Operational Recovery for Windows NT

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Purpose

This document will detail the steps required to recover a Windows NT server from a complete failure. The following assumptions are made in this document:

There is a current full backup of the system (Arcserve 6.x or higher)

There is a tape device locally connected
OR
There is a tape device network connected

The Windows NT Server setup CD-ROM
OR
A Windows NT Server distribution CD-ROM

Audience

The audience for this topic is any individual assigned the responsibility of performing this procedure.

Assumptions

This topic assumes the catastrophic failure of a Windows NT 4.0 server at the home office.

Tasks

1. Create Disaster Recovery Diskettes.
2. Insert installation CD-ROM
3. Insert the Cheyenne Disaster Recovery Disk
4. Scan tape backup sessions.
5. Start Disaster Recovery
6. Create Volume Set
7. Format Volume Set
8. Restore Data

Procedure for Locally Connected Tape Device

Create Disaster Diskettes

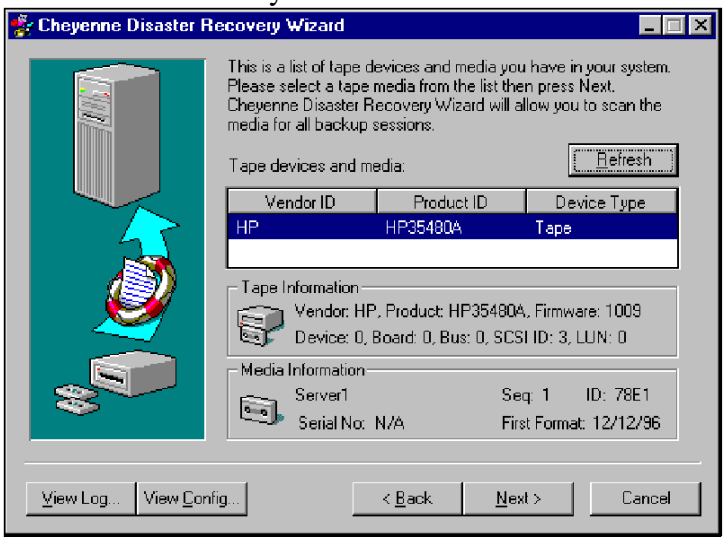
1.	Create the Disaster Recovery (DR) diskettes: There are four diskette images on: \\WCH1D002\INSTALL\NTSRV40\BOOTDISK. cheydr01.dsk cheydr02.dsk cheydr03.dsk cheydr04.dsk To Create the diskettes, run **disaster.bat**.
2.	(Assuming the restore is happening on the same physical hardware) Recreate the system as a new hardware unit (see Compaq Proliant xxxx Server Installation Procedures - for your specific hardware platform).
3.	Boot the system with the Windows NT Server setup disk #1 (cheydr01.dsk image diskette) (created above). *You are prompted to insert the Windows NT Server setup diskette #2.*
4.	Insert the Windows NT Server setup disk #2 (cheydr02.dsk image diskette) (created above) *You will be prompted to select the setup type – Express or Custom*
5.	Press the C key to select a custom setup. (This allows us to specify partition information during setup. Express will create a C: partition with the maximum amount of disk space available). *You are prompted to automatically scan for mass storage devices or specify your own.*
6.	Press **Enter** to automatically detect. *You are prompted to insert the Windows NT Server setup disk #3.*
7.	Insert the Windows NT Server setup disk #3 (cheydr03.dsk image diskette). *After the hardware detection is complete, a list of mass storage devices that have been detected is displayed.*
8.	Press **Enter** to continue. *You are shown a list of hardware (video, mouse, etc) that setup has detected. Do not change the settings.*
9.	Press **Enter** to continue. *You are prompted to insert the Windows NT Server CD-ROM.*

Insert Installation CD-ROM

1.	Insert the installation CD-ROM for Windows NT.
2.	Press **Enter** to continue. *You are prompted to specify a destination for the files to be installed. Create the C and D drive partitions as follows:*
3.	Select (using ↑↓ keys) the Unpartitioned Space line and press C to create a partition. You will be prompted to enter the size of the partition to create (by default, setup will enter the maximum available space to the partition).
4.	Use Backspace key to erase default amount 4044 and enter 502.
5.	Press **Enter** to continue. *You are returned to the previous selection screen.*
6.	Again, select the unpartitioned space and press C to create another partition. This partition will be 1502 in size.
7.	Press **Enter** to continue. *You are returned to the previous selection screen.*
8.	Select the C: (502MB) partition and press **Enter** to install Windows NT on that partition. *You are prompted to format the partition as either FAT or NTFS.*
9.	Select FAT (default) and press **Enter** to format the drive. *You are prompted to insert the Cheyenne Disaster Recovery Diskette.*

Insert Recovery Disk

1.	Insert the Cheyenne Disaster Recovery Disk (cheydr04.dsk image diskette).
2.	Press **Enter** to continue. *(File copy will now begin). You will be prompted when the file copy process completes to remove any diskette and CD-ROM from the drives.*
3.	Remove the Windows NT CD-ROM and the Cheyenne Disaster Recovery Diskette.

4.	Press **Enter** to reboot the server. (*The server reboots).* At this time, there should be a locally attached tape device installed with the current full backup of the system inserted in the drive. *The Cheyenne disaster recovery wizard is displayed (Figure 1).*  Figure 1. Cheyenne Disaster Recovery Wizard.
5.	Confirm that the current full backup tape is inserted into the tape drive.
6.	Click **Next** to continue. *The Tape device dialog is displayed (Figure 2).* This will show you all locally attached tape devices that were detected and any media that is in the device.  Figure 2. Cheyenne Recovery Wizard Showing System Tape Devices and Media.

7.	If the dialog shows the proper tape and device, click **Next** to continue. *The tape session dialog is displayed (Figure 3).*

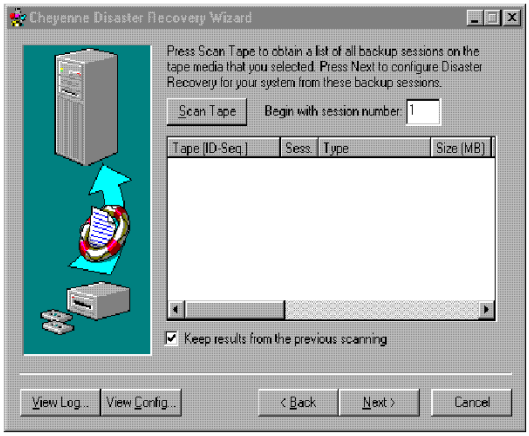


Figure 3. Wizard with Tape Session Dialog Displayed.

Scan Tape For Backup Sessions

1.	Click the scan tape button to scan the tape for all backup sessions. (This will take a few minutes).
2.	*After the scan Is complete, confirm that the correct sessions were detected (Figure 4).*

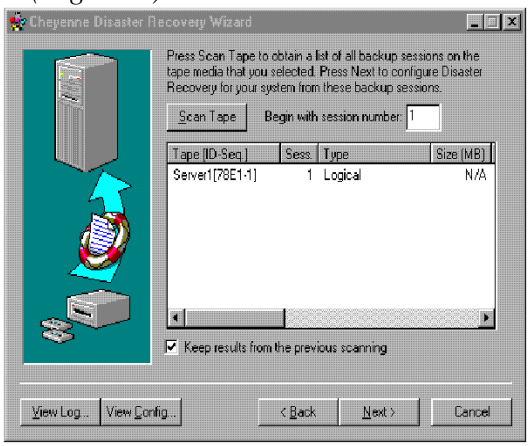


Figure 4. Wizard with Detected Session Displayed.

3.	Click **Next** to continue. *The session assignment dialog is displayed*. (The purpose of this dialog is to assign the detected backup sessions to the appropriate disk drive and then proceed with the restore process).
4.	Left-click on the (Unformatted 1502MB) partition to select it.

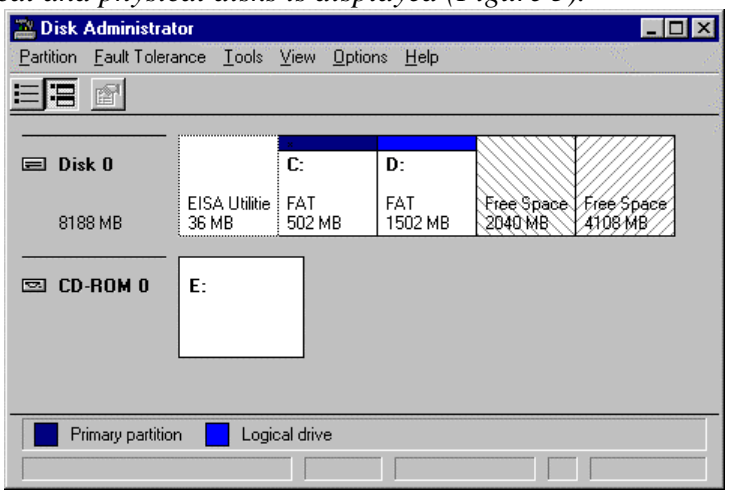
5.	Click the Drive Letter button. *The Drive Letter Assignment dialog is displayed.*
6.	Click Assign drive letter and select D.
7.	Click OK to continue. *You are returned to the session assignment dialog.*
8.	*Left*-click once on the C: partition (502MB) to select it.
9.	Next, click the **Assign** button. This will open the list of sessions that were found on the tape.
10.	Click on the backup session of the C drive to be restored.
11.	Click **OK** to continue. *You are returned to the session assignment dialog.*
12.	Left-click once on the D partition (1502MB) and click the **Assign** button.
13.	Left-click once on the backup session of the D drive that you want to restore.
14.	Click **OK** to continue. *You are returned to the session assignment dialog.*
15.	Click the **Next** button to continue. *The Start disaster recovery dialog is displayed.*

Start Disaster Recovery

1.	Click the **Start Disaster Recovery** button to begin the restore process. *A dialog is displayed stating that you need to restart the machine.*
2.	Click OK. (*The server will reboot*). After the reboot, the restore wizard automatically starts restore process. (*Wait patiently*).
3.	When the restore process completes, look for a message at the top in the restore wizard stating that the restore finished successfully.
4.	Click **Finish.** A dialog is displayed: *"If you restored Windows NT system to a partition which is physically different than the partition it was located originally, you need to modify the corresponding entries of boot.ini. Do you wish to modify it now?".*

5.	Click **Yes** to continue. Confirm that the **boot.ini** that is opened looks exactly as listed below (make changes accordingly): boot.ini file: [boot loader] timeout=5 default=multi(0)disk(0)rdisk(0)partition(4)\WINNT [operating systems] multi(0)disk(0)rdisk(0)partition(4)\WINNT="Windows NT Server Version 4.00" multi(0)disk(0)rdisk(0)partition(4)\WINNT="Windows NT Server Version 4.00 [VGA mode]" /basevideo /sos multi(0)disk(0)rdisk(0)partition(3)\WINNT="Disaster Recovery" multi(0)disk(0)rdisk(0)partition(3)\WINNT="Disaster Recovery [VGA mode]" /basevideo /sos C:\="MS-DOS"
6.	After reviewing the **boot.ini**, click **Save** to save the file *(even if changes have not been made).* *A dialog is displayed stating that the file was successfully saved.*
7.	Click **OK** to continue. (*The server will reboot*).
8.	When the server restarts, select the "**Disaster Recovery**" option from the boot menu and Press **Enter** to continue.
9.	Login to Windows NT with an administrative equivalent ID.

Create Volume Set

1.	From the Start Menu, select **Programs -> Administrative Tools (Common) -> Disk Administrator**. *A graphical view of the logical and physical disks is displayed (Figure 5).*  Figure 5. Logical and Physical Disk display.
2.	Press and hold the Ctrl key while clicking on both of the sections labeled "Free Space".

3.	Right click on the selected partitions and select "Create Volume Set" *A dialog is displayed prompting for the amount of disk space to allocate to the volume set (Figure 6).*

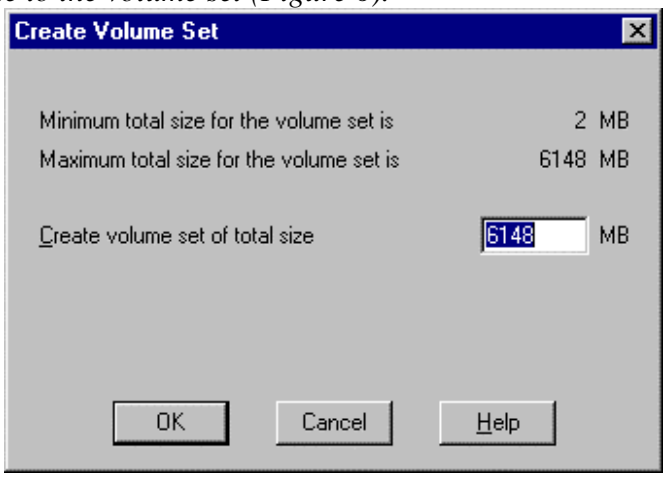


Figure 6. Create Volume Set Dialog.

4.	Accept "Create volume set of total size" default (all available disk space) and press **Enter** to continue.

Format Volume Set

1.	Right-click on the newly created volume set and click on the "Commit Changes Now" menu option. Three messages are displayed: The Confirm window (Figure 8) prompts you that the disk configuration has changed - click **Yes** to save the changes.

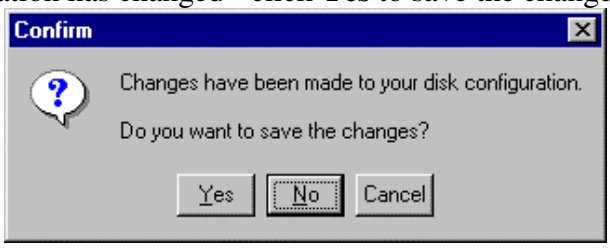


Figure 8. Confirm Window.

2.	The Disk Administrator message 1 (Figure 9) informs you that disks were updated successfully and you need to update the repair disk – click **OK**.

Figure 9. Disk Administrator Message 1.

3. The Disk Administrator Message 2 (Figure 10) informs you that the partition information has changed and you need to update the **boot.ini** file – click **OK**.

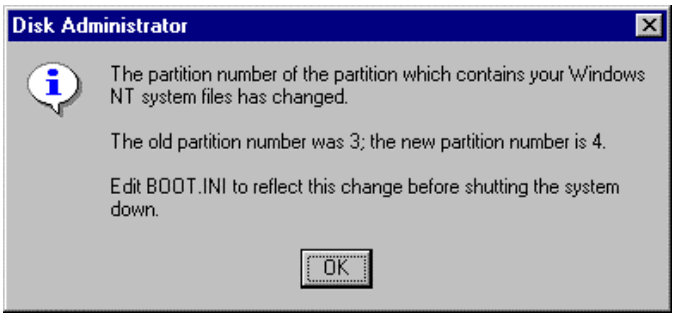


Figure 10. Disk Administrator Message 2.

Now the partition needs to be formatted.

4. Right-click on the **F**: to display popup menu (Figure 11).

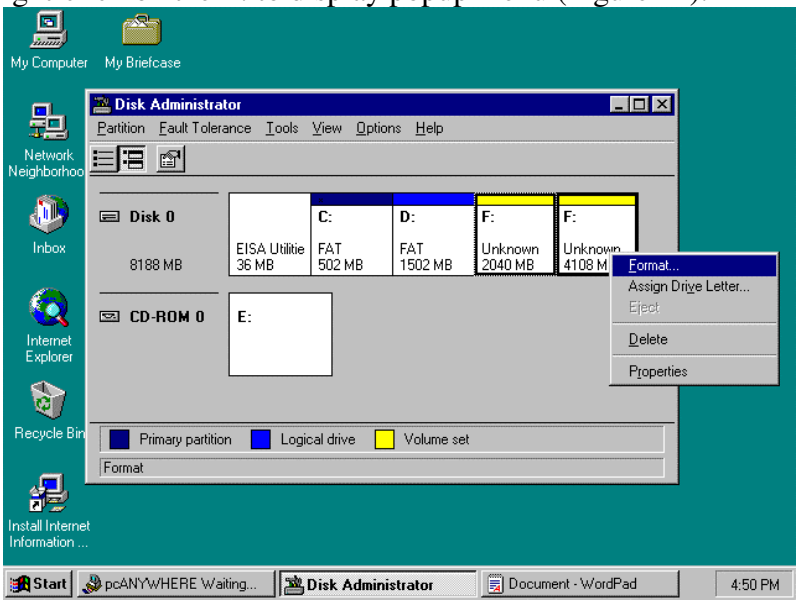


Figure 11. Disk Administrator Display with Popup Menu.

5.	Select the **Format** menu option. *The Format dialog is displayed (Figure 12).*

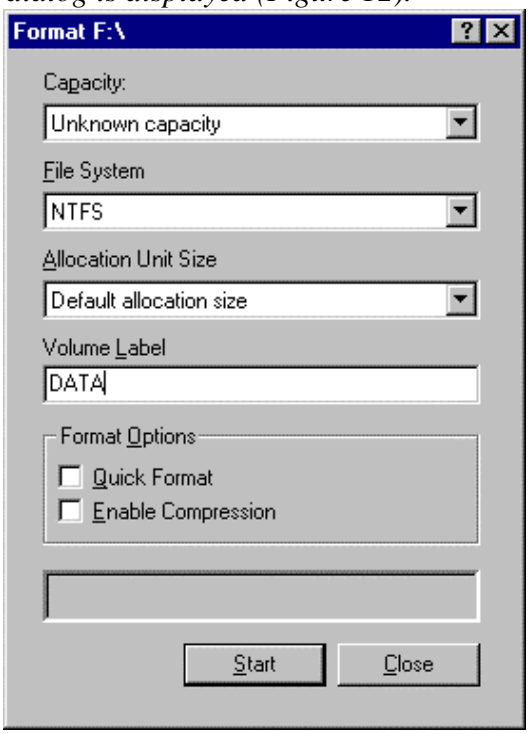


Figure 12. Format Dialog Display.

6.	Format the disk with the NTFS file system and enter DATA as the label name. NOTE: DO NOT Enable Compression!
7.	Click **Start**. A WARNING message is displayed.
8.	Click **OK**. After the format is complete, a dialog is displayed stating the format operation is complete.
9.	Click **Close** in the Format dialog box. *You are returned to the Disk Administrator window.*
10.	Close the Disk Administrator window. *You are returned to the Windows Desktop.*

Restore Data

1.	The data from the F drive needs to be restored to the partition. (This section assumes ARCserve 6.0 is installed – see later section for instructions on ARCserve 6.5).

2.	From the **Start Menu**, select **Programs** -> ARCserve for Windows NT -> ARCserve Manager. *The **Quick Access** menu is displayed (Figure 13).*

Figure 13. Quick Access Menu.

3.	Click on the **Restore** button. *The Restore manager window is displayed (Figure 14).*

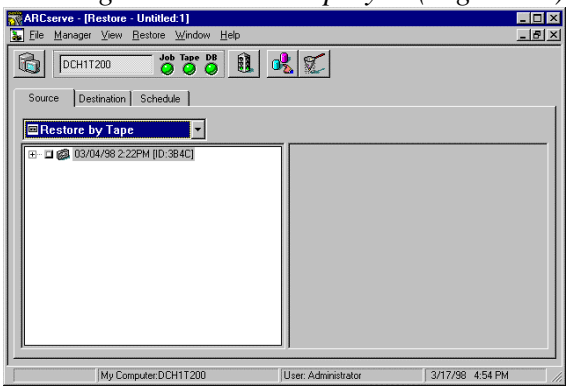


Figure 14. Restore Manager Window Source Tab.

4.	From the **Source** tab, change the restore from List to Restore by Tape.
5.	Click the **"+"** to expand the tape sessions on the selected tape as shown in Figure 15.

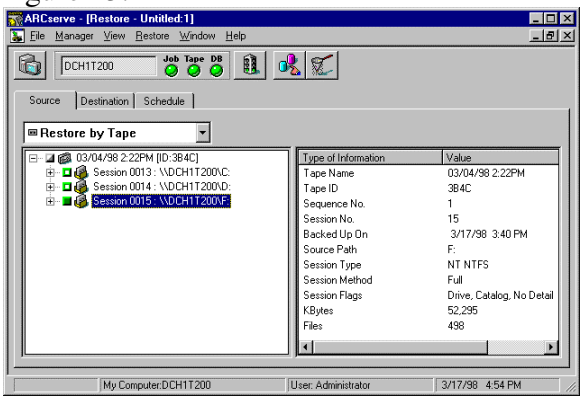


Figure 15. Restore Manager Window Tape Sessions.

6.	Click the green box next to the most recent session for the F drive that you want to restore.

7. Click the Destination tab (Figure 16). By default, the Restore files to their original location(s) should be checked (check it if it is not).

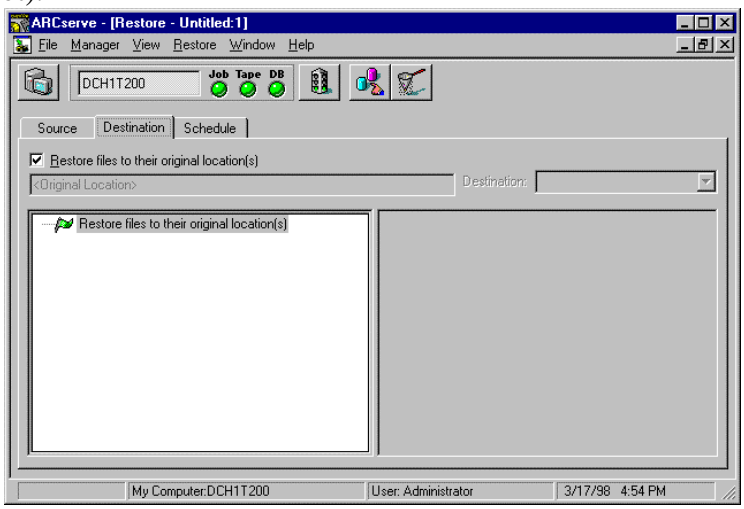


Figure 16. Restore Manager Window Destination Tab.

8. Click the Schedule tab. The default is **Run Now** is displayed.

9. From the **Restore** menu, select **Run/Schedule**. The session user name and password dialog is displayed (Figure 17).

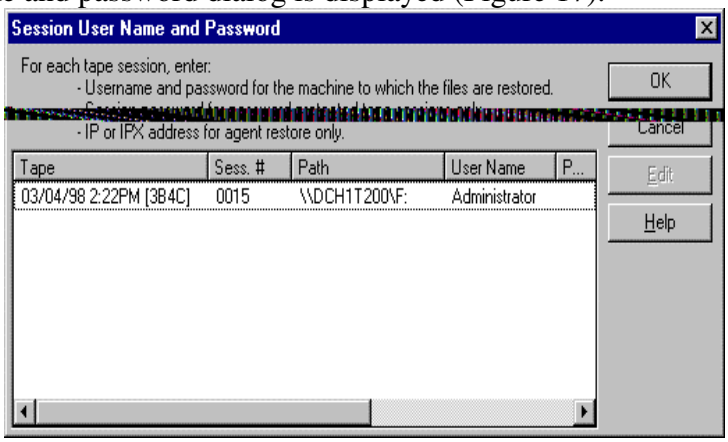


Figure 17. Session User Name and Password.

- If you are logged on as an Administrator equivalent, you will not need to change any information – click **OK** to continue.
- If you are not logged on as an Administrator equivalent, click the session to select it and click **Edit**. A dialog will appear, prompting you to enter a user name and password.

10.	A summary dialog is displayed (Figure 18).

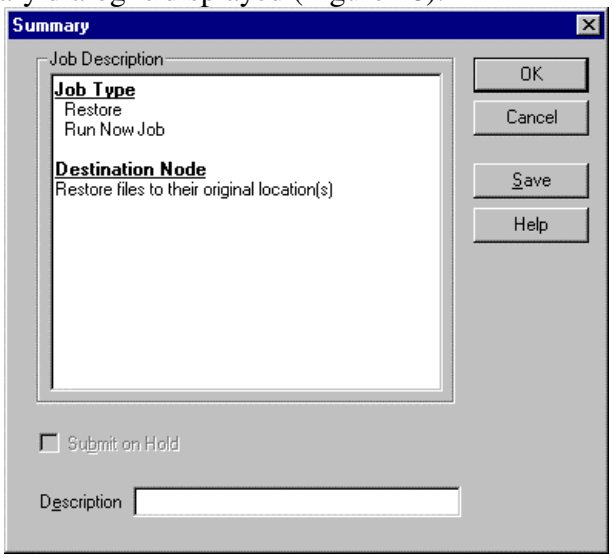


Figure 18. Summary Dialog.

11.	Click **OK** to continue if all the information is correct. The Restore process will begin. (Figure 19).

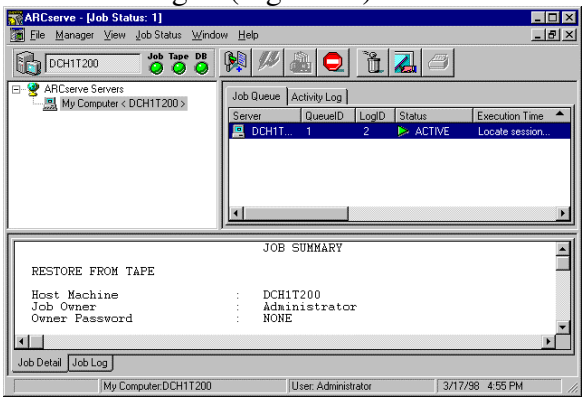


Figure 19. Job Status Window

12.	After the restore has completed, a Job Status Window is displayed with the status of the restore job indicated (Figure 20).

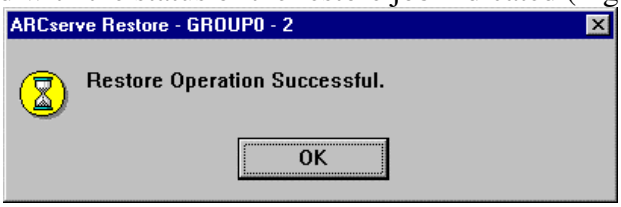


Figure 20. Restore Operation Successful Window.

13.	Close ARCserve.
14.	From the **Start** Menu, select **Shutdown -> Restart the computer.**
15.	Click **OK** to complete the restore process.