

# ARCserve® Installation Guide

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## Product Support

If you have any questions regarding the use of this product, please contact us at one of the following locations:

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USA, Canada, Asia, Latin America:		
3 Expressway Plaza Roslyn Heights, New York 11577 USA	Main Voice Number:	516-484-5110
	Technical Support:	800-CHEY-TEC
		Mon-Fri 8 am-6:30 pm EST
		Mon-Fri 6:30 pm-10 pm EST (Callback only)
		Sat/Sun 10 am-4 pm EST (Callback only)
	Technical Support	
	FAX Number:	516-465-5115
	BBS:	516-484-3445
	CompuServe:	GO CHEYENNE
	World-wide Web:	<a href="http://www.cheyenne.com/">http://www.cheyenne.com/</a>
	FTP Server:	<a href="ftp.cheyenne.com">ftp.cheyenne.com</a>
	InfoFax System:	516-629-4675
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# ABOUT THIS GUIDE

This chapter provides you with an overview of the guide and shows you how to find and use the information you need.

**In this chapter, you will learn:**

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- |       |   |
|-------|---|
| 1-2 ➤ | What information this guide contains and how to find it |
| 1-4 ➤ | The stylistic conventions used in this guide            |
| 1-5 ➤ | How to use the tabs and Table of Contents               |

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## Overview - About this guide

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### Purpose of this guide

The purpose of this guide is to help you install, load, test, and configure ARCserve version 6.

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### Information in this guide

This installation guide contains seven chapters and an appendix. This chapter provides an introduction and overview. The remaining chapters and appendix explain the specifics about installing, loading, testing and configuring ARCserve, as outlined in the following table.

Chapter/ Appendix	Title	Contents
1	About This Guide	Outlines the information in this guide and tells how to find it.
2	Preparing to Install ARCserve	Describes the steps you need to carry out to prepare for installing ARCserve.
3	Installing ARCserve	Guides you through each stage of the installation process.
4	Testing Your ARCserve Installation	Explains how to load and test ARCserve by doing a quick backup and restore.
5	Converting and Upgrading Your ARCserve System	Describes how to use the ARCserve Conversion Utility to upgrade scripts, job queues, and database.
6	Customizing Your ARCserve License	Explains how to use the License Utility to add and modify license files.
7	Troubleshooting Your Installation and Test Startup	Helps you correct any problems you encounter during installation and test startup.

Chapter/ Appendix	Title	Contents
A	Installation Scenarios	Describes how to configure ARCserve in networks efficiently.
B	Configuring ARCserve for NetWare 4.1 SFT III	Describes how to configure a NetWare 4.1 SFT III server to run ARCserve 6.
C	Configuring Multiple Tape Groups for Parallel Streaming	Describes how to configure and manage tape groups for parallel streaming.

The chapters in this guide are organized to parallel your ARCserve installation. If you follow the instructions in each chapter in the correct order, your installation should proceed smoothly.

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## Finding information in this guide

### Stylistic conventions

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#### Left and right columns

To help you locate quickly the information you need, this guide uses a two column layout. The main text occupies the right-hand column. The left column contains the following two types of information:

- Margin headings
- Notes and warnings

To get the most effective use from this guide, always scan the left column of each page first. This way, you can determine the nature of the information on that page.

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#### Margin headings

Margin headings have two functions. First, they divide the page into subsections. Second, they indicate what information is contained in the paragraphs that follow them.

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#### Notes and warnings

Icons for notes and warnings also appear in the left column. These icons indicate information that is critical to using ARCserve.

This icon indicates a note. A note reminds you to do something or stresses important information.



This icon indicates a warning. A warning draws your attention to critical information.





## Using the tabs and Table of Contents

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In addition to scanning the left column on each page, you can also use the Tabs and Table of Contents to search for specific information.

Use the Tabs to find the chapter you want. Use the Table of Contents to find specific sections within a chapter.



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In the online manuals, the Table of Contents appears in the form of Bookmarks when the file is opened in Adobe Acrobat Reader. These Acrobat Bookmarks are linked to section and chapter headings in the manuals. To see to a particular section, simply click the bookmark with the title of the section you want to refer to.

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# 2

## Chapter

# PREPARING TO INSTALL ARCserve

This chapter describes the steps you must take to prepare for installing ARCserve.

**In this chapter, you will learn:**

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| 2-2 ➤ | Steps needed to prepare for installation                   |
| 2-3 ➤ | Hardware and software requirements for ARCserve            |
| 2-5 ➤ | How to install the necessary boards and peripheral devices |
| 2-6 ➤ | What to check for in the ARCserve package                  |
| 2-8 ➤ | Other important requirements for ARCserve installation     |

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## Overview - Steps needed to prepare for installation

The following list outlines the steps you need to follow to prepare for installing ARCserve. You can find more information about these steps in the rest of this chapter and in the next chapter.

- Make sure your system meets the hardware and software requirements needed to install ARCserve 6. A list of these requirements appears on page 2-3.
- If you haven't already done so, install your host adapter board and backup devices. This step must be completed before you begin your installation. Refer to page 2-5 for more information.
- Check the contents of your ARCserve package. Verify that every item on the list of contents is in your package. The list of contents appears on page 2-6.
- Refer to the section 'Pre-installation checklist and notes' in Chapter 3 "Installing ARCserve" for important additional pre-installation requirements.

## Meeting ARCserve's hardware and software requirements

Before installing ARCserve 6, make sure your system meets the following minimum requirements. (More than the minimum is recommended for RAM and, especially, for server disk space since the Database directory can grow very large.)

Item	Workstation	Server
<b>Machine Type</b>	80386 or higher CPU computer with a minimum of 8 MB of RAM	80386 or higher CPU computer with a minimum of 16 MB of RAM available for ARCserve
<b>Disk Space</b>	2 MB of free space to begin the ARCserve installation 12 MB of free space for ARCserve Manager	12 MB of free disk space for NetWare 3.x Server 12 MB of free disk space for 4.x server (24 MB if you are installing both the ARCserve Manager and the ARCserve Server to your server)
<b>Floppy Disk Drive</b>	A high-density 3-1/2" floppy drive. Note: Cheyenne now also distributes ARCserve on Compact Disk for CD-ROM drives.	None needed
<b>Software</b>	DOS 3.x and above Windows 3.1 in Enhanced mode or Windows 95	Novell NetWare 3.1x Novell NetWare 4.x NDS or Bindery Emulation with 4.1x servers Bindery Emulation with 4.0x servers

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Checking server  
memory

Version 6 of ARCserve requires at least eight megabytes of server memory (and ideally should have more). To verify that your server has enough memory, load *Monitor* on the server. Select *Resource Utilization* and check the *Cache Buffers* field. This field should show a figure of at least 4096 Kb.

## Installing your host adapter board and backup devices

In order to install ARCserve, you will need to know which SCSI (Small Computer System Interface) host adapter board you have installed.

ARCserve assumes that the board's settings have not been changed from the default settings. If you have changed any of the board's settings, you will have to tell ARCserve during the installation.

If you are not the person who originally installed the board, you may want to refer to the board's documentation to help you determine if any settings have been changed.

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### Grouping tape drives

If you are using a SCSI host adapter board, you can connect up to seven tape drives to this single board. When you begin using ARCserve, you will be able to divide these drives into groups. The only rule for grouping tape devices requires each tape drive in a group to be identical (same brand and model).

Grouping allows ARCserve to treat multiple tape drives as a single unit, making Tape Cascading (Drive Spanning) and File interleaving possible. Tape Cascading allows jobs to span to the tape in the next drive when one tape fills up. File interleaving allows two or more jobs to run at the same time.

The first time you load ARCserve after your installation, ARCserve will automatically group your tape drives for you. (For additional information about tape groups, refer to the appropriate chapter in your *ARCserve Manager Guide*.)

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### SCSI tips

If you have several devices connected to a single adapter card, each device must have a different SCSI ID. The SCSI bus must be terminated at both ends of the connection chain.

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## Checking the contents of your ARCserve package

To be sure your package contents are complete, check them against the following description. If anything is missing or damaged, contact your reseller.

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### ARCserve media

Cheyenne ships ARCserve version 6 on CD-ROM. You can request ARCserve in the form of a set of 3-1/2 in. or 5-1/4 in. high-density diskettes by contacting Cheyenne Software.



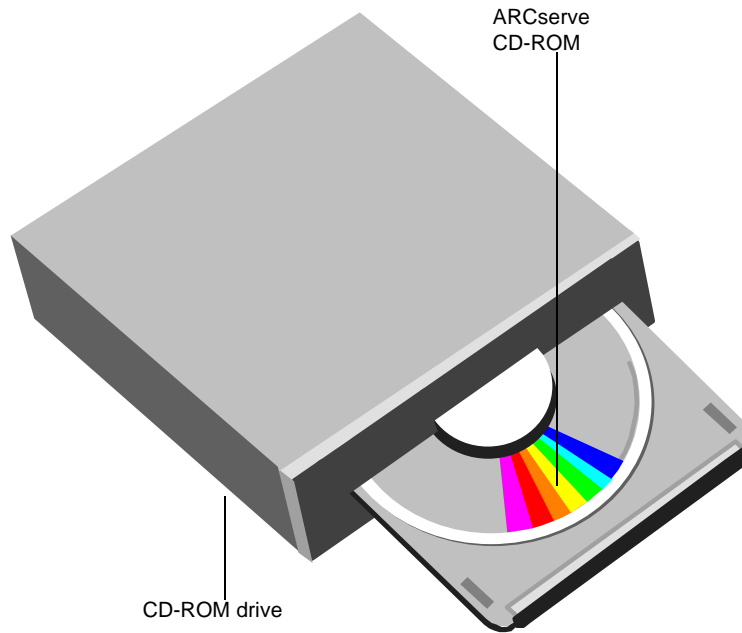
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The ARCserve CD-ROM also contains the ARCserve manuals. You can access these manuals using the Adobe Acrobat Reader included on the CD-ROM. You can also print them.

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Printed and bound manuals are available on request from  
Cheyenne Software.



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### Using the ARCserve 6 online manuals

For instructions on how to access and use the ARCserve on-line documentation, refer to the README.WRI file included with the Adobe Acrobat Reader. The names and filenames of the ARCserve online documentation are as follows:

- *ARCserve Installation Guide* - INSTALL.PDF
- *ARCserve Manager Guide* - MANAGER.PDF
- *ARCserve Server Guide* - SERVER.PDF

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### A note about ARCserve version 6 editions

Version 6 of ARCserve comes in two editions. These editions are defined by the user level of the accompanying ARCserve license in the following way.

- Work Group Edition - comes with a license for a user level of 25.
- Enterprise Edition - comes with a license for unlimited users.

The Work Group Edition runs on all Novell NetWare servers with a connection level of 25 users or less and will back up remote NetWare servers with this connection level. This edition lets you increase your number of connections in increments of 25 users through the additive licensing feature of the ARCserve License Utility.

The Enterprise Edition runs on and backs up all Novell NetWare servers, whatever their connection level.

At some stage in this process, if you decide to do so, you can use the License Utility to convert your ARCserve license to an unlimited license. For more information about ARCserve licensing and about using the License Utility, refer to Chapter 6 of this guide.

# 3

## Chapter

# INSTALLING ARCSERVE

This chapter provides you with an overview of the installation process as well as specific instructions for installing ARCServe 6 on a server running Novell NetWare 3.1x or 4.x.

**In this chapter, you will learn:**

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- |        |   |
|--------|---|
| 3-2 ➤  | What will be installed, where, and how    |
| 3-9 ➤  | How to start Setup and install ARCServe 6 |
| 3-24 ➤ | How to do a Complete Installation quickly |
| 3-55 ➤ | How to register ARCServe                  |

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## Overview - What will be installed, where, and how

Your ARCserve 6 package consists of two basic components that handle basic backup and restore operations, as well as several additional components such as agents, utilities and modules (some of which are product options) that facilitate various functions.

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### Components of the ARCserve 6 system

The components included with the basic ARCserve package are listed below.

- ARCserve Server
- ARCserve Manager
- Workstation agents (Windows 3.x, Windows 95, OS/2, DOS)
- Conversion utility
- License utility
- Alert module

In addition, you can purchase the following components as separate options.

- ARCserve High Performance Push Agent for NetWare (Push Agent)
- RAID option
- Changer option
- Client Agent for NT
- Client Agent for Unix

These components are described on the next page.

## Components included in the ARCserve package

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### ARCserve Server

ARCserve Server runs on a Novell NetWare server, enabling backups to be performed to tape and other media connected to that server. During installation, the Setup program installs ARCserve Server to the server or servers you select.

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### ARCserve Manager

ARCserve Manager runs under Windows on a workstation connected to the network (see note below). The Manager schedules backup, restore, and copy jobs; manages job queues; displays status reports on jobs; lets you locate files for quick access; and performs various device management tasks.



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The ARCserve Manager can be installed to a server (refer to the 'Installing ARCserve 6' section ). However, the Manager must be used from a workstation running Windows with the server volume, to which the Manager is installed, mapped as a drive.

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With the *Complete Installation* option selected, the Setup program installs ARCserve Manager to the workstation running Setup, or to the same server where it installs ARCserve Server. With *Custom Installation* selected, you can install the Manager to additional workstations or servers. (We recommend installing the Manager to workstations.)

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<hr/> <b>Client agents</b>	<p>The workstation agent runs on workstations in various operating environments (Windows, DOS, OS/2). To back up or copy files from a workstation on the network, or restore files to a workstation, you need to have the appropriate agent running on that workstation. (Refer to the section ‘Installing agents on additional workstations’ for a list and description of these workstation agents.)</p> <p>WINagent, the workstation agent for Windows, is included in the ARCserve Program Group created on the workstation running the Setup program.</p> <p>To install this or another workstation agent to additional workstations, you need to run the ARCserve Workstation Agent Setup program.</p> <p>The NT and Unix Agents are sold separately as options.</p>
<hr/> <b>The Conversion utility</b>	<p>The conversion utility enables you to upgrade the job queue, scripts and database from your existing ARCserve 4.x or 5.x system to ARCserve 6. The conversion utility is automatically included in the ARCserve program group created on the workstation running the Setup program. For more information about the conversion utility, refer to the “Upgrading and Converting your ARCserve System” chapter in this guide.</p>
<hr/> <b>The License utility</b>	<p>The license utility creates and modifies license files as well as letting you view the information they contain. This utility is also part of the program group Setup creates on your workstation. For a more detailed description of the license utility, refer to the chapter of this guide “Customizing your ARCserve license”.</p>

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**Alert**

Alert is a module that allows you to configure the way you want to receive system and error messages. Alert lets you receive messages from various sources including SNMP, fax, e-mail, printers, and Pager.

Setup gives you the option of installing Alert to the server where you're installing ARCserve. For more information about Alert, refer to the chapter "Setting Up Alert Messaging" in the *ARCserve Server Guide*.

**Optional components**

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**ARCserve High  
Performance  
Push Agent for  
NetWare**

The ARCserve High Performance Push Agent for NetWare lets you back up remote NetWare servers, speeding up file transfers for single remote servers. For more information on what the Push Agent is and does, refer to the section 'Push Agent for NetWare' in Chapter 2 of the *ARCserve Server Guide*. For information on how the Push Agent works with file interleaving, refer to Chapter 6, "Customizing Your Backup", in the *ARCserve Manager Guide*.

You can install the Push Agent using the Custom Installation option of the Setup program that comes with your basic ARCserve package. For information on how to perform this installation, refer to the 'Custom Installation' and 'Installing Push Agent for NetWare to remote servers' sections of this chapter.

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<hr/> RAID option	<p>RAID stands for Redundant Array of Inexpensive Devices. This name refers to a system setup that uses multiple drives and writes data across all the disks in a predefined order.</p> <p>RAID is also known as drive array. With RAID for ARCserve, you can use an array of two, three, or five drives. The tape array you set up will appear as a single drive. Internally, the multiple drives are accessed in parallel.</p> <p>You need to buy the RAID option separately to run with ARCserve. RAID comes with its own installation program and manual.</p>
<hr/> Changer option	<p>An Autochanger (or just “changer”) is a tape drive that automatically swaps tapes, handling anywhere from four to over a hundred tapes. Some of the advantages of using a changer with ARCserve are that it gives you complete automation (especially for Auto Pilot jobs), more storage capacity, greater fault tolerance, and easier cleaning of tape drives.</p> <p>The ARCserve Changer Option is a software package that runs as part of the ARCserve Device Manager. When you install the Changer Option, you can use the Device Manager to configure the operation of your changer hardware.</p> <p>You need to buy the Changer Option separately. It comes with its own installation program and manual.</p>



## How the installation process flows

The ARCserve 6 Setup program lets you choose between the following two types of installation:

- Complete Installation
- Custom Installation

Complete Installation installs all ARCserve components to appropriate destinations. Custom Installation enables you to install a single component to a selected destination. Both Complete and Custom Installation also allow you to register ARCserve. For a more complete description of Complete and Custom Installation, refer to the 'Starting Setup and selecting an installation type' section.

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### Proceeding with installation

For a quick overview of the entire installation process, divided into major stages, refer to 'Stages of the ARCserve installation process' below. To begin installing ARCserve, go to the section titled 'Installing ARCserve'.

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### Stages of the ARCserve installation process

Listed below are the basic stages of the ARCserve installation process.

- Review the pre-installation checklist and notes.
- Start the Setup program.
- Specify the source media you're installing from.
- Select an installation type.
- Proceed according to the installation type you've selected.



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If you're familiar with Windows, NetWare, and your system's hardware configuration, you should be able to move through the Setup program rapidly. This is especially the case if you know the options you want to select. For a minimal procedure that carries you through Complete Installation in the shortest possible time, refer to the 'Doing a Complete Installation quickly' section.

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## Installing ARCserve

Your ARCserve package includes a Setup program to install your copy of ARCserve.

The ARCserve Setup program will install all ARCserve components to the appropriate destinations or will let you decide which components of ARCserve you want to install and where you want to install them.

This section provides information about the ARCserve installation process and takes you through the actual installation. This section contains the following information:

- Pre-installation checklist and notes.
- Starting Setup and choosing an installation type.
- Copying the ARCserve diskettes to server or workstation hard disk (if purchased in diskette form).
- Complete Installation.
- Selecting and configuring a host adapter board.
- Custom installation (including the optional ARCserve NetWare Push Agent).
- Registering ARCserve.
- Installing the ARCserve workstation agents.

Each of these topics is discussed in detail on the following pages.

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## Pre-installation checklist and notes

Before you install ARCserve, you should be aware of the following two factors.

- A checklist of items you need to make sure of before proceeding with installation.
- Notes with information that's useful to know.

### Checklist

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NetWare 4.1x  
servers can have  
NDS or bindery  
emulation

If the server you're installing ARCserve to is running NetWare 4.1x, you have the following two options:

- Install with NDS
- Install with bindery emulation enabled



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You cannot have any version of ARCserve running on your server when you install ARCserve 6. Installation will not continue if ARCserve is loaded. Use the `ASTOP` command to unload ARCserve 5.x before proceeding with installation. Use the `UNLOAD ARCSERVE` and `UNLOAD TAPEDRV` commands to unload ARCserve 4.x. However, do not delete any files or directories until after you've installed, loaded and tested ARCserve 6.

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**Supervisor rights  
are needed to  
install ARCserve**

You must have supervisor or supervisor equivalent rights on a NetWare 3.1x or 4.0x server in order to install ARCserve on that server. If you're installing ARCserve on a NetWare 4.1x server, you must have the set of rights as described in the note below. You can either log in before installation to the servers where you will be installing ARCserve, or you can log in during the installation process itself.

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**Rights required  
for installation on  
NetWare 4.1x  
servers in NDS  
mode**

Supervisor Object Rights to the [Root] object are not required to Install ARCserve, although it is preferred. They are only necessary in order to extend the NDS Schema, but ARCserve can be installed without using the NDS Schema Extensions. If the user does have Supervisor Object Rights to the [Root] object, or the schema has already been extended by another installation of ARCserve in the same NDS tree, then two NDS objects will be created using the Schema Extensions for ARCserve, one Cheyenne:Queue and one Cheyenne:Server object. If the NDS Schema cannot be extended because the user does not have rights to [Root], then ARCserve will use the Base Schema to create the objects and they will appear in the tree as Print Queue and Print Server.

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**Files are  
compressed on  
CD-ROM and  
installation  
diskettes**

The files on your CD-ROM or installation diskettes have been compressed to save space. ARCserve's Setup program automatically decompresses these files during the installation process. It's important to keep this fact in mind. You can't simply copy the files to a server without the Setup program and expect ARCserve to work.

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**You must decide  
where to install  
ARCserve  
Manager**

You have the option of installing the ARCserve Manager (ARCserve's front-end) to your workstation or to a server. Access to the Manager may be slower if it's installed on a server and we recommend you install the Manager to the workstation.

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However, you might want to install the ARCserve Manager to the server if one or more of the following conditions hold.

- You don't have enough disk space available on your workstation.
- You want multiple users to be able to access the Manager.
- You're going to install a workstation agent to additional workstations.

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You may need to upgrade to Btrieve 6.15

If you are running an older application, or require a larger user level, you should check with the software vendor to find out about upgrading to Btrieve 6.15. You can also contact Btrieve Technologies at 1-800-BTRIEVE.

#### Notes on checklist items

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ARCserve includes the latest Btrieve NLM

Your ARCserve installation includes the latest version of the Btrieve NLM (NetWare Loadable Module) that ARCserve requires.

If the ARCserve Setup program sees that you have an older version of a Btrieve NLM or other NetWare NLM's, a screen appears listing the old NLM's and giving you the option of overwriting them. If you choose to overwrite them, the original NLM's will be renamed with a .NL1 extension under SYS:\SYSTEM.

After your installation is complete, you can see a list of the NLM's that were installed by selecting the ARCserve Notes icon from the ARCserve program group. A complete list of files appears at the end of the notes.

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Two objects will be added to the server's bindery or NDS

The bindery is a server database that keeps track of users, groups, and other objects. On a server running NetWare 3.1x or 4.1x (with bindery emulation), ARCserve installation adds the following two objects to the bindery:

- A queue server that gives ARCserve access to NetWare resources (AS\_BACKUP\_SERVER).
- The ARCserve job queue (AQ6\_CHEY for NetWare 3.1x servers or AQ6\_[server name] for NetWare 4.1x servers).

ARCserve will extend the NDS schema.



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The user AS\_BACKUP\_SERVER is only granted rights to the ARCserve home directory. It is password protected and is assigned station restrictions to the local server. These precautions ensure that nobody can log in to the server as AS\_BACKUP\_SERVER from any workstation.

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Using the Conversion Utility to upgrade your system from earlier versions

ARCserve 6 includes a Conversion Utility for post-installation use. If you're currently running ARCserve 4.x or 5.x, this utility will upgrade your system, including scripts, job queues and database. This way you can start using ARCserve 6 without having to recreate scripts or reschedule jobs. For NetWare 4.1 users, this utility will also convert bindery queues to NDS queues. For more information about conversion, refer to Chapter 5, "Converting and Upgrading Your ARCserve System".



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We recommend that you start ARCserve and test your installation, as described in Chapter 4, before using the Conversion Utility to upgrade your system.

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## Starting Setup and choosing an installation type

To start the ARCserve Setup program and select an installation type, follow the procedure below.

The two installation types are Complete and Custom. When you've completed the following procedure, refer to the appropriate section of this chapter to complete the installation process. For example, if you select the Complete Installation option, refer to the 'Complete Installation' section. If you select Custom Installation, refer to 'Custom Installation'.

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### Ways of starting Setup

The ARCserve 6 Setup program runs under Windows and uses a Windows-style graphic interface. You can start the ARCserve 6 Setup program in one of the following ways:

- From a CD-ROM (included by default with the ARCserve package).
- From a floppy drive with the ARCserve Setup diskette (Disk 1).
- From a workstation or server hard disk to which the ARCserve files and Setup program have been copied.

The following subsections contain procedures for each of the above installation media types respectively.



## Starting Setup from the CD-ROM

If you're starting Setup from a CD-ROM :

1. Insert the CD-ROM in the drive.

The ARCserve CD-ROM contains all the necessary files for installation, including the Setup program.

2. Start the Setup program.

To run Setup from DOS, at the DOS prompt enter the following command:

*[CD-ROM drive letter]:\DISK1\SETUP.EXE*

Windows starts and then loads the Setup program.

3. To run Setup from Windows, choose Run from the File menu in the Program Manager.

In the Run dialog box, type the following command in the text box:

*[CD-ROM drive letter]:\DISK1\SETUP.EXE*

4. Click OK.

Windows loads the Setup program.

The Setup initialization screen appears.

5. Click the Next button to proceed with installation.

A screen appears, asking you to specify the media from which you're installing. Refer to the section 'Specifying installation media and selecting installation type' for information on this.

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## Starting Setup from diskettes

If you're starting Setup from a floppy drive:



---

If you ordered ARCserve on diskettes from Cheyenne and are installing to more than one server, we recommend that you copy your diskettes to either a workstation or server hard disk and install ARCserve from the hard disk for greater efficiency. (Refer to the 'Installing ARCserve from a hard disk' section.)

---

1. Insert the Setup diskette.

Insert the ARCserve 6 diskette labelled Disk 1 into the appropriate floppy drive.

2. Start the Setup program.

To run Setup from DOS, at the DOS prompt enter the following command:

*[floppy drive letter]:\SETUP.EXE*

Windows starts and then loads the Setup program.

3. To run Setup from Windows, choose Run from the File menu in the Program Manager.

In the Run dialog box, type the following command in the text box:

*[floppy drive letter]:\SETUP.EXE*

4. Click OK.

Windows loads the Setup program.

The Setup Welcome screen appears.

5. Click the Next button to proceed with installation.

A screen appears, asking you to specify the media from which you're installing. Refer to the section 'Specifying installation media and selecting installation type' for more information.

---

## Installing ARCserve from a hard disk

To install ARCserve from a workstation or server hard disk:

1. Create directories for the ARCserve files on your hard disk.

Create the following directory structure on your hard disk:

*[hard disk drive letter]:\ASDISKS\[disk name]*

where *[disk name]* stands for the following set of subdirectories corresponding to the ARCserve diskettes:

- DISK1
- DISK2
- DISK3
- DISK4
- DISK5
- DISK6
- TAPEDRV
- LICENSE
- NWAGENT
- CHANGER

(NWAGENT and CHANGER are optional. You need to purchase these diskettes separately from the basic ARCserve package.)

2. Copy the files on your ARCserve diskettes to the appropriate subdirectories on your hard disk.

3. Start the Setup program.

To run Setup from DOS, at the DOS prompt enter the following command:

*[hard drive letter]:\ASDISKS\DISK1\SETUP.EXE*

Windows starts and then loads the Setup program.

4. To run Setup from Windows, choose Run from the File menu in the Program Manager.

In the Run dialog box, type the following command in the text box:

*[hard drive letter]:\ASDISKS\DISK1\SETUP.EXE*

5. Click OK.

Windows loads the Setup program.

The Setup Welcome screen appears.

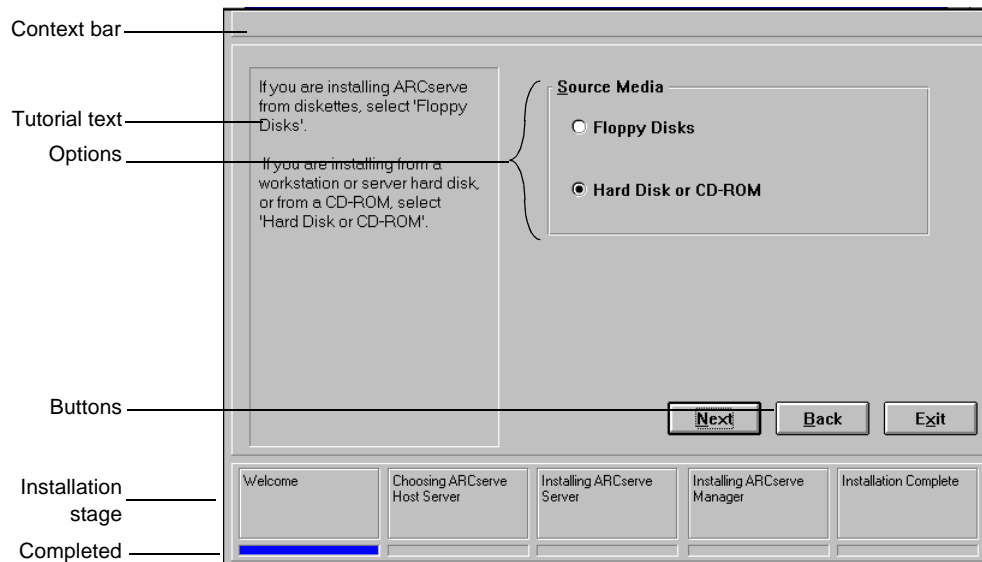
6. Click the Next button to proceed with installation.

The following screen appears, asking you to specify the media you're installing from. Refer to the section 'Specifying installation media and selecting installation type' for more information.

---

## A note about the ARCserve 6 Setup screens

The following illustration of the Source Media screen (the second screen of the Setup program) shows the basic elements of the ARCserve Setup screens.



The screen elements of the ARCserve Setup screens have the following functions:

- The context bar describes the basic function of the screen in blue text. (Not all screens will show text in the context bar.)
- Tutorial text in the left-hand box tells you how to select the options presented by the screen.
- Options on the right side of the screen are items you need to select in order to proceed to the next phase of installation.
- Buttons on most screens include Next, Back and Exit. Clicking Next proceeds to the next stage of installation. Clicking Back returns you to the previous screen. Clicking Exit lets you quit the Setup program. You can also choose any button by pressing the key for the letter underlined on the button's label; for example, by pressing "N" for Next.
- The five boxes along the bottom of the screen indicate the installation stage currently being carried out. These stages are as follows:  
Welcome, Choosing ARCserve Host Server, Installing ARCserve Server, Installing ARCserve Manager and Installation Complete.
- The current stage is shown by the last bar below each box filled with blue.

For information on how to specify media and choose an installation type, refer to the 'Specifying installation media and choosing installation type' section.

---

## Specifying installation media and choosing installation type

The following procedure tells you how to specify your installation media and choose your installation type. You need to carry out these steps before proceeding with your ARCserve installation.

1. Specify the source media you're using to install ARCserve.

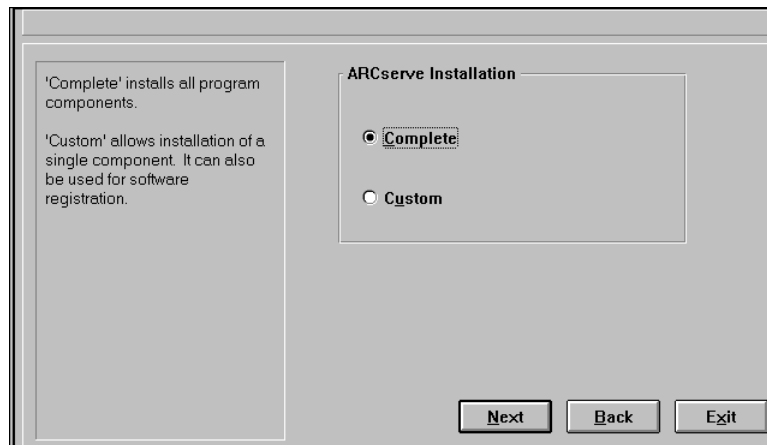
If your ARCserve diskettes have already been copied to a server or other hard disk, or if you're installing from a CD-ROM, select "Hard disk or CD-ROM". Otherwise select "Floppy Disks."

When you've made this selection, click Next.

The next screen, shown below, asks you to select your installation type.



## 2. Select your installation type



3

If this is your first installation of ARCserve 6, select “Complete Installation” and refer to the ‘Complete Installation’ section for instructions on how to complete the installation process.

If you want to install or configure a single ARCserve component, select “Custom Installation”. For example, if you’ve already done a complete installation and only want to install the ARCserve Manager to additional workstations, select this option and then refer to the ‘Custom Installation’ section.

## 3. Proceed according to the installation type you’ve selected.

For information on the complete installation option, refer to the ‘Complete Installation’ section. For information on the Custom Installation option, refer to ‘Custom Installation’.

---

## Complete Installation

If you selected “Complete Installation” in Step 3 of the previous procedure, this section tells how to complete your installation of ARCserve.

If you’re familiar with Windows, NetWare, and your hardware configuration, and know the options you want to select, you can use the streamlined procedure below. This procedure lists only basic steps, without screens or notes. If you need more information about a particular step, the numbers and steps themselves are identical to those in the more detailed procedure in the following section. You should also refer to the tutorial text in the box on the left side of each screen.

### Streamlined procedure

1. Select the servers where you want the ARCserve Server installed.
2. If you’re installing to a 4.1 server, confirm your connection type.
3. If there’s a previous version of ARCserve, tell Setup if you want to use the adapter card/driver settings from this version.
4. Indicate if you want Alert installed on the target server.
5. Indicate where you want the ARCserve Server and ARCserve Manager installed.
6. Confirm the paths for installation of the ARCserve Server and Manager.
7. Indicate which kind of License you have.

8. Choose whether to keep or replace existing ARCserve elements.
9. Wait while Setup copies files to the Server and Manager home directories.
10. Specify and configure the target server's host adapter board, board driver and parameters.
11. Select a combination of ARCserve options.
12. Specify the type of directory mapping you want for the ARCserve Manager.
13. When you receive the message that installation was successful, complete the final steps.
14. Register your copy of ARCserve.
15. Install to another server or exit Setup.

When you've successfully completed this final step of installing ARCserve to a selected server, you can take one of the following actions:

- Loop back to the start of this procedure and install ARCserve to the next server on the list.
- Exit the Setup program.

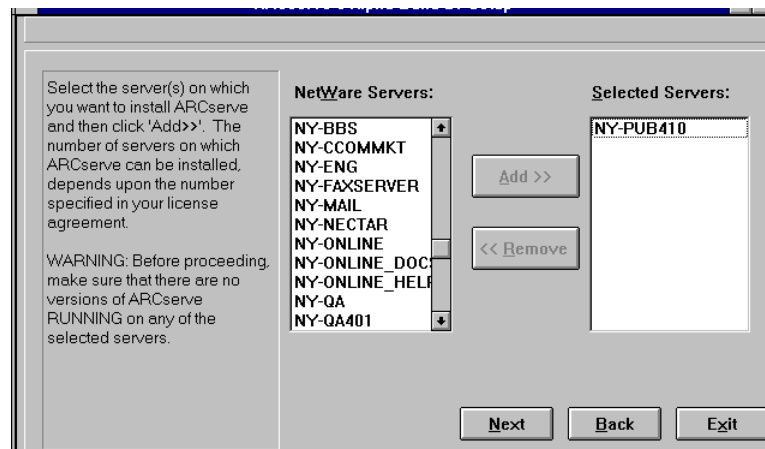
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## Full procedure

The procedure below describes in full detail how to install ARCserve 6 using the Setup program.

1. Select the servers where you want the ARCserve Server installed.

With the 'Complete Installation' option selected, the following screen appears asking you to select the servers where you want ARCserve installed.



From the list of available servers in the left-hand scroll box, highlight the ones where you want ARCserve installed and then click Add>>. (Use Ctrl + click to select multiple servers.)

Each server you select appears on the list of servers targeted for installation in the right-hand scroll box.

Repeat this process until you've selected all the servers you want to install to and then click Next.



---

You can select and install to as many servers as your licensing allows. If you select a server you're not logged into, you will be prompted to log into that server. You must have supervisor or equivalent rights (or Admin or equivalent rights for NetWare 4.1x servers) on that server in order to install ARCserve. You also need a separate license file or alphanumeric key for each server you install to.

---

If you're installing from a hard disk or CD-ROM, and you're not logged in to the server where you want to install ARCserve, a screen (not shown) appears at this point and prompts you to log in to the target server. If the server is running NetWare 4.1, you will also be asked to choose Bindery Emulation or NDS.

If you are installing to a 4.1 server, the next screen asks you to confirm your connection type.

2. If you're installing to a 4.1 server, confirm your connection type.

Setup displays the server name, NetWare version and connection type under which you're logged in to the target server. Your connection type will be either NDS (NetWare Directory Services) or Bindery Emulation. ARCserve 6 will run in this mode on the server you're installing to.

To changed your connection type, click Back.

To confirm your connection type, click Next.

When you click next, a screen (not shown) appears telling you if Setup has detected a previous version of ARCserve.

- 
3. If there's a previous version of ARCserve, tell Setup if you want to use the adapter card/driver settings from this version.

To use the previous settings, activate the check box. If you want to reconfigure the board/driver, make sure the check box is cleared. Click Next to proceed

The next screen asks you if you want Alert installed.

4. Indicate if you want Alert installed on the target server.



---

Alert lets you utilize messaging from SNMP, pager, fax, e-mail and printers on the network. For more information on how Alert works, refer to Chapter 17, "Using Global Notification Options," in the *ARCserve Manager Guide* and Chapter 8, "Setting Up Alert Messaging," in the *ARCserve Server Guide*.

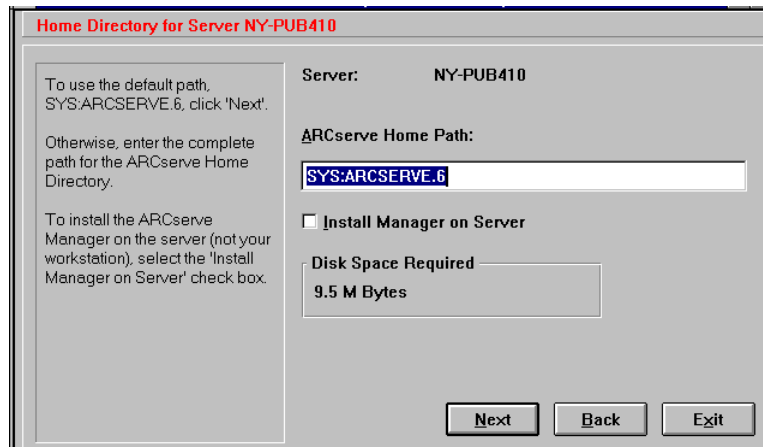
---

To install Alert, activate the check box. If you don't want Alert installed, make sure the check box is cleared.

When you've made your selection, click Next.

The next screen, shown below, asks you where you want the Server and Manager installed.

5. Indicate where you want the ARCserve Server and ARCserve Manager installed.



3

The above screen for this step displays SYS:\ARCSERVE.6 as the default path to the ARCserve home directory on the target server. To accept this default, click Next. To specify a different path, type the path you want for the ARCserve home directory in the space provided.

If you want to install the ARCserve Manager to the target server instead of to your workstation, select “Install Manager on Server”.

When you’re done, click Next.

---

6. Confirm the paths for installation of the ARCserve Server and Manager.

To change a selection, click Back to return to the appropriate screen. To confirm the displayed selections, click Next.

Note: If the ARCserve home directory already exists in the paths you've specified for installation of the Server and Manager, a screen will appear asking you to confirm that you want Setup to overwrite the existing files in these directories.

The next screen (not shown) asks you to specify which kind of license you have.

7. Indicate which kind of License you have.

Specify one of the following two kinds of licenses:

- License key - this item is a string of twenty alphanumeric characters provided by Cheyenne. Your license key should appear on a sticker affixed to your ARCserve CD-ROM, or on a license card included in your ARCserve package.
- License file - if you received a license disk, this item is a file on the disk.

For more information on these items, refer to Chapter 6, "Customizing Your ARCserve License".



8. Choose whether to keep or replace existing ARCserve elements.

If Setup detects elements from previous ARCserve versions on the server being installed to, one or more screens (not shown) will ask you if you want to replace these items with new versions. (These elements may include old queues or Btrieve NLM's.)

After selecting which items to keep and which items to replace, click Next.

At this point, Setup begins decompressing and copying the ARCserve 6 files to their destinations.

9. Wait while Setup copies files to the Server and Manager home directories.

The screen tells you that the Setup program is copying the ARCserve files to the paths on the workstation and/or target server you specified. This process takes several minutes.

When Setup has finished copying the ARCserve files to their appropriate destinations, the next screen, shown below, asks you to specify and configure the target server's host adapter boards that control the backup device and other backup devices connected to your server.

10. Specify and configure the target server's host adapter board, board driver and parameters.



---

A server's host adapter board controls the backup and other devices connected to the server. It is critical for a successful installation that you specify and configure your host adapter boards correctly. Difficulties with starting ARCserve after installation are often due either to selection of the wrong board or to configuration of the board with the wrong parameters.

---

---

The initial host adapter board screen, shown below, asks you to specify whether your board is “Shared” or “Not Shared”.

Step 10 consists of three substeps, labelled *10a - 10c* in italics and described on the following pages.



---

If you indicated in Step 3 that you want to keep your adapter board/driver settings from a previous version of ARCserve, a screen appears listing this board and driver as already configured. If you have only this board to configure, you can skip Step 10. If you want to configure additional adapter boards Click Add. Otherwise, click Next to continue.

---

*10a) Indicate which types of peripheral devices are attached to your host adapter card.*

If you have other peripherals besides tape devices (for example, a disk drive) connected to your host adapter card, or if you intend to use the ASPI driver provided by

your board manufacturer, select the 'Shared and/or ASPI' option.

If you don't have any peripherals other than tape devices connected to your host adapter card, select the 'Not Shared' option.

When you're done, click Next.

The next screen (not shown) prompts you to specify your host adapter board.



---

If you want to see a list of ASPI board drivers to choose from, you can also select the 'Shared/ASPI' option, even though you have only tape devices connected to your adapter board.

---

*10b. Specify your host adapter board driver.*

If, in the previous step, you selected the "Shared and/or ASPI" option, you'll see a list of ASPI boards. If you selected "Not Shared", you'll see the list of non-ASPI boards.

To help determine which board to select, see the following note. Also refer to the documentation that came with your host adapter board. Selecting an adapter board tells ARCserve which board driver to use.



---

If you select "Not Shared," and can't find your board driver in the drop-down list, Cheyenne did not write a dedicated driver for your board. However, it's still possible that ARCserve supports the ASPI driver provided by the board manufacturer. Click Back, and then select "Shared and/or ASPI" and look for the ASPI driver for your board.

---

When you've selected the correct adapter board driver, click Next.

The next screen asks you to configure your host adapter board by entering the appropriate parameters.

---

### A note about specifying a host adapter board driver

Some boards allow you to run several types of peripherals (such as a hard drive) as well as a backup device. If you are using one of these boards to run another peripheral and a backup device, you must select the board's ASPI Manager in this step.

If you'll be loading a .DSK or .NLM file for an adapter, then ASPI should also be selected, even though you only have a tape device connected to the adapter.

If you don't have any other type of peripheral besides a backup device connected to your adapter board, you can still select the board's ASPI Manager.

For example, if yours is an Adaptec board, use the drop-down box to select 'Adaptec ASPI SCSI Manager'.

On the board-selection screen shown above, you'll see the Board Name.

---

### Board Names

A board name identifies a board. Board names are especially useful for identification purposes when your server has multiple boards.

*10c. Configure your host adapter board.*

**Adapter board Configuration on server NY-PUB410**

If an ASPI adapter/driver is selected, the Host Number must be specified. Refer to the ARCserve 6 Installation Guide to find this information.

If the adapter/driver is not ASPI, other parameters may need to be specified. Refer to the adapter documentation and ARCserve 6 Installation Guide.

**Selected Adapter:**  
Adaptec ASPI SCSI Manager

**Host Number:**  
0

Next Back Exit

To determine what value to specify for the parameters which appear on the screen, see the following note. Also refer to the documentation that came with your board.

When you've configured your board, click Next.

The next screen (not shown) lists the boards you have selected and configured. If you want to add another board (for example to hook up additional drives), click Add Driver. You will then need to repeat step 10 to specify and configure another board.

You can configure up to eight host adapter boards.

To delete a board appearing in the list of configured boards, highlight the board's name and then click Delete Driver. To change a selected board click Modify Driver Parameters.

If you've finished specifying your boards and are sure the information you've entered is correct, click Next.

### A note about configuring a host adapter board

The parameters that appear on the screen are the factory settings for the board you select. You will only need to change the parameters if you have changed a setting on your board or if you have more than one board installed.

If you have changed a setting on your board, you must enter the corresponding information in the correct field.

---

If you have more than one board installed, you must tell ARCserve which board to use. The parameter you must change depends upon the type of board. It will either be the Port Address, Host Number, Slot Number, or Memory Address. You will know which parameter to change, based on which drop box is active. Some examples:

Board/Driver	Parameter to change
Adaptec 1540	Port Address
Adaptec 1740	Slot Number
ASPI (Advanced SCSI Programming Interface)	Host Number
Future Domain	Memory Address

A brief explanation of the parameters in the adapter board configuration screen appears below:

---

**IRQ**

IRQ is an acronym for Interrupt Request. An interrupt is a signal to a specific routine. An interrupt setting allows the board to send an interrupt signal to the server so that a task can be performed. Each piece of hardware installed in a computer needs a unique interrupt.

---

**Slot Number**

The slot number refers to the physical slot in the server in which the board is residing (EISA only).

---

**Host Number**

If there is more than one adapter board, use the Host Number field to tell ARCserve which adapter board to use. The board you want to use will be the one that is connected to the backup device(s) you want to use with ARCserve.

The Host Number itself is determined by the order in which the .DSK drivers are loaded on the server.

For example, if your STARTUP.NCF file has the following lines:

```
load aha1540 port=330
```

```
load aha1540 port=334
```

The first driver is loaded first, using host number 0. If you want ARCserve to use the backup device(s) connected to the second driver, you will have to force ARCserve to use the second drive by setting the host number equal to 1. Otherwise, ARCserve will attempt to use only the first driver, and never see the second driver.

---

**Port Address**

The port address allows the tape server to locate, and communicate with, the board.

---

**DMA Channel**

DMA is an acronym for Direct Memory Access. DMA allows the board and the server's memory to transfer information directly to RAM without routing information through the server's microprocessor. You cannot have two devices trying to use the same DMA channel.

---

**Memory Address**

The memory address refers to the memory on the board. It is used by the host adapter board driver to locate and communicate with the board.

---

11. Select a combination of ARCserve options.

Options provide the following functions.

Password Database - establishes a username / encrypted password database reducing login time.

CLIENTS.NLM - creates a workstation node address database.

Default Backup Job - schedules a backup of the ARCserve Host Server, if none exists in the queue.

**Options:**

- ☒ Install Password Database
- ☒ Load CLIENTS.NLM
- ☒ Create Default Rotation Backup Job

Server Login Password:

Next Back Exit

Welcome Choosing ARCserve Host Server Installing ARCserve Server Installing ARCserve Manager Installation Complete

Select one or more of the following options listed on the above screen:

- Install Password Database
- Load CLIENTS.NLM
- Create Default Rotation Backup Job



The Password Database feature allows you to maintain a database record of encrypted passwords for NetWare servers and usernames on your network. (A separate database is created for each ARCserve user.) This feature can reduce the number of times the user has to enter passwords in some contexts. If you select this option, you will be able to access this feature via the ARCserve Manager. (refer to Chapter 14, “Managing Databases”, in the *ARCserve Manager Guide*.)

If you select the CLIENTS.NLM option, this module is loaded with ARCserve, finds the workstations on



your network and puts their addresses in the database. If you don't want to back up workstations or don't want the increased network traffic, then don't select this option. You can also register DOS, OS/2, Windows, and Windows 95 workstations with the database by using the Agent Install utility that comes with your ARCserve package.

Selecting the option "Create Default Rotation Backup Job" tells ARCserve automatically to schedule a Rotation Job. This default job will back up the host server (the server you installed to) to its own backup device(s) after installation has been completed. Please be prepared to have seven blank or erased tapes handy if you select this option. The jobs will run every night at a set time.

3

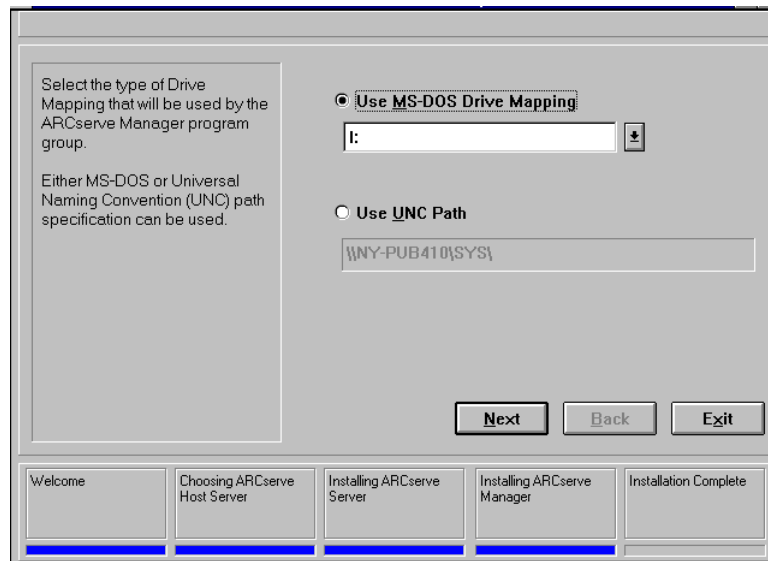
---

When you've finished selecting the options you want, click Next.

At this point, if you've chosen to install the ARCserve manager on your workstation, Setup creates a Windows program group for ARCserve.

---

12. Specify the type of directory mapping you want for the ARCserve Manager.



If you did not select *Install Manager To Server* in Step 5, the default path for installation of the ARCserve Manager will be: [workstation hard drive]:\ARCSERVE.6.

If you did select this option, you need to specify the type of directory mapping you want when you run the Manager from the host server. The two types of mapping are as follows:

- UNC path. UNC stands for Universal Naming Convention. This type of mapping ensures that Windows/DOS will always be able to open the Manager even if your drive mapping changes from what it was when the Manager was installed.
- MS-DOS drive mapping. With this type of mapping, you need to make sure your ARCserve home directory is mapped with the correct drive letter.

When you've made this selection, click Next. The next screen tells you your ARCserve installation was successful.

13. When you receive the message that installation was successful, complete the final steps.

To register your copy of ARCserve and complete the installation process, click OK.

14. Register your copy of ARCserve.

For instructions on how to register ARCserve, refer to the 'Registering ARCserve' section.

When you've filled out the registration form, click the appropriate button as follows:

- Next - if you selected additional servers to install ARCserve to and want to continue installing these servers.
- Exit if this is the last or only server you're installing to.

15. Install ARCserve to another server or exit Setup.

When you've successfully completed this final step of installing ARCserve to a selected server, you can take one of the following actions:

- Loop back to the start of this procedure and install ARCserve to the next server on the list.
- Exit the Setup program.

---

## Installing the High Performance Push Agent for NetWare to remote servers

This section tells you how to install the ARCserve High Performance Push Agent for NetWare to remote servers. (This module is referred to simply as the “Push Agent” in most places in this guide.)

The ARCserve NetWare Push Agent is an option that you need to purchase separately from Cheyenne. Push Agent runs on NetWare servers and lets you back up multiple NetWare servers to a single device simultaneously, as well as speeding up file transfers for single remote servers. This option is available on diskette and may be available on CD-ROM in the future.

---

Where to find  
more information  
about the Push  
Agent

For more information on what the Push Agent is and does, refer to the ‘Push Agent for NetWare’ section in Chapter 2 of the *ARCserve Server Guide*. For information on how the Push Agent works with file interleaving, refer to Chapter 6, “Customizing Your Backup” in the *ARCserve Manager Guide*.

To install the Push Agent for NetWare, carry out the following procedure.

1. Open the Setup program.

For information on how to start the Setup program, refer to the ‘Opening Setup and choosing an installation type’ section.

2. Specify the source media you’re using to install the Push Agent.

If you’re installing from a hard disk or CD-ROM, select *Hard disk or CD-ROM*. Otherwise select *Floppy Disks*.

When you’ve made this selection, click Next.

The next screen asks you to select your installation type.

### 3. Select Custom Installation.

Activate the Custom Installation check box and then click Next.

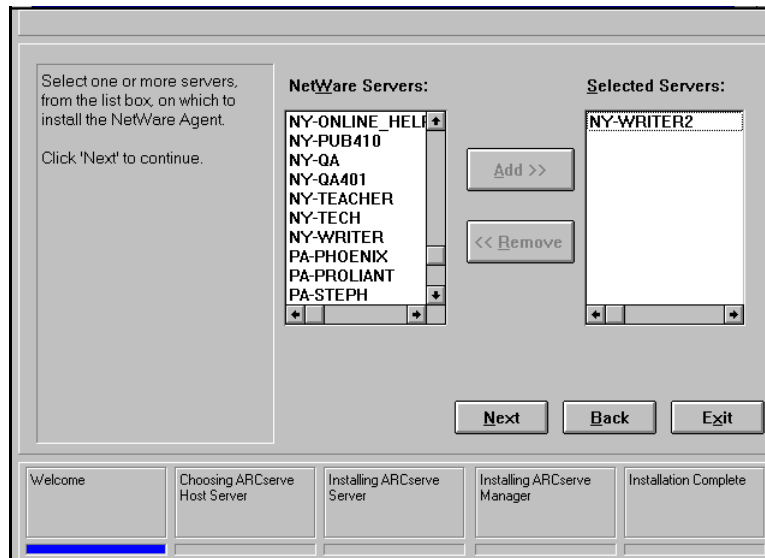
The Custom Installation screen appears with its set of installation options. (For more information on Custom Installation, refer to the 'Custom Installation' section.)

### 4. Select NetWare Agent to Remote Servers.

Activate the check box next to the *NetWare Agent to Remote Servers* option and then click Next.

- 
5. Select the servers where you want the Push Agent installed.

The screen shown below asks you to choose servers for Push Agent installation.



In the left-hand scroll box, highlight the servers you want to select and then click Add.

The servers you've selected appear on the list of target servers in the right-hand scroll box.



---

You can install the Push Agent to as many servers as you have licenses for. (You need one Push Agent license per server.)

---

When you've finished selecting servers, click Next.

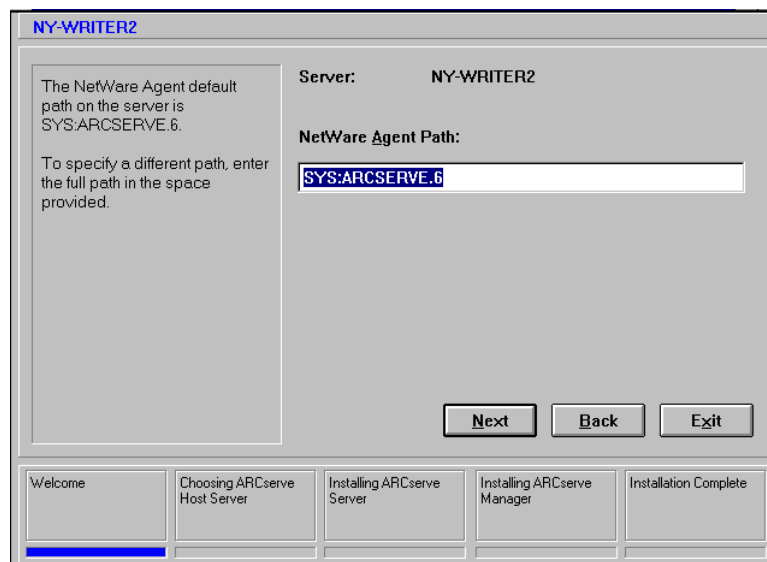
If you're not logged in to the selected server, the next screen asks you to enter the login information for this server.

### 6. Enter the login information for the selected server.

You must have supervisor or equivalent rights to install the Push Agent.

When you've entered your User Name and Password, click Next.

### 7. Specify the Push Agent home directory.



3

The default path of the ARCserve NetWare Push Agent's home directory on the remote server is SYS:ARCSERVE.6. To select this default path, click Next.

To specify a different path, type the volume and the path you want for the ARCserve NetWare Push Agent's home directory in the space provided.

When you're done, click Next.

- 
8. Wait while Setup copies the files to the Push Agent home directory.

When Setup has finished copying the Push Agent files to the server, you'll see a screen which confirms that installation is successful.

To start the ARCserve NetWare Push Agent on the server, enter NWAGENT at the console prompt.

9. Install the Push Agent to another server or exit Setup.

Take your next action according to which of the following possibilities is the case.

- If the ARCserve NetWare Push Agent is to be installed to additional servers, click Ok to install to the next server on the list. The next screen asks you to select a path for installation to another server (go back to Step 2 of this procedure).
- If the server just installed to is the final one on the list, click Ok to complete the installation and exit Setup. The next screen tells you that installation has been completed. Click Exit to exit Setup.



## Custom installation

Custom Installation lets you install or configure a single component of ARCserve, or register ARCserve.

To select Custom Installation, refer to the 'Starting Setup and selecting an installation type' section.



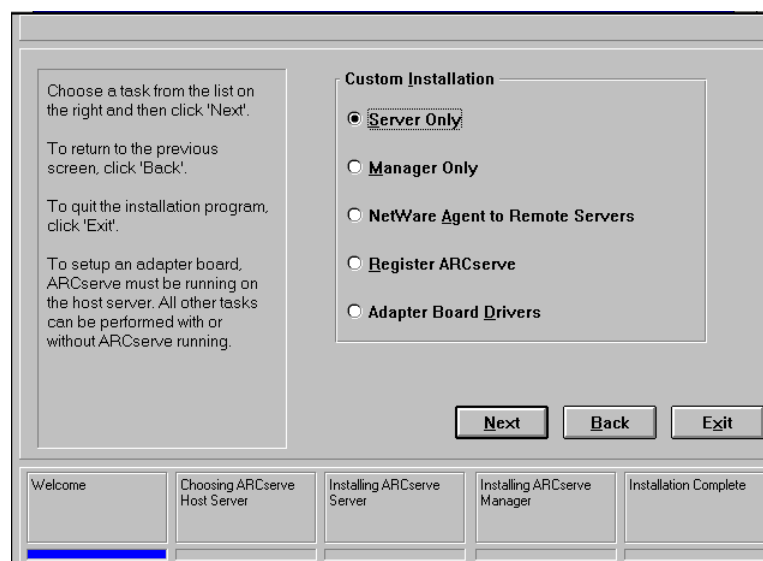
As with Complete Installation, you need to have your ARCserve CD-ROM in a drive, or your ARCserve diskette directories on the hard drive of the server you want to install from.

3

When you've selected Custom Installation, the screen below asks you to choose an option.

To proceed with Custom Installation, carry out the following steps.

1. Select a Custom Installation option.



---

---

Custom  
Installation  
options

Select from one of the following six options and refer to the section of this Guide that describes how to install or configure the option you've selected.

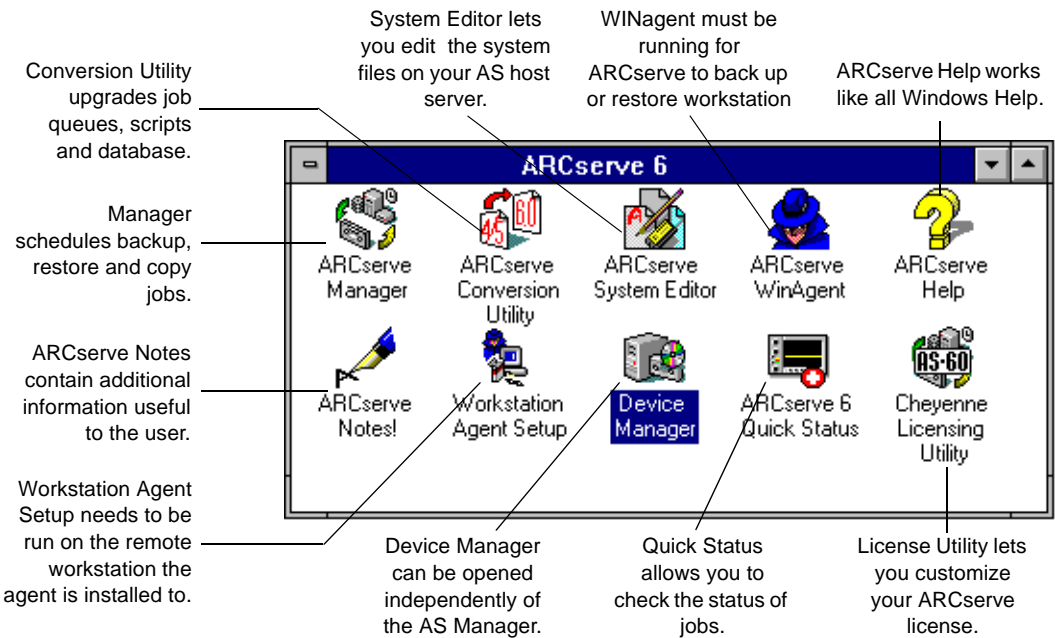
- Server Only - follow the steps for specifying servers where you want the ARCserve Server installed. The section 'Complete Installation' gives this procedure.
- Manager Only - follow the steps in the section 'Complete Installation' for specifying the workstation or server where you want ARCserve Manager installed.
- ARCserve NetWare Push Agent on Remote Servers - follow the procedure in the section 'Installing the ARCserve NetWare Push Agent to remote servers'.
- Register ARCserve - follow the procedure in the section 'Registering ARCserve'.
- Tape Board configuration - See Step 10 and notes for the procedure in the section 'Complete Installation'.

2. Follow the procedure appropriate to the option you've selected.

The screens you will see next are the same screens you see during the corresponding stage of Complete Installation. For each of the six Custom Installation options, refer to the appropriate sections of this guide, listed above.

The ARCserve program group

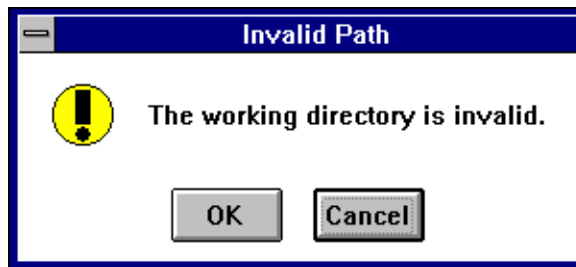
When you install ARCserve, Setup automatically creates an ARCserve program group on your Windows workstation. This program group, shown below, contains a number of icons in addition to the icon for the ARCserve Manager. These icons and their basic functions are described below.



---

## Post-installation note on drive mapping

If you did not map a permanent drive and did not choose UNC during your ARCserve installation, your drive mapping may be incorrect when you try to run the ARCserve Manager from a server or try to select any other ARCserve icon. If this happens, you will see the following warning:



To correct this problem:

1. Select the ARCserve Manager icon.
2. Choose File from the Windows Program Manager.
3. Select Properties.
4. Enter the correct path.

If you installed ARCserve to a server that you were not connected to before you began your installation, you will have to first map a drive for the server (using Window's File Manager) before you can specify it here.

## Installing ARCserve agents on remote workstations

ARCserve allows you to back up, copy, or restore remote workstations on your network. (The Copy operation is one-way only, from workstation to server.)



---

In order for ARCserve to be able to communicate with a workstation, an ARCserve Agent must be loaded on the workstation.

---

You must load an agent on your own workstation if you plan to back up, copy, or restore your workstation and the job will run on the server.


There are five workstation agents that come with your ARCserve package:

- DOSagent - use with DOS
- FSagent - use with OS/2 (text version of the OS2agent)
- OS2agent - use with OS/2 (Presentation Manager version of the OS2agent)
- WINagent - use with Windows 3.x
- Windows 95 Agent - use with Windows 95

In addition, you can purchase the following three workstation agents as options from Cheyenne:

- Client Agent for Windows NT - for machines on running the NT operating system.
- Client Agent for UNIX - for machines running a supported UNIX operating system.
- Client Agent for Macintosh - for use with the Macintosh operating system.

---

WINagent and your workstation	When you install the ARCserve Manager to your workstation, WINagent is copied to your workstation for you.
OS/2 workstations	<p>If your workstation is an OS/2 workstation, you must use either the FSagent or the OS2agent on your workstation.</p> <p>The FSagent runs in command line mode without Presentation Manager. FSagent is designed for OS/2 users who don't normally run Presentation Manager.</p> <p>The OS2agent runs with Presentation Manager and provides a graphical interface. The OS2agent also includes a help system.</p> <p>You can select either the FSagent or OS2agent.</p>
Load an agent on each workstation	<p>There are four ways to load an agent on a workstation:</p> <ul style="list-style-type: none"><li>➤ Login scripts</li><li>➤ Startup files</li><li>➤ Manual loading</li><li>➤ ARCserve Workstation Agent Setup program</li></ul> <p>Regardless of how you choose to load an agent, you must decide where the agent will be loaded from.</p> <hr/> <div></div> <p>Agents can be loaded from a public directory on the server or they can be copied to each workstation and loaded. After installation, the agents are in the ARCSERVE.6\AGENT directory. (ARCSERVE.6 is the default ARCserve home directory.) You can copy a Workstation Agent to a public directory, to each workstation in turn, or you can use the ARCserve Workstation Agent Setup program.</p> <hr/>



---

FSagent, OS2agent, and WINagent are not TSRs (Terminate-and-Stay-Resident programs), if you lose your network connection the agent may not work. For this reason it is not recommended that you load these agents from the server.

---

---

**Using login scripts**

If you want to use login scripts to load agents, you will have to add a command to the system login script or to each user's login script to load the appropriate agent. The command must specify the path where the agent is located.

---

**Using startup files**

If you want to use startup files to load agents, you will have to add a command to load the agent in the appropriate file. The command must specify the path where the agent is located. The files to use are as follows:

- DOSagent - AUTOEXEC.BAT
- FSagent - STARTUP.CMD
- OS2agent - STARTUP.CMD

WINagent - WINDOWS\WIN.INI

For FSagent and OS2agent, you must use the STARTUP.CMD file located at the root of the boot drive.

---

**Manually loading an agent**

Users can manually load agents in the following ways:

- DOSagent - DOS prompt
- FSagent/OS2agent - OS/2 command line
- WINagent - Windows Program Manager
- Windows 95 Agent - Windows 95 Start Menu

However, if you manually load an agent, it will just have to be manually loaded again each time the workstation is rebooted.



---

For more information about the ARCserve workstation agents, refer to the section 'Using ARCserve Agents' in Chapter 4 of the *ARCserve Manager Guide*. This section includes how to use the Workstation Agent Setup program to install the agent on your workstation.

---



Registering ARCserve

To register ARCserve, fill out the Software Registration Card in the back of your ARCserve User Guide.

You can also register ARCserve by following the instructions in the section 'Custom Installation' and select the *Register ARCserve* option. Follow the directions on the screen shown below.

To register your copy of ARCserve 6, enter the requested information in the appropriate spaces.

When the form is complete, click 'Print' to create a hard copy. Mail this form to Cheyenne Software, Inc. at the address listed in your documentation.

Date:11/08/95

Serial Number:xxxxxxx

User Level:25

Name:Joe User

Company:Cheyenne Software, Inc.

Title:Handy Guy

Address:3 Expressway Plaza

City:Roslyn Heights

State:NY

Phone:[516] 484-5110

Zip:11577

Fax:[516] 627-2999

Print

Next

Back

Exit

Welcome

Choosing ARCserve Host Server

Installing ARCserve Server

Installing ARCserve Manager

Installation Complete



To print out the registration form, click Print.

Where to mail  
Registration Form

When you've finished filling in and printing out the registration form, mail it to ARCserve at the following address.

Cheyenne Software  
3 Expressway Plaza  
Roslyn Heights, NY 11577

---

# 4

## Chapter

# TESTING YOUR ARCSERVE INSTALLATION

Once you have successfully installed ARCserve, you are ready to test it with a basic backup and a basic restore to your server.

**In this chapter, you will learn:**

*Page*

- |     |   |                                    |
|-----|---|------------------------------------|
| 4-3 | ➤ | How to load ARCserve on the server |
| 4-5 | ➤ | How to perform a basic backup      |
| 4-8 | ➤ | How to perform a basic restore     |

---

## Overview - Testing your installation

After you have successfully installed ARCserve, this chapter will instruct you on the following:

- “Starting ARCserve”, on page 4-3 will show you how to load ARCserve on your server, from the console prompt.
- “Performing a backup - the basic steps”, on page 4-5, will take you through the steps of backing up the PUBLIC directory of the SYS volume on your host server.
- “Restoring files - the basic steps”, on page 4-8, will show you how to restore the PUBLIC directory on the SYS volume of your host server that you previously backed up.
- “Using the Version History and Find File buttons”, on page 4-12, will allow you to look up backed up information.

## Starting ARCserve



---

It is very important that you do not have multiple versions of ARCserve running at the same time. Make sure that you do not have ANY ARCserve NLM's (including tape server NLM's) loaded before starting ARCserve.

---

---

Loading  
ARCserve Server  
on the server

In order to run ARCserve, you must have the ARCserve Server loaded on your file server. To do this:

Type **ASTART6** at the file server command line.

---



---

If you will be using a SCSI board driver such as ASPI or CAM (Common Access Method), you must load that driver first (for example, Adaptec 1540 uses ASPITRAN and AHA1540.DSK and BusLogic uses BT311.DSK). You can check the [Loader] section of your ASCONFIG.INI file to see which drivers must be loaded. (You can view the ASCONFIG.INI file by opening the ARCserve System Editor icon in the ARCserve program group.)

For NetWare SFT III (System Fault Tolerance Level III), you must switch to the I/O engine console at the server to run **ASTART6**.

ARCserve uses an intelligent loader and will first do a Pre-flight Check (PFC) to make sure all is well on the host server before you run ARCserve. When starting ARCserve for the first time, please watch the NLM Loader screen carefully. If PFC displays an error, refer to the section titled 'How Pre-flight Check oversees the loading of ARCserve on the server' in Chapter 7 of this guide.

---

---

Loading  
ARCserve  
Manager on a  
workstation

You start the ARCserve Manager the same way you start other Windows applications, by double-clicking the application icon in the Program Manager.

To start ARCserve:

Double click the ARCserve icon.



The first time you load the ARCserve Manager, it automatically detects the tape devices that are connected to the host adapter card on your server. If you have two or more tape drives of the same make, the drives will be configured into a tape group for you. You can see information about your tape devices in the Tape Device Manager window.



---

In order to open the ARCserve Manager, Windows must be running in Enhanced mode.

---

## Performing a backup - the basic steps

This section contains the steps you need to perform a basic backup. If you need more information about backing up files, please refer to Chapter 5 of your *ARCserve Manager Guide*, “Backing Up to Media”.

For this test, we will be backing up the PUBLIC directory of the SYS volume on your ARCserve host server.

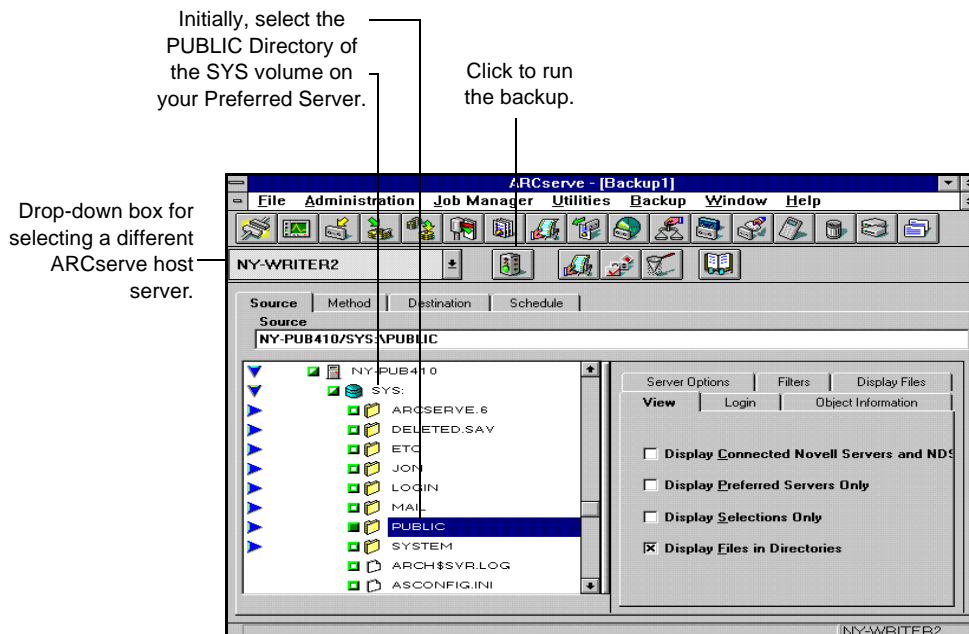
### Basic steps for a backup

To perform a quick, basic backup:

1. Open the Backup window.

From the Quick Access dialog box, click Backup.

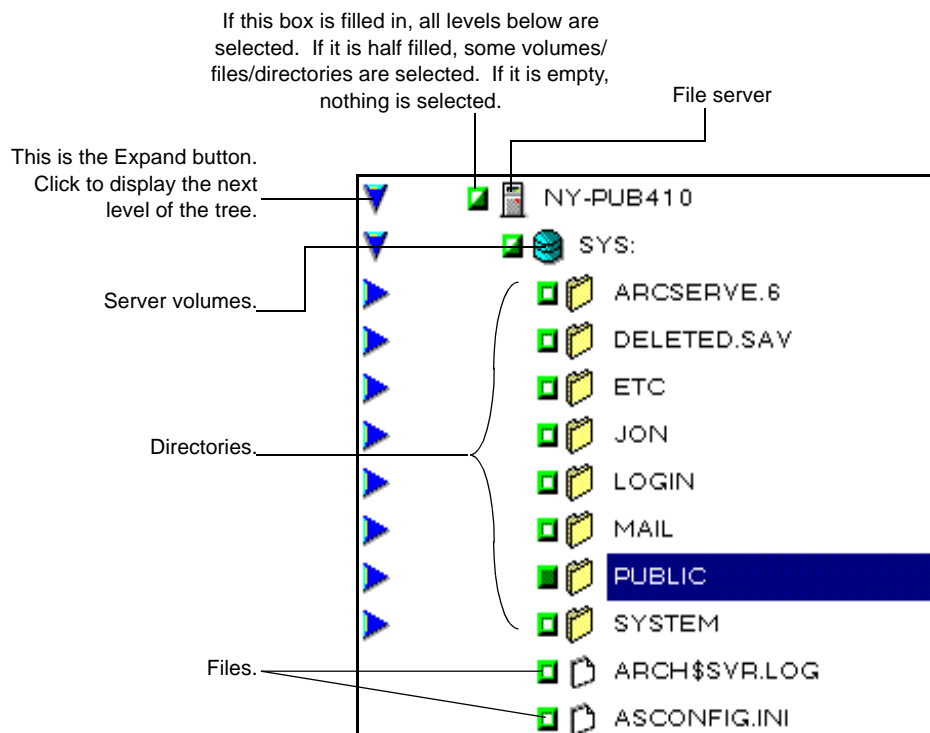
The Backup window appears:



- 
2. Verify that you want to back up the PUBLIC directory of the SYS volume on your Preferred Server.

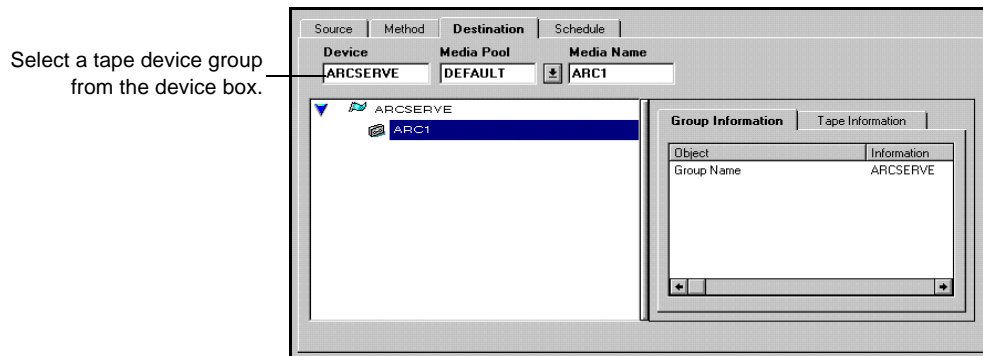
You can use the directory tree to de-select a server or workstation, a volume, a directory or individual files within a directory.

The following figure shows the basic elements of the directory tree:





3. If you want to specify which tape device group to use for the backup, click the Destination tab.



If you do not specify a tape group, ARCserve will select one for you.

4. Click the Run button.

For more information on the method and scheduling of your backup, refer to Chapter 5 of the *ARCserve Manager Guide*, “Backing Up to Media”.

To review your submitted job, click the Job Queue button.

After your backup is complete, you should restore a few files to verify that your tape device setup is working correctly. Refer to the next section entitled “Restoring files - the basic steps” for more information.

---

## Restoring files - the basic steps

Following are the basic steps for restoring the information backed up in the previous section, 'Performing a backup - the basic steps'. If you need more details about restoring files, refer to Chapter 8 of your *ARCserve Manager Guide*, "Restoring from Media".

---

### Steps to a basic restore job

Follow these directions to restore the Public Directory of the SYS volume to your host server.



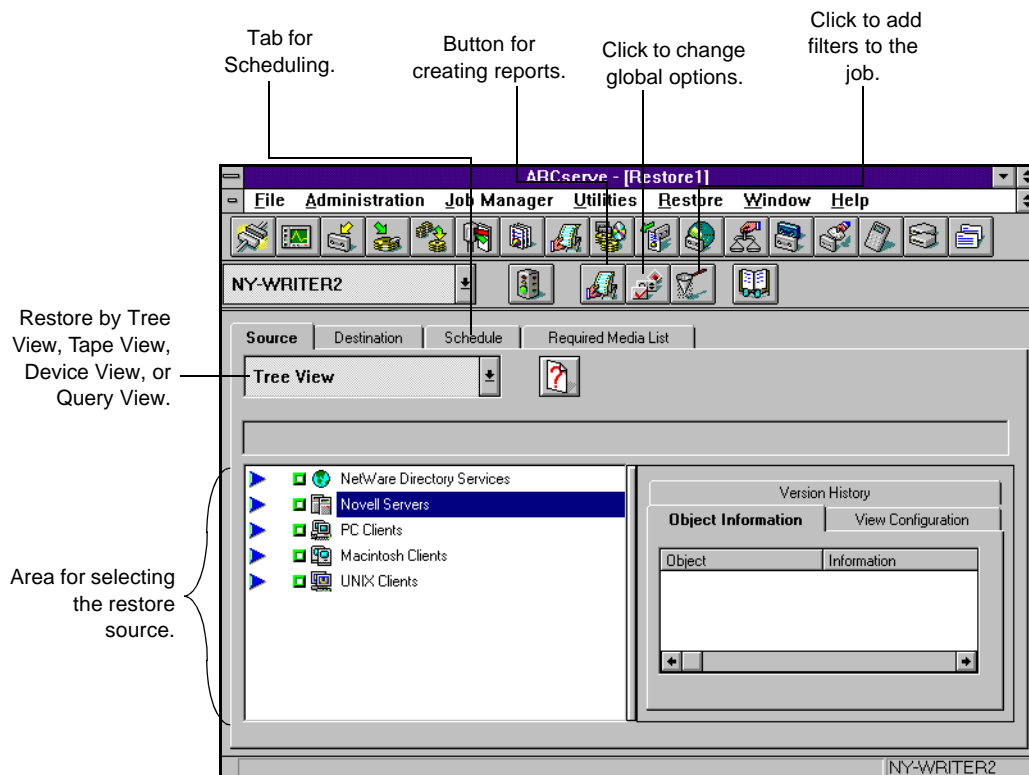
---

In order to perform the following steps, you need to be logged in as SUPERVISOR or equivalent on a NetWare 3.1x server, or ADMIN or equivalent on a NetWare 4.1x server. If you are a supervisor and want to allow a user to restore this information, refer to Chapter 4 of the *ARCserve Manager Guide*, "Starting to use ARCserve," on creating a User Profile.

---

1. Open the Restore Manager window.

The screen show below appears.



4

Use the default Tree View method.

2. Select the PUBLIC directory on your host server as your source.
3. Select the TEST directory on your host server as your destination.

Type this directory name in the destination path and ARCserve will create this directory during the restore process.

---

4. Click the Run button.

5. View the log for the job.  
Click the Reports button.



Double-click on the bar labelled “Activity Log.”



The Activity Log appears in the space to the right.

6. Use the ARCserve Compare feature from the Utilities menu to compare the files between TEST and the tape session in the backup test.

# 5

## Chapter

# CONVERTING AND UPGRADING YOUR ARCSERVE SYSTEM

Your ARCServe 6 installation package provides a conversion utility to upgrade your ARCServe 4.x or 5.x system.

**In this chapter, you will learn:**

*Page*

- |     |   |  |
|-----|---|--|
| 5-2 | ➤ | About the ARCServe 6 conversion utility  |
| 5-3 | ➤ | Which queue jobs and scripts get converted   |
| 5-5 | ➤ | How to convert your 4.x and 5.x queue jobs, scripts, and database (File Tracking System) |

---

## Overview - The ARCserve 6 conversion utility

Your ARCserve 6 installation package includes a utility that converts and upgrades the following elements of your ARCserve 4.x or 5.x system.

- Queue jobs - converts all 5.x jobs in the queue and all 4.x jobs except server and workstation restore jobs, and point and select backup jobs.
- Scripts - converts all 5.x scripts and all 4.x scripts except purge scripts and count scripts.
- Database - converts the ARCserve database records.

ARCserve's conversion utility provides you with an easy way to start using ARCserve 6 without having to recreate your scripts and reschedule your jobs. In addition, by converting your 4.x or 5.x database, you can continue your Auto Pilot rotation schedule. You can also easily find and restore files that were backed up or archived with ARCserve 4.x or 5.x.



---

Before running any converted Auto Pilot jobs, you need to convert your 4.x or 5.x database. This conversion ensures that the ARCserve 6 job will run properly.

---

## The conversion process

This section describes the main considerations you need to take into account when converting your system from earlier versions of ARCserve.

Who can run a conversion?	Only a Supervisor or Admin can carry out the conversion process.
How long will it take to run the conversion?	The conversion of the queue jobs and the scripts goes very quickly. However, depending on how long you have been using ARCserve 4.x or 5.x, how often you performed backups, and how large your backups were, the Database conversion may take a while.
What will happen to my ARCserve 4.x or 5.x system after the conversion?	The conversion utility changes your ARCserve 4.x or 5.x database to an ARCserve 6.x database. In the process, your old database is destroyed.
Conversion of scripts	If you choose to convert your scripts, the conversion utility converts all scripts it finds in the MAIL directory. The conversion utility also lets you specify a path to any other scripts you want converted.



---

There are several things you should be aware of when you run the conversion utility. After conversion you need to be aware of the following changes:

---

- Auto Pilot - All filters will be moved from a volume level to a server level. Grooming filters aren't converted.

- 
- Macintosh and UNIX workstations - the source and destination paths become part of the Filters section, under *Included Directories*.
  - All Auto Pilot jobs are converted. If there are any makeup jobs in the Auto Pilot queue, the original job and not the makeup job will be converted.
  - Jobs from multiple queues are moved to the default ARCserve 6 job queue.
  - The tape device group name for all queue jobs and scripts are set to the default tape device group name.



## Running the ARCserve 6 Conversion Utility

Running the ARCserve 6 conversion utility is a simple and straightforward procedure. The conversion utility is designed to make converting and upgrading your system proceed as quickly and easily as possible.

---

Before you run  
the conversion  
utility

Before running the conversion utility, you need to have completed the following tasks.

- Installed of ARCserve 6.
- Checked that your ARCserve 4.x or 5.x directories are in place on your host server.



---

Before you run the conversion utility, we recommend that you test your ARCserve 6 installation first by running trial backup and restore jobs, as described in Chapter 4 of this guide.

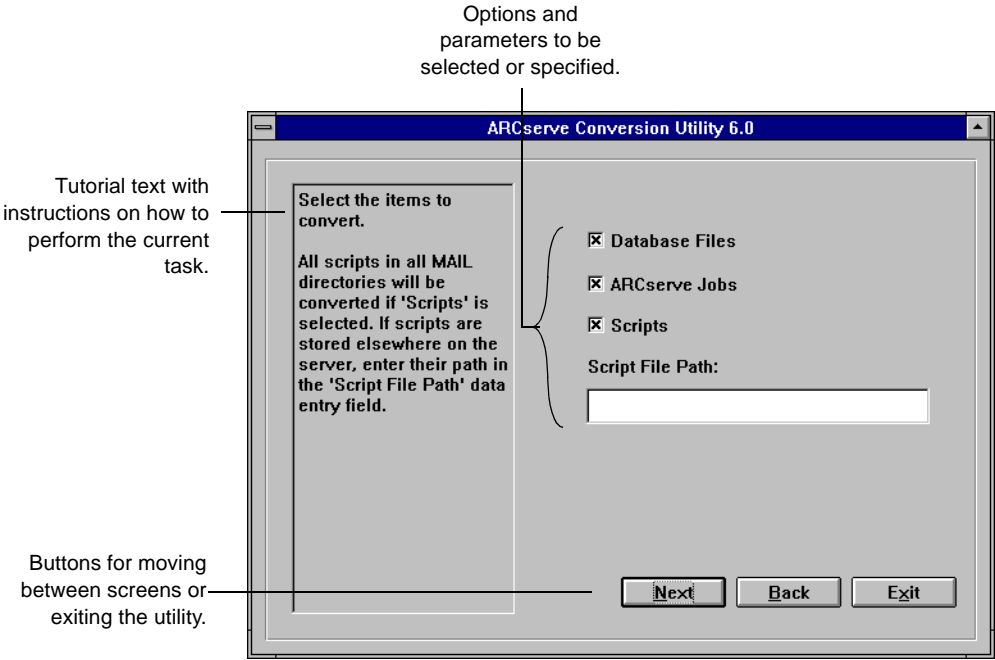
---

---

A note about  
conversion utility  
screens

The screens which appear when you run the conversion utility are similar in layout and function to the Setup screens. These screens enable you to select or confirm one set of choices at a time before moving on to the next task. In addition, each screen contains instructions to help you through that particular stage.

The illustration below shows the basic layout of the conversion utility screens.



## Starting and using the conversion utility



---

The conversion utility will change your ARCserve 4.x or 5.x database to an ARCserve 6.x database. In the process, your current ARCserve 6 databases will be overwritten. Your existing 4.x and 5.x databases will remain unchanged.

---

Moreover, it is critical not to have any other 6.x jobs running when you submit the conversion job. If any other jobs are running it may cause your database to be corrupted.



---

Before running the conversion utility, you need to be logged in as Supervisor or equivalent to the host server with the job queues, database, and scripts to be converted. If you installed ARCserve 6 on a NetWare 4.x server in NDS mode, you need to be logged in to the tree as ADMIN or equivalent.

---

---

To run the conversion utility, carry out the following steps.



1. Open the conversion utility.

The conversion utility icon is shown at left. When you double-click this icon, the conversion utility opening screen appears.

When you click Next a screen appears with a drop-down box listing the host servers you're logged in to.

2. Select the server where the files you want to convert are located.

When you've selected a server, the screen displays the home directory for the previous version of ARCserve on this server if this directory has the name ARCSERVE.

If the ARCserve home directory has a different name, you need to enter this name in the space provided.

When you're done, proceed to the next screen.

The next screen displays a drop-down box listing the previous versions of ARCserve, ARCserve 5.x and ARCserve 4.x.

3. Select the correct version of ARCserve.

When you've done this, proceed to the next screen.

The next screen displays the options for conversion. (This screen is shown on page 5-6.)

### 4. Specify which items you want to convert.

You have the choice of converting any combination of the following three elements of the previous ARCserve version:

- Database files
- Job queue
- Scripts

If you select scripts, you also need to enter in the space provided the path to the directory where the scripts are located.

When you're through, proceed to the next screen.

### 5. Configure and submit your conversion job.

If you want to schedule your conversion job, use the arrow boxes at the top of the screen to set a date and time just as you would for any other job.

When you're done, click Next to submit your conversion job.

### 6. Check the results of your conversion.

The ARCserve 6 Activity Log displays the status of the operations that were carried out during conversion.

To view the Activity Log, select View Activity Log on the host server menu and press Enter.

---



# CUSTOMIZING YOUR ARCSERVE LICENSE

This chapter describes the basics of ARCServe licensing and how to use the licensing utility to customize your ARCServe license.

**In this chapter, you will learn:**

*Page*

- |     |   |   |
|-----|---|---|
| 6-2 | ➤ | How ARCServe licensing works              |
| 6-3 | ➤ | About the ARCServe license file           |
| 6-5 | ➤ | How to use the ARCServe licensing utility |

---

## Overview - How ARCserve licensing works

Included with every ARCserve package is an ARCserve license diskette or 20-character alphanumeric key.

If your license is on diskette it's in the form of a file that validates the operation of your ARCserve system. This file also provides a simple way to customize your ARCserve licensing by making possible such conveniences as additive licensing.

If your license comes in the form of a key, Setup converts it to a license file when you enter your key during the installation process.

In either form, your ARCserve license comes with an additive licensing feature. Additive licensing allows you to increase the number of users on your ARCserve system incrementally instead of requiring a new license for your entire system each time you want to add more users. Your ARCserve license is also designed to let you change your license type.



---

The ARCserve license file is essential to the operation of your ARCserve system. If the license file is missing or contains invalid information, ARCserve won't work.

---

The next section of this chapter, 'The ARCserve License File' describes this file in more detail this file and the information it contains.

In addition to the license file, your ARCserve package contains a program called the licensing utility. This program enables you to work with license files and to customize your ARCserve license, as described in the later section titled 'Using the ARCserve licensing utility.'



## The ARCserve license file

The ARCserve license file is a data file located in the LICENSE subdirectory of the ARCserve home directory. This file contains information about the product, user, license type, and valid devices.

---

### How Setup modifies license files

The ARCserve Setup program will always replace any currently existing license files in the LICENSE subdirectory with a new first license file, 00000001.LIC. However, the replaced license files will not be erased, the files will be renamed to \*.OLD.

For example, if two license files, 00000001.LIC and 00000002.LIC are to be replaced, these files will be renamed to 00000001.OLD and 00000002.OLD.

If \*.OLD license files already exist, then the next sequence .OLD file will be created. For example, if an 00000001.LIC and an 00000001.OLD already exist, then 00000001.LIC will become 00000002.OLD.

---

### User level and additive licensing

Version 6 of ARCserve comes in two editions. These editions are defined by the user level of the accompanying ARCserve license in the following way.

- Work Group Edition - comes with a license for a user level of 25.
- Enterprise Edition - comes with a license for unlimited users.

---

The Work Group Edition runs on all NetWare servers with a connection level of twenty-five (25) users or less and will back up remote NetWare servers with this connection level. This edition lets you increase your number of connections in increments of 25 users through the additive licensing feature of the ARCserve licensing utility.



---

The Work Group Edition lets you increase your number of connections in increments of 25 users through the additive licensing feature of the ARCserve licensing utility. At some stage in this process, if you decide to do so, you can also use this utility to convert your ARCserve license to an unlimited license.

---

The Enterprise Edition runs on and backs up all NetWare servers, whatever their connection level.



---

The user level of your ARCserve license must equal or exceed the user level of the NetWare license for the machines you intend to back up. For example, if you have a 50-user NetWare license, you need at least a 50-user (2 x 25) level ARCserve license.

---

## Using the ARCserve License Utility

When Setup creates a Program Group on your workstation, this group contains several programs in addition to the ARCserve Manager application. One of these programs is the ARCserve licensing utility. You can use this utility to work with your license files in various ways.

With the licensing utility, you can carry out the following operations:

- View the information in a license file
- Ensure that no two license files contain the same product serial number
- Add a new license to your existing system
- Convert a license to a different type
- Move a license file to a different directory
- Delete a license file

To use the licensing utility, carry out the following procedure.



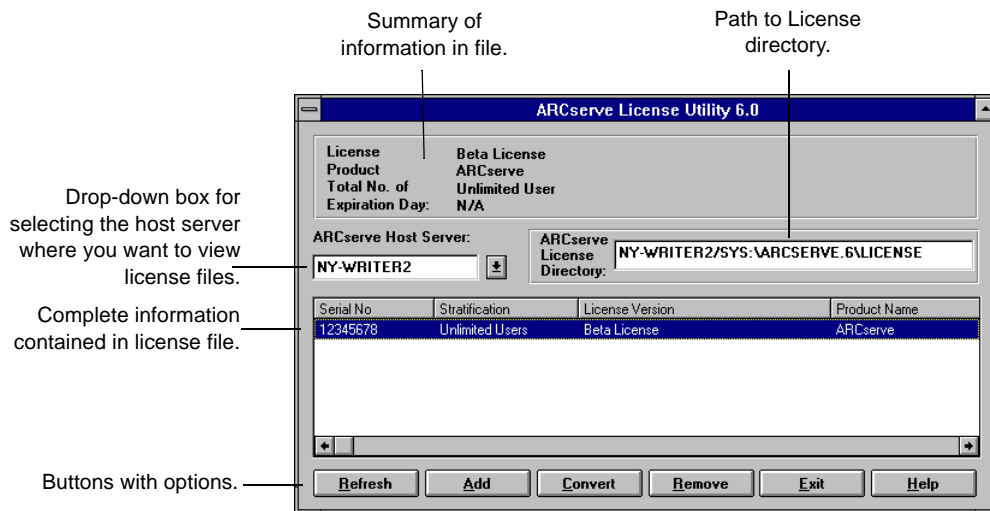
1. Double-click the licensing utility icon.

The licensing utility icon is shown at left.

Double-clicking this icon opens the licensing utility window, illustrated on the following page.

---

## 2. Specify the license file directory.



From the drop-down box containing the list of servers you're logged into, select the one where the license file is located.

The path to the license file automatically appears in the space below the drop-down box. The information contained in the file appears in the large scroll box at the bottom of the screen. To find all the information fields for the file, use the scroll bar.

3. Select the operation you want to perform.

To select an operation, click the appropriate button. You can select from among the following operations:

- Refresh - updates the display if the information in a file (for example, the filename) has changed.
- Add - adds a new license file to your license directory.
- Convert - changes one license type to another.
- Remove - moves or deletes a license file.
- Exit - exits the licensing utility
- Help - opens on-line help file

Procedures for the Add, Convert, and Remove options are given below.

Adding a license file

---

Using the Add option to increase your user level

You can use the licensing utility's Add option to increase the user level of your system. For example, say your original license allows 25 connections and you want to increase this number to 50. You can purchase a license file "bump pack" from Cheyenne with a user level of 25. ARCserve's additive licensing feature allows you to add this new file to your existing license directory using the licensing utility. When you've done so, your user level will now be the sum of the user levels of the two license files, that is, 50 users



---

A "bump pack" is the same as a Work Group Edition. That is, if your initial license was for a user level of 25, then to add another 25, you simply purchase another Work Group Edition diskette from Cheyenne.

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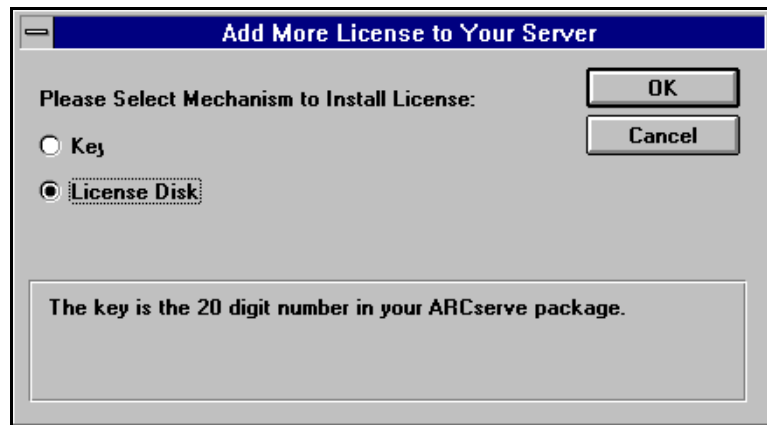
---

To add a new license file to your license file directory, carry out the following procedure.

1. Click Add.

The dialog box shown below appears, asking you to specify the means for adding the license file.

2. Specify how you want to add the license file.



You can add a license file in one of the two following ways:

- With an alphanumeric key
- From a license disk

Select one of these two options.

If you select *Key* a space appears next to your selection. Type in the 20-digit key contained in your ARCserve package and then click OK.

If you select *License Disk* a dialog box (not shown) appears, prompting you for the path to the license file. Enter the path for the license file and then click OK.

The licensing utility creates a new license file in the license directory.



---

Each new license file has a filename with the following form: x.LIC, where x is the next number in the sequence of license filenames, represented with preceding zeroes to make up eight characters. For example, if there are two existing files in the license directory with the filenames 00000001.LIC and 00000002.LIC, the next file to be added is given the filename 00000003.LIC, etc.

---

### Converting a license file

Using the licensing utility, you can convert your license type to a different license type. Essentially, you want to use this feature to convert a license for a limited number of users to one with an unlimited user level. That is, this feature lets you change from a Work Group Edition type license to an Enterprise Edition type license.

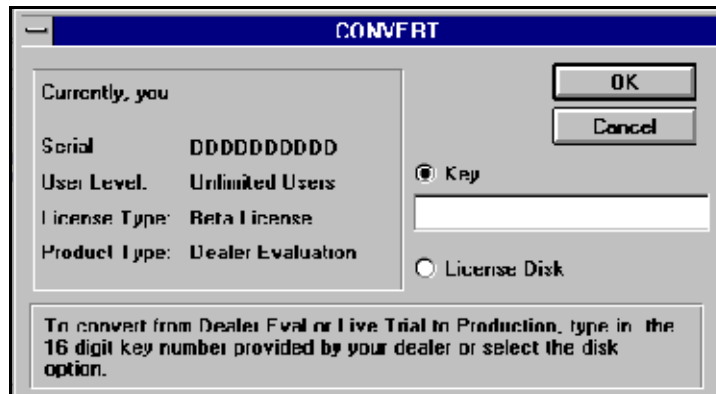
To convert a license file:

1. Select the license file you want to convert and then click **Convert**.

The dialog box shown on the next page, prompts you to specify the means for adding the license file.

---

2. Specify how you want to convert the license.



You can convert a license file in one of the two following ways:

- With an alphanumeric key
- From a license file

Select one of these two options.

If you select *Key* a space appears below your selection. Type in the 20-character key contained your ARCserve package and then click OK.

If you select *License Disk* a dialog box (not shown) appears, prompting you for the path to the license file. Enter the path for the license file and then click OK.

The licensing utility converts the selected license to the type corresponding to the key or file you specified.



### Removing a license file

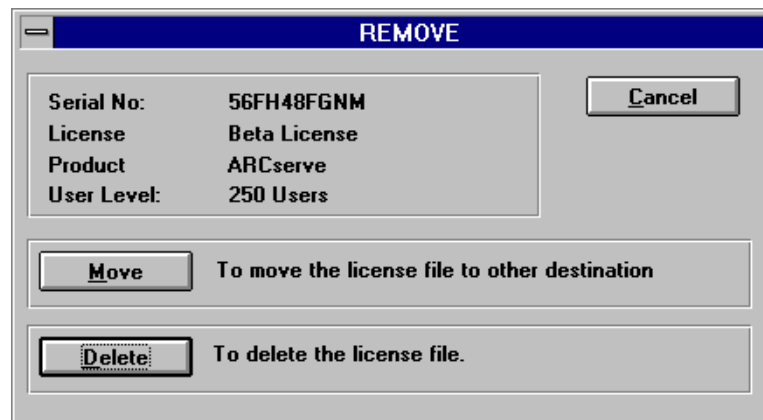
To remove a license file from your license file directory:

1. With the licensing utility window open, select a license file.

2. Click Remove.

The dialog box shown below appears, asking you to select how you want to remove the license file.

3. Select how you want to remove the license file.



You can remove a license file from the license directory in one of the two following ways:

- By deleting the file
- By moving the file to another directory

To delete the file, click Delete. To move the file to another directory, click Move.

If you click delete, the file is deleted from the license directory.

If you click Move, you're prompted for the path to the destination directory for the license file. Enter the path name and click OK. The file moves to the new location.

---

## Displaying license information at the host server console

You can also view the information in your license file at the ARCserve host server console. With the ARCserve main screen open, select the option *Display ARCserve License* and then press Enter. The basic information contained in your license file appears, including user level, product serial number, and license type.



# TROUBLESHOOTING YOUR INSTALLATION AND TEST START-UP

This chapter describes the most common problems you may meet with while loading and running Setup and testing your installation. Every problem has a solution, also described.

**In this chapter, you will learn about:**

Page	
2-2 ➤	Solving problems during installation and start-up
2-4 ➤	Solving problems loading and running Setup
2-6 ➤	Using Pre-flight Check to help troubleshoot problems
2-16 ➤	Solving problems loading and testing ARCserve Server
2-20 ➤	Solving problems opening and testing ARCserve Manager
2-21 ➤	Solving other problems

---

## Overview: Solving installation and start-up problems

During your ARCserve 6 installation, initial start-up and testing, you may encounter a problem. Problems with installing and testing ARCserve fall into various categories. This chapter is organized according to four categories of problems. If you encounter any of these problems and need help solving them, refer to the appropriate section listed below:

- The section titled 'Solving problems loading and running Setup' describes the most common problems encountered during installation. This section also contains suggestions for solving these problems.
- The section titled 'How Pre-flight Check oversees the loading of ARCserve on the Server' tells you how to use ARCserve's Pre-Flight Check module to locate the source of problems.
- The section titled 'Solving problems loading and testing ARCserve Server' lists the most common problems encountered when loading the ARCserve Server to test your installation. Refer to this section for solutions to difficulties in getting ARCserve to run on the server.
- The section titled 'Solving problems opening and testing ARCserve Manager' describes the most common problems in this area. This section also contains suggestions for dealing with these problems.
- The section titled 'Solving other problems' deals with difficulties with tape drives, conversion and operation of your system.



---

The sections of this chapter listed above deal only with the most common problems encountered during the initial phase of installing and testing ARCserve. For a much more complete description of problems running ARCserve and how to solve them, refer to the chapter in the *ARCserve Server Guide*, 'Troubleshooting and System Messages'.

---

---

## Solving problems loading and running Setup

Most difficulties you may have in getting Setup to work properly will be accompanied by an error message, making it much easier to locate the cause of the problem. Some common error messages received when loading and running the ARCserve Setup program are listed in the table below, with solutions.

Error Message	Cause(s)	Solution(s)
<i>On workstation screen:</i> This program requires Microsoft Windows	You tried to run the Setup program from DOS, but: <ul style="list-style-type: none"><li>• IPX, NETx and VLM's are not loaded</li><li>or</li><li>• Your path is wrong.</li></ul>	Make sure IPX, NETx and VLM's are loaded.  Add your Windows directory and/or your root directory to the path in your AUTOEXEC.BAT, re-boot your computer, and try again.  Or start Windows first and then run Setup.
<i>On workstation screen:</i> Novell NetWare shell has not been loaded Cannot find Netware.dll	IPX, NETx and VLM's are not loaded  or Windows was installed without the network option. (Note: NETWARE.DLL refers to the Windows file NETWARE.DRV)	Make sure IPX, NETx and VLM's are loaded.  If they are loaded, re-install Windows and verify that the network option is included. (Run Setup.exe from the Windows directory to re-install Windows.)

## Troubleshooting Your Installation and Test Start-up

---

Error Message	Cause(s)	Solution(s)
<i>On workstation screen with Setup loaded and running:</i> Cannot copy file [filename] Installation fails	Connection problem on network or presence of older version of same file in home directory.	Check network connections; delete or rename any ARCserve home directory with the same name as the one the file will be copied to; restart Setup and try again.  If the same problem recurs, try running Setup from a different drive or server. (You can even copy the ARCserve disk directories to the same server you want to install to, and then run Setup from there.)

---

## Using Pre-flight Check as a troubleshooting tool

ARCserve 6 includes a module called Pre-flight Check (PFC.NLM) that carries out a number of monitoring functions when the ARCserve Server is being loaded. PFC displays on screen and records in log files the results of this process as a series of informational messages. These messages can prove very useful when you're tracking down the source of a problem.

### How Pre-flight Check oversees the loading of ARCserve

---

PASS/FAIL  
messages and  
WARNING/  
FATAL errors

When you start ARCserve on the host server, Pre-flight Check loads first. Once the PFC module is loaded, it proceeds to check a number of items during the subsequent loading process.

For some items it tests (for example, NLM versions and server memory), Pre-Flight Check generates PASS/FAIL messages. If a check of one of these items results in failure, Pre-flight Check issues either a WARNING or a FATAL error.



---

WARNING means you're likely to encounter difficulties trying to use ARCserve with the failed item. FATAL means the server may encounter serious problems if you try to use ARCserve. When PFC returns a fatal error, the loading process stops.

---



## Troubleshooting Your Installation and Test Start-up

The table below lists the categories of items Pre-Flight Check looks at, together with the information PFC generates and writes to a log file. The table also notes any WARNING or FATAL errors PFC returns and lists actions you can take to recover from these errors.

Category and Information	Errors Returned	Recovery
<u>Server (general):</u> 1. NetWare version. 2. Server name, server bus type, maximum number of users (Novell), SFT level, TTS level, peak connections used.	1. None. But PFC checks the NetWare version first. If it finds a version not supported by Novell or Cheyenne it aborts the loading process. 2. None.	1. If PFC causes the loading of ARCserve to abort because you're running an unsupported version of NetWare, you need to upgrade to a supported version before installing ARCserve.
<u>Server memory:</u> 1. Total server memory a) required by NetWare b) required by ARCserve 2. Minimum memory required by ARCserve. 3. Free cache buffers.	1. WARNING if low. 2. WARNING if requirement not met. 3. WARNING if low.	1-2. Free server memory by unloading any NLMs that aren't required. 3. Increase the number of cache buffers.
<u>Volume information:</u> Number of mounted volumes, name spaces on volume, volume size, block size of volume, total directories and files on volume, disk space used, average file size.	None.	None.

Category and Information	Errors Returned	Recovery
<u>NetWare Loadable Modules (NLM's):</u> List of all loaded modules, plus other modules required by ARCserve, with the following information: module name, description, version, compilation date.	1. WARNING if PFC can't locate an NLM listed in the [MODULESxxx] section of the PFC.INI file or if the NLM version doesn't match the one given in the file. 2. FATAL if PFC finds a version of an NLM that matches one listed in the [EXCLUDExxx] section of the PFC.INI file.	Check the log file generated by PFC.
<u>SCSI (host) adapter boards:</u> Board name, driver name, board name assigned by user, SCSI ID, adapter number (the number given by boardsvr.nlm), port address, memory Address, DMA channel, IRQ, slot number. Note: If any of the above parameters don't apply, the value "N/A" is returned.	FATAL if PFC can't find at least one SCSI adapter board.	Install a SCSI adapter board (refer to chapter 2 of this guide) or, if one is installed, check to see that it's installed properly.
<u>SCSI devices connected to boards:</u> SCSI ID and LUN of the device, device type, vendor, product name, Firmware revision, SCSI revision (SCSI-1, SCSI-2 etc.), and supported features of devices such as synchronous data transfer, command queuing, etc.	FATAL if PFC can't find at least one valid backup device connected to an adapter board.	1. Check SCSI connections on all tape drives connected to the adapter board, make sure the connection is properly terminated, etc. 2. Make sure your tape drives are turned on.
<u>AUTOEXEC.NCF:</u> Copy of server's AUTOEXEC.NCF file.	None.	None.

## Troubleshooting Your Installation and Test Start-up

Category and Information	Errors Returned	Recovery
<u>STARTUP.NCF:</u> Copy of server's STARTUP.NCF file.	None.	None.
<u>I/O configuration:</u> PFC checks server's IO configuration list and reports the registered hardware configuration, including the following information: I/O configuration address, configuration flags, slot number, primary and secondary base I/O and length, primary secondary memory address, primary and secondary IRQ level, primary and secondary DMA level.	None.	None.
<u>ARCserve queues and users:</u> Login mode, ARCserve job queue, ARCserve queue user	FATAL if queue doesn't exist or is corrupted.	1. Check the ARCserve queue and queue user 2. If necessary, reinstall ARCserve to recreate queue or queue user.
<u>SET parameters:</u> PFC generates information on all the NetWare SET parameters in the following form: set parameter name, current value, limits.	None	None

---

## Using Pre-flight Check log files for troubleshooting

Pre-flight Check actually carries out two separate series of checks, and writes the results to two separate log files. These two series of checks and their corresponding log files work in the following ways.

---

### NLMINFO.LOG

When you load ARCserve, PFC is the first module to load. PFC then proceeds to check all the NLM's listed in the PFC.INI file and writes the results of this check to a log file in the ARCserve home directory. The name of this file is NLMINFO.LOG. This log file contains the names of all the NLM's PFC found, as well as their versions. If you have trouble loading ARCserve because of bad or missing NLM's, you can examine the messages in this file for clues as to which NLM caused the problem.

---

### PFC.LOG and PFC.ERR

PFC runs its second series of checks after the drivers for the SCSI adapter boards have been loaded. This time, PFC checks every item listed in the table above, including a second check of all NLM's. PFC writes the results of this process to a log file in the ARCserve home directory with one the following names, depending on the outcome.

- PFC.LOG - if none of the checks generated a FATAL error
- PFC.ERR - if any check returned a FATAL error.

---

### Using PFC.LOG and PFC.ERR for troubleshooting

When PFC returns a fatal error and writes its results to the PFC.ERR file, it doesn't overwrite or delete the PFC.LOG file. Thus, if you loaded ARCserve successfully at least once and then receive a fatal error when loading ARCserve again, you can compare the PFC.ERR file to your PFC.LOG file to see what went wrong. You should first look at these files and compare them before calling Cheyenne Technical Support.



When you ask Cheyenne's Technical Support for assistance in dealing with problems loading ARCserve, it's essential to have your PFC.ERR file handy. If you've loaded ARCserve successfully on previous occasions, it's also essential to have your most recent PFC.LOG file handy for comparison purposes. In addition, you may be asked to fax one or both of these files to Cheyenne.

When you run the Disaster Recovery Preparation module, the PFC.LOG file is also copied to a Disaster Recovery Preparation diskette.

---

### Changing Pre-flight Check parameters



You should not change Pre-flight Check parameters unless you're absolutely certain about the new values you want to enter. Changes should not be made casually.

---

You can change the way Pre-flight Check displays WARNING and FATAL errors by altering the PFC parameters in the ASCONFIG.INI file, located in the ARCserve home directory. You can also change other information that PFC checks and displays. The PFC section of this file is shown below.

```
[Pre Flight Check]
ReadExcludeSection=ENABLE           ;default ENABLE
ConvertFatalToWarning=DISABLE        ;default DISABLE
CheckLoadedModulesOnly=DISABLE      ;default DISABLE
HardwareCheck=ENABLE                 ;default ENABLE
IncludeNCFFiles=ENABLE                ;default ENABLE
```

---

These parameters control the PFC's operation in the following ways:

- ReadExcludeSection - with the value of this parameter set to ENABLE, PFC reads the Exclude Section of the PFC.INI file for excluded NLM's. Set the value to DISABLE if you want to continue using an NLM that is not recommended for ARCserve. (This setting is not recommended.)
- ConvertFatalToWarning - with the value of this parameter set to ENABLE, PFC returns almost every error as a WARNING. Set the value to ENABLE if PFC cannot generate proper information about the server and generates a false FATAL error.
- CheckLoadedModulesOnly - with the value of this parameter set to ENABLE, PFC does not search modules on disk. Set the value to ENABLE if PFC has trouble accessing the server's hardware.
- HardWareCheck - with the value of this parameter set to ENABLE, PFC returns information on your SCSI hardware configuration, otherwise PFC will not check for SCSI hardware. Set the value to DISABLE if PFC has trouble accessing SCSI hardware.
- IncludeNCFFiles - with the value of this parameter set to ENABLE, PFC includes information about your AUTOEXEC.NCF and STARTUP.NCF files. Set this parameter to DISABLE if PFC has trouble accessing these files.

To change a the value of a parameter, edit the [Pre Flight Check] section of your ASCONFIG.INI file.

Parameters can have one of the two following values:

- ENABLE
- DISABLE

The default values for the PFC parameters appear in the above illustration.

### Running Pre-flight Check as a diagnostic tool

In addition to running automatically when you load ARCserve, the Pre-Flight Check module can also function as an independent diagnostic tool.

You can run PFC on a server where you're planning to install ARCserve in order to make sure that server meets the requirements for ARCserve installation. To do so, carry out the following step.

Copy the PFC files from your ARCserve host server to the target server.

To run PFC, you need to copy the following three files:

- PCF.NLM
- PFC.MSG
- PFC.INI

Copy these files to the SYSTEM directory on the target server.

---

To run PFC on its own, carry out the following step.

1. At the server prompt, enter the command: `LOAD PFC`.  
PFC loads and cycles through its series of checks, displaying the appropriate information on screen as it proceeds. PFC also writes the results of this process to a log file.



---

Pre-flight check lets you select a number of command-line switches when you load the PFC module on the server.

---

To use a command-line switch when running Pre-flight Check as a diagnostic tool, use the following syntax after the console prompt: `LOAD PFC /switch`

For example, to see a list of the command-line switches available for PFC, together with a description of what each switch does, enter one of the following commands at the server console prompt:

`LOAD PFC /?`

or:

`LOAD PFC /HELP`

### Using Pre-flight Check with the Push Agent

You can also use Pre-flight check as a diagnostic tool with the ARCserve NetWare Push Agent.

As a diagnostic tool for the Push Agent, PFC checks the NLMs specified in the following file in the ARCserve home



## Troubleshooting Your Installation and Test Start-up

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directory: NWAPFC.INI. To create this initialization file (used instead of the PFC.INI file with ARCserve), you need to install the Push Agent to the server.

Use the options below to check the Push Agent with PFC. At the console prompt, enter one of the following commands:

LOAD PFC /FNWAPFC.INI /M

---

## Solving problems loading and testing ARCserve Server

Problems getting the ARCserve Server to load properly can stem from a variety of causes, both hardware- and software-related. In troubleshooting these problems, first look for the cause in improperly connected or configured hardware. When you've checked and made sure that your hardware is all in good order, then look for software solutions.



---

You should also use any error messages you receive to help track down the cause of the problem. You can look up any error message by number in the chapter “Troubleshooting” of the *ARCserve Server Guide*. The tables in this chapter list nearly every error message, the cause of the error, and a possible solution or solutions.

---

### Hardware solutions

The following steps list the various things to look for when checking the *hardware* in your system:

1. Make sure that all cards, cables, and devices are connected properly.

If you installed a new card in your system before installing ARCserve, make sure it is seated properly in its slot. If that doesn't work, try putting the card in a different slot.

2. Replace the cables you are using with ones you know are good.

If the problem goes away, you had a bad cable.

---

3. Check that your SCSI bus is terminated properly.

The general rule for terminating devices chained to a SCSI bus is that there must be two terminators, one at the beginning of the chain and one at the end. If you only have one drive connected to your server, then you have two devices on the SCSI bus; the host adapter card and the tape drive. Both the host adapter card and the tape drive should have terminators installed.

4. Make sure each SCSI device in the chain has a unique ID number.

If you have two tape drives attached to the SCSI bus, each with an SCSI ID of 2, chances are neither device will work. Set each drive to a unique SCSI ID. Check the documentation that came with your hardware for information about changing the ID of the device.

5. Check that all the tape drives are turned on

Sometimes when one device in a chain is off, the others will behave erratically.

6. Make sure the jumper settings on your adapter board are correct.

Check the documentation that came with the board to make sure the jumpers are set correctly for use with your hardware.

7. Make sure your SCSI chain is not longer than 18 feet

### Software solutions

The following steps list the various things to look for when checking the *software* in your system:

1. Make sure you don't have any NLMs (including tape server NLMs) from previous versions of ARCserve loaded on your server.

You can't load ARCserve 6 if you have a previous version of ARCserve (4.x or 5.x) or any modules (NLMs) from previous versions already loaded.

2. For NetWare 3.1x servers, verify that you have the correct version of CLIB.NLM loaded.

If you are running a version of CLIB.NLM older than 3.12H, you must unload it and load the correct version.

3. For NetWare 4.0x servers, verify that bindery emulation is enabled.

For NetWare 4.0x file servers, bindery emulation must be enabled. You can use the *Set Bindery Context* console command to verify if bindery emulation is enabled. If it is enabled, this command will display the context on the server's console. (The context of an object is the name of the object's container in the directory tree.) If bindery emulation is not enabled, you can set it by using the *Set Bindery Context=* command. (Refer to your *NetWare Installation Manual* for more information. Also refer to the section 'Pre-installation checklist and notes in Chapter 3 of this guide.)

4. Check that you have the correct driver loaded for your host adapter board.

If you use ASPI, make sure that the board drivers, such as AHA1540.DSK and ASPITRAN are loaded.

---

## Solving problems opening and testing ARCserve Manager

The table below lists the common error messages received when trying to open the ARCserve Manager. This table also describes causes and solutions.

Error Message	Cause(s)	Solution(s)
<i>On workstation screen:</i> Btrieve Error:20 accessing file: Attempting to initialize Btrieve Record Manager Inactive	There is a problem with the .DLL's used to initialize Btrieve.	Exit Windows.  Check your .DLL's for the correct version.  Restart Windows.
<i>On workstation screen:</i> Btrieve Error:97 accessing file: server/ SYS:\ARCSERVE\DATABASE\asnode.db Attempting to: Open File Data Message Too Small	There is a problem with the .DLL's used to initialize Btrieve.	Exit Windows.  Check your .DLL's for the correct version.  Restart Windows.
<i>On workstation screen:</i> Invalid path The working directory is invalid  Note: This error shouldn't occur if you start and test the ARCserve Manager immediately following successful completion of your installation. When it creates the ARCserve program group on your workstation, Setup automatically sets the right path for the Manager.	Manager is being run from a host server volume that's either not mapped or mapped to the wrong drive letter. Refer to the section of Chapter 3 titled 'Post-installation note on drive mapping'.	With the Properties option of the Windows Program Manager, check the path for the ARCserve Manager.  Using the File Manager, check to ensure that the server volume where the ARCserve Manager is installed is mapped to the correct drive letter.

## Solving other problems

A tape drive is causing trouble.

Error messages indicate that a tape drive is the source of the problem:

1. Remove all the other drives from the chain.  
Leave just the one problematic drive connected to the host server. Make sure the SCSI chain is terminated properly after you make these hardware changes.
2. Turn the tape drive off and on again.  
Sometimes this procedure will make the drive snap out of its nonworking state.
3. Do a TAPE TEST from the Tape Server console.

Running the Conversion Utility failed to upgrade all the files.

You can change your ARCSERVE.INI file so that more detailed messages will be reported in the conversion log. To do this, carry out the following procedure:

1. Use a text editor to open your ARCSERVE.INI file.
2. Find the line that starts: debug=0 and change it to: debug=1.
3. Re-run the conversion.
4. Use the conversion log to determine what caused the problem.

---

If you cannot solve the problem, FAX this file to Cheyenne's Technical Support department so that we can help you track down the problem.

### Backup and restore rates seem much slower than normal

When you back up or restore a remote server, ARCserve's performance drops way down, and the file transfer rate is extremely low.

If ARCserve seems to be operating slowly on some volumes and not others, the problem may be due to the following causes:

- The number of small files on the slow volumes.
- An antivirus program running on the network
- A slow network
- Collisions between packets
- Low memory on the server
- Router problems

For most of these causes, you'll need to refer to other documentation, such as Novell's NetWare manuals. In the case of a large number of small files, you may be able to speed up file transfer by increasing the number of cache buffers NetWare uses.





---

When someone requests a directory, NetWare stores this request, on the assumption that the user will want the files in that directory. Memory is allocated for this purpose. Normally, NetWare allocates about 20 cache buffers at a time. But if a volume contains a large number of small files, performance is compromised because of the way NetWare handles directory caching. This problem can be dealt with to some extent by increasing the number of cache buffers.

---

Use the SET command or the SERVMAN utility (with 4.1x servers) to increase the buffer setting from 20 to 500

To change this parameter using SET, enter the following command at the console prompt:  
SET MAXIMUM DIRECTORY CACHE BUFFERS = 500

To change this parameter using SERVMAN, do the following steps:

At the server prompt, enter the command:  
LOAD SERVMAN

From the Available Options menu, select:  
*Server parameters.*

From the Select a parameter category menu, select:  
*Directory caching.*

Select the *Maximum Directory Cache Buffers* field and type in: 500.

Save the parameter settings and exit SERVMAN.



---

The SERVMAN utility and the SET command have exactly the same functionality. For more information about SERVMAN and SET, refer to your Novell manuals.

---

---

In addition, if you didn't install the ARCserve NetWare Push Agent to the remote server being backed up, installing it now may result in faster backup and restore times. For more information about this Agent, refer to the section of Chapter 3 'Installing the ARCserve NetWare Push Agent.'



# INSTALLATION SCENARIOS

This appendix describes the general factors you need to keep in mind when designing the most efficient configuration of ARCserve on your network. This appendix also gives several examples of how these factors can operate in specific cases.

**In this chapter, you will learn:**

*Page*

- |     |   |   |
|-----|---|---|
| A-2 | ➤ | Basics of using ARCserve efficiently            |
| A-5 | ➤ | Some ways of configuring backups using ARCserve |

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## Overview - using ARCserve efficiently

There are as many different ways to configure ARCserve servers as there are networks. Every networked site has unique features and requirements for system recovery that dictate the backup strategy for that particular site. In this regard, Cheyenne provides a consultation service for customers that need it.

There are, however, a few basic considerations to keep in mind when determining which servers to configure as ARCserve host servers on your network, and how to use those servers most efficiently during the backup process. The most important factors in making this kind of determination are listed below:

- How much data must be backed up
- How much time is available for backing up a given amount of data
- Speed of transmission among nodes (bandwidth capacity of interconnections)
- Network size, type and configuration (total number of nodes, number of servers, whether network is a LAN or WAN)
- Priorities in backing up types of devices (for example servers vrs. workstations, host servers vrs. remotes, etc.)
- Redundancy of system (disk-mirroring, access by different paths, etc.)
- Fault tolerance of system
- Disaster recovery policy (tape storage and retrieval)

With all these considerations, there is no one right way to configure ARCserve in your system. There are some basic principles you need to keep in mind in developing a plan for backing up your system using ARCserve. Clearly, deciding which servers you want to install ARCserve to will depend on this plan.

The most basic decision you need to make is whether to do local or remote backups. With local backup, a server running ARCserve is responsible for backing itself up. With remote backup, the host (ARCserve) server backs up other (remote) servers and workstations as well.

Consider the following examples.

If individual servers each have a large amount of data to be backed up, the bandwidth capacity of the system isn't high, and time that can be allotted to backups is limited, it may make sense to have each server back itself up.

On the other hand, where there are fewer servers on the network and smaller amounts of data to be backed up dedicating a single ARCserve server to doing backups may prove the best plan. The ARCserve NetWare Agent, which speeds file transfers and supports file interleaving, makes this latter option more attractive.

In actual practice, many networks that consist of combinations of smaller networks, will likely require some combination of local and remote backup, depending on configuration.

---

The rest of this chapter contains examples that illustrate the following applications of these basic principles.

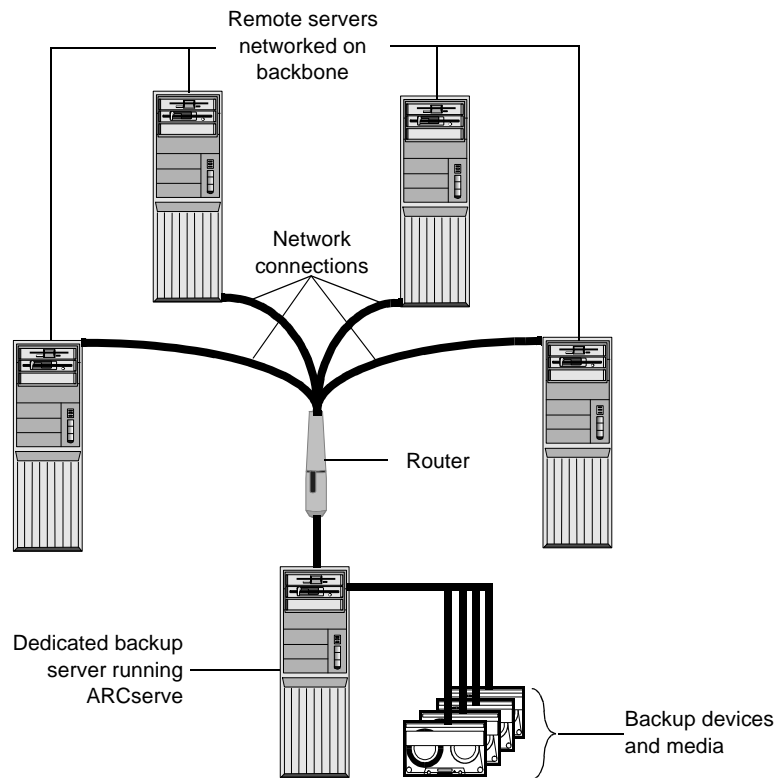
- A single dedicated ARCserve server backing up all servers on a small LAN
- A token ring LAN where each server has ARCserve installed and backs up itself
- A Wide Area NetWork where each local site has responsibility for its own backups
- A “super server” with multi-gigabyte hard-disk capacity that backs up itself using a configuration of multiple tape drives

## Example 1: Dedicated backup server

A

Universal Fixer is a small company producing a single type of device used to repair disk drives. Ten file servers are plenty to contain all the company's records with capacity left over. These servers all sit in one room in the MIS department and are networked together on a local backbone. With a limited number of servers centralized in this way, traffic and bandwidth are not an issue for backups. The ARCserve host server is a dedicated workhorse that does nothing but back up the other servers. For Universal Fixer, this single dedicated server provides the best solution for the company's backup requirements.

The following illustration shows the general configuration for a relatively small network like the one described in the example above. With this kind of network, the amount of data to be backed up, transmission capacity, and time available aren't critical constraints. All remote servers are backed up to a single dedicated backup server running ARCserve.





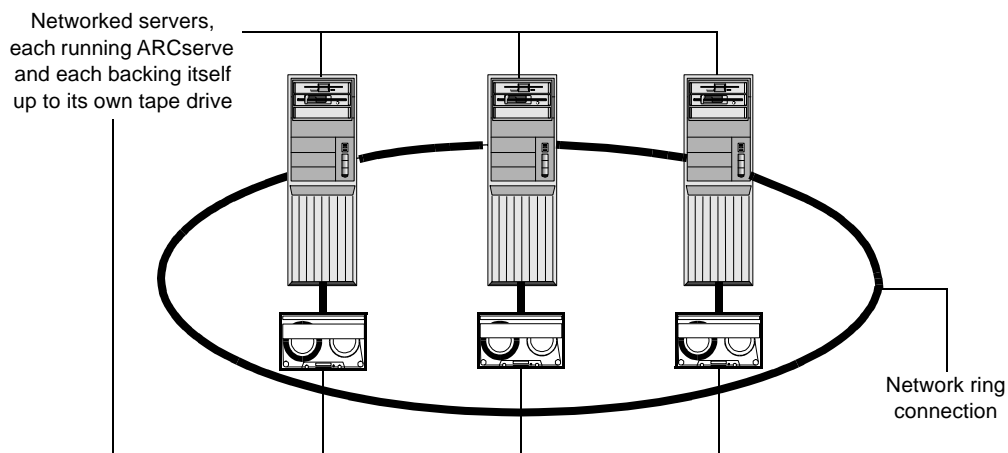
## Example 2: distributed local backup with ring topology

A

The decision whether to go with a single dedicated backup server or distributed local backup can be, to some extent, independent of network topology. On the other hand, for a network with a ring configuration, traffic considerations may dictate a system in which each server on the network backs up itself to its own tape drive.

*Ourobouros Timing Devices is a small company with a small network consisting of workstations, a variety of other devices and a dozen servers configured around a central token ring. The ring is an older and slower (but difficult to replace) system that carries a great deal of data traffic over a relatively narrow bandwidth. Moreover, the company's busy schedule allows only a narrow window for backing up data. In this case, it makes sense have ARCserve installed on each server, with each server backing up itself only, plus a subgroup of workstations.*

The illustration below shows servers in a ring configuration. Each server functions as a host server running ARCserve, and each server backs up itself to its own tape drive

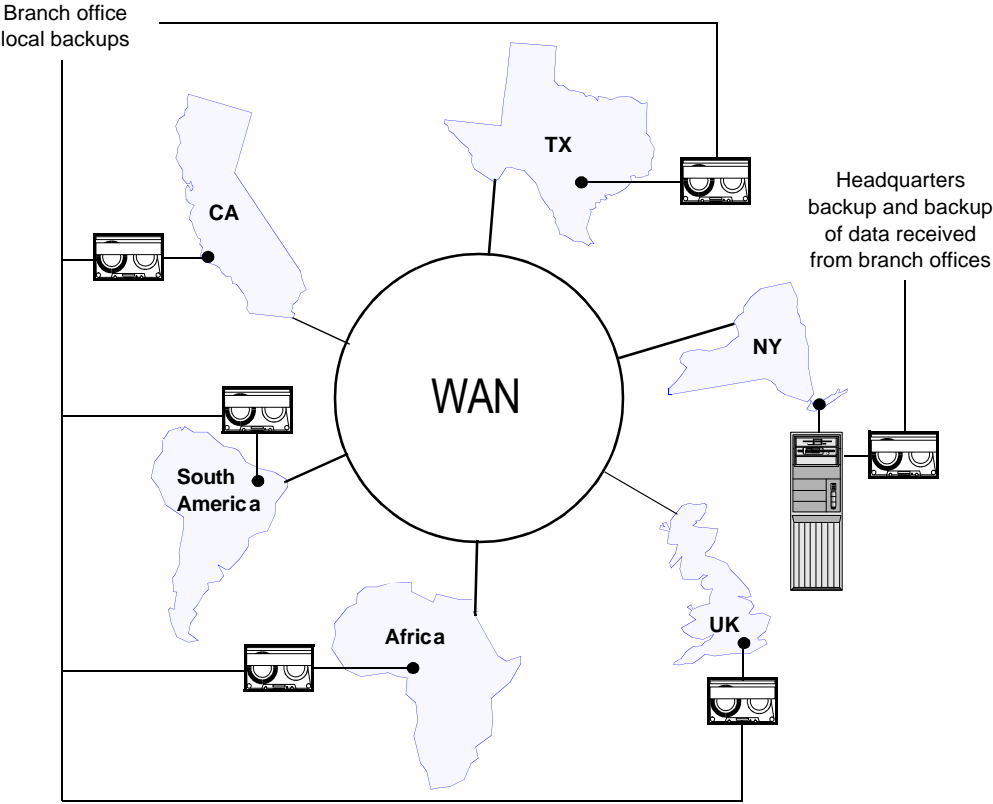


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### Example 3: Distributed local backup in a WAN

*American Pie is a multi-national food processing corporation headquartered in New York, with large branch offices in the UK, South America, and Africa as well as California and Texas. Given the enormous amounts of corporate data to be backed up and the transmission distances between offices, centralized backup of any kind is clearly impossible (or at any rate, prohibitively expensive in terms of both time and cost). Each AP branch office must be responsible for carrying out its own backups, requiring a separate ARCserve setup. (All data transmitted from a branch offices to headquarters, however, can obviously be stored and backed up centrally.)*

The following illustration shows the general configuration for a global WAN like the one described in the example above. With this kind of network, the amount of data to be backed up, transmission capacity, and time available are critical constraints. Whatever their specific configurations, all branch LAN's are responsible for backing up their own data locally.



A

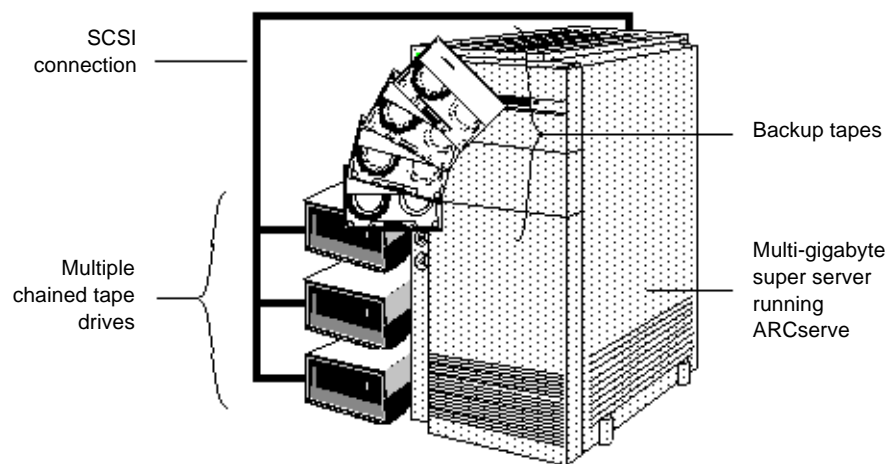
---

## Example 4: Super server

A super server is a server with large, multi-gigabyte storage capacity on its hard drives. With a super server, the sheer quantity of data mandates local backup.

*Data Efficiency is a mid-sized company that stores and retrieves data for small businesses. Where possible, current records for a given client are stored on a single 22-gigabyte super server. (Sometimes several smaller clients may be assigned to the same super server.). The super servers are networked, but, because of the nature of the business, not a great deal of data interchange occurs among super servers. Each super server also functions as an ARCserve host server, responsible only for backing up itself to multiple tape drives.*

The illustration below shows a single 22-gigabyte super server running ARCserve and configured with multiple tape drives for backing up itself.





# CONFIGURING ARCSERVE FOR NETWARE 4.1 SFT III

In this appendix, you will learn:

Page

- |     |   |   |
|-----|---|---|
| B-2 | ➤ | How to configure a NetWare 4.1 SFT III server to run ARCServe 6 |
| B-4 | ➤ | How to run ARCServe on the server                               |

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## Configuring the server

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### 32 MB memory required

In order to run ARCserve 6 on a NetWare 4.1 SFT III server, the server must have at least 32 MB of memory.

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### Load ARCserve on the Primary IOEngine

It is recommended that ARCserve is loaded on the Primary IOEngine. This is because the Secondary IOEngine spends all of its CPU time mirroring the Primary IOEngine and helps with disk read requests.

If the Primary IOEngine goes down, and then comes back up as the Secondary, type "RESTART" (after the mirroring is complete) on the current Primary IOEngine to force it to become the Secondary.

To configure the server:

1. Use the SET NEW START ADDRESS FOR UNCLAIMED MEMORY BLOCK=12000000 command in both Primary and Secondary IOEngine's IOSTART.NCF file.

When ARCserve is loaded, it does not have to borrow memory from the MEngine since all memory below the Start Address for Unclaimed memory belongs to the IOEngine. This must be located before ACTIVATE SERVER if this is used in the IOSTART.NCF.

2. The SET parameter REPLY TO GET NEAREST SERVER must be ON in both IOEngines.

ARCserve will not be able to login to the Host server and the message "Failed to examine State Semaphore" will appear if this is OFF.

3. Run the SFT-III Configuration utility.

Run SFT3CFG.EXE in the UTILITY directory in the ARCserve Home Directory.

Type: SFT3CF G

This utility will copy the ARC\_SFT3 BTRVSTUB, BROUTER, IODAI40, DSAPI and UNICODE NLMs to the SYS:SYSTEM directory and make the following modifications to the ASCONFIG.INI file:

---

Original lines from  
the [Loader]  
section

ORDER=CSNLM1 NLM2 NLM3 NLM4 NLM5  
NLM6 CSNLM7 CSNLM8 CSNLM9 CSNLM10  
CSNLM11  
ORDER1=CSNLM12

---

New lines in the  
[Loader] section

SFT3CFG added the following for SFT-III:

NLM13=ARC\_SFT3  
NLM14=BTRVSTUB  
NLM15=BROUTER  
NLM16=IODAI40  
NLM17=UNICODE  
NLM18=DSAPI

SFT3CFG changed the order for SFT-III.

ORDER=NLM13 CSNLM1 NLM2 NLM3 NLM14  
NLM15 NLM16 NLM17 NLM18  
ORDER1=CSNLM7 CSNLM8 CSNLM9 CSNLM10  
CSNLM11 CSNLM12



---

If ASPITRAN.DSK is loaded, it must be version 1.1 or later.

---

B

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## Running ARCserve

To run ARCserve on a NetWare 4.1 SFT III server:

1. Start ARCserve.

Type BSTART in the MSEngine.

Type ASTART6 in the Primary IOEngine.

2. Backup and Restore with SMS logic.

The SMDR must be loaded in both the IOEngine and MSEngine, and TSA410 and TSANDS must be loaded in the MSEngine if the host is your target server.

You must also set the *Use SMS Logic for DOS and Mac files* also option to “Yes” on the ARCserve Scheduler Configuration screen.





# CONFIGURING MULTIPLE TAPE GROUPS FOR FILE INTERLEAVING

In this appendix, you will learn:

*Page*

- |     |   |   |
|-----|---|---|
| C-2 | ➤ | How to configure and manage tape groups |
| C-3 | ➤ | How to add a media group                |
| C-5 | ➤ | How to delete a media group             |
| C-7 | ➤ | How to assign a tape drive to a group   |
| C-9 | ➤ | How to remove a tape drive from a group |

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## Configuring tape groups



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This appendix contains much of the same information that can be found in Chapter 13 of the *ARCserve Manager Guide*, “Device Management”.

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Tape Server allows you to have multiple tape drives connected to your tape server. If you are using a SCSI host adapter, you can have a total of seven tape drives connected to the server. This is very useful for drive spanning, where, under the right circumstances, when one tape becomes full, the session will automatically span to the next drive in the same group. A media group is an assigned grouping of the tape drives connected to the server.

Normally, even though you have multiple drives connected to your server, you are limited to running one backup or restore job at a time. A key feature of ARCserve is its ability to group identical tape drives. Grouping drives allows you to run multiple drives simultaneously. For example:

You may have five identical tape drives attached to your tape server. You could assign drives 1 and 2 to a group called ARC1 and assign drives 4, 5, and 6 to a group called ARC2. Using this scheme, you could have a backup job running on GROUP1 simultaneously with a restore job running on GROUP2.

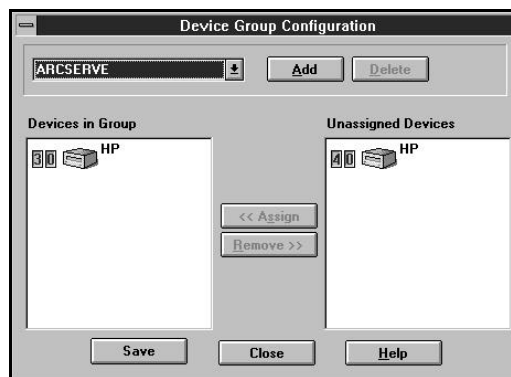
### Adding a media group

To add a media group from the Device Management screen:



1. Click the Device Group Configuration button.

The Device Group Configuration screen appears:



2. Click the Add button.

The Add Group dialog box appears:



3. Enter a group name, then click OK.



- 
4. Add the applicable tape devices to the group.

You must add tape devices to the group in order for the group to be added to the configuration file. Refer to 'Assigning a tape drive to a group' on page C-7 for more information.

5. Click the Save button when done.

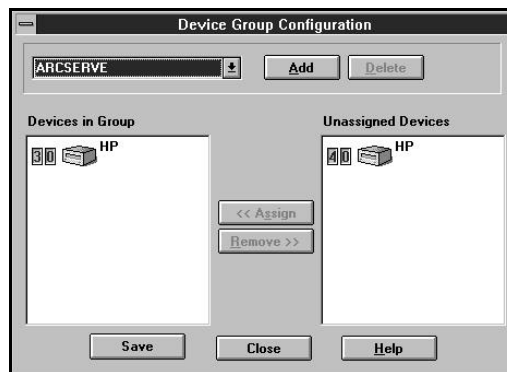
### Deleting a media group

To delete a media group from the Device Management screen:



1. Click the Device Group Configuration button.

The Device Group Configuration screen appears:



2. Select the media group you want to delete.

From the Group Names list box, select the name of the group that you want to delete. Click the list box to display the names of all of your media groups.

Click here to display the names of  
your media groups.



3. Remove all of the drives from the group.



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Before you can delete a media group, you must remove all of the associated drives from the group. To do so, select the drives one at a time and click Remove.

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- 
4. Click Delete to delete the media group.  
You are prompted to confirm the deletion.
  5. Click Yes to delete the group.
  6. Click the Save button when done.

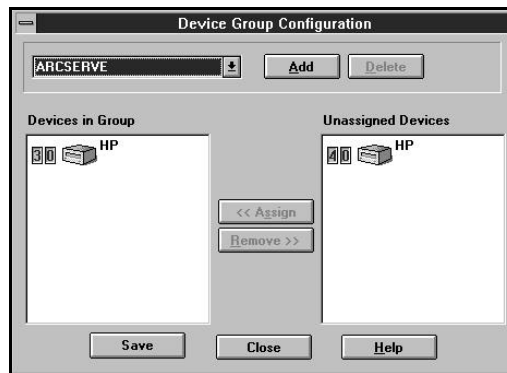
### Assigning a tape drive to a group

To assign a tape drive to a media group from the Device Management screen:



1. Click the Device Group Configuration button.

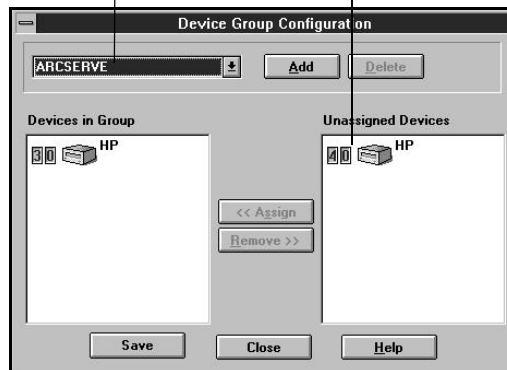
The Device Group Configuration screen appears:



2. Click the name of the group and the device you want to add to this group.

Select the group to add the drive to here.

Select the drive to be added here.

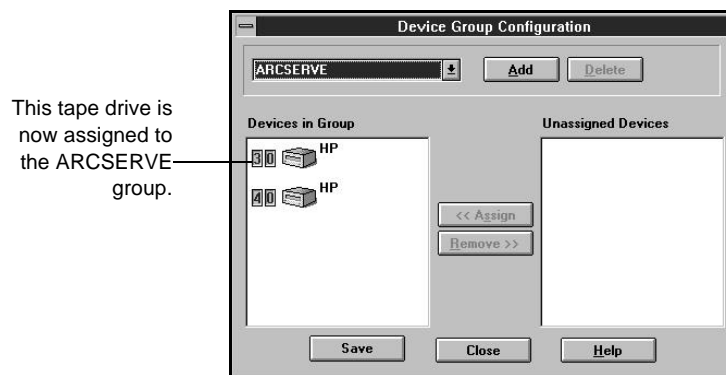




Only tape drives that have not been assigned to a media group will be available in the list of tape drives to add. You can not add a tape drive to more than one media group.

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3. Click Assign to assign this drive to the group.



4. Click the Save button when done.



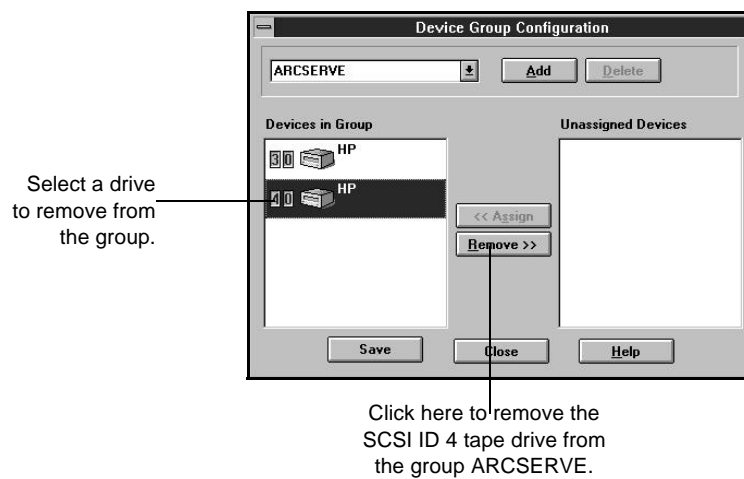
### Removing a tape drive from a media group



1. Click the Device Groups Configuration button from the Device Management screen.

The Device Group Configuration dialog box appears.

2. Select the drive that you want to remove from the group.



3. Click Remove to remove the drive from the media group.
4. Click the Save button when done.

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