

ST-0122 October 9, 2006

Double-Take – ShoreWare Director Failover Configuration

The first step to deploying IP telephony in a secure manner is to follow the best practices in secure network design, and in today's world, this demands more than just a firewall between the LAN and the internet. Enterprises must design their network from the ground up with security in mind. Only with this solid footing can IP telephony be added to the network in a safe, secure manner.

Overview

Double-Take provides ShoreTel with the ability to have one active ShoreWare Server and another as a hot standby.

Software Versions

Double-Take: 4.4.1.0 Build: 4.4.0.1352.5
ShoreTel 5 Release 1.2 to ShoreTel 6.1

ShoreTel 6.1 Licensing

Customers running redundant servers leveraging Double-Take when they upgrade to 6.1 (with tighter license control), Will need to request a duplicate set of Feature Keys and System keys for the 2nd server. This is new with ShoreTel 6.1 since keys are now locked to the MAC address of the servers.

Process a customer/partner needs to request System keys for both systems (Primary and Backup). Order Management will issue a full set of keys for the 2nd server.

Configuration

Note: Two terms which are mentioned throughout this document are Source and Source is mentioned we are talking about the "Primary" server. Target represents the "Backup" server.

Build Two Windows Servers

- Both systems must have all the required software for ShoreWare Director.
 - It's important that both servers be on the same network (Broadcast Domain). Example: 10.1.1.x / 255.255.255.0 contact your network administrator for further assistance if needed.
- Install ShoreWare Director Software on both systems.

Note: Must be same version of software!

 - On the "Target" system make sure all ShoreWare

"Services" are set to "Manual".

- Install Double-Take software on both the "Source" and "Target" servers. Follow the instructions for the initial installation from Double-Take.
 - Normally just accepting defaults during install should be okay.
 - Reboot .

Double-Take Management Console "Base Setup"

- Launch management console for both "Target" and "Source" system.
- During initial launch of management console a prompt saying "Welcome to Double-Take" will be presented. Simply click "Cancel" (Figure 1).

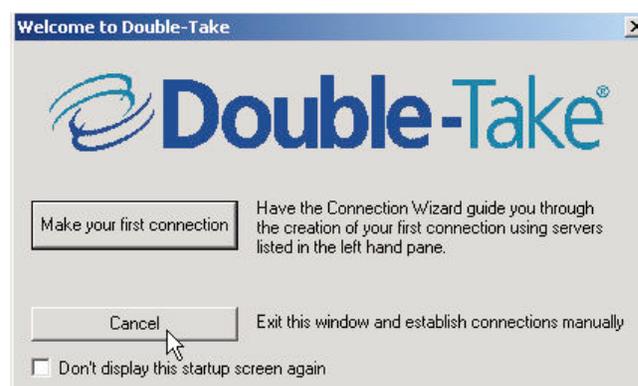


Figure 1

- Management Console "Options Configuration"
 - From management console click "File | Options" (Figure 2)



Figure 2

b. From the "Management Console Options" window make sure the tab for "Configuration" is selected (Figure 3)

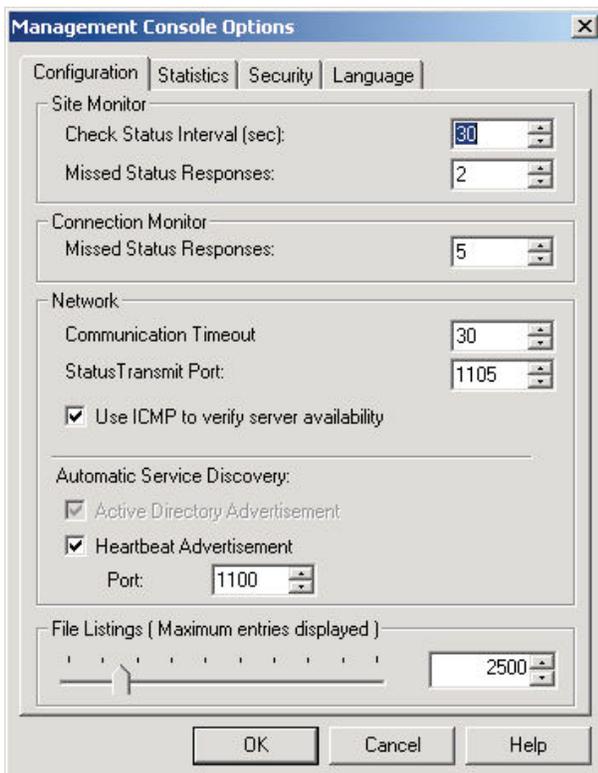


Figure 3

c. Go to the "Network" area and change the "Status Transmit Port" value to 8005 (Figure 4).

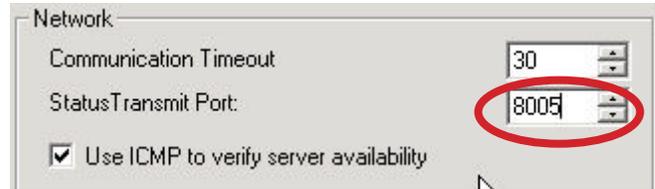


Figure 4

d. Next go to "Automatic Service Discovery" and make sure "Heartbeat Advertisement" is checked and the port used is 8000 (Figure 5).



Figure 5

4. Management Console "Failover Control Center"

a. From the Double-Take Management Console select "Tools | Failover Control Center..." (Figure 6)

5. Click "OK" to complete.

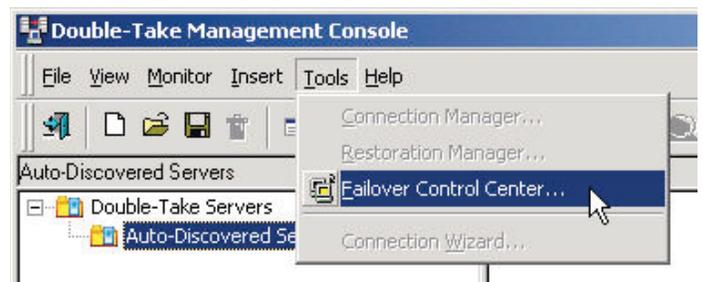


Figure 6

a. From Failover Control Center click "Settings | Communications..." (Figure 7).

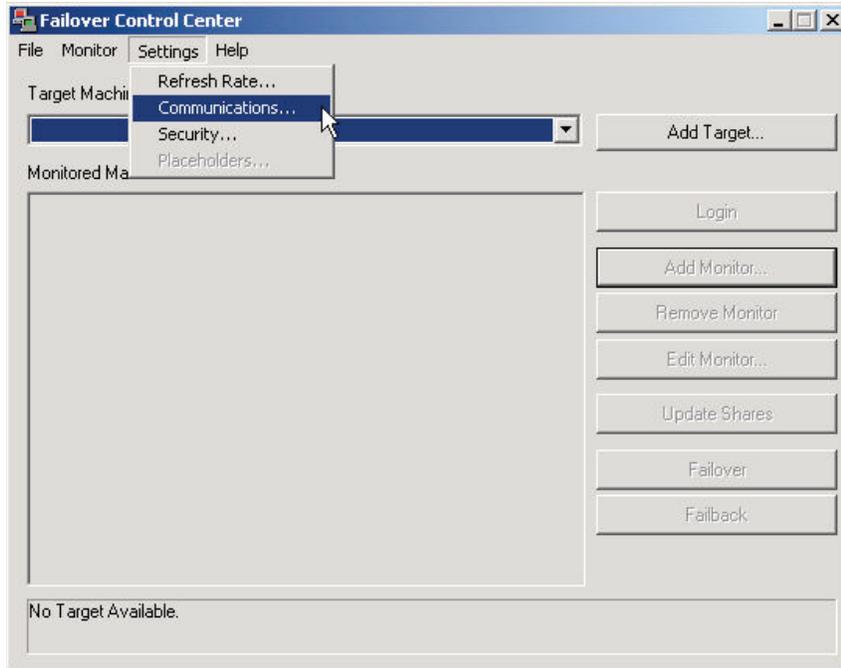


Figure 7

b. The "Set Communications Parameters" window will be displayed. Change the Service and Heartbeat ports both to "8000" (Figure 8) followed by clicking "OK".

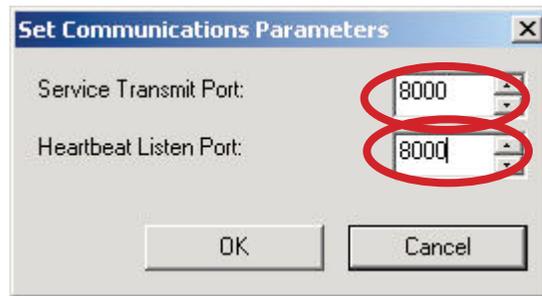


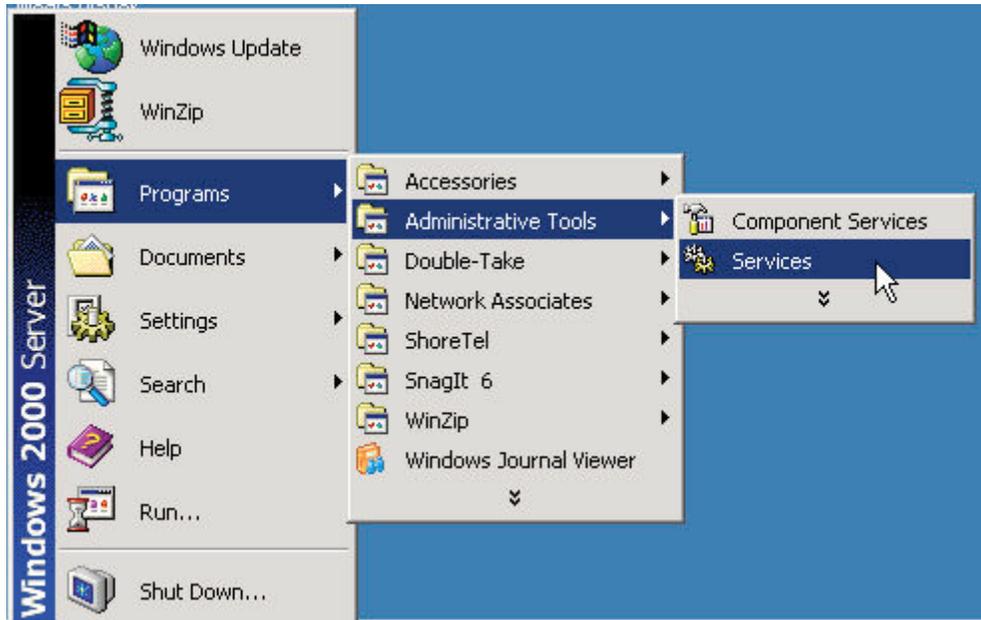
Figure 8

c. At this point all windows on both the "Source" and "Target" should be closed with the exception of the "Double-Take Management Console".

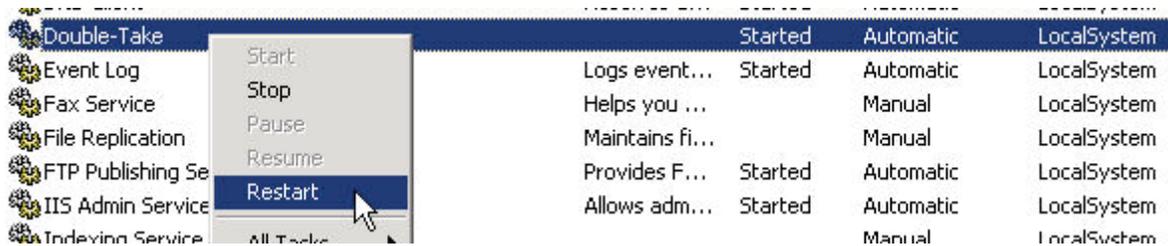
Windows Server "Services" Configuration

Open "Services" for both the "Target" and "Source" windows server:

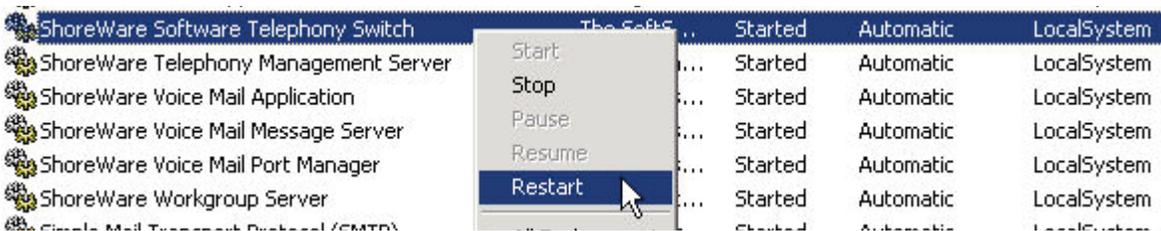
- a. Normally done by clicking "Start | Programs | Administrative Tools and then Services".



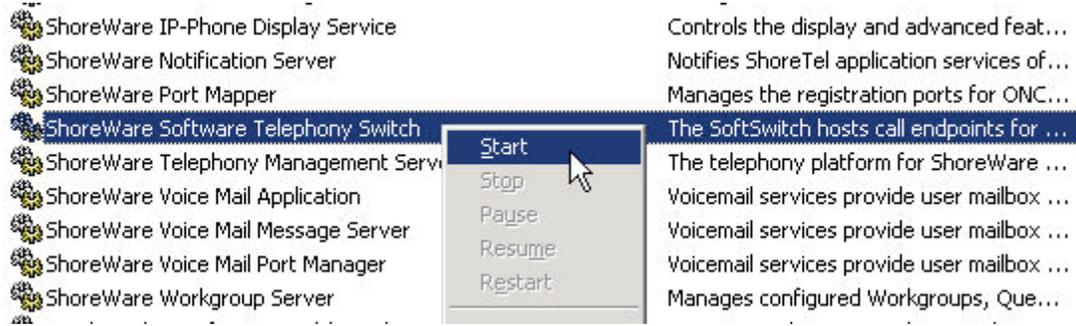
1. Restart Double-Take Service on "Source" system.



2. Restart ShoreWare Software Telephone Software on "Source" system.



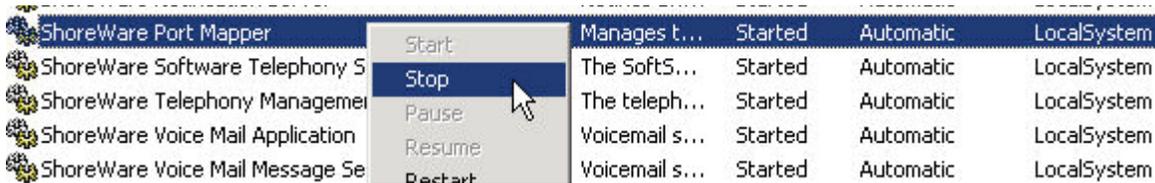
3. Start ShoreWare Software Telephony Switch on the "Target" system.



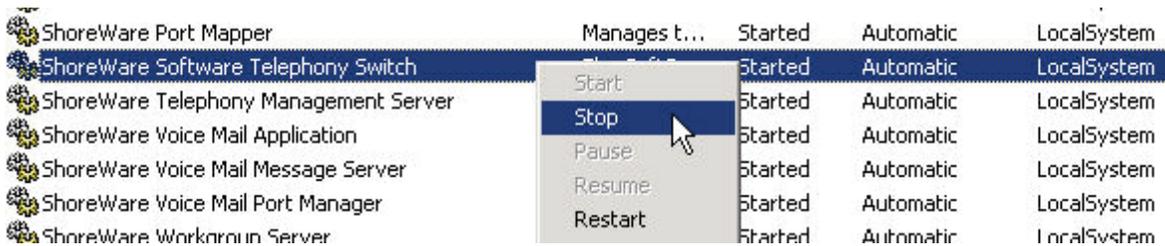
4. Restart Double-Take service on "Target" system.



5. Stop the ShoreWare Port Mapper service on "Target" system.

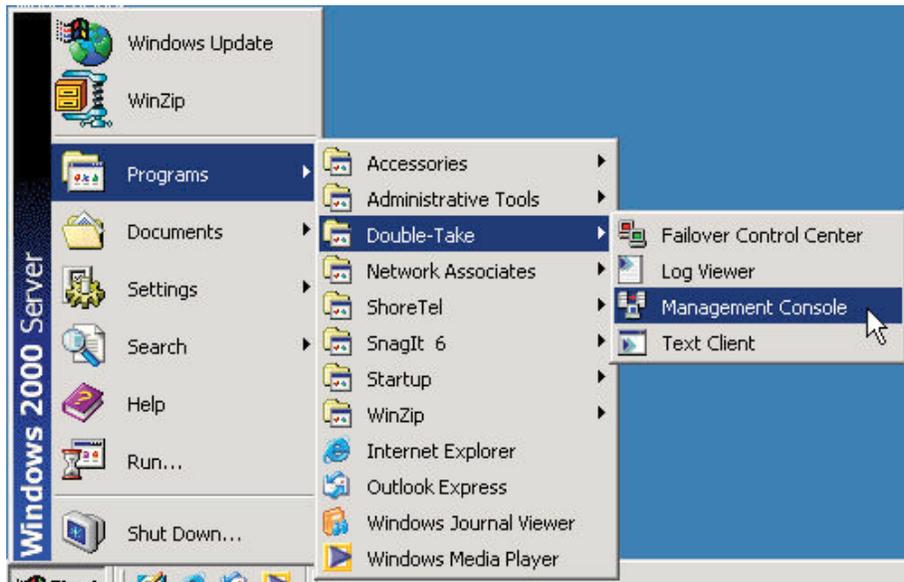


6. Stop the ShoreWare Software Telephony Switch on "Target" system.



Double-Take Management Console "Main Configuration"

Launch Double-Take Management Console, select the following "Start | Programs | Double-Take" followed by "Management Console".

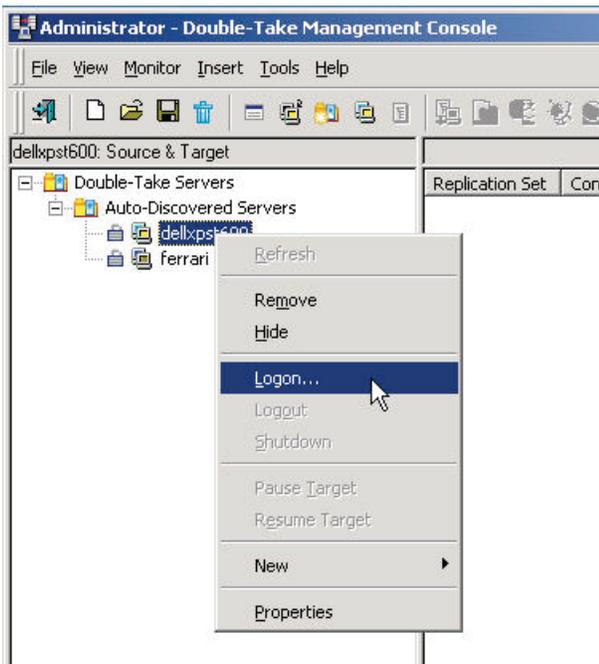


Note Repeat steps 1 – 4 for both the "Source" and "Target" systems.

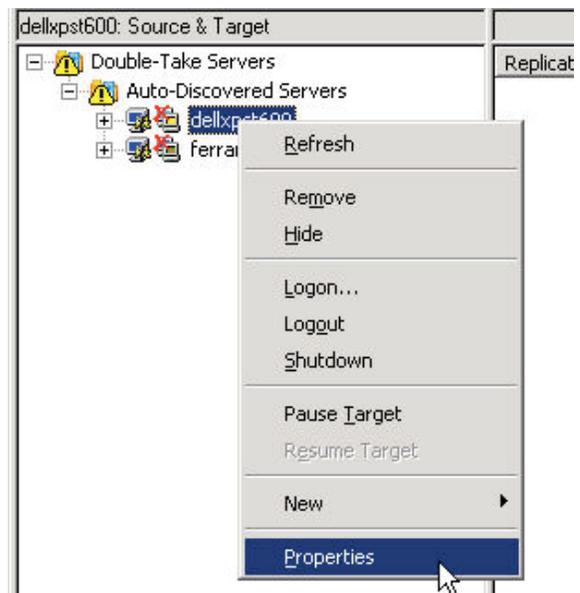
1. Right click on server being modified (Source or Target) and click "Logon...".



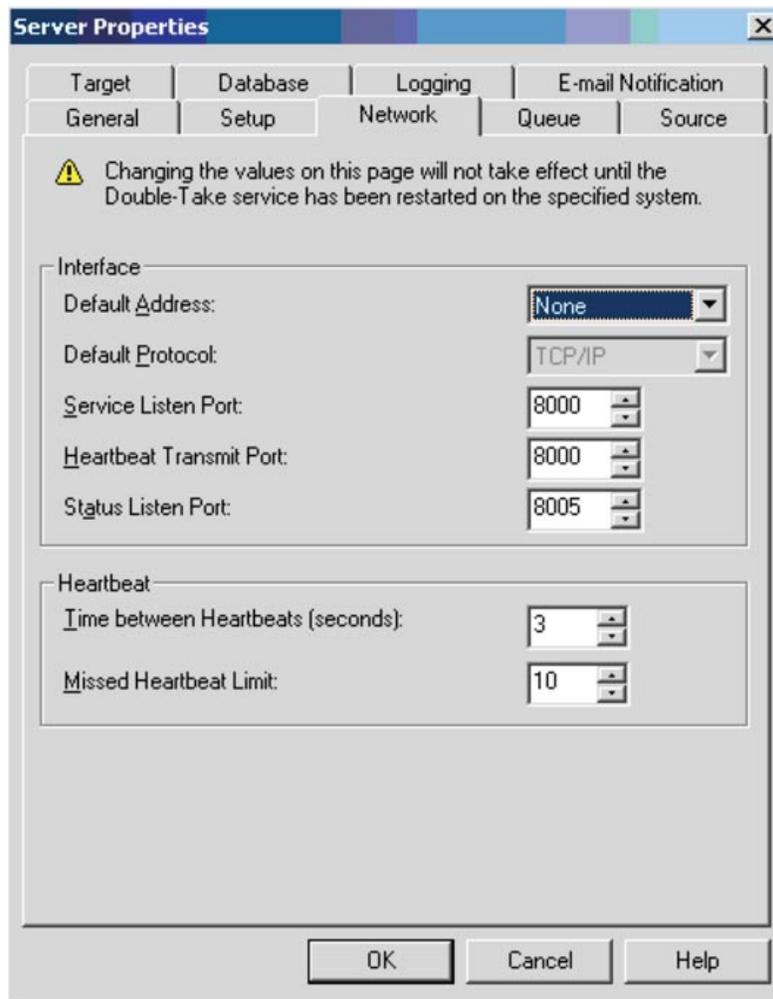
3. Right click on the server name and select "Properties"



2. Logon prompt will be presented, complete login.

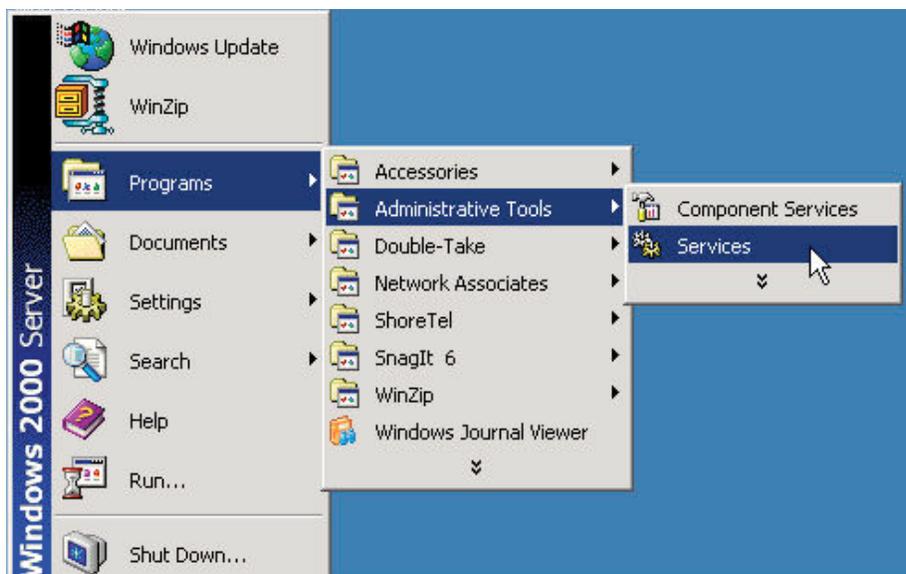


4. "Server Properties" window will be presented, click on the tab named "Network" and change the "Status Listen Port" to "8005". Next click "OK".



Open "Services" for both the "Target" and "Source" windows server:

1. Normally done by clicking "Start | Programs | Administrative Tools and then Services".

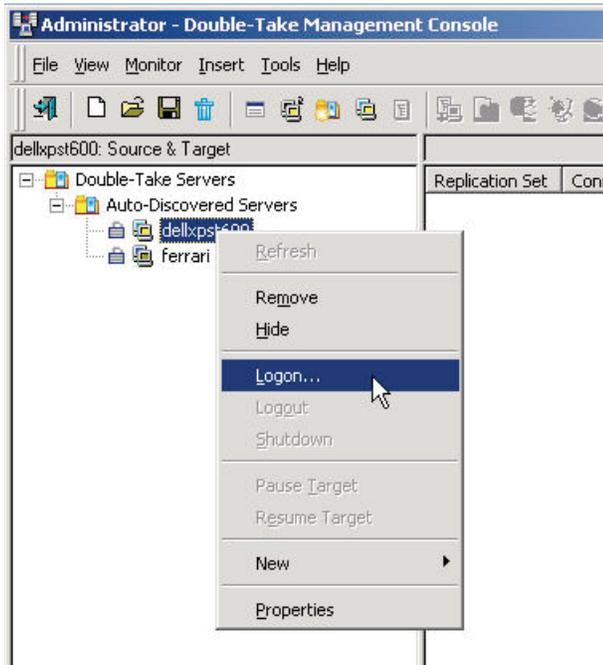


2. Restart Double-Take and ShoreWare SoftSwitch service for both the "Target" and "Source" servers.

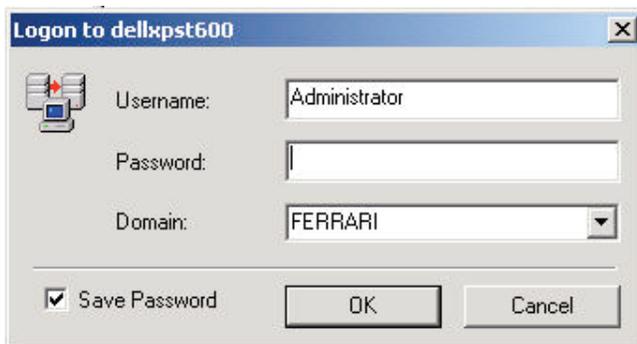
Replication Setup

From the "Double-Take Management Console".

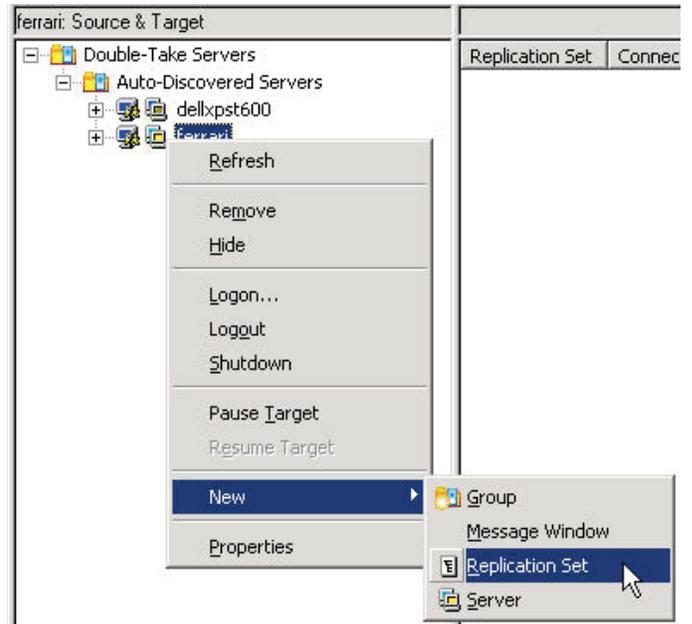
1. Right click on "Source" server and click "Logon...".



2. Logon prompt will be presented, complete login.



3. On the "Source" server right click and select "New" and then "Replication Set"



4. Give the replication set a "name"

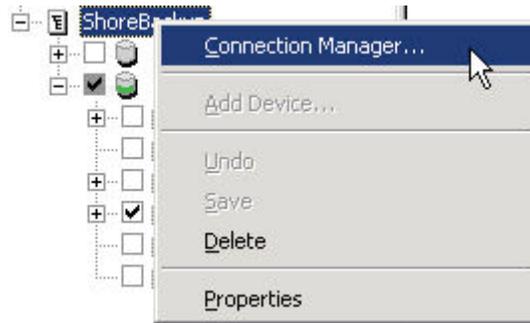
5. Select the "Shoreline Data" (<drive letter>\Shoreline data) file from the "Source" system. Check the box for the folder.



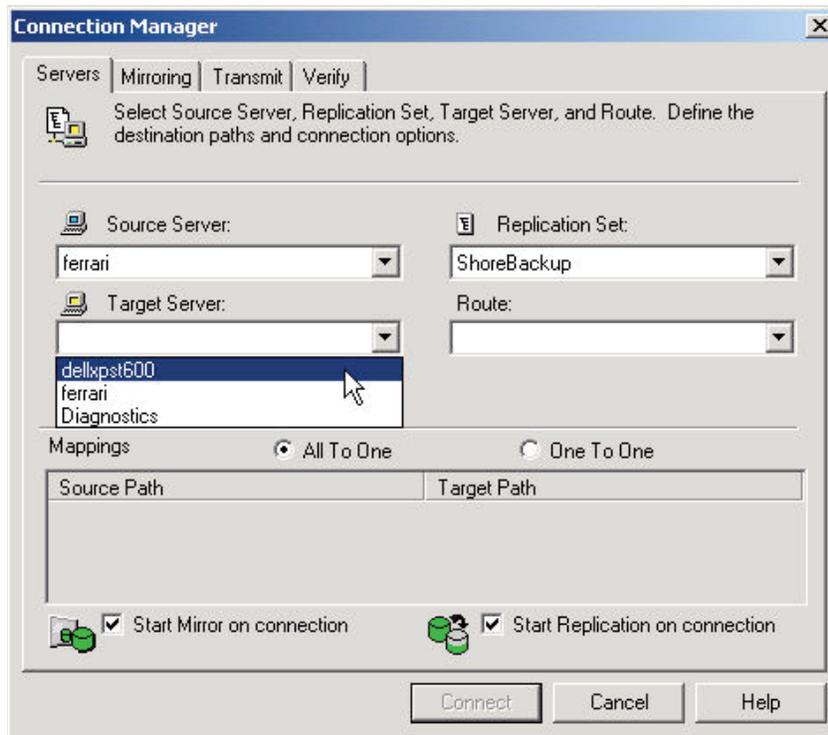
6. Right click the replication set and select "save".



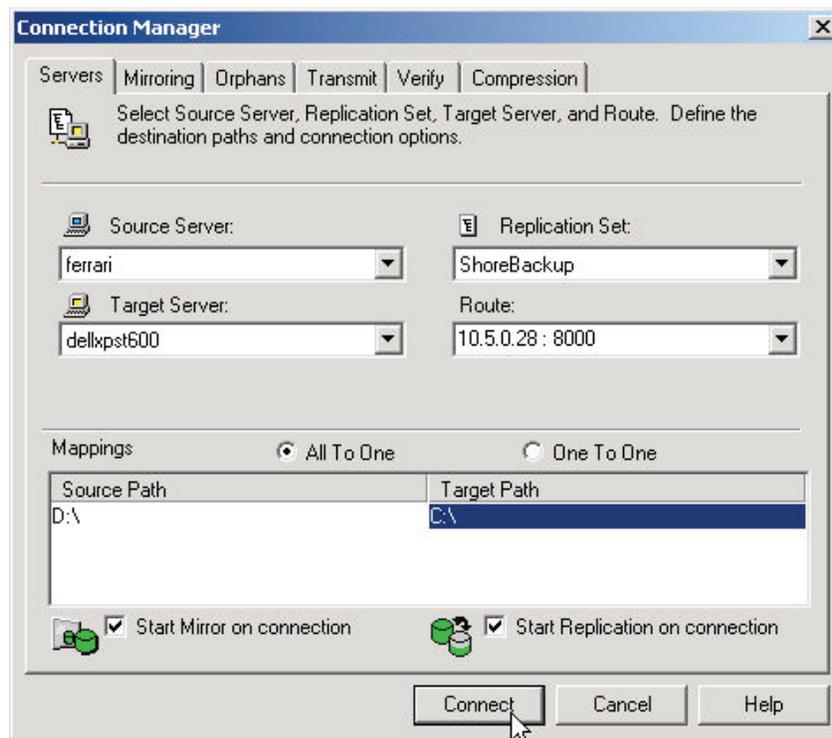
7. Select the "Replication Set" again and select "Connection Manager..."



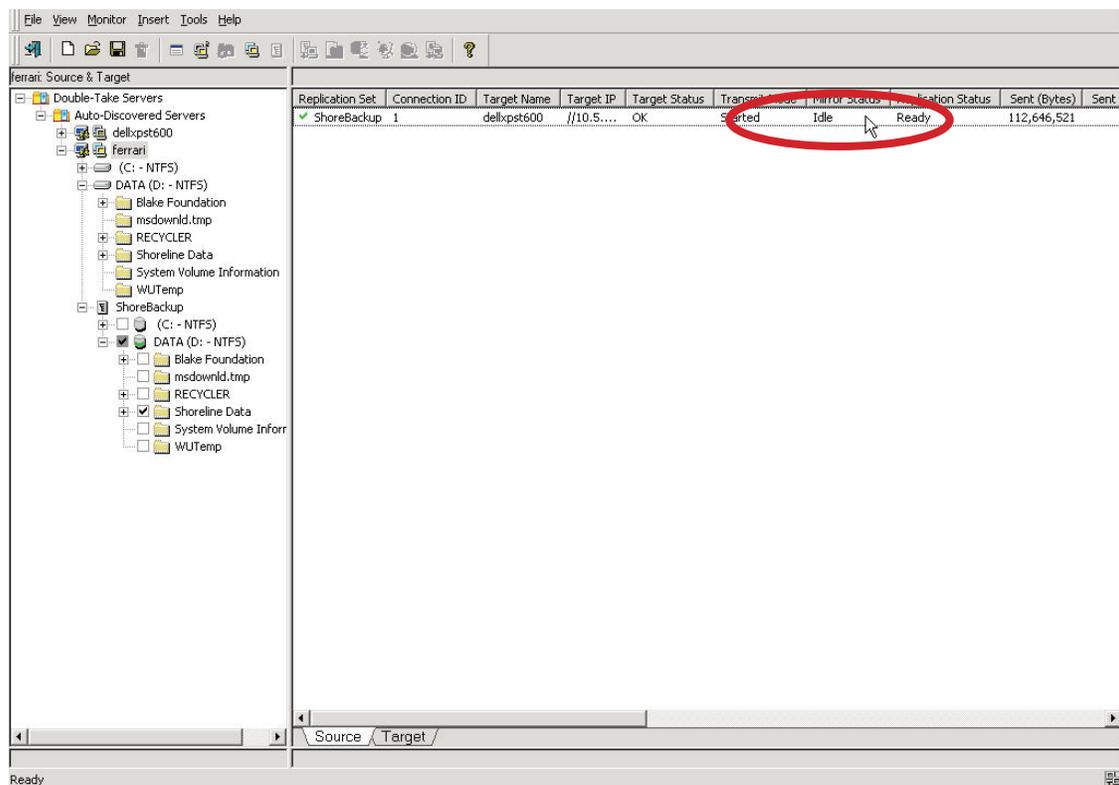
8. The new window will display the "Connection Manager". Choose the "Servers" tab.
- a. Select the "Source Server" from the drop down.
 - b. Select the "Target Server" from the drop down.



9. Once complete the mappings will show the path to both the "Source" and "Target" system. And click "Connect". **Note:** Must select "root" of directory for where "Shoreline Data" file is located.



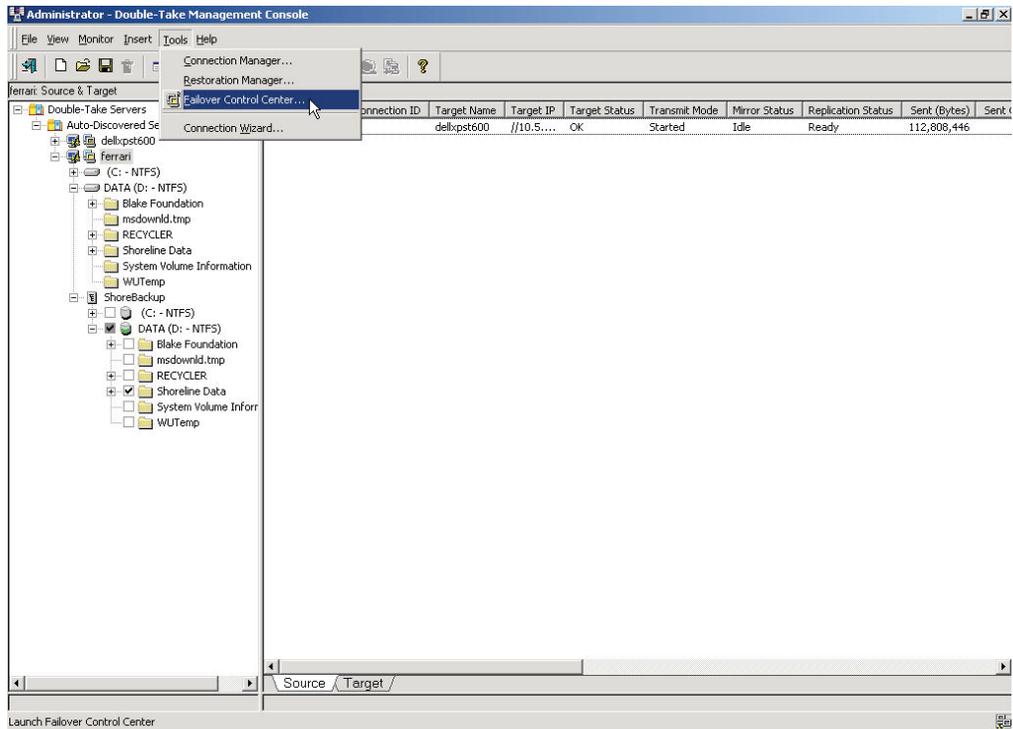
10. Management Console will now display the information on the "replication set" for both the "Source" and "Target". Wait for the "mirror status" to complete and state "idle or 100%"



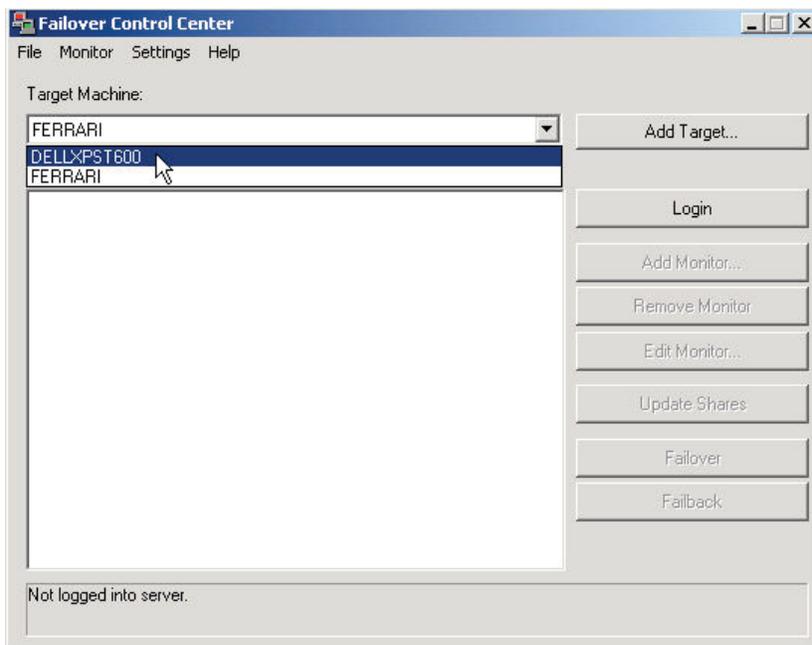
11. Verify mirroring by opening “Windows Explorer” for both the “Source” and “Target” system. Next compare data files such as call records or shoreware.mdb. Look at the size and date type information. The files should have the same information.

Setting up “Failover Scripts”

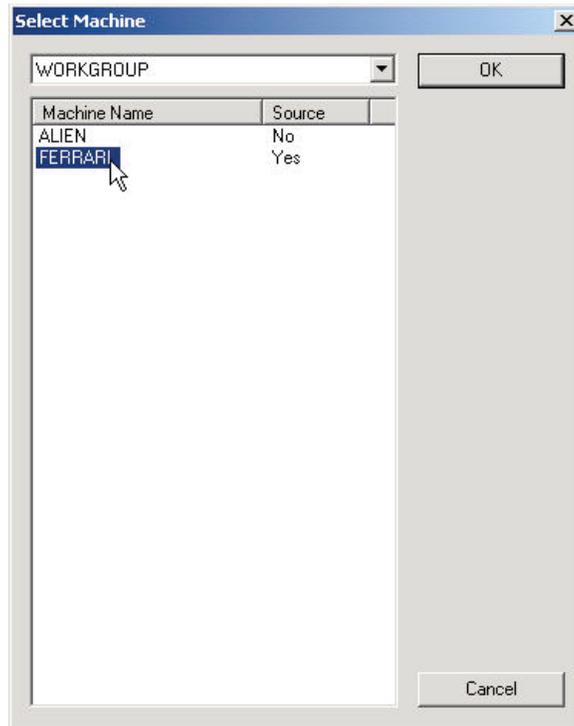
1. From the Management Console of Double-Take select “Tools | Failover Control Center”



2. Select the “Target” machine from the drop down.
 - a. Click “Login” and complete
 - b. Then click “Add Monitor...”



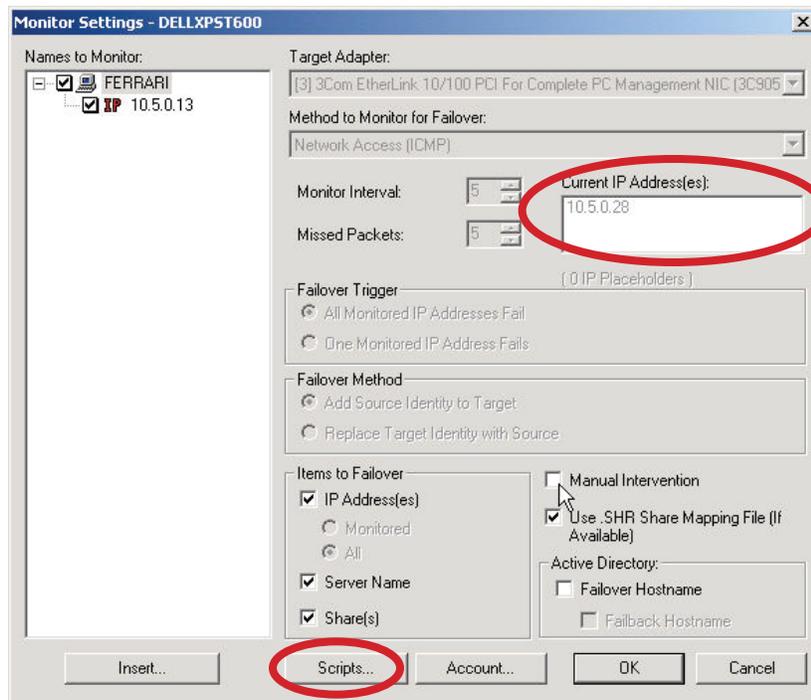
3. From the "Select Machine" window click on the "Source" server.



4. From the "Monitor Settings" page confirm the following:

- a. "Items to failover" are checked for IP Address, Server Name and Shares
- b. Manual Intervention is unchecked Note: Not required by ShoreTel

Note: Make sure the "Current IP Address" field displays current Target server IP address. If blank or incorrect IP Address "highlight" the IP address field in "Names to Monitor" and click "Target Adapter" drop down and select the correct adapter!



5. Create a text file on the target server called "startservices.bat".

a. Content for "startservices.bat"

```
rem ***Startup script for DoubleTake failover process***
rem ***This script starts all ShoreTel services as part of the DDoubleTake failover process***

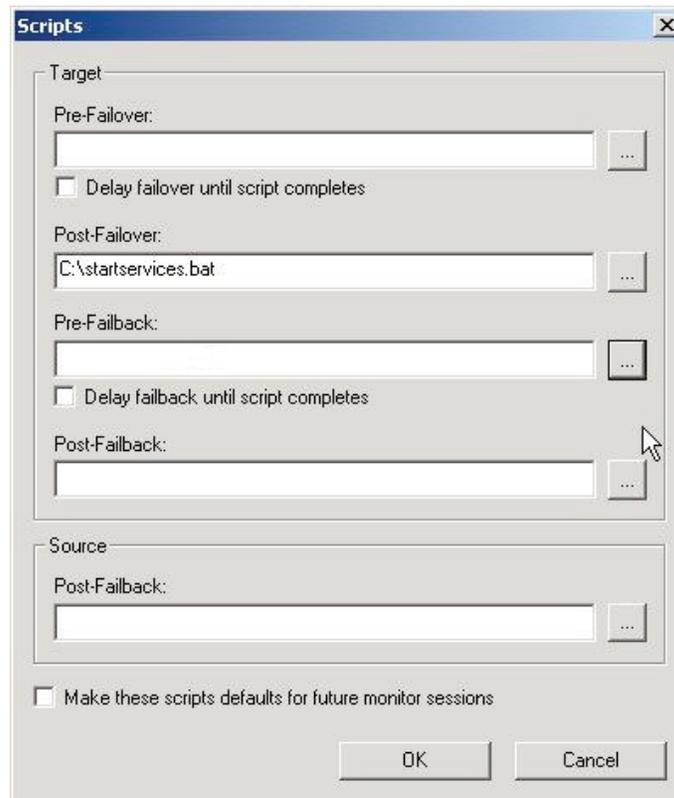
net start "ShoreWare Account Code Collection Server"
net start "ShoreWare Call Accounting"
net start "ShoreWare CSIS Server"
net start "ShoreWare Database Management Service"
net start "ShoreWare Director Utilities"
net start "ShoreWare Distributed Routing Service"
net start "ShoreWare Distributed Telephony Application Service"
net start "ShoreWare Event Watch Server"
net start "ShoreWare IP-Phone Configuration Service"
net start "ShoreWare IP-Phone Display Service"
net start "ShoreWare Software Telephony Switch"
net start "ShoreWare Telephony Management Server"
net start "ShoreWare Voice Mail Application"
net start "ShoreWare Workgroup Server"
```

6. Click on "Scripts" button (above image) the Scripts window will be displayed.

a. Un-check both boxes "Delay failover until script completes" and "Delay failback until script completes".

b. Set the Post-Failover file to the "startservices.bat" file created in step 5.

c. Click OK



7. Click OK on the Monitor Settings window.

Fallback Process

Once a Failover has occurred, and the reason for the failover has been resolved, then it is time to plan for a fallback back to SOURCE. This process must be planned during an off-hours timeframe to minimize the impact to end users. The fallback process takes 20 to 30 minutes to complete.

Note: The SOURCE server must be disconnected from the network prior to initiating the fallback process.

1. Stop all ShoreWare services on SOURCE.
2. Stop all ShoreWare services on Target server.
3. Shut Down the ShoreWare Com+ application on Target server (Start > Programs > Administrative Tools > Component Services > Local Computer > Select ShoreWare > Right click to shut down.).
4. Open the Failover Manager on Target server and click the Fallback button. When the "Fallback Complete" message appears, reconnect SOURCE to the network.
5. When the "Continue Monitoring?" window appears, select Stop to disable active failover monitoring.
6. Open the DoubleTake Management Console. Select the ShoreTel replication set and right click to select "Disconnect".
7. Open the DoubleTake Restoration Manager and select a restore from Target server to SOURCE. The system will now copy the new ShoreWare files back onto SOURCE so it is up to date. This process takes ~20 minutes. You will know the process has completed when the Restoration Replication set disappears from the Management Console.
8. Restart both servers. SOURCE will now come fully back online and active.
9. Log into the DoubleTake Management console and restart the previously disconnected ShoreWare replication set. This will re-initiate the mirror process from SOURCE to Target server. Wait for the mirror process to be completed.
10. Log into the Failover Manager and restart the failover monitor of SOURCE to Target server.



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