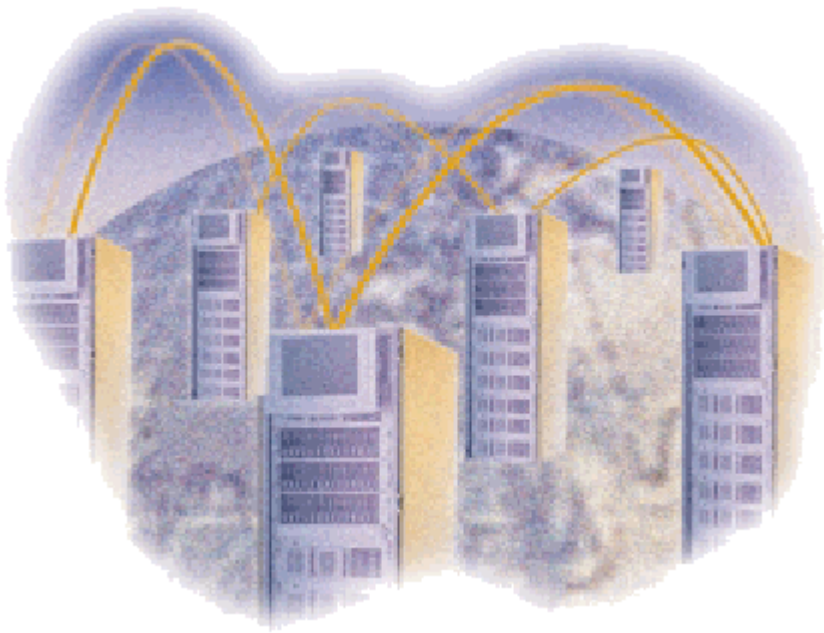




High Availability for Windows 2000/NT Print Servers



High Availability for Windows 2000/NT Print Servers published April 2002

NSI and Double-Take are registered trademarks of Network Specialists Inc. All other products are trademarks of their respective companies. © 1996–2002 NSI Software

Table of Contents

Introduction	1
Requirements	1
Naming Conventions	1
Install Software on the Source and Target	2
Configure Failover and Begin Failure Monitoring	2
Monitoring failover	6
Restoring Your Print Server	7

Introduction

This document describes the steps necessary to configure Double-Take for Windows 2000/NT to provide high availability for print servers. Once this configuration is complete, should a disaster happen to the primary server, the secondary server will automatically failover using Double-Take and the printer server will remain available through the network.

To complete these instructions, you will install and configure Double-Take for replication and failover. Due to the complexities of this application and print servers, this document is intended for network administrators with experience installing, configuring, and maintaining network applications including Double-Take.

Requirements

- ◆ Two servers that meet one of the following operating system requirements:
 - ◆ Microsoft Windows NT 4.0 with Service Pack 4 or higher
 - ◆ Microsoft Windows 2000

NOTE: The two servers should both be running the same operating system. Although cross-platform mirroring and replication are available, NSI Software recommends that the two servers be the same platform for effective failover and failback.

- ◆ Two licensed copies of Double-Take 3.x or later
- ◆ One printer configured and shared on both the production and backup machines
- ◆ The Double-Take Chngname utility

NOTE: The Chngname.exe utility is available on the NSI Software web site at www.nsisoftware.com/updates/chngname.htm.

Naming Conventions

Double-Take for Windows provides failover capabilities for multiple source servers to be monitored by and failed over to a single target server. When a source server fails, Double-Take causes the target server to add the failed server's name and IP address. For most applications, this provides nearly instantaneous failover, with no need to reboot the target server, and it allows server-based applications already running on the target server to continue without interruption. When Double-Take performs failover by adding the failed servers' name to the existing name of the target this is known as multi-naming since the target machine is actually using multiple names on the network and responding for multiple IP address.

Unlike most client-server applications, the print spooler service is sensitive to the primary name of the server on which it is running. With the Double-Take Chngname.exe utility, you are provided the ability to temporarily replace the primary name on the target to make failover of name sensitive services such as print servers possible. Since the print spooler service will only respond to one NetBIOS name after it is started, the target server can only stand in for one source at a time.

Install Software on the Source and Target

1. Install Double-Take on the source machine using the installation defaults. See the Double-Take *Getting Started* guide for details.
2. Configure and share the network printer on the source machine.
3. Install Double-Take on the target machine using the same installation defaults.
4. Configure and share the network printer on the target machine using the same settings as the source machine.

NOTE: You can use the Print Migrator tool in the Microsoft Resource Kit to simplify the process on the target. See Microsoft Knowledge Base article Q214795 for details on Windows NT or article Q275529 for details on Windows 2000.

Configure Failover and Begin Failure Monitoring

1. If a failure occurs, you will want to have the print spooler start on the target machine automatically. To do this, create a batch file called `postover.bat` using the sample batch file below. Save the batch file to the same directory where your Double-Take files are installed.

POSTOVER.BAT

```
rem This command stops the spooler service so that the active server name of the target
rem machine can be changed.
net stop spooler

rem This command delays script processing so that the stop spooler command can be
rem completed. This command is available from the Windows 2000/NT Resource Kit. If you
rem do not have the Resource Kit, you will need to determine another method to delay
rem script processing. This command as executed below will wait for 60 seconds before
rem continuing. You may need to modify the length of time depending on the speed of your
rem print spooler.
sleep 60

rem This command temporarily changes the name of the server. You will need to replace
rem <drive>:\<directory>\ with the location of your Double-Take script files and replace
rem source_name with the name of the source machine. The Chngname utility should be
rem located in the same directory as the Double-Take script files.
<drive>\<directory>\chngname /s source_name

rem This command restarts the spooler service with the name of the source machine.
net start spooler
```

2. After a failure is resolved, you will be ready to bring your source back online. At this time, you will want to stop the print spooler on the target automatically. To do this, create a batch file called `preback.bat` using the sample batch file below. Save the batch file to the same directory where your Double-Take files are installed.

PREBACK.BAT

```
rem This command stops the spooler since it is currently using the source machine's name.
net stop spooler

rem This command delays script processing so that the stop spooler command can be
rem completed. This command is available from the Windows 2000/NT Resource Kit. If you
rem do not have the Resource Kit, you will need to determine another method to delay
rem script processing. This command as executed below will wait for 60 seconds before
rem continuing. You may need to modify the length of time depending on the speed of your
rem print spooler.
sleep 60

rem This command changes the target name back to its original name so that other network
rem applications are not impacted. You will need to replace <drive>:\<directory>\ with
rem the location of your Double-Take script files. The Chngname utility should be located
rem in the same directory as the Double-Take script files.
<drive>\<directory>\chngname /t

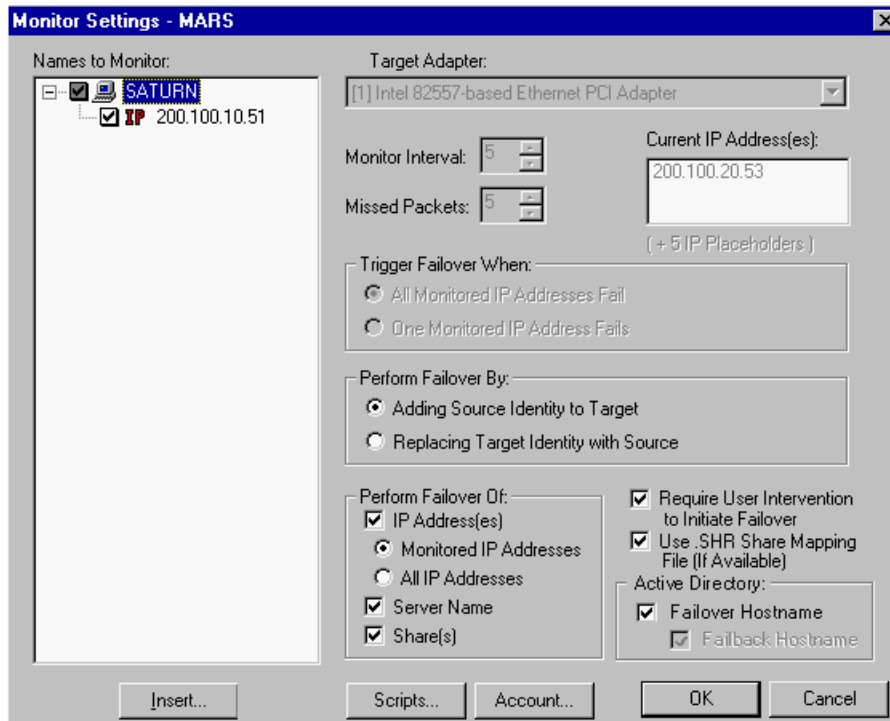
rem This command starts the spooler using the target machine name.
net start spooler
```

NOTE: The Chngname.exe utility is available on the NSI Software web site at www.nsisoftware.com/updates/chngname.htm.

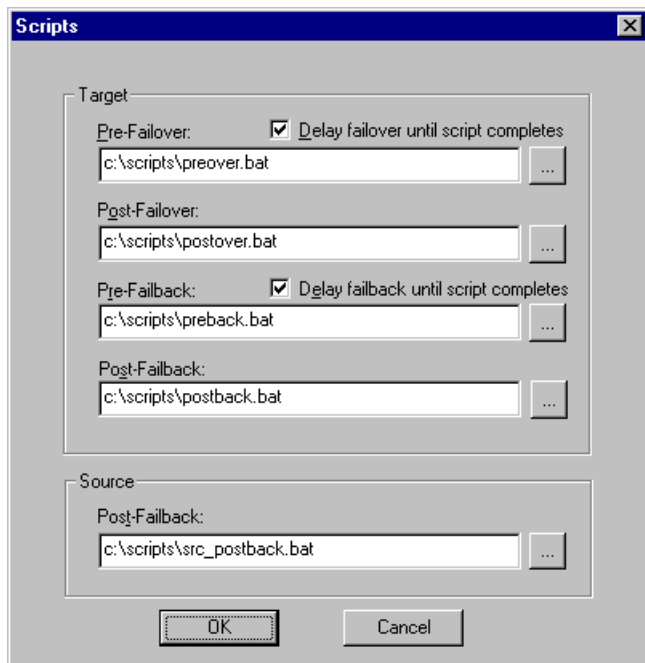
The sample batch files are available on the NSI Software web site at www.nsisoftware.com/download/prntscrp.exe.

3. Select **Start, Programs, Double-Take, Failover Control Center**.
4. Select the target machine from the list of available machines. If the target you need is not displayed, click **Add Target**, enter the machine name, and click **OK**.
5. To add a monitor for the selected target, click **Add Monitor**. Type the name of the source machine and click **OK**. The Monitor Settings window will open.

6. In the Monitor Settings window, mark the IP address that is going to failover and verify that the option **Adding Source Identity to Target**, is selected.



-
7. Click **Scripts** and specify the scripts that were created above.



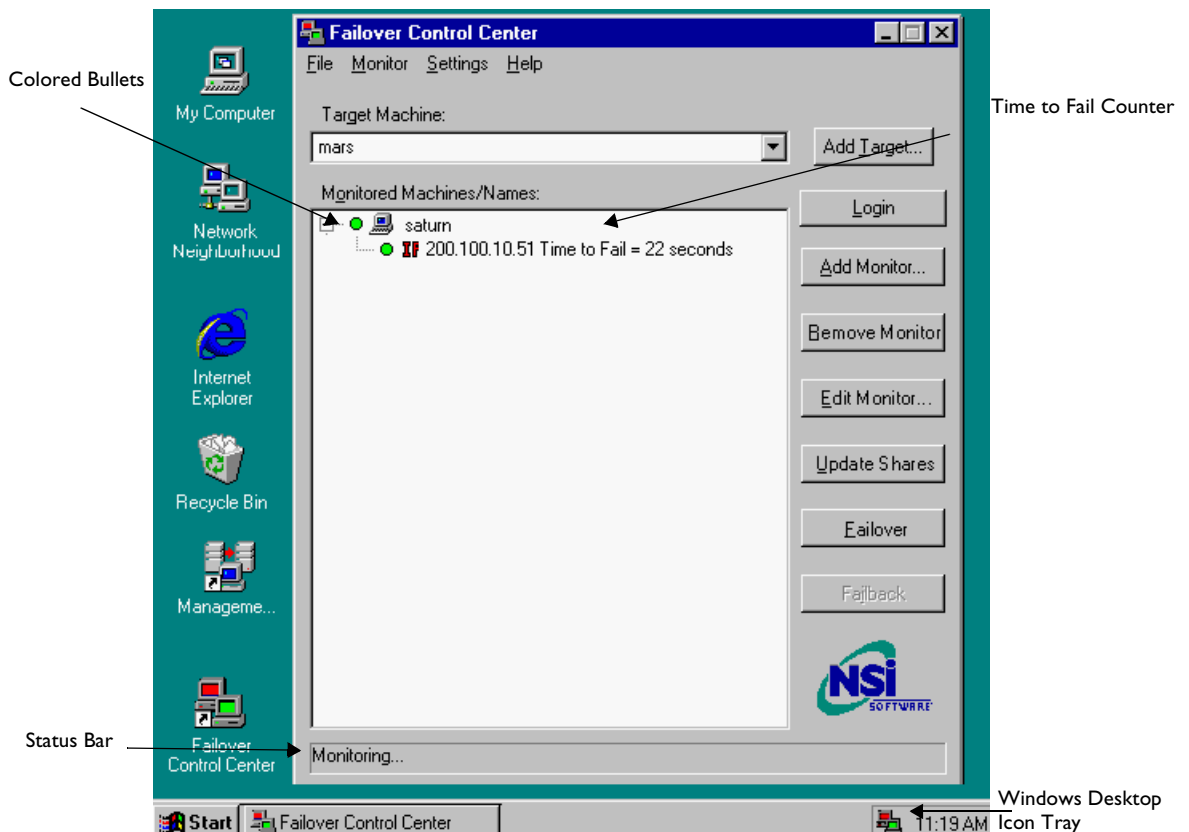
8. Click **OK** to go back to the Monitor Settings dialog box.
9. Click **OK** to begin monitoring the source machine.

In the event of a source machine failure, your target will stand in for the source and your print server is now completely protected.

Monitoring failover

Now that replication and failover monitoring are configured and started, you will need to know if and when there is a problem. Since it can be essential to quickly know the status of your machines, Double-Take offers various methods for monitoring the status of failover. When the Failover Control Center is running, you will see four visual indicators:

- ◆ The Failover Control Center Time to Fail counter
- ◆ The Failover Control Center status bar located at the bottom of the window
- ◆ The Failover Control Center colored bullets to the left of each IP address and source machine
- ◆ The Windows desktop icon tray containing a failover icon



NOTE: You can minimize the Failover Control Center and, although it will not appear in your Windows taskbar, it will still be active and the failover icon will still appear in the desktop icon tray.

The Failover Control Center does not have to be running for failover to occur.

Restoring Your Print Server

If the source experiences a failure, such as a power, network, or disk failure, your target machine will stand in for the source while you resolve the source machine issues.

1. Verify that your source machine is not connected to the network. If it is, disconnect it.
2. Resolve the source machine problem that caused the failure.

NOTE: If you must rebuild your hard drive, continue with step 3. If you do not need to rebuild your hard drive, continue with step 7 below.

3. Install Windows 2000/NT. Since your source machine is not connected to the network, go ahead and use the source's original name and IP address.
4. Install Double-Take using the installation defaults.
5. Install the print server and configure it exactly as before.
6. Select **Start, Programs, Double-Take, Failover Control Center**.
7. Select the target machine that is currently standing in for the failed source and login.
8. Select the failed source and click **Failback**.
9. You will be prompted to determine if you want to continue monitoring the source server. Do not choose **Continue** or **Stop** at this time.
10. Connect the source machine to the network.

If you selected to continue failover monitoring, the target is available to stand in for the source in the event of a failure.