettes to Users” on page 15.

The diskettes are now ready for use.

## Booting the Machine and Configuring Diskettes

To use the Stand-alone Disk Image Dump and Restore program, you must boot the machine that you want to back up using the diskettes created in the section “Creating Diskettes” on page 5. You must then configure the diskettes to match the machine’s TCP/IP configuration and network adapter.

### Booting the Machine

1. Shut down the machine.
2. Insert the diskette labeled DRMBOOT into the diskette drive.
3. Boot the machine.  

Several screens appear as the program creates a virtual disk in the machine’s random access memory (RAM) to contain the embedded operating system and working space.
4. Insert the DRMDSK1 and DRMDSK2 diskettes when prompted by messages on the screen.
5. Insert the DRMADSM diskette when prompted by a message on the screen. The program copies files to the virtual disk created in the machine’s RAM.

### Configuring Diskettes

You need to verify or set the TCP/IP and ADSM information.

6. After some processing, a screen appears that contains configuration information. Press Esc to enter or change the information. Press F4 when done.



```

*-----*
;REM Edit the following values as necessary then press F4 Save to continue.;
;REM (To change values press ESC key to toggle cursor into edit area.)
;
;
;REM TCP/IP Values
;SET ADDR=9.115.44.185
;SET SUBNET=255.255.254.0
;SET ROUTE=9.115.44.184
;
;
;REM ADSM Values
;SET NODENAME=MXDAISY
;SET COMMETHOD=TCPIP
;SET TCPSERVERADDRESS=9.115.44.184
;SET TCPPORT=1500
*-----*

```

This screen shows the minimum options that you must specify. You must enter all TCP/IP addresses as numbers, not as names. The options are:

- SET ADDR**        The TCP/IP address for the machine. Obtain the numeric dotted IP address from your LAN administrator.
- SET SUBNET**     The subnet mask. Obtain from your LAN administrator.
- SET ROUTE**      The router address. Obtain the numeric dotted IP address from your LAN administrator.
- SET NODENAME**  
The name of the ADSM client node for the machine using the Stand-alone Disk Image Dump and Restore program. The client node name could be the same as that used by the ADSM backup-archive client on the machine. However, it is recommended that a different node name be used for disk image dump and restore operations. Consult your ADSM administrator.
- SET COMMETHOD**  
Always set to TCP/IP.
- SET TCPSERVERADDRESS**  
The TCP/IP address of the ADSM server. Obtain the numeric dotted IP address from your ADSM administrator.
- SET TCPPORT**    The TCP/IP port address used to communicate with the ADSM server. Obtain the port number from your ADSM administrator.

For more options, see "CFGCOMM (Configure Communications and ADSM Options)" on page 24. For example, you can select an ADSM management class that is different from the defaults.

7. The program then displays some help text, and displays the command prompt. Examine the second line of the help text (Diskettes configured for:). The first time you use a set of diskettes, this line shows the text Diskettes configured for: No Network Adapter.

**Note:** When you use a set of diskettes that have already been configured, this line shows the name of an adapter. Ensure that the adapter name matches the adapter that is actually in the machine.

### Configuring the Network Adapter

8. At the command prompt, enter the following command:

```
cfgadapt
```

A menu appears that offers options for identifying your network adapter:

```
Configure diskettes for network adapter in this machine.

Select an option:
 1. Try automatic network adapter detection.
 2. Select your network adapter from a list.
 3. Add your own network adapter device driver & NIF file.
 0. Exit

Advanced options:
 4. Customize network adapter's operational parameters.
 5. Install PCMCIA support.
```

9. Make a selection from the menu.

Most users can select **1. Try automatic network adapter detection**. If that option does not work, try selecting **2. Select your network adapter from a list**. If you cannot find your network adapter in the list, you need to add the device driver for your network adapter to the diskettes. See “CFGADAPT (Configure Network Adapter Settings)” on page 22 for more details.

The advanced options are suggested only for users who are very familiar with network protocols or who are configuring diskettes for a notebook personal computer.

10. Insert the diskettes DRMADPT, DRMDSK1, and DRMDSK2 when prompted by messages on the machine. The program copies the device driver for the selected network adapter card from the DRMADPT diskette to where the program needs it.
11. When the program completes the copy of the driver, the program displays a message. The diskettes are now configured for the machine. You can continue with using the program or end the program:
  - To end the program, remove the diskette from the drive and boot the machine normally.
  - To continue with using the program, you must boot the machine again using the DRMBOOT diskette. For details, see “Backing Up a Disk Image Using Configured Diskettes” on page 9 or “Restoring a Disk Image” on page 9.

---

## Backing Up a Disk Image Using Configured Diskettes

Ensure that you use the set of diskettes configured for the machine.

1. Place the DRMBOOT diskette in the machine's diskette drive and boot the machine.
2. Insert the other diskettes (DRMDSK1, DRMDSK2, and DRMADSM) as requested by prompts on the screen.
3. Verify the TCP/IP and other ADSM parameters that appear on the screen. Press F4 when done.

4. Enter the following command:

```
dumprest /p password
```

where *password* is the password for the ADSM client node for the machine. The DR> prompt should appear.

5. To back up a disk, you need to know the drive's physical position in the machine. To see the numbers for all disk drives in the machine, enter the following command at the DR> prompt:

```
query disk
```

6. Start the disk image backup by entering the DUMP command. For example, to back up the disk in the first physical position in the machine, enter the following command at the DR> prompt:

```
dump disk 1
```

Progress messages appear. When the backup process completes, the program displays some statistics and returns you to the DR> prompt.

7. To end the program, enter the following command at the DR> prompt:

```
quit
```

8. To return to normal operations with the machine, remove the diskette from the drive and boot the machine.

---

## Restoring a Disk Image

Ensure that you use the set of diskettes configured for the machine.

1. Place the DRMBOOT diskette in the machine's diskette drive and boot the machine.
2. Insert the other diskettes (DRMDSK1, DRMDSK2, and DRMADSM) as requested by prompts on the screen.
3. Verify the TCP/IP and other ADSM parameters that appear on the screen. Press F4 when done.

4. Start the restore of the disk image by entering the following command:

```
dumprest /p password
```

where *password* is the ADSM password for the machine. The DR> prompt should appear.

5. To determine the disk image backups that are available for the machine, enter the following command at the DR> prompt:

```
query dump
```

6. Restore the disk image by entering the RESTORE command. For example, to restore the disk in the first physical position in the machine, enter the following command at the DR> prompt:

```
restore disk 1
```

The number 1 indicates the physical position of the disk that you want to restore.

**Attention:**

- The restore operation destroys any data that is currently on the disk.
  - If you are restoring the disk image because you replaced an IDE disk drive, do not run the computer's CMOS Setup routines for recognizing the new drive. You must leave the CMOS Setup as it was for the original drive. See "Replacement Disk Drive Has Different Geometry than the Original Disk Drive" on page 18 for more information.
7. To end the program, enter the following command at the DR> prompt:  

```
quit
```
  8. To return to normal operations with the machine, remove the diskette from the drive and boot the machine.

---

## Chapter 3. Advanced Tasks

This section provides guidance for advanced tasks that ADSM administrators may need to perform using the Stand-alone Disk Image Dump and Restore program. The tasks are:

- “Adding Drivers for Network Adapters”
- “Customizing Parameters for a Network Adapter”
- “Adding Support for PCMCIA Adapters” on page 14
- “Where to Store Disk Images in ADSM Storage” on page 14
- “Supplying Customized Stand-alone Disk Image Dump and Restore Program Diskettes to Users” on page 15
- “Tuning Performance” on page 15

---

### Adding Drivers for Network Adapters

If you have a network adapter card that is not supported by any of the drivers supplied with the Stand-alone Disk Image Dump and Restore program, you need to obtain a device driver and a network information file (NIF, a definition file) for the card. You must then add them to the DRMADAPT diskette. Do the following:

1. Obtain the OS/2 device driver and NIF from the manufacturer of the card. Many device drivers are also available from the OS/2 web site at this address:  
`http://service.software.ibm.com/os2ddpak/index.htm`
2. Copy the files to a diskette.
3. Boot the machine using the DRMBOOT diskette. Follow the directions given by the prompts on the screen.
4. When you are left with the command prompt, enter the following command:  
`cfgadapt`
5. Select **3. Add your own network adapter device driver and NIF file.**
6. Follow the directions on the screen to copy the files from your diskette to the program diskettes. When you enter the file names, use the names of the files as supplied by the manufacturer. The NIF usually has an entry that points to the device driver file.

---

### Customizing Parameters for a Network Adapter

If you are very familiar with LAN adapters and your local LAN environment, you may choose to customize parameters for your network adapter.

**Note:** For more information about the OS/2 network driver interface specification (NDIS), see *MPTS Configuration Guide*, S10H-9693.

Do the following:

1. Boot the machine using the DRMBOOT diskette. Follow the directions given by the prompts on the screen.
2. When you are left with the command prompt, enter the following command:  
cfgadapt
3. Select **4. Customize network adapter's operational parameters.**
4. Insert the DRMDSK2 diskette when prompted by instructions on the screen.
5. The program opens an edit session to allow you to modify the *protocol.ini* file. The following shows an example of an edit session with the *protocol.ini* file for an IBM EtherJet Ethernet ISA adapter card. The device driver for this card is IBMEINDI.OS2.

```
==== Top of File ====
[protman]
  drivename = protman$

[netbeui_nif]
  drivename = netbeui$
  bindings = mac

; If running on an ethernet network, remove the semicolon from the
; "ETHERAND_TYPE =" statement to change the protocol convention from
; IEEE 802.3 to DIX 2.0.
; ETHERAND_TYPE = "D"

[mac]
  drivename = IBMEIN$
;  NODEADDRESS = ""
;  SERIAL = ""

[tcPIP_nif]
  drivename = tcPIP$
  bindings = mac

; Protocol.ini built by cfgadapt 14 Apr 1997 19:35:11
; [mac] parameters based on NIF file IBMEINDI.NIF
; IBM Etherjet Ethernet ISA Adapter
==== End of File ====
a:protocol.ini
F1=Help F2=Save F3=Quit F4=File F5=Cmd F7=Name F8=Edit F9=Undo F10=Next
```

The file is arranged in parts called stanzas. Each stanza is identified by its name in brackets. You can modify the [mac] stanza. The NIF for the device driver explains the possible parameters that you can change in the [mac] stanza. The following shows an example of the NIF for the network adapter device driver configuration shown above.

```

[IBMEINDI]
Type = NDIS
Title = "IBM EtherJet ISA Ethernet Adapter (IBMEINDI.OS2)"
Version = 1.0
DriverName = IBMEIN$
XPORTS = NETBEUI LANDD

[File]
Name = IBMEINDI.OS2
Path = IBMCOM\MACS

[NODEADDRESS]
display = "Network Address"
type = HexString
StrLength = 12
Optional = Yes
Editable = Yes
Virtual = No
Help = "To specify a locally administered address for the adapter, type
in a 12-digit hexadecimal address of the form 000102030405. If you do not
specify a locally administered address, the adapter uses the address that
was encoded in the adapter at the factory."

[SERIAL]
display = "Serial Number"
type = HexString
StrLength = 8
Optional = Yes
Editable = Yes
Virtual = No
Help = "If you are using two EtherJet adapter cards you must specify
the serial number of the second card so the network device driver can ensure
the proper card (and associated physical network) is used by the correct
protocol stack."

```

This file shows that you can modify NODEADDRESS and SERIAL in the [mac] stanza of the *protocol.ini* file, as follows:

<b>display</b>	descriptive name of the parameter for use by the administrator
<b>type</b>	Type of the parameter
	<b>decimal</b> Decimal number. For example: 14
	<b>hexadecimal</b> Hexadecimal number. For example: 0xA20
	<b>hexanum</b> Hexadecimal number. For example: 0xD800
	<b>hexstring</b> Hexadecimal string. For example: 40000000000X
	<b>string</b> Character string. For example: PRI
<b>StrLength</b>	Maximum length of the parameter
<b>Help</b>	Full description of the parameter

- When you are done editing the file, press F4 (Save) to exit. The program then prompts you to boot the machine again.

7. Boot the machine using the DRMBOOT diskette and follow the instructions that appear on the screen.

---

## Adding Support for PCMCIA Adapters

To use the Stand-alone Disk Image Dump and Restore program on a computer that uses a PCMCIA adapter, you must add support. PCMCIA adapters are usually found on notebook personal computers such as the IBM Thinkpad.

To add support for PCMCIA, do the following:

1. Boot the machine using the DRMBOOT diskette. Follow the directions given by the prompts on the screen.
2. When you are left with the command prompt, enter the following command:  
`cfgadapt`
3. Select **5. Install PCMCIA support**.
4. Insert the DRMPCMC diskette when the instructions appear on the screen.
5. Find the number for your machine in the list of PCMCIA adapters. Use the Page Up and Page Down keys on the keyboard to move through the list. Exit the list when you find the number.
6. Enter the number when prompted on the screen. The program then installs the support on the diskettes.

---

## Where to Store Disk Images in ADSM Storage

A backup of a disk image created with the Stand-alone Disk Image Dump and Restore program is stored as a single object in ADSM server storage. Policy defined by an ADSM administrator for the ADSM server controls where that object is stored. The backup operation copies each sector of the disk, so you need to plan for enough available storage space to handle the expected usage.

Some options you have are:

- On the ADSM server, define a management class for users of this program. You can specify a storage pool that is associated with a device that has enough storage space for the disk backups. Then, when configuring the Stand-alone Disk Image Dump and Restore program for a machine, use the CFGCOMM command to add the SET INCLUDE option that specifies this management class.
- On the ADSM server, set up a separate policy domain for users of this program. When you register the ADSM nodes for the users, specify that policy domain. For that domain, specify a default management class that you want most users to use.
- When configuring the Stand-alone Disk Image Dump and Restore program for a machine, set options for compression of the disk backup (SET COMPRESSION and SET COMPRESSALWAYS). Compression can save storage space and time to send the backup over the network. However, sometimes the backup image can



grow during compression. See “CFGCOMM (Configure Communications and ADSM Options)” on page 24 for more information.

An ADSM administrator can query the ADSM server to find the disk image objects that are stored. The file space name for a disk image object is always DRMDISK\_ *n* (in uppercase letters) where *n* is a number. You can use this command at an ADSM administrative command line:

```
query filespace * DRMDISK*
```

The result of this command is a list of file spaces that have names beginning with DRMDISK, along with the associated node names.

A single disk image backup may be stored on more than one volume in an ADSM storage pool. On a specific storage pool volume, you can find the disk image backups by using the QUERY CONTENT command. For example, to list any disk image objects on storage volume VOLUME1, enter this command from an ADSM administrative command line:

```
query content volume1 filespace=DRMDISK*
```

For more information, see *ADSM Administrator's Guide*.

---

## Supplying Customized Stand-alone Disk Image Dump and Restore Program Diskettes to Users

Before you distribute diskettes to users, you may want to customize them. You can set up a default configuration that will work with few changes for most users. Consider configuring diskettes for the following before copying and distributing them to users:

- Standard TCP/IP parameters such as the router address
- ADSM parameters such as the TCP/IP address and port for the ADSM server

You may also want all disk image backups to use a certain management class. Use the CFGCOMM command to add the SET INCLUDE option that specifies this management class.

- A standard LAN adapter in use in your organization

If most machines have a network adapter card that is not supported by a driver on the diskettes, configuring the diskettes before distributing them is especially useful.

Use one machine to make these changes to a set of diskettes, then make copies for distribution.

---

## Tuning Performance

You can use the CFGCOMM command to change some parameters that can affect performance. The parameters are:

**MTU**        Maximum transmission unit, a TCP/IP setting for the machine

**TCPWINDOWSIZE**

The size of the TCP/IP sliding window for the ADSM client

**TCPBUFFSIZE**

The size of the internal communications buffer for the ADSM client

See the performance tuning information at the ADSM web site for recommendations on using these options. The URL is:

<http://www.ibm.com/adsm>

You can modify default parameters for the network interface card in the protocol.ini file. See “Customizing Parameters for a Network Adapter” on page 11 for more information.

The network that connects the machine and the ADSM server also affects performance. Performance can be no better than the network itself.

---

## Chapter 4. Solving Problems

This section gives some suggested solutions to problems you may have when using the Stand-alone Disk Image Dump and Restore program:

“The System Does Not Communicate with the ADSM Server”

“The System Hangs During Boot”

“Support for the Disk Drive Controller Is Not Included on the Diskettes” on page 18

“Replacement Disk Drive Has Different Geometry than the Original Disk Drive” on page 18

“Dump or Restore Command Seems to Hang” on page 19

“Diskettes Configured for a Machine Are Lost” on page 20

“Problems with Using Diskettes Configured for a Different Machine” on page 20

“Insufficient Space to Restore Files” on page 20

“Slow Backup or Restore Speed” on page 20

---

### The System Does Not Communicate with the ADSM Server

Check the TCP/IP connection. For example, use the TCP/IP ping command to test the connection to the server IP address:

```
ping 9.115.44.184
```

If this command fails, review the configuration settings by using the CFGCOMM and CFGADAPT commands. Verify TCP/IP addresses with your LAN administrator or ADSM server administrator. Ensure that you have entered the addresses using the numeric values.

---

### The System Hangs During Boot

If the machine hangs during the boot process with the program diskettes, there may be a device driver problem when the program detects the hardware on the machine. To bypass this problem, try the following:

1. Insert the DRMBOOT diskette into the drive.
2. Boot the machine.
3. When the small white square appears in the upper left corner of the screen, press Alt-F2.
4. Watch the messages that are displayed at the bottom of the screen as device drivers are loaded.
5. When the machine hangs, note the device driver being loaded.
6. Take DRMDSK1 to another machine. Edit the config.sys file on this diskette to remove the line that calls the device driver noted in the previous step.

7. Return to the first machine and try to boot the machine again using the DRMBOOT diskette.

If the system still hangs during boot, try turning off hardware detection. When the small white square appears in the upper left corner of the screen, press Alt-F1, then press F6.

---

## Support for the Disk Drive Controller Is Not Included on the Diskettes

The diskettes that comprise this program do not contain all possible device drivers for disk drive controllers. If the driver for your disk drive controller is not included, you can add it to the program diskettes.

For example, to install the device driver named `anewctrl.add`, do the following:

1. Obtain the OS/2 device driver for the disk controller from the manufacturer of the controller. Disk controller drivers may also be available from the OS/2 service web page at this address:
  - <http://service.software.ibm.com/os2ddpak/index.htm>
2. Put the program diskette that is labeled DRMDSK1 into the drive. Add the following statement to the `config.sys` file that is on that diskette:  
`BASEDEV=anewctrl.add`
3. Add the device driver file to the diskette labeled DRMDSK1. With the DRMDSK1 diskette in the drive, enter the following command:  
`copy anewctrl.add a:`

---

## Replacement Disk Drive Has Different Geometry than the Original Disk Drive

The best chance of success in using the Stand-alone Disk Image Dump and Restore program is to use a replacement disk drive that is identical to the original.

If you cannot find an identical replacement, then you can try a disk drive that is compatible with the original. This replacement drive must be able to support the geometry of the original. In general, this means that this replacement drive must be the same size or larger. (See "A Note on Disk Geometry: Cylinder/Head/Sector Terminology" on page 19 for an explanation.)

When you restore a disk image to a replacement IDE drive, the computer's CMOS Setup must be set for the geometry of the original drive. On computers that allow it, the easiest way to do this is to not run the CMOS hard-drive detection routines after replacing the drive. For example, on many motherboards that contain an Award BIOS, it is possible to bypass automatic setup and even manually specify drive geometry. Consult the documentation supplied by the manufacturer of the motherboard or the computer.

If you have a motherboard in which setup routines run automatically without the capability to override the setups, you may have problems. If the geometry of the

replacement drive is different from your original drive, either you will not be able to use the disk image from the original disk, or at best, the disk will not be bootable. You must then find an identical replacement drive.

**Note:** If you successfully use a replacement IDE drive that is larger than the original, you will not be able to utilize all of the space on the replacement drive. The replacement drive will appear to the system to be the size of the original.

Restoring a disk image from one SCSI drive to another is often more reliable than from one IDE drive to another. SCSI drives use standard geometries within a range of storage sizes. For example, modern SCSI disk drives that are less than 1GB have the same number of heads and sectors. Only the number of cylinders changes to account for the different storage sizes within this range. If you have a 700MB SCSI disk drive to replace a 300MB SCSI disk drive, you should be able to restore the disk image from the 300MB drive to the 700MB drive.

For SCSI disk drives, you may need to perform a low-level format of the replacement disk drive by using the low-level format utility supplied by the manufacturer of the drive adapter. For example, if the replacement drive uses an Adaptec controller, use the *scsifmt.exe* utility supplied by Adaptec.

### **A Note on Disk Geometry: Cylinder/Head/Sector Terminology**

The *geometry* of a disk drive is the combination of the numbers of cylinders, heads, and sectors that the drive has, along with the size of each sector.

Hard disk drives are made of multiple magnetic platters (flat discs) attached to a central spindle. A read/write *head* attached to an arm is placed above and below each platter surface. The arm can move across the platter. A *track* is the circle on the platter that is traced by the arm when the arm is at a given position and the platter spins. A *cylinder* is the set of tracks on all the platters that are at the same position. A *sector* is a fixed block of data within a track. For most disk drives, each sector has 512 bytes.

The storage size of a disk is determined by the standard formula:

512 bytes X (number of cylinders) X (number of heads) X (number of sectors per track)

**Attention:** The Stand-alone Disk Image Dump and Restore program only supports disk drives with 512-byte sectors. The use of this program with a disk drive that has a sector size other than 512 bytes will result in lost data.

---

### **Dump or Restore Command Seems to Hang**

If you issue a dump or restore command on the machine and nothing seems to be happening (for example, no disk drive activity), check with the administrator for the ADSM server. The server may be waiting for a tape to be mounted to complete the command.

---

## Diskettes Configured for a Machine Are Lost

If you lose a set of diskettes for a machine, get a new set of diskettes that have not been used on any other machine. Configure them for the machine as described in “Configuring Diskettes for a Machine” on page 5.

Using diskettes configured for another machine can cause problems. See “Problems with Using Diskettes Configured for a Different Machine.”

---

## Problems with Using Diskettes Configured for a Different Machine

If you try to use a set of diskettes that have been configured for another machine, you may have problems such as the following:

- The network adapters on the two machines may be incompatible. If the diskettes boot the machine successfully, you can use the CFGADAPT command to change the network adapter to the one actually in the machine.
- The machine may come up under the other machine's TCP/IP address. This could cause problems for the users of the other machine.
- The bus types may be incompatible. If the other machine had PCMCIA support and this machine does not, the diskettes might fail to boot the machine.

---

## Insufficient Space to Restore Files

After you restore a disk image, you may want to restore any files that had been added or changed since that disk image was created. When you do, you use the ADSM backup-archive client and use the IFNEWER option for the restore operation. This restore operation adds or replaces files on the disk. Any files deleted after the backup are still restored. Therefore, it is possible that the disk may not have enough space to contain all of the restored files.

Delete or move files to make sufficient space available.

---

## Slow Backup or Restore Speed

Backup or restore speed can be affected by the type and quality of the network used to connect the client and the server. Check the network itself. Also consider using the tuning options that are available by using the CFGCOMM command. See “CFGCOMM (Configure Communications and ADSM Options)” on page 24.

---

## Chapter 5. Command Reference

Commands for the Stand-alone Disk Image Dump and Restore program are available after you have booted the machine by using the diskettes. The following commands and subcommands are available:

- CFGADAPT
- CFGCOMM
- HELP
- DUMPREST

Only the following commands can be entered after the DUMPREST command:

- DUMP
- HELP
- QUERY DISK
- QUERY DUMP
- QUIT
- RESTORE

In the syntax diagrams, the uppercase letters show the minimum abbreviation for the command. Some commands have no abbreviation.

---

## CFGADAPT (Configure Network Adapter Settings)

Configure the network adapter for the machine. This command cannot be entered at a DR> prompt.

### Syntax

►—CFGADAPT—◄

### Examples

To configure the diskettes for the network adapter in the machine, enter the following command:

```
cfgadapt
```

A screen appears that gives you choices to configure the diskettes for the network adapter card that is installed in the machine.

```
Configure diskettes for network adapter in this machine.

Select an option:
  1. Try automatic network adapter detection.
  2. Select your network adapter from a list.
  3. Add your own network adapter device driver & NIF file.
  0. Exit

Advanced options:
  4. Customize network adapter's operational parameters.
  5. Install PCMCIA support.
```

The following describes the options available from this screen:

#### 1. Try automatic network adapter detection.

The program tries to identify the adapter card in the machine. If successful, the program asks you to confirm that the detected adapter is correct. The program then configures the diskettes for this adapter. This option only discovers the first network adapter in your machine. If you have multiple network adapters you may need to use option 2 or 3 to configure for a specific adapter.

#### 2. Select your network adapter from a list.

You are presented with a list of adapter names. Find the number for the adapter in the list. Use the Page Up and Page Down keys on the keyboard to move through the list, and exit the list when done. Enter the number when the program prompts you. The program then configures the diskettes for this adapter.



**3. Add your own network adapter device driver & NIF file.**

Use this option when the diskettes do not contain a device driver for your network adapter card. See “Adding Drivers for Network Adapters” on page 11 for more information.

**4. Customize network adapter's operational parameters.**

Use this option if you are very familiar with LAN adapter use and your local LAN environment. This option allows you to modify the protocol.ini file. See “Customizing Parameters for a Network Adapter” on page 11 for more information.

**5. Install PCMCIA support.**

Use this option if you have a computer that uses PCMCIA adapters (such as a notebook computer). This option allows you to add support for them to the diskettes. See “Adding Support for PCMCIA Adapters” on page 14 for more information.

---

## CFGCOMM (Configure Communications and ADSM Options)

Set TCP/IP communications options and ADSM options, such as where the backup of the disk image is stored in ADSM server storage. This command cannot be entered at a DR> prompt.

### Syntax

►—CFGCOMM—◄◄

### Examples

To change communication or other ADSM options, enter the following command:

```
cfgcomm
```

A screen appears that allows you to change or add options. The following screen shows an example with all possible options specified. To change or add options, press the ESC key to move the cursor into the editing area. Press F4 when done.

```
*-----*
;REM Edit the following values as necessary then press F4 Save to continue.;
;REM (To change values press ESC key to toggle cursor into edit area.)
;
;
;REM TCP/IP Values
;SET ADDR=9.115.44.185
;SET SUBNET=255.255.254.0
;SET ROUTE=9.115.44.184
;SET MTU=2000
;
;
;REM ADSM Values
;SET NODENAME=MXDAISY
;SET COMMETHOD=TCPIP
;SET TCPSERVERADDRESS=9.115.44.184
;SET TCPPORT=1500
;SET COMPRESSION=YES
;SET COMPRESSALWAYS=YES
;SET DATEFORMAT=1
;SET INCLUDE=* TOTAPE
;SET NUMBERFORMAT=1
;SET TCPBUFFSIZE=32
;SET TCPWINDOWSIZE=64
;SET TIMEFORMAT=1
*-----*
```

Descriptions of the options follow.

### **TCP/IP Parameters**

**Note:** The TCP/IP addresses must be the numeric dotted IP address. You cannot use domain name system (DNS) names. For example, use 9.115.56.018, but do not use the equivalent DNS name.

#### **SET ADDR**

The TCP/IP address for the machine. Obtain the numeric dotted IP address from your LAN administrator.

#### **SET SUBNET**

The subnet mask. Obtain from your LAN administrator.

#### **SET ROUTE**

The router address. Obtain the numeric dotted IP address from your LAN administrator.

**SET MTU** The TCP/IP maximum transmission size. This is an optional parameter used to tune performance. For information about choosing a value for MTU, see the TCP/IP documentation for the OS/2 operating system. Also see the ADSM performance tuning information at the ADSM web site (<http://www.ibm.com/adsm>).

### **ADSM Parameters**

#### **SET NODENAME**

The name of the ADSM client node for the machine using the Stand-alone Disk Image Dump and Restore program. The client node name could be the same as that used by the ADSM backup-archive client on the machine. However, it is recommended that a different node name be used for disk image dump and restore operations. Consult your ADSM administrator.

#### **SET COMMETHOD**

Always set to TCP/IP.

#### **SET COMPRESSION**

Controls whether the program compresses the disk image object before sending the object to the ADSM server. Compressing the object can decrease the amount of storage space required by the server. However, compression 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 the ADSM administrator specifies that the choice is determined by the ADSM client.

Possible values are:

- NO** The program does not compress the backup image object before sending the object to the server. This is the default.
- YES** The program compresses the backup image object before sending the object to the server. If set to YES, you can also use the SET COMPRESSALWAYS option.

### **SET COMPRESSALWAYS**

If you set compression on (SET COMPRESSION=YES), this option controls what the program does if the image object 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.

Possible values are:

- NO** ADSM continues with compression of the object even if the object grows as a result of compression. ADSM sends the compressed object to the server.
- YES** ADSM does not send the object to the server if it grows during compression (the backup operation fails). This is the default.

### **SET INCLUDE**

The include list for the ADSM client node using the Stand-alone Disk Image Dump and Restore program. This parameter is optional. You can specify the name of a management class to use. In the example, all disk image backups (indicated by the wildcard symbol, \*) use the management class named TOTAPE. If you do not specify a management class, ADSM uses the default management class in the active policy set of the client's policy domain. For more information, see *ADSM Using the Backup-Archive Client*.

### **SET TCPSERVERADDRESS**

The TCP/IP address of the ADSM server. Obtain the numeric dotted IP address from your ADSM administrator.

### **SET TCPPORT**

The TCP/IP port address used to communicate with the ADSM server. Obtain the port number from your ADSM administrator. The range of values is 1000 to 32767.

### **SET TCPWINDOWSIZE**

The size (in kilobytes) of the TCP/IP sliding window you want to use for the ADSM client. This is the size of the buffer used when sending or receiving data. This is an optional parameter used to tune performance. A larger size can improve communication performance, but uses more memory. For recommendations on tuning for performance, see the ADSM performance tuning information at the ADSM web site (<http://www.ibm.com/adsm>).

The range of values is 1 to 2048.

### **SET TCPBUFFSIZE**

The size (in kilobytes) of the ADSM internal communication buffer you want to use for the ADSM client. This is an optional parameter used to tune performance. A larger buffer can improve communication performance, but uses more memory. For recommendations on tuning for performance, see the ADSM performance tuning information at the ADSM web site (<http://www.ibm.com/adsm>).

The range of values is 1 to 32.

### SET DATEFORMAT

The format that you want ADSM to use for displaying dates. Specify a number from 1 to 5 to set the format, with the following results:

Number	Date Format
1	MM/DD/YYYY (this is the default format)
2	DD-MM-YYYY
3	YYYY-MM-DD
4	DD.MM.YYYY
5	YYYY.MM.DD

### SET NUMBERFORMAT

The format that you want ADSM to use for displaying numbers. Specify a number from 1 to 6 to set the format, with the following results for the number one-thousand:

Number	Number Format
1	1,000.00 (this is the default format)
2	1,000,00
3	1 000,00
4	1 000.00
5	1.000,00
6	1'000,00

### SET TIMEFORMAT

The format that you want ADSM to use for displaying time. Specify a number from 1 to 4. The following list shows the results of each format value for the time 11:00 p.m.

Number	Time Format
1	23:00:00 (this is the default format)
2	23,00,00
3	23.00.00
4	11:00:00PM

(For 11:00 a.m., this format displays 11:00:00AM)

---

## HELP (Display Help)

Provides limited help for commands. This command can be entered either from the normal command prompt or the DR> prompt.

### Syntax

▶▶—HELP—▶▶

---

## DUMPREST (Start the Dump and Restore Interface)

Starts the interface to the Stand-alone Disk Image Dump and Restore program to perform the following tasks:

- Dump a disk image to the ADSM server (DUMP command).
- Get keywords and examples for the allowable commands (HELP command).
- Query the disks on the local machine to obtain information such as disk numbers (QUERY DISK command).
- Query to get information about any disk image backups for the machine (QUERY DUMP command).
- Restore a disk image from ADSM storage to a machine (RESTORE command).

When this command completes successfully, the program displays the DR> prompt. After you start the interface, you can perform tasks or exit (QUIT) from the dump-restore interface.

### Syntax

```
►► DUMPREST /P password [ /N password ] ◄◄
```

### Parameters

**/P** Specifies to start the interface using the password specified.

**/N** Specifies to start the interface and change the password to the password specified.

*password*

Specifies the ADSM client node password for the machine.

### Examples

To start the dump and restore interface on a machine with the password *travels*, enter the following command:

```
dumprest /p travels
```

### Results

From the DR> prompt, you can enter the following commands:

- DUMP
- HELP
- QUERY DISK
- QUERY DUMP
- QUIT
- RESTORE

## Usage Notes

During dump or restore processing, messages are written to the following logs:

**dumprest.log** Messages issued by the Stand-alone Disk Image Dump and Restore program

**dsierror.log** Messages issued by the ADSM application program interface (API)

You can save the log information by doing the following:

1. After a dump or restore operation has completed, end the program by entering the following command at the DR> prompt:

`quit`

2. Copy the logs from the virtual disk in RAM to an empty diskette. Insert the empty diskette in the drive and enter the following commands:

`copy dumprest.log a:`

`copy dsierror.log a:`



---

## DUMP (Back Up a Disk Image)

Copies all sectors of the specified disk and stores the copy in ADSM server storage. You can use this command after you start the interface by using the DUMPREST command.

### Syntax

►► DUmP Disk *n* ? ◄◄

### Parameters

#### Disk

Specifies to dump a backup image for the disk in the physical position specified by *n* on the local machine.

*n* The physical disk drive number for the disk to be backed up. To see the numbers for the physical disk drives, use the QUERY DISK command.

? Specifies that you want to see keywords and examples for this command.

### Examples

To backup the first physical disk in the machine, enter the following command:

```
dump disk 1
```

---

## QUERY DISK (Query Local Disks)

Queries the local disk drives. You can use this command after you start the interface by using the DUMPREST command.

### Syntax

► Query Disk ◄

### Parameters

#### Disk

Specifies to query the disks on the local machine.

? Specifies that you want to see keywords and examples for this command.

### Examples

To list the physical disks on the workstation, enter the following command:

```
query disk
```

The following shows example output:

DISK	SIZE(MB)	CYLS	HEADS	SEC/TRK
1	813.09	826	32	63
2	348.00	928	16	48

The columns are:

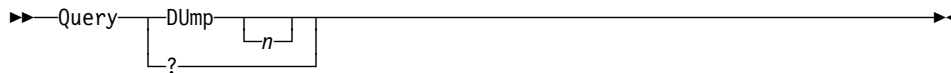
<b>DISK</b>	Physical disk number, starting from 1
<b>SIZE(MB)</b>	Size of the disk in megabytes
<b>CYLS</b>	The cylinder component of the logical disk geometry, when expressed in terms of cylinder/head/sector.
<b>HEADS</b>	The head component of the logical disk geometry, when expressed in terms of cylinder/head/sector.
<b>SEC/TRK</b>	The sector component of the logical disk geometry, when expressed in terms of cylinder/head/sector.

---

## QUERY DUMP (Query the ADSM Server for Image Backups)

Queries the ADSM server for disk image backups for the machine. You can use this command after you start the interface by using the DUMPREST command.

### Syntax



### Parameters

#### DUmp

Specifies to query the ADSM server to show the disk image backups that are available for the disk specified with *n*, or for all disks on this machine.

*n* The number of the physical disk for which you want to query the ADSM server for disk image backups. If not specified, the results show all disk image backups for disks in this machine.

? Specifies that you want to see keywords and examples for this command.

### Examples

To find the available disk image backups for all disks in the workstation, enter the following command:

```
query dump
```

The following shows example output:

DATE	TIME	FILE SPACE	A/I	SIZE(MB)	CYLS	HEADS	SEC/TRK
12/11/1997	15:40:52	DRMDISK_1	A	813.09	826	32	63
12/11/1997	14:59:08	DRMDISK_1	I	813.09	826	32	63
12/11/1997	16:42:32	DRMDISK_2	A	348.00	928	16	48
12/11/1997	16:40:48	DRMDISK_2	I	348.00	928	16	48

**DATE** The date that the disk dump was created

**TIME** The time that the disk dump was created

**FILE SPACE** File space name of the image backup as stored in the ADSM server

**Note:** The complete name of the object includes the path /DISK/IMAGE/.

**A/I** Status of the backup image object in the ADSM server. Possible values in this column are A (meaning active), and I (meaning inactive). For more details, see *ADSM Administrator's Guide*.

**SIZE (MB)** Size of the disk in megabytes

<b>CYLS</b>	The cylinder component of the logical disk geometry, when expressed in terms of cylinder/head/sector.
<b>HEADS</b>	The head component of the logical disk geometry, when expressed in terms of cylinder/head/sector.
<b>SEC/TRK</b>	The sector component of the logical disk geometry, when expressed in terms of cylinder/head/sector.

---

## QUIT (Exit the Dump and Restore Interface)

Exits the dump and restore interface. You can use this command after you start the interface by using the DUMPREST command.

### Syntax

►► QUIT ◄◄

### Examples

quit

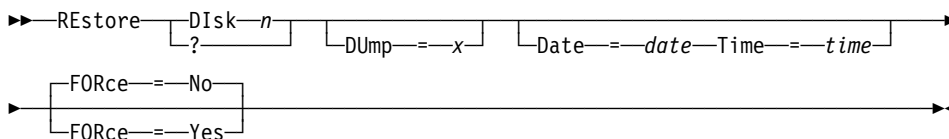
---

## RESTORE (Restore a Disk Image)

Restores all sectors of the specified disk from the backup image stored in ADSM server storage. You can use this command after you start the interface by using the DUMPREST command.

**Attention:** Restoring a disk image destroys the current contents of the disk.

### Syntax



### Parameters

#### Disk

Specifies to restore a backup image to the disk in the physical position specified by *n* on the local machine. The disk must be at least as large as the original disk (the source of the backup image).

*n* Specifies the physical position number for the disk to be restored. To see the numbers for the disk drives, use the QUERY DISK command.

#### DUmp

Specifies to restore a backup image that was made from a disk that was in the physical position specified by *x*. Use this parameter if the physical position of the disk has changed since the backup image was stored.

*x* Specifies the physical position number of the disk whose backup image you want to use to restore disk *n*.

? Specifies that you want to see keywords and examples for this command.

#### Date

Specifies a backup image made at a particular date. If you specify a date, you must also specify the time. If you do not specify a date and time, the program restores the active version of the backup image (the object with the latest date and time).

The format of the date is either the default format, or the format you selected using the SET DATEFORMAT option in the CFGCOMM command. The default format is:

*mm/dd/yyyy*

where *mm* is the month, *dd* is the day, and *yyyy* is the four-digit year.

#### Time

Specifies a backup image made at a particular time. If you specify a time, you must also specify a date. If you do not specify a date and time, the program restores the active version of the backup image (the object with the latest date and time).

The format of the time is either the default format, or the format you selected using the SET TIMEFORMAT option in the CFGCOMM command. The default format is:

*hh:mm:ss*

where *hh* is the hour, *mm* is the minute, and *ss* is the second.

### **FORce**

Specifies whether to restore the backup image if the geometry of the disk is different from the geometry of the disk that was the source of the backup image. Possible values are:

#### **Yes**

Restore the backup image even if the geometry of the current disk is different from the original disk. The restored disk may or may not be usable.

**No** Do not restore the backup image if the geometry of the current disk is different from the original disk. This is the default.

## **Examples**

To restore the first physical disk in the machine, enter the following command:

```
restore disk 1
```

This command restores the latest disk image for disk 1.

To restore the first physical disk in the machine, using a backup image that was made from the second physical disk in the machine, enter the following command:

```
restore disk 1 dump=2
```

This command restores the latest disk image for disk 2 to disk 1.

To restore a specific version of a disk image, enter the following command:

```
restore disk 1 date=12/15/1997 time=06:04:15
```

This command restores the disk image for the first physical disk that is dated December 15, 1997 with the time stamp of 6:04:15 a.m.





---

## Chapter 6. Messages Reference

This section contains messages issued by the Stand-alone Disk Image Dump and Restore program. For a complete list of ADSM messages, see *ADSM Messages*.

---

**ANQ0010I** **DUMPREST program generated at** *time on date*.

**Explanation:** The executable was generated at the indicated date and time.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0012E** *command: Invalid parameter parameter.*

**Explanation:** An invalid parameter was specified or the parameter did not begin with a '/'.  
**System Action:** The command is not processed.

**System Action:** The command is not processed.

**User Response:** Reissue the command with a valid parameter.

---

**ANQ0013I** **Valid parameters are:**

**Explanation:** Display valid parameters.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0015E** *command: The password parameter must be specified.*

**Explanation:** The password parameter /p was not specified.

**System Action:** Processing of the command stops.

**User Response:** Reissue the command with the correct syntax.

---

**ANQ0016E** *command: Invalid syntax.*

**Explanation:** A valid parameter must follow the '/'.  
**System Action:** Processing of the command stops.

**System Action:** Processing of the command stops.

**User Response:** Reissue the command with the correct syntax.

---

**ANQ0017E** *command: A value must follow parameter /parameter.*

**Explanation:** A value must follow the indicated parameter.

**System Action:** Processing of the command stops.

**User Response:** Reissue the command with the correct syntax.

---

**ANQ0018E** *command: Initialization failure.*

**Explanation:** Initialization has failed.

**System Action:** Processing stopped.

**User Response:** See accompanying messages for more information.

## ANQ0021W • ANQ0046W

---

**ANQ0021W Checksum error detected during restore.**

**Disk offset:** *disk offset*, **number of sectors in block:** *number of sectors*.

**Explanation:** The checksum recorded for a block of sectors at dump time does not match the checksum calculated at restore time. The error may involve one or more sectors in the block.

**System Action:** Restore operation continues.

**User Response:** It is possible that an error has occurred during data transmission. Reissue the restore command.

---

**ANQ0037E Insufficient memory for DUMPREST program execution.**

**Explanation:** The host computer does not contain enough random access memory.

**System Action:** Processing stopped.

**User Response:** Increase available random access memory on host computer.

---

**ANQ0043E Error error code returned from disk access operation accessing disk disk number.**

**Explanation:** Attempt to perform the operation on the specified disk has failed.

**System Action:** Processing stopped.

**User Response:** Verify that the disk drive is correctly installed and is operable. Verify that the correct disk drive device driver is in use. Reissue the command.

---

**ANQ0044E Access has been denied for disk disk number.**

**Explanation:** The disk cannot be accessed.

**System Action:** Operation stops.

**User Response:** Verify that the disk is properly installed. Verify that no other application, for example FDISK, has the disk locked. Reissue the command.

---

**ANQ0045E Invalid disk number disk number specified.**

**Explanation:** The disk cannot be accessed or it does not exist.

**System Action:** Processing stops.

**User Response:** Use query disk command to display valid disks.

---

**ANQ0046W IOCTL op code string for disk disk number sector sector number count count number error error.**

**Explanation:** A read or write operation for a disk may not have been successful. This message is issued at most four times when an error is encountered reading or writing a group of sectors.

**System Action:** Processing continues.

**User Response:** If doing a restore operation use a different target disk drive. If doing a dump operation this may indicate a failing source disk drive that needs to be replaced.

## ANQ0047W • ANQ0055E

---

**ANQ0047W Error messages suppressed for subsequent errors on disk** *disk number*

**Explanation:** The number of error messages issued for a failing disk drive is limited to prevent too many messages from overwhelming the system.

**System Action:** The error messages are no longer issued, processing continues.

**User Response:** If doing a restore operation use a different target disk drive. If doing a dump operation this may indicate a failing source disk drive that needs to be replaced.

---

**ANQ0051I** *command is beginning for disk* *disk number*. **Disk size is** *disk size MB*.

**Explanation:** A dump or restore operation has started.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0052I** *command is complete for disk* *disk number*. **Disk size is** *disk size MB*.

**Explanation:** A dump or restore operation has completed.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0053I** **Waited** *number of seconds* **seconds for the ADSM server to begin accepting data.**

**Explanation:** Heartbeat notification that the DUMPREST program is waiting for the ADSM server to begin receiving data.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0054I** **Waited** *number of seconds* **seconds for the ADSM server to begin delivering data.**

**Explanation:** Heartbeat notification that the DUMPREST program is waiting for the ADSM server to begin sending data.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0055E** **Bytes received from ADSM server:** *number of bytes*. **Bytes expected:** *number of bytes*.

**Explanation:** The recorded size of the source dump image does not match the actual bytes received at restore time.

**System Action:** Processing stopped.

**User Response:** Verify that there are no communications or ADSM server problems. Reissue the command.

## ANQ0056W • ANQ0063I

---

**ANQ0056W Target space (number of sectors sectors) is not the same size as dumped space (number of sectors sectors).**

**Explanation:** The drive restored to is not the same size as the drive that was dumped.

**System Action:** Processing continues.

**User Response:** Verify that the correct restore target disk was specified. Verify that the correct source dump image was specified.

---

**ANQ0057W End of dump data before target space filled.**

**Explanation:** The restore target disk is larger than the dump source disk.

**System Action:** Processing continues.

**User Response:** Verify that the correct restore target disk was specified (issue the QUERY DISK command). Verify that the correct source dump image was specified (issue the QUERY DUMP command).

---

**ANQ0060E Geometries differ, FORCE not specified, restore failed.**

**Explanation:** The geometry (cylinder/head/sector) of the dump source disk is different from the geometry of the restore target disk.

**System Action:** Processing stops.

**User Response:** Verify that the correct restore target disk is being specified. Verify that the correct source dump image is being specified. If both are correct reissue the command with the FORCE parameter. To determine the geometry of the dump source disk, refer to message ANQ0062I or issue the QUERY DUMP command. To determine the geometry of the target disk, refer to message ANQ0063I or issue the QUERY DISK command.

---

**ANQ0061W Geometries differ, FORCE specified, restore continues.**

**Explanation:** The geometry of the dump source disk is different from the geometry of the restore target disk.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0062I Dumped disk geometry (cylinders: cylinders, heads: heads, sectors/track: sectors per track).**

**Explanation:** Geometry of the source dump image.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0063I Target disk geometry (cylinders: cylinders, heads: heads, sectors/track: sectors per track).**

**Explanation:** Geometry of the restore target disk.

**System Action:** Processing continues.

**User Response:** None.

## ANQ0065I • ANQ0081E

---

**ANQ0065I \*\*\* User Aborted Restore \*\*\***

**Explanation:** An abort signal to stop a restore operation was received.

**System Action:** Restore stopped.

**User Response:** Continue with normal operations.

---

**ANQ0067E File space *file space name* is already in use by another application.**

**Explanation:** The file space is already registered and is used by another application. The file space name is reserved for Disk Dump/Restore.

**System Action:** Command fails.

**User Response:** Contact the ADSM administrator to resolve the file space naming conflict.

---

**ANQ0068E No partitionable disks found.**

**Explanation:** No partitionable disks found in the system.

**System Action:** Command fails.

**User Response:** Verify hard drives are correctly installed.

---

**ANQ0069E Unable to extract disk information.**

**Explanation:** Cannot get local disk information.

**System Action:** Command fails.

**User Response:** See accompanying messages for more information. If required, contact your service representative.

---

**ANQ0070E Object *object name* in file space *file space name* is not a DRM image dump.**

**Explanation:** The object was not created by the DUMPREST program.

**System Action:** Command fails.

**User Response:** The disk must be dumped before it can be restored.

---

**ANQ0080I *command*: No match found for this query.**

**Explanation:** No objects that match the specified query criteria can be found.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0081E *command*: Command failed.**

**Explanation:** The specified command failed.

**System Action:** Command fails.

**User Response:** Examine the messages issued prior to this message to determine the source of the error.

## ANQ0082E • ANQ0088I

---

**ANQ0082E The password is longer than *maximum password length* characters.**

**Explanation:** Specified password length exceeds ADSM maximum.

**System Action:** Processing stops.

**User Response:** Reissue command with valid ADSM password.

---

**ANQ0083E Password change failed.**

**Explanation:** An invalid password was entered.

**System Action:** Processing stopped.

**User Response:** Reissue command with the correct password.

---

**ANQ0084I Password has been updated.**

**Explanation:** The password has been updated.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0085W The ADSM API Library is at a lower release.**

**Explanation:** The ADSM API library is at a lower release than the DUMPREST program.

**System Action:** Processing continues.

**User Response:** Obtain correct level of ADSM API library.

---

**ANQ0086E Upgrade the ADSM API library to *version.release.level*.**

**Explanation:** The ADSM API library is at a lower version than the DUMPREST program.

**System Action:** Processing stops.

**User Response:** Upgrade the ADSM API library and reissue command.

---

**ANQ0087I ADSM Server for *system* - **Version** *version*, **Release** *release*, **Level** *level.sublevel*.**

**Explanation:** Code level of ADSM server.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0088I Requesting a session with the ADSM server.**

**Explanation:** The DUMPREST program is in the process of contacting the ADSM server.

**System Action:** Processing continues.

**User Response:** None.

## ANQ0089E • ANQ0101E

---

**ANQ0089E Session initialization with the ADSM server failed.**

**Explanation:** The DUMPREST program was not able to establish a session with the ADSM server.

**System Action:** Processing stops.

**User Response:** Examine previous messages. If you cannot determine the problem contact your ADSM administrator.

---

**ANQ0090I Session established with the ADSM server.**

**Explanation:** Session established with the ADSM server.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0091E The DUMPREST program is not supported for this level of the ADSM server.**

**Explanation:** The DUMPREST program is not supported for this level of the ADSM server. The ADSM server must be at 3.1.0.2 or above.

**System Action:** Processing stops.

**User Response:** Contact your ADSM administrator.

---

**ANQ0092E Dump cannot be created. Server is not licensed for the Disaster Recovery Manager feature.**

**Explanation:** The dump cannot be created because the server has not been licensed for the Disaster Recovery Manager feature.

**System Action:** Processing stops.

**User Response:** Contact your ADSM administrator. The Disaster Recovery Manager feature license is required for your server.

---

**ANQ0099E Internal error encountered during DUMPREST program processing.**

**Explanation:** An internal error has occurred during an attempt to process a command.

**System Action:** Processing stops.

**User Response:** Examine the messages issued prior to this message to determine the source of the error.

---

**ANQ0100E *command*: Extraneous parameter - *parameter*.**

**Explanation:** The specified command contains more positional parameters than is allowed.

**System Action:** The command is not processed.

**User Response:** Reissue the command with the proper syntax.

---

**ANQ0101E *command*: One or more parameters are missing.**

**Explanation:** The specified command has been entered without all required parameters.

**System Action:** The command is not processed.

**User Response:** Reissue the command with the proper syntax.

## ANQ0102E •ANQ0109E

---

**ANQ0102E** *command: Invalid disk number - disk number.*

**Explanation:** The disk number specified in the command is invalid.

**System Action:** The command is not processed.

**User Response:** Issue the QUERY DISK command to determine valid disk numbers and reissue command.

---

**ANQ0103E** *command: Invalid parameter - parameter.*

**Explanation:** The specified command has been entered with an invalid parameter.

**System Action:** The command is not processed.

**User Response:** Reissue the command with the proper syntax.

---

**ANQ0104E** *command: Invalid parameter value - parameter value.*

**Explanation:** The value specified for the parameter is invalid.

**System Action:** The command is not processed.

**User Response:** Reissue the command with a valid parameter value.

---

**ANQ0106E** **Missing value for keyword parameter - parameter.**

**Explanation:** A command containing a keyword parameter has been entered, but the value for the parameter is missing.

**System Action:** The command is not processed.

**User Response:** Reissue the command with a value for the keyword parameter.

---

**ANQ0107E** **Missing closing quote character.**

**Explanation:** A command that contains a quoted parameter has been entered, but a matching closing quote is missing.

**System Action:** The command is not processed.

**User Response:** Reissue the command with properly matched quotes.

---

**ANQ0108E** **Keyword parameter character (=) may not be surrounded by blanks.**

**Explanation:** A command contains a keyword parameter followed by an equal sign (=), but the equal sign is preceded or followed by a blank, or both.

**System Action:** The command is not processed.

**User Response:** Reissue the command without blanks next to the equal sign.

---

**ANQ0109E** **Illegal use of keyword parameter character (=) - parameter.**

**Explanation:** A command contains the parameter shown followed by an equal sign (=), but the parameter is not a keyword parameter.

**System Action:** The command is not processed.

**User Response:** Reissue the command and enter the proper syntax.



## ANQ0110E • ANQ0155E

---

**ANQ0110E Unknown command - *command*.**

**Explanation:** The specified command is not a valid command.

**System Action:** The command is not processed.

**User Response:** Reissue the correct command.

---

**ANQ0111E *command*: Missing subcommand keyword.**

**Explanation:** The specified command has been entered without a valid subcommand (second parameter).

**System Action:** The command is not processed.

**User Response:** Reissue the command with the proper syntax.

---

**ANQ0112E *command*: Invalid date - *date*.**

**Explanation:** The specified command has been issued with an invalid date. The specified date must be in the format you select with the DATEFORMAT option. For example, the date for date format 1 is mm/dd/yyyy, which is the American English standard.

**System Action:** The command is not processed.

**User Response:** Reissue the command with a valid date.

---

**ANQ0113E *command*: Invalid time - *time*.**

**Explanation:** The specified command has been issued with an invalid time. The specified time must be in the format you select with the TIMEFORMAT option. For example, the time for time format 1 is hh:mm:ss, which is the American English standard.

**System Action:** The command is not processed.

**User Response:** Reissue the command with a valid time.

---

**ANQ0114E *command*: Specified value exceeds *value length* characters for keyword parameter *keyword parameter*.**

**Explanation:** The value specified for the indicated keyword parameter exceeds the maximum length of allowable characters.

**System Action:** The command is not processed.

**User Response:** Reissue the command with a valid value.

---

**ANQ0116E *command*: Both date and time values are required.**

**Explanation:** You must specify both DATE and TIME.

**System Action:** The command is not processed.

**User Response:** Reissue the command with DATE and TIME values.

---

**ANQ0155E Cannot find active dump object in file space *file space name*.**

**Explanation:** An active dump image does not exist.

**System Action:** Command fails.

**User Response:** Use query dump command to list available dumps.

---

## ANQ0156E •ANQ0217W

---

**ANQ0156E Cannot find dump object with date *date time time* in file space *file space name*.**

**Explanation:** A dump does not exist with this date and time.

**System Action:** Command fails.

**User Response:** Use query dump command to list available dumps.

---

**ANQ0157E Cannot find dump object in file space *file space name*.**

**Explanation:** A dump does not exist.

**System Action:** Command fails.

**User Response:** Use query dump command to list available dumps.

---

**ANQ0209I We have waited *seconds* seconds for the ADSM server to complete the operation.**

**Explanation:** Completion of the dump or restore operation is in process.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0210I You will get a status message at *second* second intervals during *command*.**

**Explanation:** Notification of heartbeat interval in seconds.

**System Action:** Processing continues.

**User Response:** None.

---

**ANQ0215W Error writing a group of sectors starting at sector *sector number*. Will re-try each sector.**

**Explanation:** The restore target disk may be defective. If message ANQ0273W is not issued at completion of restore all sectors were successfully written. This message is issued at most ten times.

**System Action:** The DUMPREST program attempts to write to the target disk one sector at a time.

**User Response:** Consider using a different target disk.

---

**ANQ0217W Source contains more data than will fit in target space.**

**Explanation:** The dump source disk was larger than the restore target disk.

**System Action:** Processing continues.

**User Response:** Verify that the correct restore target disk was specified (issue the QUERY DISK command). Verify that the correct source dump image was specified (issue the QUERY DUMP command).

## ANQ0218W • ANQ1011I

---

**ANQ0218W Error reading a group of sectors starting at sector *sector number*. Will re-try each sector.**

**Explanation:** The dump source disk may be defective.

**System Action:** The DUMPREST program attempts to read target disk sector block one sector at a time. If message ANQ0272W is not issued at completion of dump all sectors were successfully read. This message is issued at most ten times.

**System Action:** The DUMPREST program attempts to write to the target disk one sector at a time.

**User Response:** Consider replacing the source disk drive.

---

**ANQ0259E ADSM management class *management class name* does not have a backup copy group assigned.**

**Explanation:** An ADSM management class is being used that is not configured to support backup.

**System Action:** Command fails.

**User Response:** Verify you are using a valid management class. Contact your ADSM administrator.

---

**ANQ0272W There are *number of sectors* invalid sectors in the dump object due to source disk read errors.**

**Explanation:** Disk sector read errors were encountered during the dump operation.

**System Action:** Processing continues.

**User Response:** Consider replacing the dump source disk drive.

---

**ANQ0273W *number of sectors* sectors were not restored due to disk write errors.**

**Explanation:** Disk sector write errors were encountered during the restore operation.

**System Action:** Processing continues.

**User Response:** Verify the dump target disk drive is properly installed. Consider replacing the dump target disk drive.

---

**ANQ1010E Could not detect your network adapter.**

**Explanation:** Program OS2SNIFF could not detect your network adapter card.

**System Action:** None

**User Response:** Verify the network adapter card is properly installed in this computer. Try the CFGADAPT option to manually specify a network adapter card.

---

**ANQ1011I Detected network adapter:**

**Explanation:** Program OS2SNIFF detected your network adapter card.

**System Action:** None

**User Response:** Verify that the correct network adapter card was detected. If the correct one was not detected, try the CFGADAPT option to manually specify a network adapter card.

## ANQ1012I • ANQ1017I

---

**ANQ1012I** Is this correct? Enter *yes* symbol for Yes, *no* symbol for No

**Explanation:** Confirm that the correct network adapter card has been detected.

**System Action:** Waiting for response.

**User Response:** If you select yes, installation of the network adapter card support will proceed. If you select no, installation will stop.

---

**ANQ1013I** Network adapter support not installed.

**Explanation:** Support for your computer's network adapter will not be installed.

**System Action:** None

**User Response:** None

---

**ANQ1014I** Please put *diskette label* diskette into drive *drive letter*

**Explanation:** Prompt for diskette.

**System Action:** Waiting for response.

**User Response:** Select the specified diskette, place it into the computer's diskette drive and press enter.

---

**ANQ1015I** Please copy network adapter *NIF name* and device driver to *diskette label* diskette.

**Explanation:** The network adapter NIF definition file and the associated device driver file must be copied to the specified diskette.

**System Action:** None

**User Response:** Obtain the NIF configuration and OS/2 device driver files from the network adapter manufacturer and copy them to the diskette, then retry CFGADAPT.

---

**ANQ1016I** Put diskette containing adapter *NIF name* and device driver into drive *diskette drive*

**Explanation:** Insert the diskette that contains the network adapter NIF configuration file and OS/2 device driver file. You may have obtained this diskette or the files from the manufacturer of the network adapter or your company's LAN support personnel.

**System Action:** Waiting for response.

**User Response:** Insert the diskette and press enter.

---

**ANQ1017I** Enter *NIF name full file name* or *exit symbol* to exit. **Example:** *example file name*

**Explanation:** You must tell CFGADAPT the full path name of the network adapter NIF configuration file that is on the diskette. This includes any directories.

**System Action:** Waiting for response.

**User Response:** Specify the file name including directories, if any and press enter.

## ANQ1018E • ANQ1024I

---

**ANQ1018E Could not find network adapter device driver** *device driver name*

**Explanation:** The network adapter device driver specified by the NIF configuration file could not be found.

**System Action:** Processing stops.

**User Response:** Verify that you have both the NIF configuration file and OS/2 device driver file on the diskette. Verify that both the NIF configuration file and OS/2 device driver files are the correct one for the network adapter in your computer. Contact the network adapter manufacturer for assistance in obtaining the correct NIF and device driver files.

---

**ANQ1019E There is no file name file.**

**Explanation:** The file cannot be found on the diskette.

**System Action:** Processing stops.

**User Response:** This file is required. If it cannot be found, you will need to obtain a new set of diskettes from the ADSM administrator.

---

**ANQ1020E Network adapter's device driver file name or NIF file name file name is unknown.**

**Explanation:** The file name of the network adapter's OS/2 device driver or the NIF file could not be determined.

**System Action:** None

**User Response:** None

---

**ANQ1021E program name could not complete network adapter installation.**

**Explanation:** Support for the network adapter could not be configured.

**System Action:** Processing stops.

**User Response:** Obtain the correct OS/2 device driver and NIF files from the network adapter manufacturer and retry CFGADAPT.

---

**ANQ1022E Obtain file file name, copy it to volume label diskette, and try again.**

**Explanation:** The file could not be found.

**System Action:** Processing stops.

**User Response:** Obtain the specified file from the network adapter manufacturer, copy it to the specified diskette, and try again.

---

**ANQ1024I Adding statement content statement to file name**

**Explanation:** The configuration statement is being added to the configuration file.

**System Action:** None

**User Response:** None

## ANQ1025I • ANQ1032I

---

**ANQ1025I Copying network adapter device driver** *device driver name*

**Explanation:** The network adapter device driver file is being copied.

**System Action:** None

**User Response:** None

---

**ANQ1026I Creating configuration file name based on NIF name file** *NIF file name*

**Explanation:** The OS/2 communications configuration file is generated based on the information in the network adapter's NIF information file.

**System Action:** None

**User Response:** None

---

**ANQ1027E Could not create file** *configuration file name* **based on file** *NIF file name* **for your network adapter.**

**Explanation:** The OS/2 communications configuration file could not be generated based on the information in the network adapter's NIF information file.

**System Action:** Processing stops.

**User Response:** You must obtain a valid NIF file from the network adapter's manufacturer.

---

**ANQ1028E You must obtain file** *file name* **and copy it to diskette** *volume label*

**Explanation:** A valid NIF file for the network adapter is required.

**System Action:** Processing stops.

**User Response:** You must obtain a valid NIF file from the network adapter's manufacturer and copy it to the specified diskette.

---

**ANQ1129I Note the number of the adapter in your machine, then press** *return key*.

**Explanation:** You must select the network adapter that is in the computer.

**System Action:** None

**User Response:** Review the list of network adapters, remember the number associated with the one in the computer, then press the specified key.

---

**ANQ1031I What was the number of your adapter? (Use** *cancel key* **for cancel)**

**Explanation:** Prompt for entry of the number associated with the network adapter to be selected.

**System Action:** None

**User Response:** Enter the number of the selected network adapter and press enter.

---

**ANQ1032I** *selection number* **is not a valid number from the adapter list.**

**Explanation:** A number was specified which was not in the list of network adapters.

**System Action:** None

**User Response:** None

## ANQ1133I • ANQ1040I

---

**ANQ1133I** Note the number of your PCMCIA machine, then press *return key*.

**Explanation:** You must select your PCMCIA machine from the list.

**System Action:** None

**User Response:** Review the list of PCMCIA machines, remember the number associated with yours, then press the specified key.

---

**ANQ1035I** What was the number of your PCMCIA machine? (Use *cancel key* for cancel)

**Explanation:** Prompt for entry of the number associated with the PCMCIA machine support to be selected.

**System Action:** None

**User Response:** Enter the number of the selected PCMCIA machine and press enter.

---

**ANQ1036E** *selection number is not a valid number from the PCMCIA machine list.*

**Explanation:** A number was specified which was not in the list of PCMCIA machines.

**System Action:** None

**User Response:** None

---

**ANQ1037I** To make changes active you need to:

**Explanation:** Tell user how to make the changes active.

**System Action:** None

**User Response:** None

---

**ANQ1038I** 1. Put diskette DRMBOOT in drive A:

**Explanation:** Tell user how to make the changes active.

**System Action:** None

**User Response:** None

---

**ANQ1039I** 2. Reboot the PC.

**Explanation:** Tell user how to make the changes active.

**System Action:** None

**User Response:** None

---

**ANQ1040I** Configuring ADSM

**Explanation:** The ADSM options file is being built based on CFGCOMM configuration.

**System Action:** None

**User Response:** None

## ANQ1041I •ANQ1143I

---

**ANQ1041I Starting TCP/IP**

**Explanation:** The OS/2 TCP/IP support is being started.

**System Action:** None

**User Response:** None

---

**ANQ1054E Could not find file description file file name**

**Explanation:** The specified file could not be found.

**System Action:** None

**User Response:** None enter.

---

**ANQ1055E Could not write line line content to file file name**

**Explanation:** The specified update could not be made to the file.

**System Action:** None

**User Response:** Ensure there is enough room on the diskette. You may need to use a set of freshly generated diskettes.

---

**ANQ1143I Diskettes configured for: network adapter name**

**Explanation:** The diskettes have been configured for the specified network adapter.

**System Action:** None

**User Response:** None



---

## Appendix A. Notices

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## Appendix B. Program Diskette Image Files

The diskette image files included with the server program distribution media are as follows:

- |                     |  |
|---------------------|--|
| <b>drmbboot.dsk</b> | Contains the initial embedded system for booting the machine.  |
| <b>drmdsk1.dsk</b>  | Contains part of the embedded operating system.  |
| <b>drmdsk2.dsk</b>  | Contains part of the embedded operating system.  |
| <b>drmadsm.dsk</b>  | Contains ADSM code for the dump and restore interface and the ADSM application program interface (API).          |
| <b>drmadpt.dsk</b>  | Contains files that the embedded operating system needs to support different network adapter cards.              |
| <b>drmpcmc.dsk</b>  | Contains files that the embedded operating system needs to support PCMCIA (for example, for notebook computers). |



---

## Glossary

The terms in this glossary are defined as they pertain to the ADSM library. For a complete glossary of ADSM terms, see *ADSM Administrator's Guide*.

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 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).

**active version.** The most recent backup copy of a file stored by ADSM. Such a file is exempt from deletion until a backup detects that the user has either replaced the file with a newer version, or has explicitly deleted the file from the workstation. Contrast with *inactive version*.

**disk drive geometry.** The combination of the numbers of cylinders, heads, and sectors that a disk drive has, along with the size of each sector.

**dotted IP address.** The unique numeric code assigned to each device or workstation connected to a TCP/IP network. The address 9.115.20.44 is an example.

**IDE.** Integrated drive electronics.

**inactive version.** A copy of a backup version of a file in ADSM storage that either is not the most recent version or is a backup of a file that was deleted from the client file system. Inactive backup versions are eligible for expiration processing according to the management class assigned to the file. Contrast with *active version*.

**MPTS.** Multi-protocol transport services.

**MTU.** Maximum transfer unit.

**NDIS.** Network driver interface specification.

**NIF.** Network information file. A file that contains items that you can configure for each NDIS-compliant network adapter driver.

**PCMCIA.** Personal Computer Memory Card International Association.

**router.** A device that enables an Internet Protocol host to act as a gateway for routing data between separate networks that use a specific adapter.

**SCSI.** Small computer system interface.



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