

BrightStor[®] ARCserve[®] Backup for Windows

Enterprise Option for IBM 3494 Guide

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Chapter 1: Introducing the Option

BrightStor® ARCserve® Backup is a comprehensive distributed storage solution for applications, databases, distributed servers, and file systems. It provides backup and restore capabilities for databases, business-critical applications, and network clients.

Among the options BrightStor ARCserve Backup offers is the BrightStor® ARCserve® Backup Enterprise Option for IBM 3494. This option allows you to use the full capabilities of BrightStor ARCserve Backup with the large tape volume capacities of the IBM® TotalStorage® Enterprise Automated Tape Library 3494. With this option, the BrightStor ARCserve Backup server can interface with the IBM TotalStorage Enterprise Automated Tape Library 3494 to manage backup and restore operations, tape volume movement, and tape volume organization.

Note: This guide refers to the IBM TotalStorage Enterprise Automated Tape Library 3494 as Enterprise Tape Library 3494.

Using the Enterprise Option for IBM 3494 lets several BrightStor ARCserve Backup servers share a network-connected Enterprise Tape Library 3494. By using several BrightStor ARCserve Backup servers, you can divide large, complex backup requirements into manageable subsets and maximize backup and restore efficiency. Backup and restore jobs run simultaneously on all BrightStor ARCserve Backup servers with complete storage data integrity.

Using this option, the BrightStor ARCserve Backup server can automatically associate known or discovered physical tape drives in the Enterprise Tape Library 3494 with a logical local library on the BrightStor ARCserve Backup server. The option lets you assign tape volumes in the Enterprise Tape Library 3494 to the logical library on the BrightStor ARCserve Backup server. This configuration lets you use the features of BrightStor ARCserve Backup to control the Enterprise Tape Library 3494.

Note: Each BrightStor ARCserve Backup server can be physically connected to one Enterprise Tape Library 3494 and can manage one logical library configuration for the Enterprise Tape Library 3494.

This option also provides services that let BrightStor ARCserve Backup perform backup, restore, and device management operations on the Enterprise Tape Library 3494 tape volumes. Each BrightStor ARCserve Backup server performs these operations as if it is controlling its own separate library. In addition, the BrightStor ARCserve Backup server interprets the assigned tape volumes on the Enterprise Tape Library 3494 as local tape volumes; however, the physical location of tape volumes is managed exclusively by the Enterprise Tape Library 3494.

Important! *The tape volumes in the Enterprise Tape Library 3494 must have bar codes to use the BrightStor ARCserve Backup Enterprise Option for IBM 3494.*

Communication Interfaces

Communication between the Enterprise Tape Library 3494 and the BrightStor ARCserve Backup server occurs through these communication interfaces:

- The IBM Automated Tape Library service on the BrightStor ARCserve Backup server connects to the Enterprise Tape Library 3494 through an Ethernet LAN control path.
- Each BrightStor ARCserve Backup server independently connects to one or more tape drives in the library through SCSI or fibre channel data paths.
- Other backup servers can also exist on the network and share the Enterprise Tape Library 3494.

Each backup server communicates directly and independently with the Enterprise Tape Library 3494. Although multiple backup servers may exist on the same network, BrightStor ARCserve Backup servers do not communicate with other backup servers.

Option Architecture

The Enterprise Option for IBM 3494 is a separate software component installed on a server running BrightStor ARCserve Backup. Several BrightStor ARCserve Backup servers can share one Enterprise Tape Library 3494.

The BrightStor ARCserve Backup server logical library essentially partitions a large Enterprise Tape Library 3494 into independent, user-defined logical libraries. The tape volume assignments on the BrightStor ARCserve Backup server define the logical library.

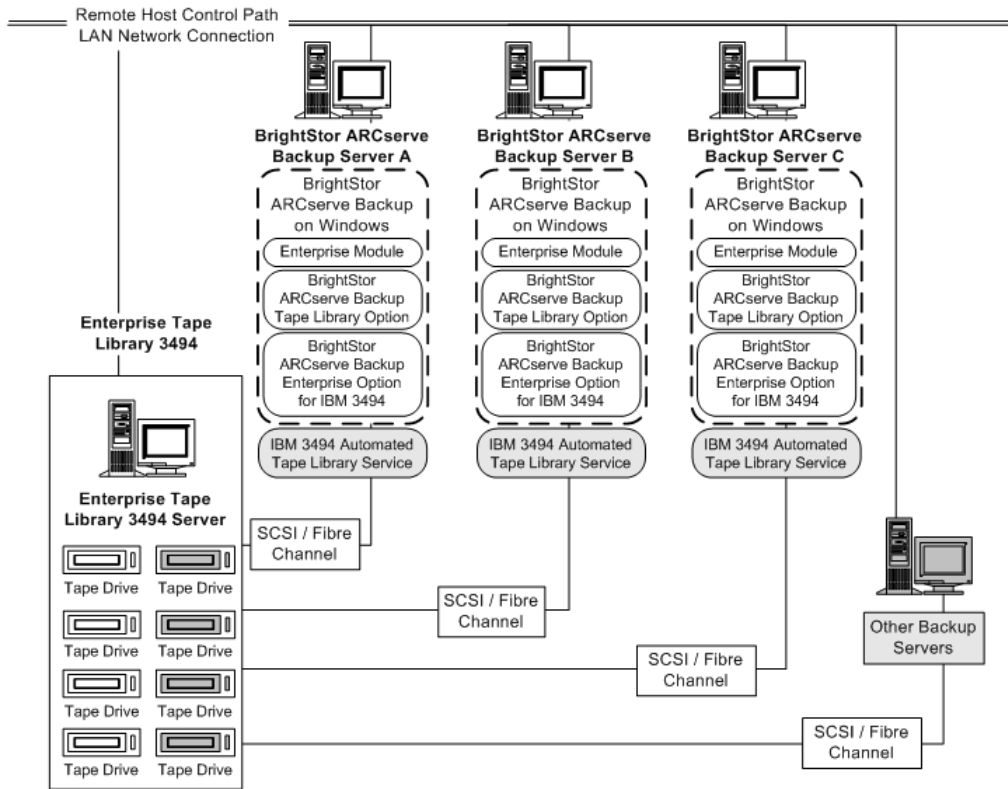
The tape volumes configured for the Enterprise Option for IBM 3494 are not part of a physical library connected to the BrightStor ARCserve Backup server, but are interpreted by BrightStor ARCserve Backup as a local library. The logical library configurations have a mutually exclusive set of tape volumes or a shared set of tape volumes, depending on whether the BrightStor ARCserve Backup server is in a SAN.

Note: In configurations where multiple backup servers share the Enterprise Tape Library 3494, ensure that tape drives assigned to BrightStor ARCserve Backup server are not assigned to any other backup servers.

Mutually Exclusive Tape Volumes

In configurations where the BrightStor ARCserve Backup server is not in a SAN, each BrightStor ARCserve Backup server is configured to control a mutually exclusive set of tape volumes in the Enterprise Tape Library 3494. As a result, each BrightStor ARCserve Backup server manages a user-defined subset of tape volumes on the Enterprise Tape Library 3494 that are unique to that BrightStor ARCserve Backup server.

Each BrightStor ARCserve Backup server has an autonomous view of the Enterprise Tape Library 3494 that shows only the locally assigned volumes. The following illustration shows the architecture of the BrightStor ARCserve Backup Enterprise Option for IBM 3494 and the communication interfaces to the Enterprise Tape Library 3494:



If multiple backup servers are sharing the same Enterprise Tape Library 3494, you must ensure that each tape volume is assigned to only one backup server. The tape volumes assigned to each backup server should be mutually exclusive, which means they cannot be used or accessed by other backup servers attached to the network.

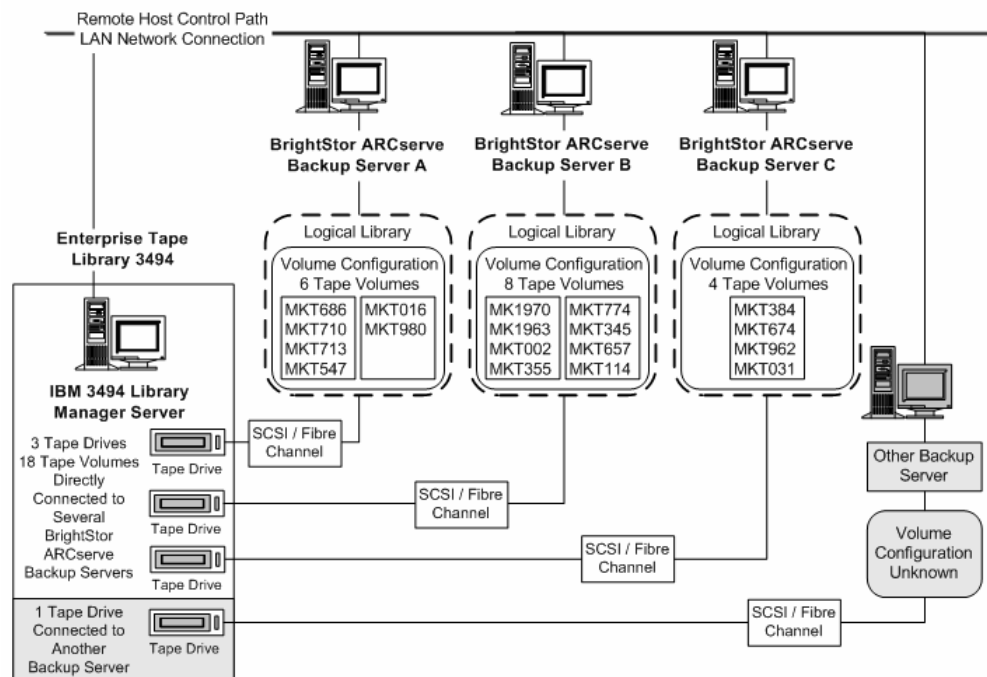
Assigning mutually exclusive tape volumes requires careful planning. To assist you in your planning effort, you should document the tape volume assignment for each backup server that will share the Enterprise Tape Library 3494. Screen shots of the Volume Configuration dialog provide a convenient visual record of the tape volume assignments for each BrightStor ARCserve Backup server.

Important! *If tape volumes are not mutually exclusive or are shared between backup servers, you risk losing important backup data.*

Note: If you are adding backup servers to an established configuration, avoid duplication by checking the current tape volume assignments before adding the new backup servers.

Volume Configuration Example

The tape volume assignments determine the volume configuration for the logical user-defined library on each BrightStor ARCserve Backup server. In the following example, a unique set of tape volumes defines the logical library for each BrightStor ARCserve Backup server:



The example shows that the Enterprise Tape Library 3494 has four tape drives directly attached to several backup servers on the network. The unique tape volume assignments for each BrightStor ARCserve Backup server are:

- Server A has six assigned tape volumes: MKT686, MKT710, MKT713, MKT547, MKT016, and MKT 980
- Server B has eight assigned tape volumes: MK1970, MK1963, MKT002, MKT355, MKT774, MKT345, MKT657, and MKT114
- Server C has four assigned tape volumes: MKT384, MKT674, MKT962, and MKT031

Another backup server on the network that is not running BrightStor ARCserve Backup may have a different configuration. Other backup servers on the network can also share the Enterprise Tape Library 3494.

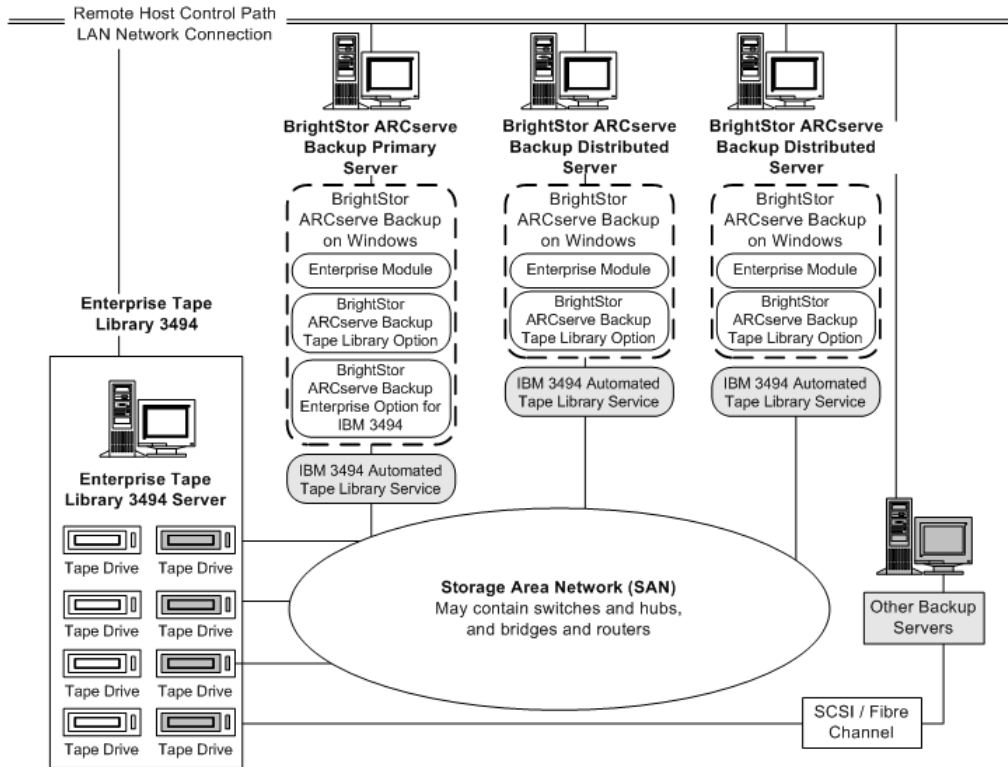
Shared Tape Volumes in a SAN

In a SAN, each BrightStor ARCserve Backup server connects directly to a SAN, which, in turn connects to at least one tape drive in the Enterprise Tape Library 3494. In configurations with multiple BrightStor ARCserve Backup servers in a SAN, each backup server is configured to control and share the same set of tape drives and tape volumes in the Enterprise Tape Library 3494. As a result, each BrightStor ARCserve Backup server in the SAN shares the same user-defined subset of tape volumes on the Enterprise Tape Library 3494.

In a SAN, the BrightStor ARCserve Backup servers share the same logical library configuration, the same tape volume configuration, and the same tape drive configuration.

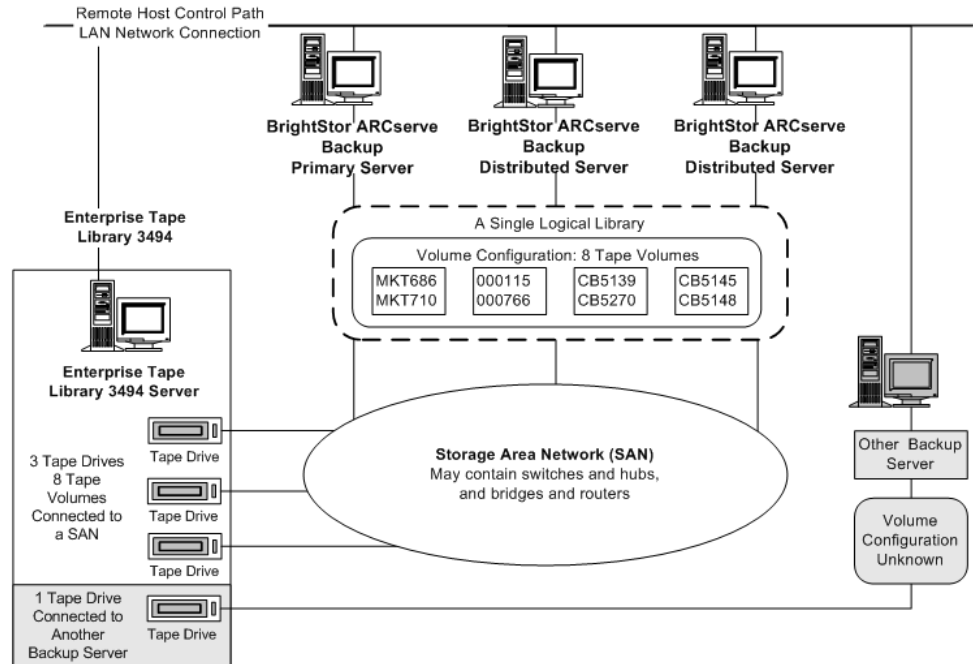
Note: For more information about using BrightStor ARCserve Backup in a SAN, see the Storage Area Network (SAN) Guide.

The Enterprise Option for IBM 3494 must reside on the primary server in the SAN. The following illustration shows the option architecture in a SAN and the SAN communication interface to the Enterprise Tape Library 3494:



SAN Shared Volume Configuration Example

The tape volume assignments determine the logical user-defined library shared by all BrightStor ARCserve Backup servers in the SAN. In the following example, a single set of tape volumes defines the logical library for the SAN:



The example shows that the Enterprise Tape Library 3494 has three tape drives directly attached to a SAN. The tape volume assignments are the same for each BrightStor ARCserve Backup server in the SAN. Another backup server on the network that is not running BrightStor ARCserve Backup may have a different configuration.

IBM Components

The Enterprise Tape Library 3494 client is installed on the BrightStor ARCserve Backup server. This client software is the IBM Automated Tape Library service and is used to establish communication between the BrightStor ARCserve Backup server and the Enterprise Tape Library 3494.

Library Configuration File

An important pre-installation task is configuring communication between the BrightStor ARCserve Backup server and the Enterprise Tape Library 3494 by editing the Enterprise Tape Library 3494 library configuration file. The name of the file is `ibmatl.conf`. The file is located in the `c:\winnt` directory.

Note: If the `c:\winnt` directory does not exist, the IBM Automated Tape Library service installation process creates it.

The library configuration file defines the symbolic library name, the IP address of the Enterprise Tape Library 3494, the identifier used by the IBM Library Manager control service, and an optional second Internet address for a high availability server.

Use Notepad, or any other text editor, to edit the Enterprise Tape Library 3494 library configuration file before you install the Enterprise Option for IBM 3494.

Library Configuration File Format

Note: Any text following `#` is treated as a comment.

The format of the statements in the library configuration file, `ibmatl.conf` file, is:

```
libraryname address identifier address2
```

The following list explains the parts of the statement:

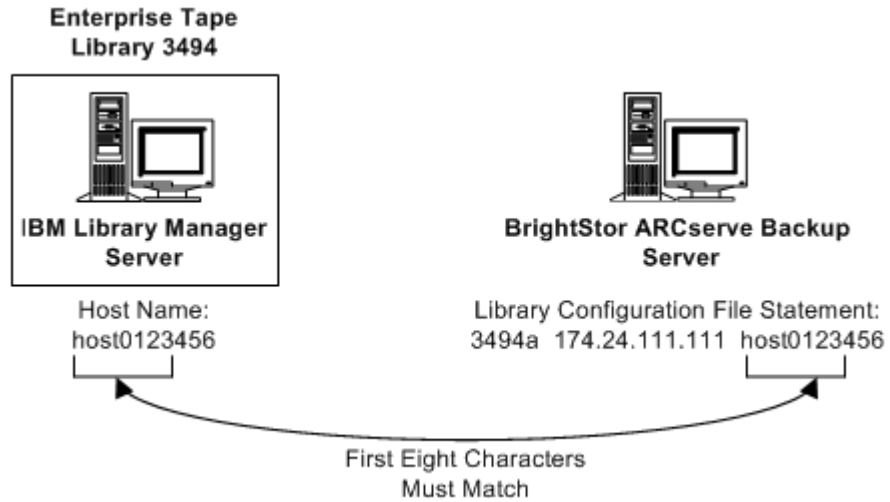
- *libraryname* is a symbolic name of the library. There is a 32 character limit for symbolic names.
- *address* is a value that represents the IP address of the Enterprise Tape Library 3494.
- *identifier* is used by the IBM Library Manager to locate the BrightStor ARCserve Backup server. A typical identifier is the host name of the computer. The identifier is also known as the return alias.
- *address2* is optional. It specifies a second IP address for a high availability server.

Note: Do not specify the second IP address if you are not using a high availability server.

In the following example, the symbolic name of the library is `3494a`, the IP address of the Enterprise Tape Library 3494 is `174.24.111.111`, and the host name is `host01`:

```
3494a      174.24.111.111      host01
```

The first eight characters of the identifier defined in this file must match the first eight characters of the LAN host specified for the BrightStor ARCserve Backup server in the Enterprise Tape Library 3494. The following example shows a definition of the LAN host on the Enterprise Tape Library 3494 and on the BrightStor ARCserve Backup server:



Note: To add a LAN host to the Enterprise Tape Library 3494, use the library operator console and choose Commands, LAN options, and then Add LAN Host. Enter the BrightStor ARCserve Backup server IP address and host name.

IBM Library Manager

The IBM Library Manager directly controls the tape library robotics and maintains a database of tape volumes. The IBM Library Manager software resides on the Enterprise Tape Library 3494 and is controlled through the Enterprise Tape Library 3494 server console and by library requests received through the network.

IBM Automated Tape Library Service

The IBM Automated Tape Library service is a separate software component installed on the BrightStor ARCserve Backup server. This service must be running for successful communication between the BrightStor ARCserve Backup server and the Enterprise Tape Library 3494.

How Library Requests Work

The IBM Automated Tape Library service sends library requests over the control path directly to the IBM Library Manager. Library requests from multiple backup servers are queued and handled by the Library Manager in the order they are received.

Tape Categories

The Enterprise Tape Library 3494 tracks the category number of each tape volume in the library. A single category number identifies all tape volumes used for the same purpose or application. The tape volumes imported into the Enterprise Tape Library 3494 by the BrightStor ARCserve Backup server are assigned to the BrightStor ARCserve Backup category F00F.

Insert Category

When a tape volume is first inserted into the library, either manually or automatically at the convenience I/O station, the tape volume is assigned to the insert category FF00. When tape volumes are imported into the BrightStor ARCserve Backup server, the tape volumes move from the insert category FF00 to the BrightStor ARCserve Backup category F00F.

Unique Application Category

Each backup server that shares the Enterprise Tape Library 3494 has its own access defined by tape volume categories. Each backup server must use a unique set of category numbers to identify that application. The unique application category for BrightStor ARCserve Backup server is F00F.

Eject Category

When a tape volume is assigned to the eject category, the tape volume is unavailable to the BrightStor ARCserve Backup server. The eject category is FF10.

Chapter 2: Installing the Option

This chapter provides the information you need to install and configure the BrightStor ARCserve Backup Enterprise Option for IBM 3494.

The information in this chapter assumes you are familiar with:

- The characteristics and requirements of Windows operating systems in general
- Administrator responsibilities of Windows operating systems in particular
- Enterprise Tape Library 3494

System Requirements

This section describes software installation requirements specific to the Enterprise Option for IBM 3494.

For a list of supported platforms, machine requirements, and required applications for this option, see the readme file. Check the Computer Associates web site located at <http://ca.com/> for any updates to the requirements.

Hardware and Software Installation Requirements

For the BrightStor ARCserve Backup Enterprise Option for IBM 3494 to function properly, the option and the following applications must be installed on the same computer:

- BrightStor ARCserve Backup
- BrightStor® ARCserve® Backup Tape Library Option
- BrightStor® ARCserve® Backup Enterprise Module
- IBM Automated Tape Library service

You must install device drivers and the IBM Automated Tape Library service for the IBM TotalStorage Enterprise Automated Tape Library 3494 before you install BrightStor ARCserve Backup and any BrightStor ARCserve Backup options.

Important! *Communication between the IBM Automated Tape Library service and the Enterprise Tape Library 3494 must be established and configured before installing the Enterprise Option for IBM 3494.*

Configuration Dependencies

The IBM Automated Tape Library service and BrightStor ARCserve Backup must be installed on the same computer to allow communication with the Enterprise Tape Library 3494. Before installing the BrightStor ARCserve Backup Tape Library Option and the Enterprise Option for IBM 3494, you must install Version 5.4 of the IBM Automated Tape Library service and Enterprise Tape Library 3494 device drivers on the computer where you will install BrightStor ARCserve Backup.

Note: See your IBM software documentation for instructions on obtaining and installing Enterprise Tape Library 3494 software and device drivers.

Installation Prerequisites

Installation prerequisites are grouped into these categories:

- System Requirements and Preinstallation Tasks
- Enterprise Tape Library 3494
- Install Privileges
- Data Path and Control Path Interfaces

Before installing Enterprise Option for IBM 3494, verify that:

- Your system requirements meet the minimum requirements needed to install the Enterprise Option for IBM 3494. For a list of system requirements, see the readme file.
- You have the administrator privileges or the proper authority to install software on the computer where you will be installing the option.
- You know the host name, IP address, and password of the computer on which you are installing the option.
- You have installed Version 5.4 of the IBM Automated Tape Library service on the BrightStor ARCserve Backup server.
- You have added the server where you will install BrightStor ARCserve Backup as a LAN host to the Enterprise Tape Library 3494.
- The communication between the Enterprise Tape Library 3494 and the Automated Tape Library service on the computer where you will install BrightStor ARCserve Backup is established and configured.
- You have the plan of your tape volume configuration.

Enterprise Tape Library 3494

Before installing the BrightStor ARCserve Backup Enterprise Option for IBM 3494, verify that the following pre-installation tasks related to the Enterprise Tape Library 3494 are complete:

- Version 5.4 of the IBM Automated Tape Library service and Enterprise Tape Library 3494 device drivers are installed and configured on the computer where you will install the BrightStor ARCserve Backup Enterprise Option for IBM 3494.
- The library configuration file, `ibmatl.conf`, contains the logical library name, the IP address of the Enterprise Tape Library 3494, and the BrightStor ARCserve Backup server identifier (typically the host name).

Note: For more information about the library configuration file, see Library Configuration File in the chapter “Introducing the Option”.

- Communication between the IBM Library Manager control service on the BrightStor ARCserve Backup server and the Enterprise Tape Library 3494 is established and configured. You can use the `mtlib` program to verify library connectivity.
- The Enterprise Tape Library 3494 tape drives that are connected to the BrightStor ARCserve Backup server are empty.
- You have developed a tape volume configuration plan to ensure mutually exclusive tape volume assignments for each BrightStor ARCserve Backup server. Identify which tape volumes on the Enterprise Tape Library 3494 will be assigned to the BrightStor ARCserve Backup server.

Data Path and Control Path Interfaces

Before starting the installation, you must establish the following Enterprise Tape Library 3494 communications:

- The SCSI or fibre channel data path between the BrightStor ARCserve Backup server and the Enterprise Tape Library 3494 tape drives.
- The Ethernet LAN control path between the IBM Automated Tape Library service on the BrightStor ARCserve Backup server and the Enterprise Tape Library 3494.

- Establish the Ethernet LAN connectivity by adding a LAN host to the Enterprise Tape Library 3494 server. The LAN host specified for the Enterprise Tape Library 3494 server must match the host name specified on the BrightStor ARCserve Backup server.

Note: To add a LAN host to the Enterprise Tape Library 3494, use the library operator console and choose Commands, LAN options, and then Add LAN Host. Enter the BrightStor Enterprise Backup server IP address and host name. You can use mtlb commands to confirm connectivity between the Enterprise Tape Library 3494 and the IBM Automated Tape Library service on BrightStor ARCserve Backup Server

For more information on the communication interfaces used by the Enterprise Option for IBM 3494, see Communication Interfaces in the chapter "Introducing the Option".

Installation and Configuration Highlights

Make sure you have confirmed the installation prerequisites and performed the required pre-installation tasks. When you have completed these tasks and gathered all of the required information, you are ready to start the installation process.

The highlights of the Enterprise Option for IBM 3494 installation include:

- Performing pre-installation tasks.
 - Note:** You can install the BrightStor ARCserve Backup base product, the BrightStor ARCserve Backup Enterprise Module, and the BrightStor ARCserve Backup Tape Library Option before or during the option installation.
- Installing the option.
- Configuring the library during installation by:
 - Confirming the library configuration.
 - Assigning the tape volumes.
- Using the BrightStor ARCserve Backup Device Manager to perform a Quick Inventory.

Install the Option

You can install the Enterprise Option for IBM 3494 during or after the installation of the required BrightStor ARCserve Backup products:

- BrightStor ARCserve Backup base product
- BrightStor ARCserve Backup Tape Library Option
- BrightStor ARCserve Backup Enterprise Module

The order of the installation dialogs presented during the installation process is customized based on the agents, options, and other components that you are installing during this installation session. As a result, the sequence of installation dialogs varies.

For detailed information about installing BrightStor ARCserve Backup, see the Getting Started. For detailed information about installing and configuring BrightStor ARCserve Backup Tape Library Option, see the Tape Library Option Guide.

Important! *The tape drive configuration occurs during the BrightStor ARCserve Backup Tape Library Option installation or reconfiguration. If the BrightStor ARCserve Backup Tape Library Option is already installed, it will be reconfigured.*

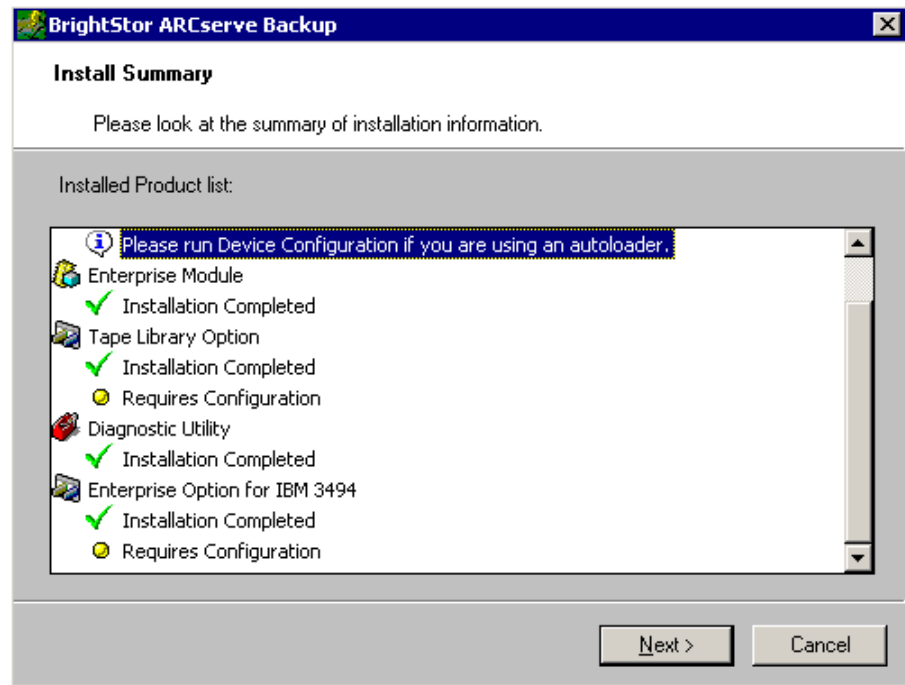
To install the Enterprise Option for IBM 3494, follow these steps:

1. Log on with administrator privileges to the BrightStor ARCserve Backup server.
2. Select Enterprise Option for IBM 3494 from the Select Products dialog.

Note: Select the other required products if you have not already installed them.

3. Click Next to install the option.

The Install Summary dialog appears as shown in the following example.



4. Review the installation summary on the Install Summary dialog and click Next.
5. If you are also installing other BrightStor ARCserve Backup products, respond to all dialogs and prompts as appropriate for your system configuration.

Note: Even if you have already installed the BrightStor ARCserve Backup Tape Library Option, the tape drive configuration is performed during the option installation.

6. Complete the BrightStor ARCserve Backup Tape Library Option installation and click Finish on the Tape Library Option Summary dialog.

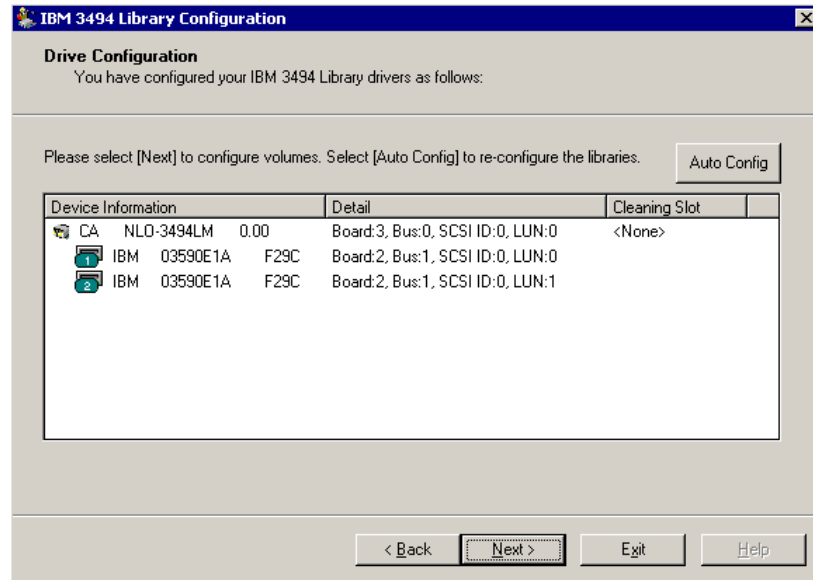
Note: Since the BrightStor ARCserve Backup Enterprise Option for IBM 3494 is not yet installed, the logical library is not shown during this phase of the installation.

7. Click Exit to close the device configuration completed dialog.

The confirmation dialog appears.

8. Click OK to close the confirmation dialog.

The Drive Configuration dialog appears to show the tape drive information as shown in the following example.



9. Review the tape drive information for your library and click Next to configure your library tape volumes.

Configure Your Library Tape Volumes

Configuring the logical library tape volumes is an integral and important part of the option installation process. Configure the library by:

- Assigning tape volumes to the BrightStor ARCserve Backup server.
- Performing a Quick Inventory using the BrightStor ARCserve Backup Device Manager.

The process of configuring your tape volumes consists of assigning tape volumes to create the logical library on the BrightStor ARCserve Backup server. Review your tape volumes assignment plan before you assign the tape volumes.

Note: For more information on the Option Architecture and planning your tape volume configuration, see Option Architecture in the chapter "Introducing the Option".

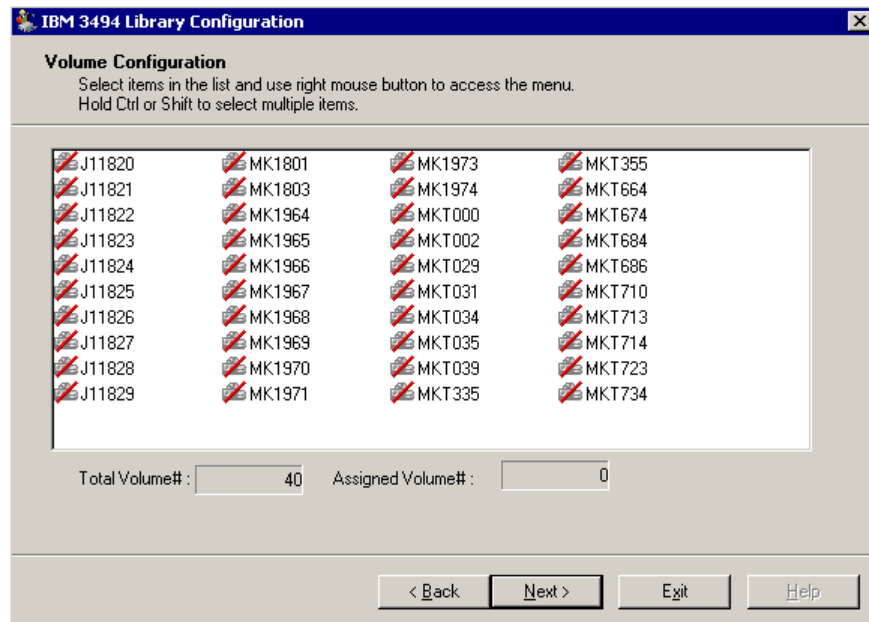
You will not assign any cleaning tape volumes as part of your tape volume configuration. Tape cleaning is managed exclusively by the Enterprise Tape Library 3494. As a result, the cleaning slot designation is not applicable for any backup servers connected to the Enterprise Tape Library 3494. On the BrightStor ARCserve Backup server, the cleaning slot information is always <None>.

Note: You can access the tape cleaning schedule by using the Enterprise Tape Library 3494 control console.

After all tape drives are configured as part of the installation, all tape volumes in the Enterprise Tape Library 3494 appear in the Volume Configuration dialog.

To configure your library tape volumes, install the option as described above, and follow these steps:

1. The tape volumes in the Enterprise Tape Library 3494 are shown in the Volume Configuration dialog as shown in the following example:

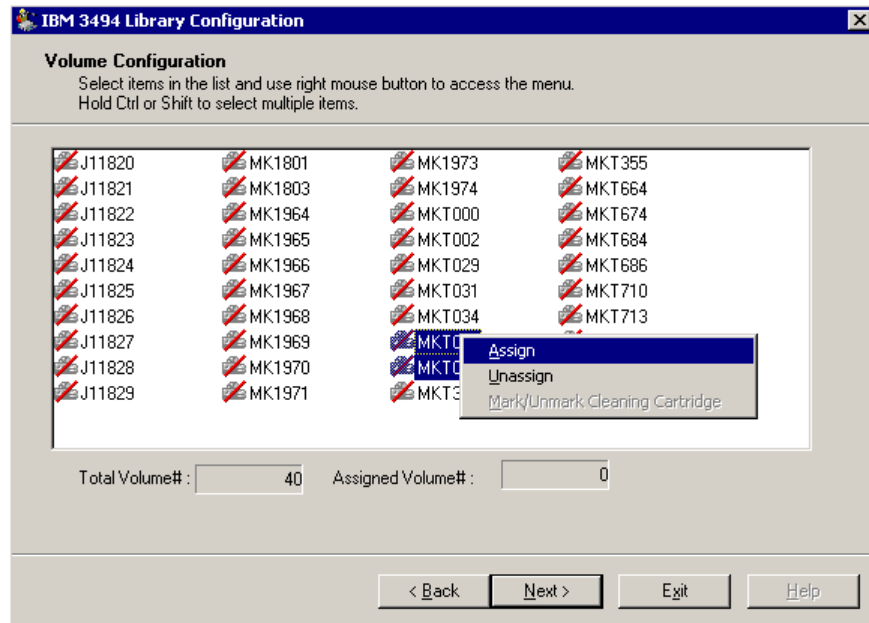


Note: Initially the tape volumes are not assigned to the BrightStor ARCserve Backup server. The unassigned status is indicated by a red slash through the tape volume icon.

2. Select one or more tape volumes that you want to assign to the logical library.

Note: Press and hold the Ctrl key to select multiple tape volumes.

- Right-click the selected tape volumes, and select Assign.



- Review your tape volume assignment and click Next.

A message dialog reminds you to use the BrightStor ARCserve Backup Device Manager to perform a Quick Inventory before you use the Enterprise Tape Library 3494.

- Click OK to close the message dialog.

A summary dialog appears to show the library tape drive configuration.

- Click Finish to complete your library configuration.

A device configuration completed dialog appears to confirm your successful library configuration.

- Click Exit.

The library configuration summary dialog appears.

- Click Finish to complete your library configuration.

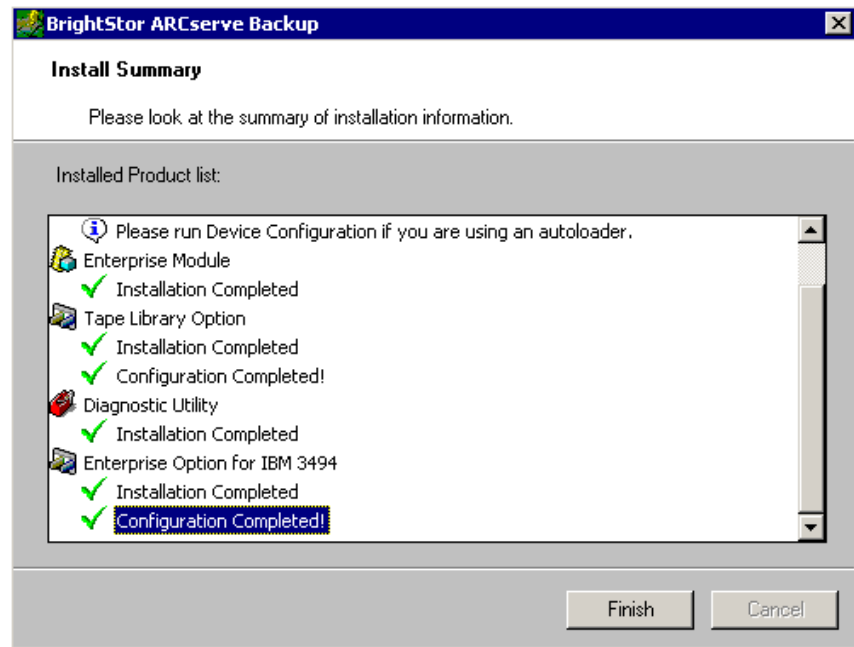
A device configuration completed dialog appears to confirm your successful library configuration.

- Click Exit.

The Install Summary dialog appears.

10. After you configure your library, review the installation summary.

The Enterprise Option for IBM 3494 status shows Installation Completed and Configuration Completed, as shown in the following example:



11. Click Finish to complete the installation.
12. Perform a Quick Inventory to detect any changes that may have occurred on the Enterprise Tape Library 3494 while the tape engine was stopped.

Perform a Quick Inventory

To enable BrightStor ARCserve Backup to recognize changes in tape volume assignments, perform a quick inventory for slots in the Enterprise Tape Library 3494 affected by tape volume assignment changes.

To perform a quick inventory, follow these steps:

1. Logon to BrightStor ARCserve Backup on the computer running the Enterprise Option for IBM 3494.
2. Start BrightStor ARCserve Backup.
3. Select Device from the BrightStor ARCserve Backup home page.
4. Select the logical Enterprise Option for IBM 3494 library.

5. Right-click the selected logical Enterprise Option for IBM 3494 library, and select Inventory/Offline Slots.

The Inventory/Offline Slots dialog appears to show the tape volumes in the Enterprise Tape Library 3494.

6. Click to select the slots in the Enterprise Option for IBM 3494 affected by tape volume assignment changes.
7. Click Quick Inventory option.
8. Click OK.

The inventory complete message dialog appears.

9. Click OK.

Quick Inventory is performed.

Post-Installation Procedures

Post-installation tasks consist of verifying the pre-installation tasks you performed before installing the Enterprise Option for IBM 3494 and making changes to the library configuration.

For more information on the pre-installation tasks, see Installation Prerequisites in this chapter.

How Library Configuration Updating Works

The Enterprise Tape Library 3494 library configuration consists of tape drive configuration and tape volume assignments. Any time you add or remove tape drives or change your tape volume assignments on the Enterprise Tape Library 3494, you must update the library configuration with these changes.

Important! *The tape engine service must be stopped to update the library configuration when tape drive and tape volume changes.*

Update Your Device Configuration

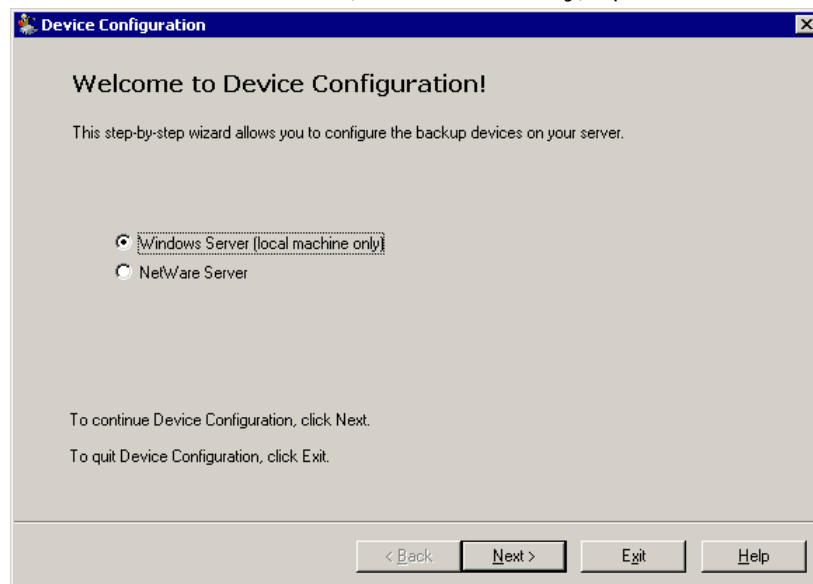
You can update the library configuration with changes to tape drives by using the Device Configuration Wizard on the BrightStor ARCserve Backup server. The device configuration process queries the Enterprise Tape Library 3494 for the tape volumes.

To update the library configuration with Enterprise Tape Library 3494 tape drive changes, follow these steps:

1. Log on with administrator privileges to BrightStor ARCserve Backup on the computer running the Enterprise Option for IBM 3494.
2. From the Configuration menu, choose Device Configuration.

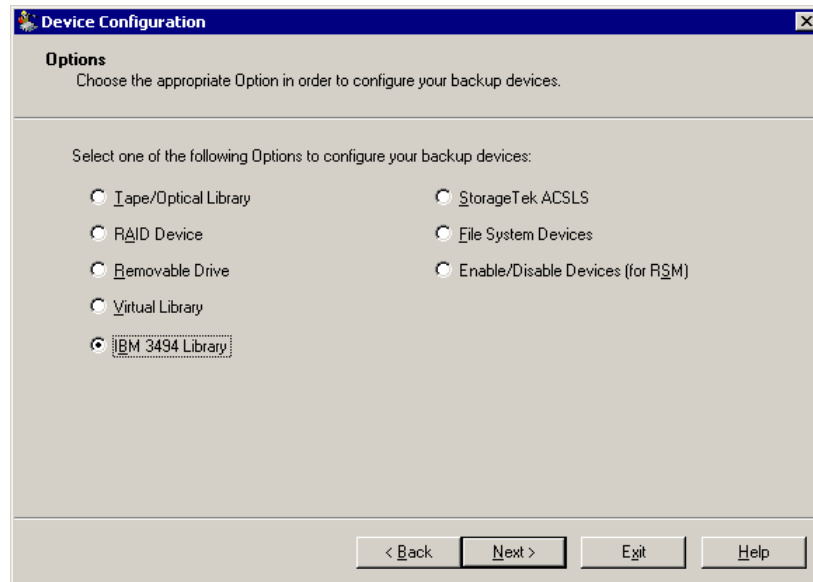
The Device Configuration wizard starts.

3. Select the Windows Server (local machine only) option.



- Click Next.

The Options dialog appears as shown in the following example:



- Select the IBM 3494 Library option.
- Click Next.
A message dialog appears warning the tape engine service will be stopped.
- Click Yes to continue.
The Library configuration is updated.

Update Your Volume Configuration

You can update your volume configuration with changes to tape volumes on the Enterprise Tape Library 3494. After any changes to the tape volumes on the Enterprise Tape Library 3494, use the IBM 3494 Volume Configuration program to change your tape volume configuration, and then use the BrightStor ARCserve Backup Device Manager to perform a quick inventory.

Note: The import and export of tape volumes using the Enterprise Option for IBM 3494 is not supported. For more information on detecting tape volume configuration updates in the Enterprise Tape Library 3494, see Detect Tape Volume Updates in the chapter "Using the Option".

To update the tape volume configuration, follow these steps:

1. Log on with administrator privileges to BrightStor ARCserve Backup on the computer running the Enterprise Option for IBM 3494.
2. Choose Start, Programs, Computer Associates, BrightStor, ARCserve Backup, IBM 3494 Volume Configuration to start the IBM 3494 Volume Configuration program.

The Volume Configuration welcome dialog appears.

3. Click Next.

A message dialog appears to show the message that the tape engine service will be stopped. Click Yes to continue.

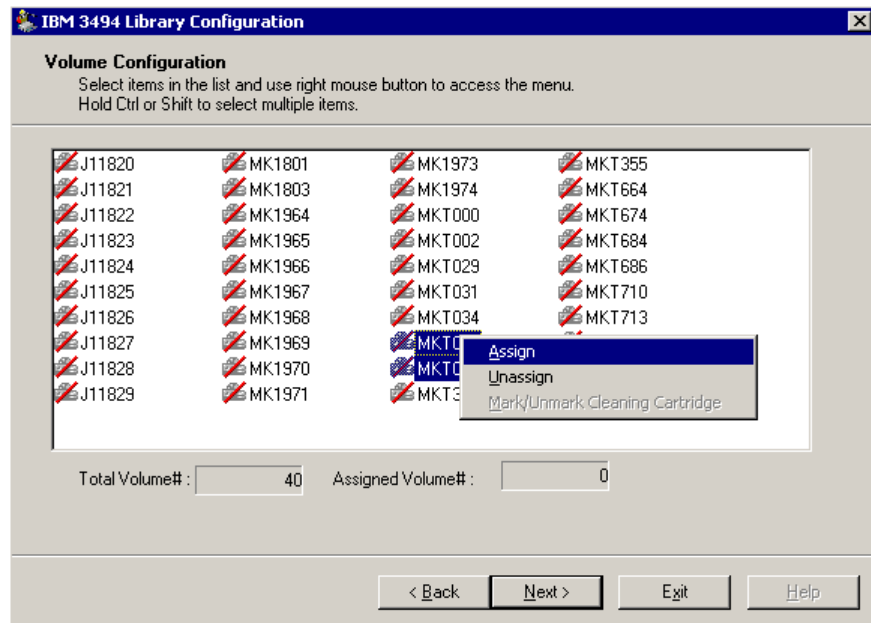
4. Click Next to continue the volume configuration.

The Volume Configuration dialog appears to show the current tape volume configuration; assigned tape volumes are followed by unassigned tape volumes.

5. Select one or more tape volumes that you want to assign to the logical library.

Note: Press and hold the Ctrl key to select multiple tape volumes.

6. Right-click the selected tape volumes, and select Assign.



7. Click Next.

A message dialog appears to remind you to perform a Quick Inventory for slots in the Enterprise Tape Library 3494 affected by tape volume assignment changes.

8. Click OK to close the message dialog.

The Volume Configuration Completed dialog appears.

9. Click Exit to quit the IBM 3494 Volume Configuration program.
10. Click Yes to confirm the exit.

Note: For more information on configuring tape volumes, see *Configure Your Library Tape Volumes* in this chapter.

11. Use BrightStor ARCserve Backup to perform a Quick Inventory.

Note: For more information on performing a quick inventory, see *Perform a Quick Inventory* in this chapter.

Uninstall the Option

To uninstall the BrightStor ARCserve Backup Enterprise Option for IBM 3494, follow these steps:

1. Open the Windows Control Panel.
2. Double-click the Add or Remove Programs icon.
3. Select CA BrightStor ARCserve Backup Enterprise Option for IBM 3494.
4. Click Remove.

The Add or Remove Programs dialog opens.

5. Click Yes.

BrightStor ARCserve Backup Enterprise Option for IBM 3494 is uninstalled.

Chapter 3: Using the Option

This chapter contains information about using the Enterprise Option for IBM 3494. After you install and configure the Enterprise Option for IBM 3494 on the BrightStor ARCserve Backup server, you can use BrightStor ARCserve Backup to manage backup and restore operations on the Enterprise Tape Library 3494.

This chapter also contains information about using the Enterprise Tape Library 3494 command line interface to query the status of the Enterprise Tape Library 3494.

Backup and Restore Operations

You manage backup and restore operations with the Enterprise Option for IBM 3494 as if you are controlling a local library. Use the Backup Manager or Backup Wizard to perform backup operations. Use the Restore Manager or Restore Wizard to perform restore operations. For complete details on managing backup and restore operations, see Getting Started.

Detect Tape Volume Updates

After the Enterprise Option for IBM 3494 is installed and configured, tape volumes on the Enterprise Tape Library 3494 may be added or removed. Before you can use tape volumes in the Enterprise Tape Library 3494 for a logical library on the BrightStor ARCserve Backup server, you must perform the following tasks:

- Physically add tape volumes to, and remove tape volumes from, the Enterprise Tape Library 3494
- Update your tape volume configuration.

Note: For more information on updating your tape volume configuration, see Update Your Volume Configuration in the chapter "Installing the Option".

- Notify the BrightStor ARCserve Backup server of the changes to the tape volume configurations by performing a quick inventory.

Note: For more information on performing a quick inventory, see Perform a Quick Inventory in the chapter "Installing the Option".

Import and export of tape volumes from BrightStor ARCserve Backup is not supported with the Enterprise Option for IBM 3494. All physical import and export of tape volumes must be made using the Enterprise Tape Library 3494.

How the Enterprise Tape Library 3494 Command Line Interface Works

You can use the Enterprise Tape Library 3494 command line interface to manage the Enterprise Tape Library 3494. Use the `mtlib` program to query device and operational status, inventory tape volumes, eject tape media, and verify connectivity between the Enterprise Tape Library 3494 and the IBM Library Manager control service on the BrightStor ARCserve Backup server.

Query the Enterprise Tape Library 3494 Using the `mtlib` Command

To use the `mtlib` command, follow these steps:

1. On the BrightStor ARCserve Backup host computer, open a console window.
2. Execute the `mtlib` command using the logical name of the Enterprise Tape Library 3494.

Note: The `-l` argument is required for each `mtlib` command.

Sample mtlib Commands

You can use the mtlib command as shown below to verify the status of the Enterprise Tape Library 3494. For the purpose of these sample commands, the logical name of the Enterprise Tape Library 3494 is 3494a.

```
mtlib -l 3494a -qL
```

Queries the Enterprise Tape Library 3494 and provides information on the library.

```
mtlib -l 3494a -qI
```

Queries the Enterprise Tape Library 3494 and provides information on the tape volumes in the Enterprise Tape Library 3494.

```
mtlib -l 3494a -qI -v
```

Queries the Enterprise Tape Library 3494 and provides verbose information on the tape volumes in the Enterprise Tape Library 3494. The verbose information includes the state of the tape volumes, whether a volume is logical, volume class, and volume type. This command is useful to determine if a tape is mounted.

```
mtlib -l 3494a -DE
```

Queries the Enterprise Tape Library 3494 and returns device information.

For complete information on using the mtlib command, see the Enterprise Tape Library 3494 documentation.

Appendix A: Frequently Asked Questions

This appendix includes frequently asked questions to help you resolve issues that may arise when using the Enterprise Option for IBM 3494.

How do I determine what tape volumes are configured for the BrightStor ARCserve Backup server?

Use the BrightStor ARCserve Backup Device Manager to view the tape volume assignments.

How do you import and export tape volumes on the Enterprise Tape Library 3494?

Instead of using the BrightStor ARCserve Backup Device Management Import/Export command, you physically insert or remove tape volumes from the Enterprise Tape Library 3494, and then use the BrightStor ARCserve Backup Device Configuration Wizard to configure the tape volumes.

How can I verify the Ethernet LAN control path between the IBM Library Manager Client and the IBM Library Manager Server is working?

Use the mtlib command to verify status and connectivity.

How can I verify the connectivity to the IBM 3494 tape drives?

Use the ntutil command from the IBM command line interface.

I added a new tape drive to the Enterprise Tape Library 3494. Why do the tape drives have to be empty for the BrightStor ARCserve Backup device configuration?

Removing the tape volumes from the tape drives simplifies the device configuration. Since the Enterprise Tape Library 3494 can be shared among multiple backup servers on the network, tape volumes may be assigned to other backup servers. Not all tape volumes are assigned to the BrightStor ARCserve Backup server.

How do you remove a tape volume from the Enterprise Tape Library 3494?

Use the BrightStor ARCserve Backup Device Configuration command to unassign the tape volume from the BrightStor ARCserve Backup server.

Why is the cleaning slot information always <None>?

The cleaning slot information is always <None> because the cleaning slot designation is not applicable for the BrightStor ARCserve Backup Option for the IBM 3494. The Enterprise Tape Library 3494 completely controls the cleaning through the operator-specified schedule.

How do you perform an inventory of volume configuration changes?

To enable BrightStor ARCserve Backup Device Manager to recognize changes in tape volume assignments, use the BrightStor ARCserve Backup Device Manager to perform a quick inventory for the logical library.

What version of the IBM Automated Tape Library service do I need on the computer running the BrightStor ARCserve Backup Enterprise Option for IBM 3494?

To use the Enterprise Option for IBM 3494, the computer running the Enterprise Option for IBM 3494 must have Version 5.4 of the IBM Automated Tape Library service.

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