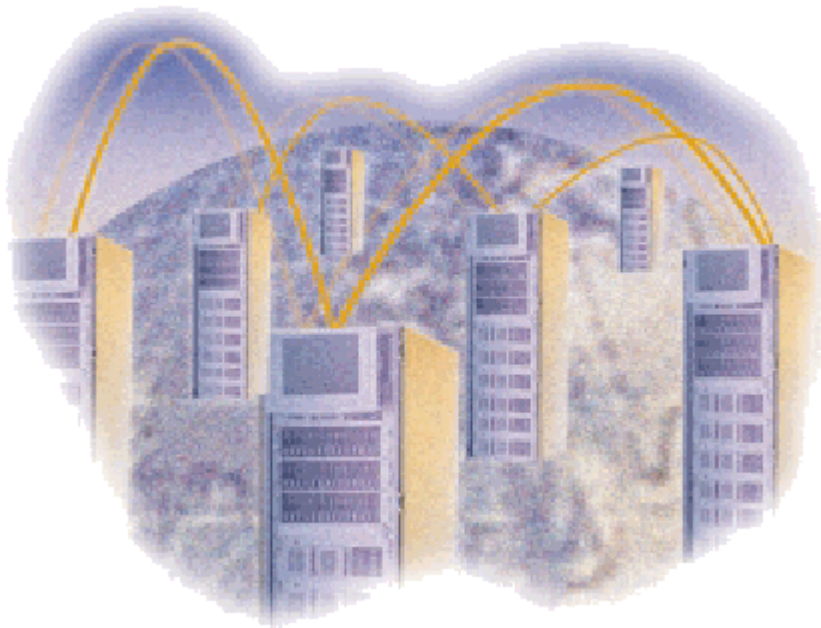




# Using Double-Take Through a Firewall



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## *Double-Take Support for Application Failover*

Double-Take's file system replication process is application independent and replicates any file system changes (including permissions and attributes) written to NTFS, FAT or FAT32 file systems by any application or process, subject to specific exceptions called out in the *User's Guide* or *readme.txt* file. Maintaining point-in-time consistent file system replicas and providing server monitoring and automatic or manual failover of the server name and IP address are the primary functions of the Double-Take software and we offer support to qualified customers should these functions fail to operate in accordance with our published documentation, regardless of what application or process is manipulating the data.

NSI Software may provide application notes and other documents that provide implementation guidelines on how to use Double-Take functions and replicas to manually or automatically failover or recover many popular third party applications and a general process to accomplish failover or recovery of many other third party applications. While these steps are believed to be accurate for the specific configuration, Double-Take version, and application versions originally tested, due to the number of possible configurations and variables, NSI Software can only test selected combinations and may provide only limited support for the operation and configuration of third party applications or the behavior of those applications before, during, or after failover, in its discretion. In cases where NSI Software has no direct access to or experience with a particular application or configuration, NSI Software support may also be limited to only the actual replication of the file system data and failover (name and IP address) of the server.

For assistance in validating, implementing or troubleshooting these or other possible configurations with third party applications, NSI Software and its partners may offer professional services on a fee basis to apply best practices for assisting with third party applications to recover automatically or manually using replicated data.

This, and any other, application note is provided solely for the convenience of our customers and is not intended to bind NSI Software to any obligation.

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# Introduction

A firewall is a program that helps prevent unauthorized access to or from a private network. A firewall examines each packet entering or leaving the network and blocks those that do not meet the specified security criteria.

NSI Software's Double-Take, which provides real-time data protection and replication, can be used through a firewall as long as the firewall ports are configured to allow Double-Take servers to communicate with each other.

This document describes the ports used for Double-Take communications, how to verify the port settings for your Double-Take servers, and the proper firewall port configuration for use with Double-Take.

Due to the complexities of this process, this document is intended for network administrators with experience installing, configuring, and maintaining network applications, including Double-Take and firewalls.

This document assumes the following:

- ◆ You have Double-Take installed on two servers.
  - ◆ For Windows 2000/NT, you are using Double-Take 4.0.1 Service Pack 2 or later
  - ◆ For Solaris, you are using Double-Take 4.0.3 Hotfix 4 or later
  - ◆ For Netware, you are using Double-Take 4.0.2

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**NOTE:** To obtain either a service pack or hotfix, contact NSI Technical Support.

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- ◆ You have a firewall program installed and you know how to open your firewall ports.

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- NOTE:**
- ◆ If you do not have Double-Take installed, see the Double-Take *Getting Started* guide for information on installing Double-Take.
  - ◆ If you do not have a firewall installed or if you do not know how to open your firewall ports, see your firewall reference manual.
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## Verifying Double-Take Port Settings

Double-Take uses specific ports for communication between the source, target, and client machines. In order to use Double-Take through a firewall, you must first verify the current Double-Take port settings so that you can open the correct ports on your firewall to allow Double-Take machines to communicate with each other. Using the following table, locate and record your port settings for each of the four Double-Take ports. As the table indicates, there are three different Double-Take clients (Management Console, Text Client, and Failover Control Center) that you can use to verify each of the four port settings. For more specific information on using a particular Double-Take client to verify a port setting, see the chapter named for that client in the Double-Take *User's Guide*.

| Port Name   | Additional Names   | Communication Type and Port Usage   | Use Any of These Clients to Verify the Double-Take Port Setting   | Default Port Setting | Record Your Port Setting |
|-------------|--|---|---|----------------------|--------------------------|
| NetPort     | <ul style="list-style-type: none"> <li>◆ Service Listen Port</li> <li>◆ Service Transmit Port</li> </ul>   | The NetPort is used for TCP communication between Double-Take servers and clients.  | <ul style="list-style-type: none"> <li>◆ <b>Management Console</b>— See the Network tab on the Server Properties dialog box.</li> <li>◆ <b>Text Client</b>—Use the <code>get netport</code> command.</li> <li>◆ <b>Failover Control Center</b>—See the Set Communication Parameters dialog box.</li> </ul>  | 1100                 |                          |
| UNetPort    | <ul style="list-style-type: none"> <li>◆ Heartbeat Advertisement Port</li> <li>◆ Heartbeat Transmit Port</li> <li>◆ Heartbeat Listen Port</li> </ul> | The UNetPort is used to send and receive Double-Take heartbeats which are broadcast UDP communications.   | <ul style="list-style-type: none"> <li>◆ <b>Management Console</b>— See the Configuration tab on the Management Console Options dialog box.</li> <li>◆ <b>Management Console</b>— See the Network tab on the Server Properties dialog box.</li> <li>◆ <b>Text Client</b>—Use the <code>get unetport</code> command.</li> <li>◆ <b>Failover Control Center</b>—See the Set Communication Parameters dialog box.</li> </ul> | 1100                 |                          |
| DirUNetPort | <ul style="list-style-type: none"> <li>◆ Status Transmit Port</li> <li>◆ Status Listen Port</li> </ul>   | The DirUNetPort sends directed UDP communications to request and receive status updates, keeping the Double-Take Management Console at-a-glance monitoring current. | <ul style="list-style-type: none"> <li>◆ <b>Management Console</b>— See the Configuration tab on the Management Console Options dialog box.</li> <li>◆ <b>Management Console</b>— See the Network tab on the Server Properties dialog box.</li> <li>◆ <b>Text Client</b>—Use the <code>get dirunetport</code> command.</li> </ul>   | 1105                 |                          |
| StatsPort   |  | The StatsPort accepts TCP communications from DTStat.   | <ul style="list-style-type: none"> <li>◆ <b>Text Client</b>—Use the <code>get statsport</code> command.</li> </ul>  | 1106                 |                          |

**NOTE:** Because these ports appear on multiple machines (sources, targets, and clients), the port settings have to be identical on the machines that need to communicate with each other. For example, a source with a NetPort setting of 1100 will only be able to communicate with other machines (sources, target, and clients) that also have a NetPort of 1100. If any machine has a NetPort setting of any value other than 1100, that machine cannot communicate with this source. Therefore, if you change a port setting on one machine, perhaps your source, you will also need to make the same change to the target(s) and client(s) that the source needs to communicate with.

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# Opening the Firewall Ports

Using the values from the table in [Verifying Double-Take Port Settings](#), configure your firewall ports for both inbound and outbound traffic so that the Double-Take servers can communicate with each other. For specific steps in configuring these ports, see your firewall reference manual.

1. Open the port assigned to the NetPort and StatsPort for the inbound and outbound transmission of TCP packets.
2. Open the port assigned to the UNetPort and DirUNetPort for the inbound and outbound transmission of UDP packets.