

Getting Started with Neverfail SCOPE

For
Version 5.2



Neverfail Group Inc.

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About this Book

The Getting Started with Neverfail SCOPE book provides information about installing, removing, upgrading, and the day-to-day administration tasks to manage Neverfail SCOPE, including how to measure bandwidth, read Neverfail SCOPE reports, and manage Neverfail SCOPE files. To help ensure the success of your Neverfail installation, this guide provides an overview of the Neverfail SCOPE process, and identifies how Neverfail SCOPE can provide benefits for the life of a server.

Intended Audience

This guide assumes a working knowledge of networks including the configuration of the TCP/IP suite of protocols and a sound knowledge of domain administration on the Windows 2003 and 2008 platforms.

Document Feedback

Neverfail welcomes your suggestions for improving our documentation. If you have comments, send your feedback to docfeedback@neverfailgroup.com.

Technical Support and Education Resources

The following sections describe the Technical Support resources available to you. To access the current version of this book and other books, go to <https://extranet.neverfailgroup.com>.

Online and Telephone Support

To use online support to submit Technical Support Requests, view your product and contract information, go to <https://extranet.neverfailgroup.com>.

Support Offerings

To find out how Neverfail Support offerings can help meet your business needs, go to <http://www.neverfailgroup.com/services/technical-support>.

Neverfail Professional Services

Neverfail Professional Services courses offer extensive hands-on labs, case study examples, and course materials designed to be used as on-the-job reference tools. Courses are available on site, in the classroom, and live online. For the day-to-day operations of Neverfail Heartbeat, Neverfail Professional Services provides offerings to help you optimize and manage your Neverfail Heartbeat servers. To access information about education classes, certification programs, and consulting services, go to: <http://www.neverfailgroup.com/default/services>.

Chapter 1

Overview

Neverfail SCOPE Overview

To ensure the success of a Neverfail product implementation, Neverfail uses the custom tool, Neverfail SCOPE, to provide current, accurate, and complete information about the server environment. SCOPE is an acronym for Server Check, Optimization, and Performance Evaluation. Neverfail SCOPE is a combination of both software and process that ensures maximum success with the Neverfail product.

The Neverfail SCOPE process uses advanced, automated tools to provide:

- Detailed information about the current running state of your server environment
- Recommendations for optimizing your servers before installing Neverfail's products

Neverfail SCOPE provides a comprehensive look at the system. Neverfail SCOPE diagnoses the overall health, stability, and reliability of an existing server environment before implementing a High Availability or Disaster Recovery solution. You can use Neverfail SCOPE over the life of the server. Neverfail SCOPE performs a thorough interrogation of the server environment and provides a comprehensive analysis of the configuration, environment, and performance profile. To optimize success with Neverfail's products and to improve reliability, it also:

- Analyzes workload characteristics
- Provides change recommendations

Neverfail SCOPE takes 24 hours to complete and is required before implementing Neverfail Heartbeat. The Neverfail SCOPE Data Collector Service functions as the main interrogator of the server environment. It collects a wide range of configuration and performance data from the Primary, Secondary, and if deployed, Tertiary servers. Information gathered from a server is stored in a .CAB file for upload to the Neverfail Extranet for analysis. You can review this file before upload, if desired.

The report generated from the analysis is used to determine the suitability of the server environment for installation and successful implementation. You can use the information in the report should a support request be raised. It provides accurate and complete information about your server environment.

When SCOPE Data Collector Service is installed at both local and remote server sites, it can be used to measure available network bandwidth between servers. It reflects network data back to the local SCOPE Data Collector Service, measuring the actual speed of the link between sites.

Note: In this document, the term “Cluster” refers to a Neverfail Cluster. Refer to the Glossary in the Installation or Administration Guide for more information about Neverfail Clusters.

Chapter 2

Installing, Upgrading, and Removing Neverfail SCOPE

Installing Neverfail SCOPE

This procedure describes steps to perform an initial installation of Neverfail SCOPE Data Collector Service.

Prerequisites

If the Neverfail SCOPE Data Collector Service was not installed as part of Neverfail Heartbeat™ installation, it can be installed and removed independently.

Important: Neverfail SCOPE Data Collector Service requires that Microsoft™ .Net Framework 4.0 be installed prior to running `SCOPE Data Collector Service.msi`. If .Net Framework 4 is not installed when you attempt to initiate `SCOPE Data Collector Service.msi`, Neverfail SCOPE Data Collector Service will prevent installation until .Net Framework 4.0 is installed.

Windows Server 2003 must have Windows Imaging Component (WIC) installed prior to installing Microsoft .Net Framework 4.

Procedure

There are separate installer packages for the 32-Bit and 64-Bit versions of Windows.

1. Download Neverfail SCOPE from the Neverfail Extranet by going to **Products / Downloads > SCOPE** and select the appropriate version of Neverfail SCOPE.
2. Save the downloaded `.zip` file to the desired location.
3. Right-click the `.zip` file and select **Extract All**.
4. Follow the instructions in the *Extraction Wizard* to select a destination for the extracted files.
5. Navigate to the extracted files and read the `Readme.txt` file for additional information that may affect your installation.
6. Double-click the `SCOPE Data Collector Service.msi` installer file to start the installation wizard. The *InstallShield Wizard* starts in a new window and the *Welcome* screen is displayed.

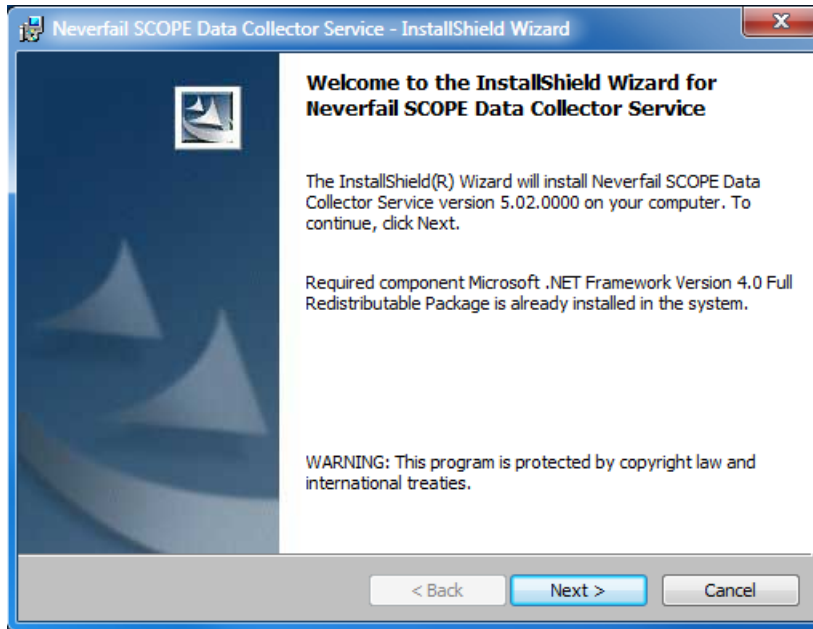


Figure 1: Neverfail SCOPE Install Wizard Welcome page

7. Click **Next**.

The *Destination Folder* page is displayed and identifies the default installation paths for the application and data files.

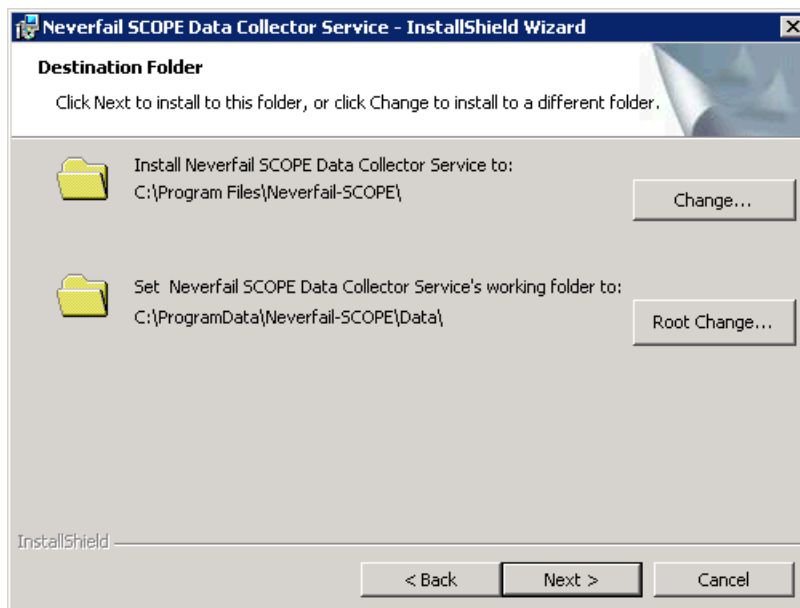


Figure 2: Destination Folder page

8. You can accept the default installation locations for application and data files, or you can change one or both.
 - a) To accept the default installation locations, click **Next** and proceed to Step 9.
 - b) To select a custom location for the application files, click **Change** .
The *Change Current Destination Folder* screen is displayed.

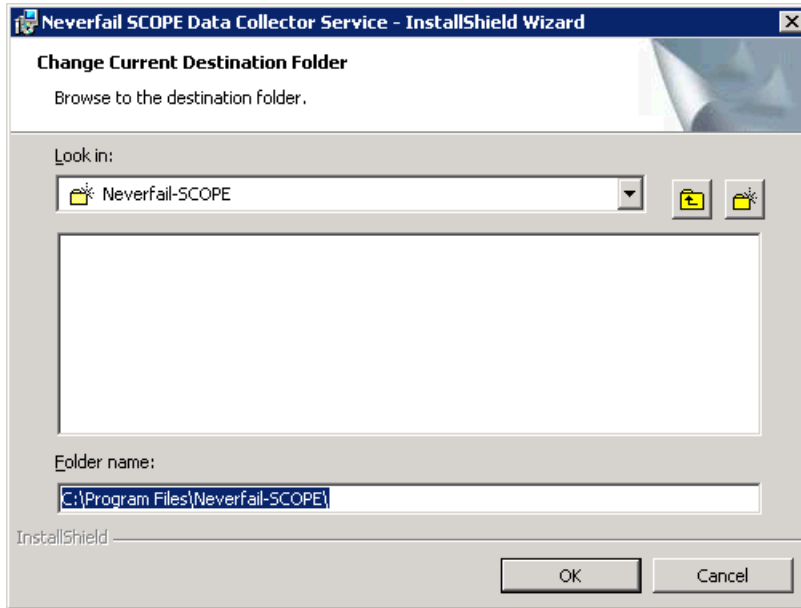


Figure 3: Change Current Destination Folder page

- c) Browse to the new location and click **OK**.
The *Destination Folder* screen is displayed.
- d) To select a custom location for the data files, click **Root Change**.
The *Change Current Working Folder* screen is displayed.

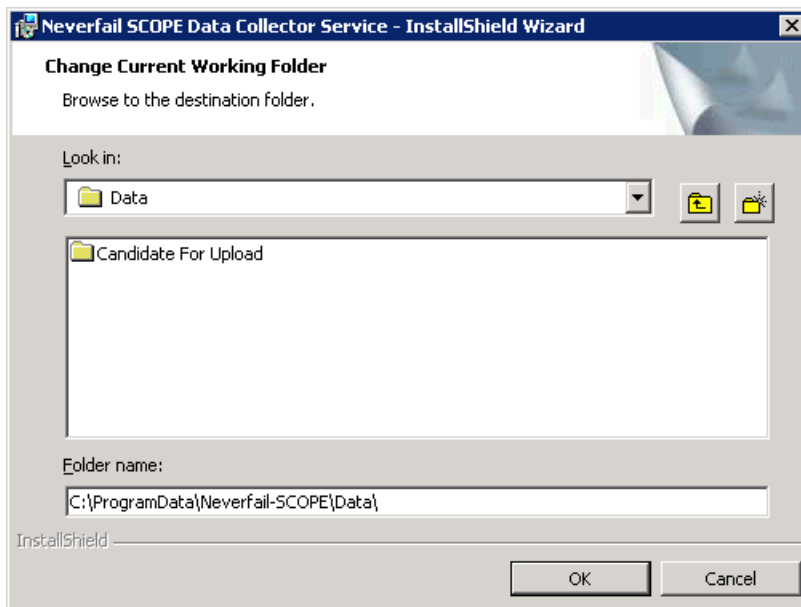


Figure 4: Change Current Working Folder page

- e) Browse to the new location and click **OK**.
The *Destination Folder* screen is displayed.
- f) When finished selecting custom installation locations, click **Next**.
The *Neverfail Model* page of the *Neverfail SCOPE Data Collector Setup* wizard is displayed.

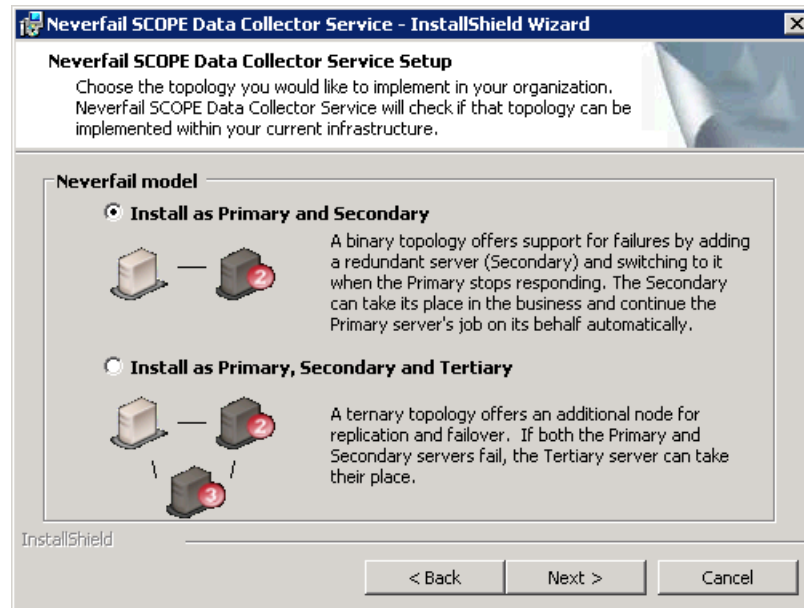


Figure 5: SCOPE Data Collector Setup page

9. Select the topology your organization intends to implement and click **Next**.

The *Local computer identity* pane is displayed inside the *Neverfail SCOPE Collector Setup* page. The topology selected in step 9 determines the selections available in the *Local computer identity* pane.

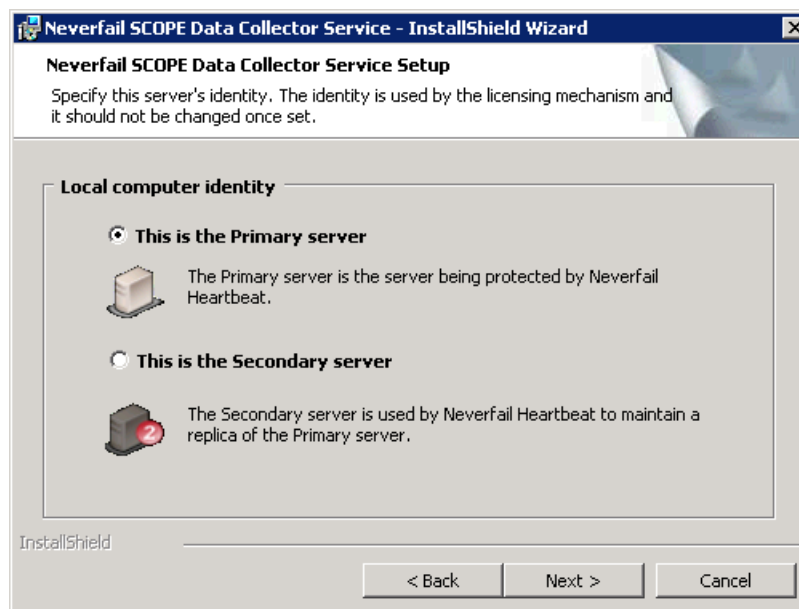


Figure 6: Local Computer Identity page (Primary + Secondary)

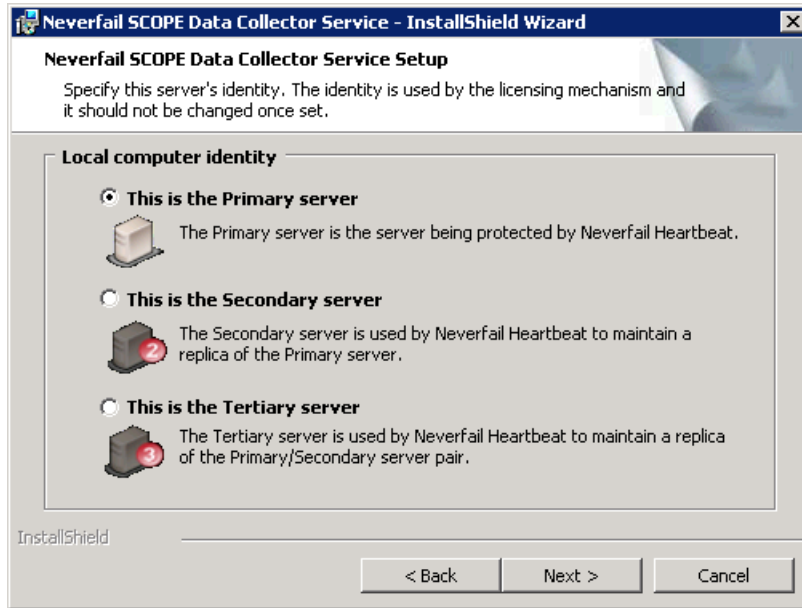


Figure 7: Local Computer Identity page (Primary + Secondary+ Tertiary)

10. Since this is a new installation of Neverfail SCOPE, select *This is the Primary server*.

The *Local Configuration* and *Remote Configuration* panes are displayed inside the *Neverfail SCOPE Data Collector Setup* page. The Neverfail model selected in Step 9 determines the selections available in the Remote Configuration pane. The Neverfail SCOPE installer automatically populates the available Local IP addresses in the *Local Configuration* pane.

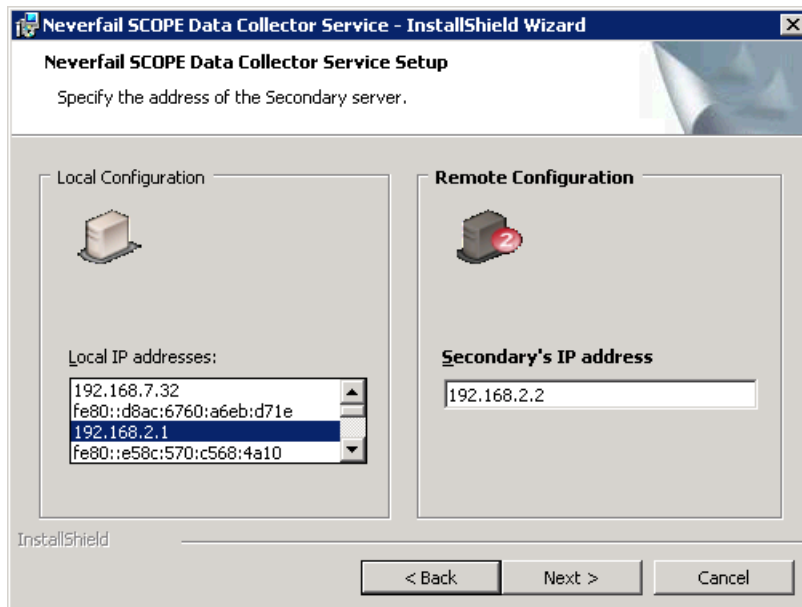


Figure 8: Local and Remote Configuration page (Primary + Secondary)

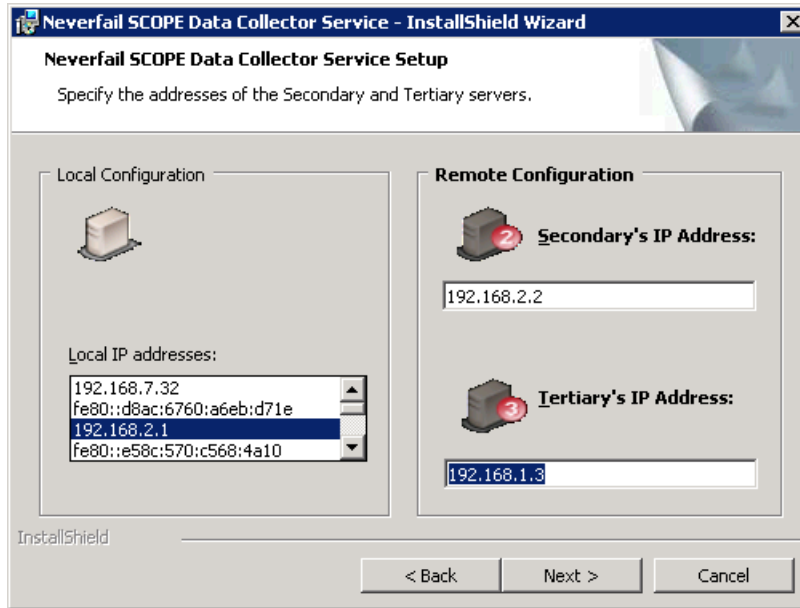


Figure 9: Local and Remote Configuration page (Primary + Secondary + Tertiary)

11. In the *Remote Configuration* pane, type an IP address for the Secondary and Tertiary, if you selected this topology in Step 9. Click **Next**.

The *Ready to Install the Program* page is displayed. At this point, you have completed all of the required configuration steps and the wizard is ready to install the Neverfail SCOPE Data Collector Service.

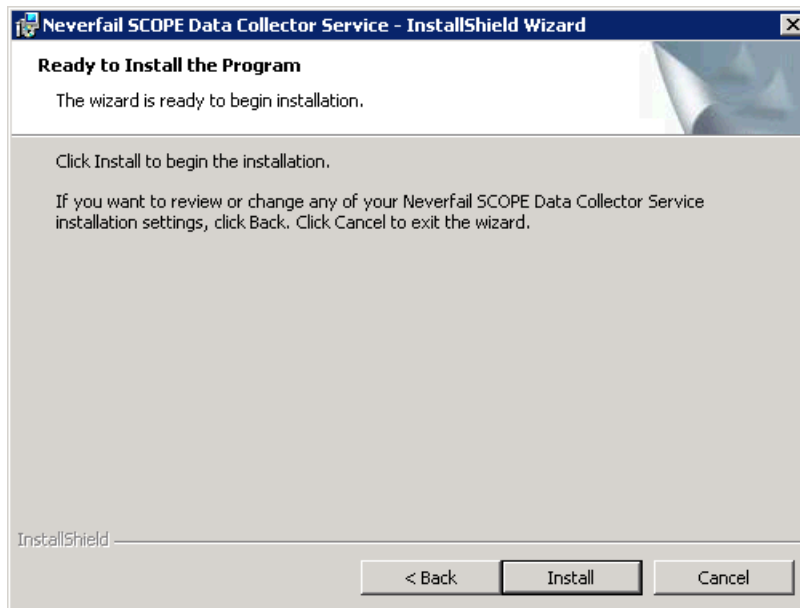


Figure 10: Ready to Install the Program page

12. Click **Back** to review your settings or click **Install** if you are ready to continue with the installation. After you click **Install**, the *Installing SCOPE Data Collector Service* page is displayed.

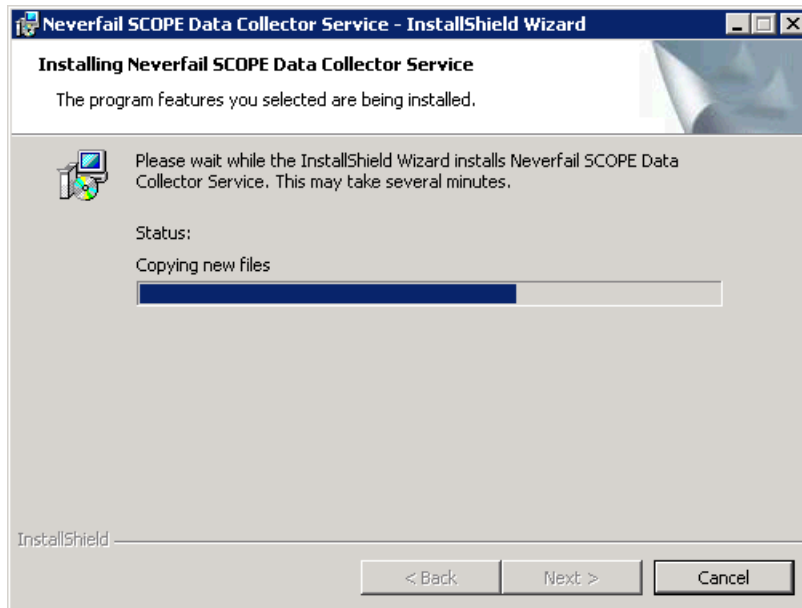


Figure 11: Installing SCOPE Data Collector Service page

When the installation is complete, the *InstallShield Wizard Completed* confirmation is displayed.

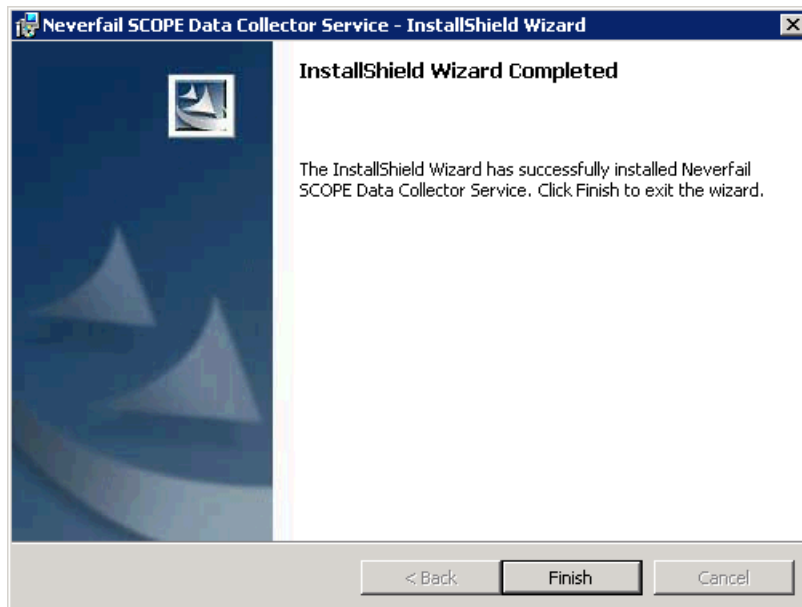


Figure 12: InstallShield Wizard Completed page

13. Click **Finish** to exit the *InstallShield Wizard*.

Upgrading Neverfail SCOPE Data Collector Service

The procedure describes the steps to upgrade Neverfail SCOPE Data Collector Service from a previous version.

Prerequisites

Neverfail Heartbeat has not been installed and a version of Neverfail SCOPE Data Collector Service been previously installed.

Note: If Neverfail Heartbeat is installed after Neverfail SCOPE Data Collector Service, Neverfail Heartbeat will automatically upgrade Neverfail SCOPE Data Collector Service to the current version as part of the Neverfail Heartbeat installation process

Procedure

1. Navigate to **Products / Downloads > SCOPE** on the Neverfail Extranet and select the appropriate version of Neverfail SCOPE Data Collector Service for download.
2. Save the downloaded .zip file to the desired location.
3. Right-click on the .zip file and select *Extract All*
4. Follow the instructions in the *Extraction Wizard* to select a destination for the extracted files.
5. Navigate to the extracted files and read the `Readme.txt` file for additional information that may affect your installation.
6. Double-click on the `SCOPE Data Collector Service.msi` installer file to start the installation wizard.

The *InstallShield Wizard* starts in a new window and the Welcome screen is displayed.

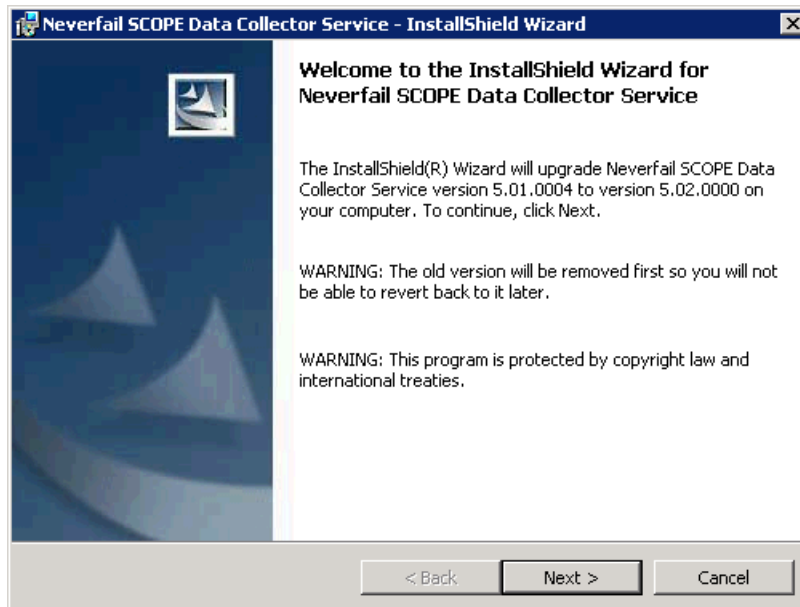


Figure 13: Install Wizard Welcome page

7. Click **Next**.
The *Destination Folder* page is displayed and identifies the default installation paths for the application and data files.

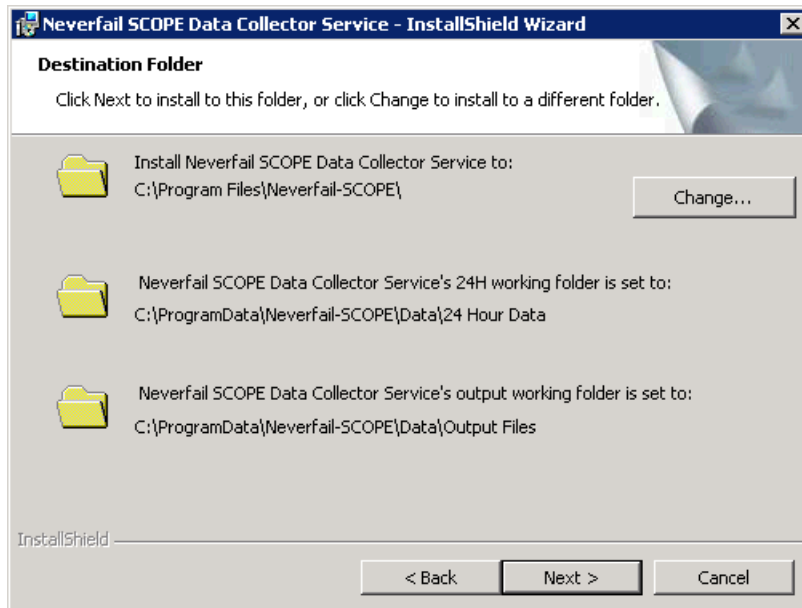


Figure 14: Destination Folder page

8. You can accept the default installation location for the Neverfail SCOPE Data Collector Service, or you can change this location.

- a) To accept the default installation locations, click **Next** and proceed to Step 9.
- b) To select a custom location for the application files, click **Change**.

The *Change Current Destination Folder* screen is displayed.

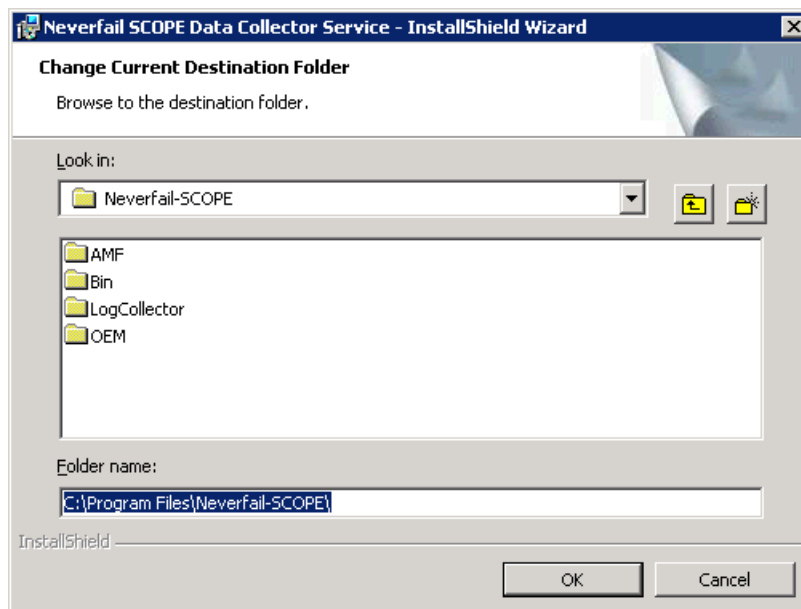


Figure 15: Change Current Destination Folder page

- c) Browse to the new location and click **OK**.
The *Destination Folder* screen is displayed.
- d) Click **Next**.
The *Ready to Install the Program* page is displayed.

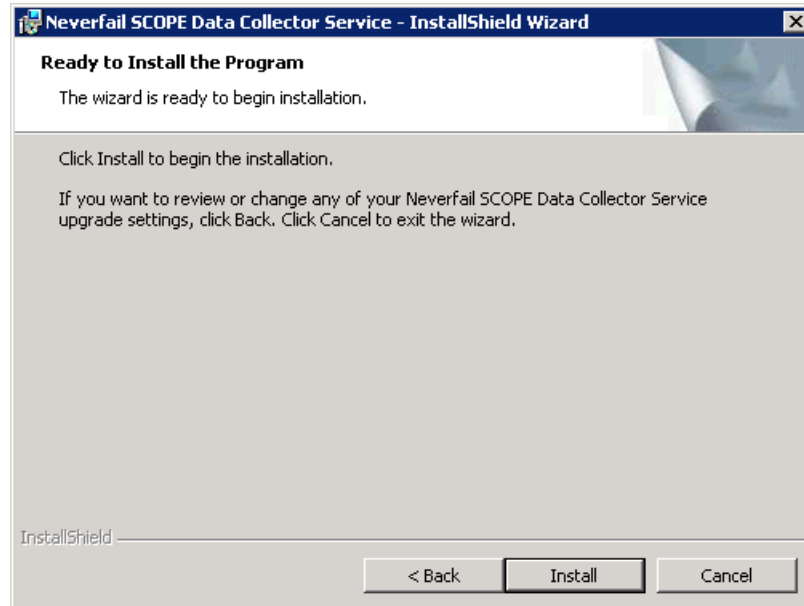


Figure 16: Ready to Install the Program page

At this point, you have completed all of the required configuration steps and the wizard is ready to install the Neverfail SCOPE Data Collector Service.

9. Click **Back** to review your settings or click **Install** if you are ready to continue with the installation. After you click **Install**, the Neverfail SCOPE Data Collector Service gathers the required information and displays the *Installing SCOPE Data Collector Service* page.

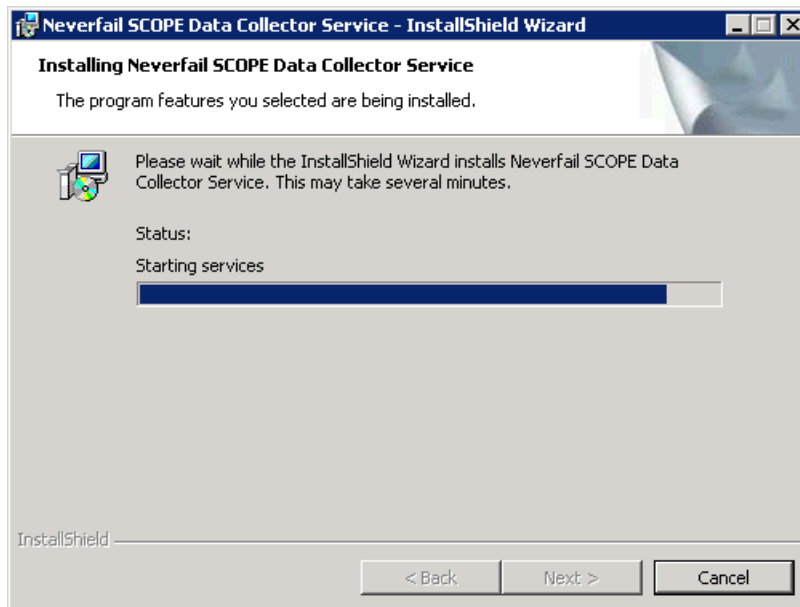


Figure 17: Installing SCOPE Data Collector Service page

The *Installing SCOPE Data Collector Service* page provides installation status. When the installation is complete, the *InstallShield Wizard Completed* confirmation page is displayed.

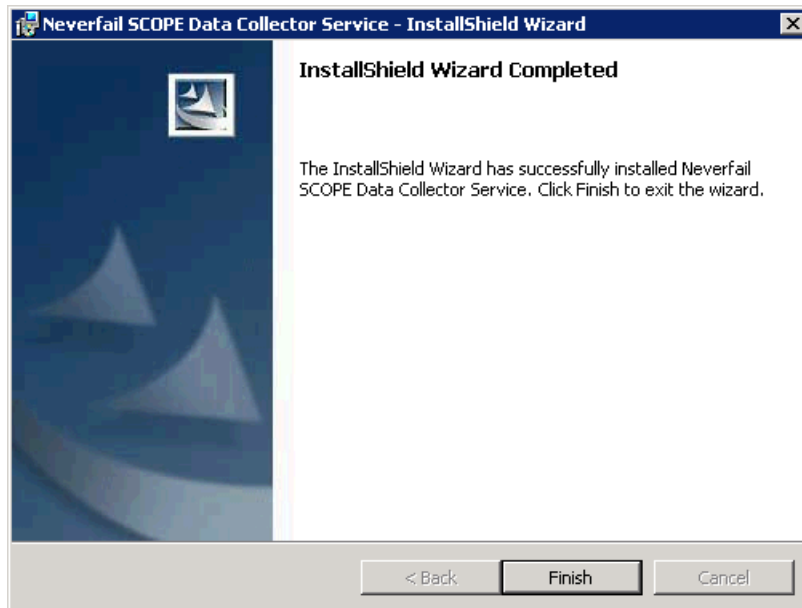


Figure 18: InstallShield Wizard Completed page

10. Click **Finish** to exit the installation wizard.

Uninstall Neverfail SCOPE Data Collector Service

This procedure describes the steps to uninstall Neverfail SCOPE Data Collector Service.

Prerequisites

Neverfail SCOPE Data Collector is installed on the server.

Procedure

1. Navigate to **Start > Control Panel > Programs and Features > Neverfail SCOPE Data Collector Service**. The *Programs and Features* page is displayed.

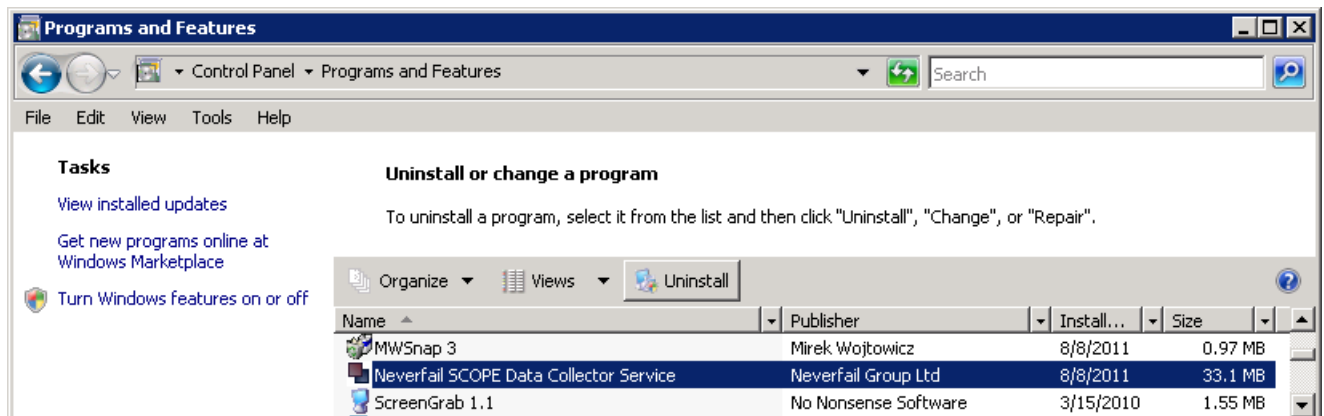


Figure 19: Programs and Features page

2. Click **Uninstall**.

A dialog is displayed asking if you are sure you want to uninstall Neverfail SCOPE Data Collector Service.

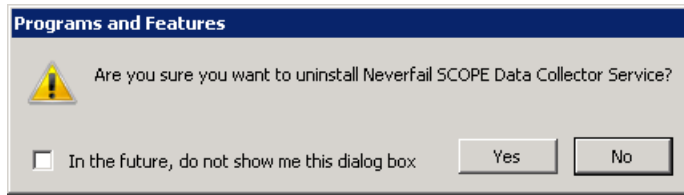


Figure 20: Programs and Features Uninstall Verification dialog

3. Click **Yes** to complete the removal of the Neverfail SCOPE Data Collector Service application.

Note: The Neverfail SCOPE Data Collector Service data files are left in place to facilitate later reinstallation or upgrade. When Neverfail SCOPE Data Collector Service is uninstalled, the following registry values are not deleted:

- HKEY_LOCAL_MACHINE\SOFTWARE\Neverfail Group\SCOPE Machine ID
- HKEY_LOCAL_MACHINE\SOFTWARE\Neverfail Group\SCOPE GroupID

These registry keys are used by Neverfail SCOPE Data Collector Service to identify the server and Cluster. If these keys are deleted, the next time Neverfail SCOPE Data Collector Service is installed, a new Neverfail SCOPE Data Collector license may be needed.

Uploading Neverfail SCOPE Data Manually

If the server does not have an Internet connection, you must upload the data file to the Neverfail Extranet manually.

Procedure

- Look for a file named <ServerName>-<Role>-<Date>.cab in the default location:
 - On Windows 2003 installations: C:\Documents and Settings\All Users\Application Data\Neverfail-SCOPE\Data
 - On Windows 2008 installations: C:\Program Data\Neverfail-SCOPE\Data

If the default location has been changed, you can find the file location by running **Start > All Programs > Neverfail > SCOPE > SCOPE Configuration Tool > Data Files** and looking at the value of the *Candidate For Upload* parameter or simply click **Locate** in the **Neverfail SCOPE Configuration Tool > General** (See Manual Configuration for more details).

Chapter 3

Using Neverfail SCOPE

Daily Usage

The Neverfail SCOPE Data Collector Service collects configuration and performance data for pre-implementation analysis, license key generation, and assisting in support of Neverfail Heartbeat.

The Neverfail SCOPE Data Collector Service runs as a service that requires no user intervention to log daily configuration and performance data. If the server with Neverfail Heartbeat can access the Internet, it automatically uploads data for analysis to the secured area of the Neverfail Extranet. You can see the results of the uploads and analyses by logging on to the Neverfail Extranet and selecting the license relating to the respective server pair. There is no need for any day-to-day user interaction with Neverfail SCOPE Data Collector Service.

Collecting Log Files

The Neverfail SCOPE Data Collector service can be used both pre and post implementation of Neverfail Heartbeat.

Pre-Implementation

Neverfail SCOPE Data Collector service maintains a single file which is needed to obtain a pre-implementation report and to generate a license key. This data file may be available as soon as 15 minutes after installing the collector service, but on systems with many shared files and folders the collection process can take an hour or more. If you require a full performance report you should wait at least 24 hours before collecting the file and uploading it to the Neverfail Extranet. The file contains the latest configuration data and the most recent 24 hours worth of performance data.

Post-Implementation

If the server with Neverfail Heartbeat can access the Internet, it automatically uploads data for analysis to the secured area of the Neverfail Extranet. You can see the results of the uploads and analyses by logging on to the Neverfail Extranet and selecting the license relating to the respective server pair. If the server does not have an Internet connection, you must upload the data file to the Neverfail Extranet manually.

Configuring Neverfail SCOPE

Neverfail SCOPE Configuration Tool

Neverfail strongly recommends contacting Neverfail support staff to change these settings.

Procedure

- To use the Neverfail SCOPE Configuration Tool, select **Start > All Programs > Neverfail > SCOPE > SCOPE Configuration Tool**.

The Neverfail SCOPE Configuration Tool opens in a new window.

The Neverfail SCOPE Configuration Tool consists of four tabs: **General**, **Connectivity**, **Data Files** and **Support**. The features of each tab are described in the associated sections of this document.

Additionally, a link to *Neverfail SCOPE Online Help* can be found in the lower left corner of the window.

Configure the General tab

The **General** tab features controls for manually configuring IP addressing of the Secondary and Tertiary (if installed) servers, specifying the active server in the cluster, and enabling automatic update checking. The **General** tab also allows you to start the Neverfail SCOPE Windows service, to upload collected Neverfail SCOPE data to the Neverfail Extranet, to download configuration settings from the Neverfail Extranet and to locate the .CAB file for manual uploading.

Procedure

1. Select the **General** tab.

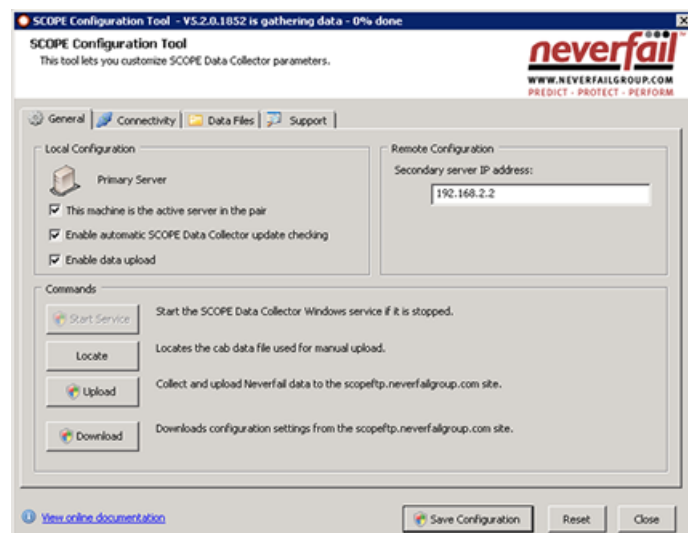


Figure 21: Neverfail SCOPE Configuration Tool General tab

Option	Description
Start Service	Starts the SCOPE Windows service if it is stopped.

Option	Description
Upload	Uploads the current .cab file typically located in the default location: ■ On Windows 2003 installations: C:\Documents and Settings\All Users\Application Data\Neverfail-SCOPE\Data ■ On Windows 2008 installations: C:\ProgramData\Neverfail-SCOPE\Data See expanded description below for more information about this feature.
Download	Downloads configuration and Neverfail SCOPE service updates, if available, from the Neverfail Extranet.
Locate	Locates the .cab files for manual upload.

When you click **Upload**, Neverfail SCOPE gathers all data. Do not close the application until it has finished gathering the data. After all data is gathered, Neverfail SCOPE uploads it.

2. After making configuration changes, click **Save Configuration** to save your changes, or click **Reset** to restore the default configuration.

Configure the Connectivity tab

The **Connectivity** tab features controls for scheduling automated uploads of Neverfail SCOPE data, downloads of Neverfail SCOPE configuration data, and to configure bandwidth measurements.

Procedure

1. Select the **Connectivity** tab.

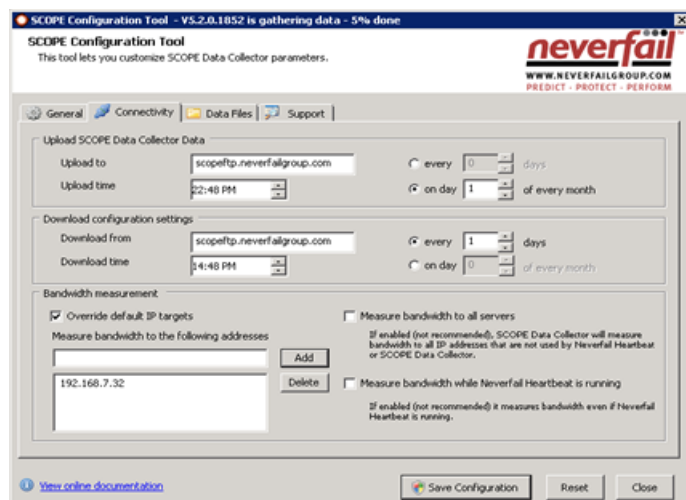


Figure 22: Neverfail SCOPE Configuration Tool - Connectivity tab

The *Upload SCOPE Data* pane in the **Connectivity** page provides ways to manually configure the upload destination IP address and select a schedule for automated uploads of Neverfail SCOPE data. Scheduled uploads can follow a regular schedule of a set number of days (for example, every 7 days), or on a specified day (for example, on the 15th of the month). You also specify the time to perform the upload.

The *Download configuration settings* pane in the **Connectivity** page provides similar configuration settings to schedule automated downloads of Neverfail SCOPE configuration data.

The *Bandwidth measurement* pane in the **Connectivity** page is used to configure bandwidth measurements. If you need to measure bandwidth using IP addresses other than the ones used for the Neverfail Channel, select the *Override default IP targets* check box and add new IP addresses by typing them into the text box and clicking **Add**. Remove IP addresses by selecting them from the list and clicking **Delete**.

Use the two checkboxes on the right side of the *Bandwidth measurement* pane to measure the bandwidth between the local server and any other servers on the network running Neverfail SCOPE but not running Neverfail Heartbeat, or to measure bandwidth while Neverfail Heartbeat is running.

By default, Neverfail SCOPE does not measure bandwidth when Neverfail Heartbeat is running to avoid overloading the busy Neverfail Channel. You can run Neverfail SCOPE while Neverfail Heartbeat is running if you use network connections for Neverfail SCOPE that are separate from those used by Neverfail Heartbeat. After configuring separate network connections for use by Neverfail SCOPE, select the *Measure bandwidth while Heartbeat is running* checkbox.

To measure bandwidth to all servers in the Cluster using the Neverfail Channel, add their IP addresses and select the *Measure bandwidth to all servers* checkbox to prevent those IP addresses from being filtered out by default.

- After making configuration changes, click **Save Configuration** to save your changes, or click **Reset** to restore the default configuration

Configure the Data Files tab

The *Data Files* section allows you to configure the file locations for Neverfail SCOPE Data Collector Service.

Procedure

- Select the **Data Files** tab.

test

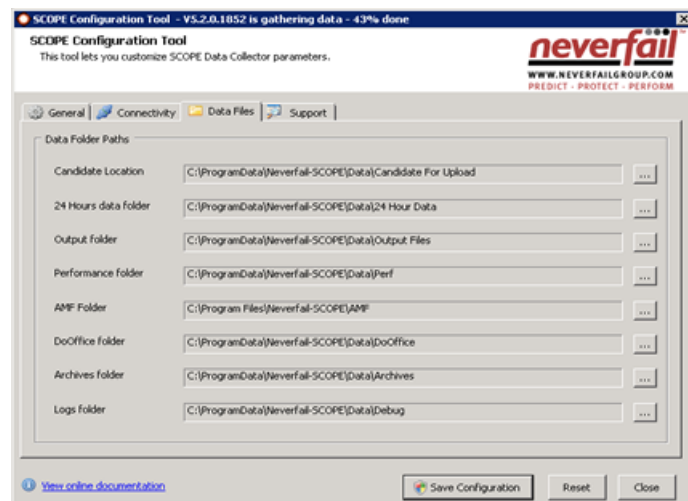


Figure 23: Neverfail SCOPE Configuration Tool - Data Files tab

Use the **Data Files** page to change the location where data files are stored.

- After making configuration changes, click **Save Configuration** to save your changes, or click **Reset** to restore the default configuration.

Configure the Support tab

Use the controls on the **Support** tab to associate a Support Request number (S.R. number) with a specific set of Neverfail SCOPE data, to control how this data is stored, and to select the logging level.

Procedure

1. Select the **Support** tab.

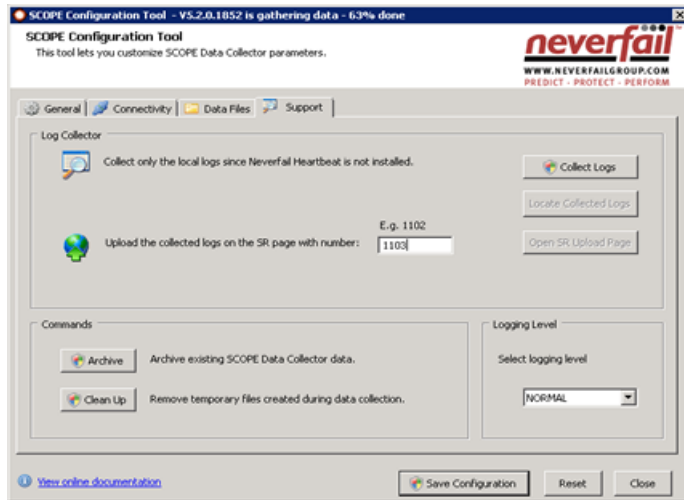


Figure 24: Neverfail SCOPE ConfigurationTool - Support tab

In the *Log Collector* pane of the **Support** page, type the SR (Support Request) number into the *Upload the collected data against the SR number:* text box, then click **Upload Against SR**. The collected Neverfail SCOPE data is uploaded to the SR.

Note: This action requires the server to have internet access, as the <http://www.neverfailgroup.com> page is opened to facilitate the upload.

Click **Collect Data** to re-gather the Neverfail SCOPE logs manually upon command. After re-gathering the logs, the **Locate Collected Data** button becomes active and when clicked, automatically navigates to the location of the .CAB file.

In the *Commands* pane, click **Archive** to archive the existing Neverfail SCOPE data, and click **Clean Up** to remove temporary files created during data collection.

In the *Logging Level* pane, select a logging level (*DEBUG* or *NORMAL*) from the drop-down list.

2. After making configuration changes, click **Save Configuration** to save your changes, or click **Reset** to restore the default configuration

Automatic Configuration

If *Enable automatic SCOPE Data Collector update checking* is selected on the **General** page, the service connects at the intervals specified and to the address specified in the *Download configuration settings* pane of the **Connectivity** page and downloads a `global.cfg` file (if available), which contains overrides for the default parameters. The values in the `global.cfg` file are stored in the registry and will override the existing local values.

The service then looks for the `<machineID>.cfg` file, where `<machineID>` is the globally unique ID (GUID) of the server, which was set when the machine first ran Neverfail SCOPE. If the file is found, then the values in `<machineID>.cfg` file are stored in the registry and will override any existing values.

When *Enable automatic SCOPE Data Collector update checking* is selected, any manual configuration changes made using the local Neverfail SCOPE Configuration Tool will be overridden by the `global.cfg` and/or `<machineID>.cfg` files. If you prefer to use a customized manual configuration instead of accepting automatic configuration, use the methods described below in *Manual Configuration*.

Manual Configuration

Neverfail SCOPE can be configured manually to adjust the Neverfail SCOPE parameters using the procedures below.

Procedure

- If the server has no Internet access, use the Neverfail SCOPE Configuration Tool to set the required parameters.
- If the server has Internet access and you do not wish to use the global settings, create a machine-specific `.CFG` file using the **SCOPE Configuration** page on the Neverfail Extranet, or clear the *Enable automatic SCOPE Data Collector update checking* check box on the **General** page of the Neverfail SCOPE Configuration Tool.

Neverfail SCOPE Parameters

The Neverfail SCOPE Data Collector Service uses values stored in the registry to control its operational parameters.

These values can be adjusted by using the SCOPE Configuration Tool and/or through automatic configuration. It is important to understand these parameters and the interaction between the SCOPE Configuration Tool and the automatic configuration feature.

Note: The parameters on the following pages are designed to work with the online analyzer. Always consult Neverfail support before adjusting.

Table 1: Neverfail SCOPE Parameters

Parameter Name	Default Value	Description
AdditionalFilesForUpload		Additional files to be added to the auto-uploaded <code>.CAB</code> file.
Current Version		Neverfail SCOPE version
ForcedTimeStampStart		Timestamp data gathering started
ForcedTimeStampStop		Timestamp data gathering stopped
Gathering Percent	0x00000064(100)	Percent of data gathered
Last File ID		The ID of the last generated <code>.cab</code> file
Last Job Status	StoreData	Last job done
Last Upgrade	never	Last Neverfail SCOPE autoupgrade timestamp
LastForcedFilename		Last Neverfail SCOPE data file - used by log collector
24 Hour Data Location	C:\Neverfail\SCOPE\Data\24 Hour Data	The 24 Hour Data file location
Amf Folder	C:\Neverfail\SCOPE\Bin\AMF	AMF plug-ins location

Parameter Name	Default Value	Description
Archives Folder	C:\Neverfail\SCOPE\Data\Archives	The archives location
Bin Folder	C:\Neverfail\SCOPE\Bin	Location of Neverfail SCOPE binaries
Candidate Location	C:\Neverfail\SCOPE\Data\Candidate For Upload	Location of the file to be uploaded
DB Root Path	C:\Document and Settings\All users\ApplicationData\Neverfail-SCOPE\Data\WebServiceDB	The location where SCOPE stores data
DoOffice Location	C:\Neverfail\SCOPE\Data\DoOffice	The DoOffice measurement location
Log Dir	C:\Neverfail\SCOPE\Data\Debug	The logs directory
Output File Path	C:\Neverfail\SCOPE\Data\OutputFiles	The midnight files location
Performance Output Path	C:\Neverfail\SCOPE\Data\Perf	The performance and history files location
Root Folder	C:\Neverfail\SCOPE\Data	The root folder of all the data subfolders
Auto Logs Cleanup (Days)	90	Timeout for log files
Bandwidth IPs		Selected bandwidth IP addresses
ManagedMemoryThreshold (MB)	1024	Management threshold in MB - if reached, Neverfail SCOPE service is restarted
PrivateMemoryThreshold(MB)	1024	Management threshold in MB - if reached, Neverfail SCOPE service is restarted
Proxy Encrypted Method	PlainText	How the proxy credentials should be encrypted
Proxy Password		Password used for the proxy server
Proxy Server		The proxy servers IP address
Proxy UserName		Username used for the proxy server
Reference GMT	0	Used to generate random upload time
Time window	5	Used by upload time randomization to randomly select a time in GMT+0 from 24:00 to 05:00 (Windows time value)
Active Server	True	Server Role
AMF Periodic Rules (Minutes)	15	Used to trigger AMF tasks
Config Frequency (Hours)	24	Static data gathering
Config Time		Set to an hour when the static data should be gathered
Download Frequency	01,00	The frequency at which updates will be downloaded (See note below)
Download Time	02:25	The time at which updates will be downloaded in a 24 Hour format
Download URL	scopeftp.neverfailgroup.com	The URL where program up
Identity	PrimaryServer	Neverfail SCOPE's Identity
Max Walk Time (Minutes)	60	Timeout for parsing the file system - Shares
ModelType	True	The type of Cluster (pair or trio)
Performance Interval (Minutes)	15	The frequency for collecting performance data (5, 10, 15, 30)
Primary's IP	<IP_address_of_primary_server>	The IP address of the Primary server (blank on the Primary server)
Secondary's IP	<IP_address_of_secondary_server>	The IP address of the Secondary server (blank on the Secondary server)

Parameter Name	Default Value	Description
Socket Bandwidth Port	61000	The port on which the service will listen for connections from remote management utilities [this can be customized if needed]
Socket Forward Port	62000	The port used to send and receive remote data
Tertiary's IP	<IP_address_of_tertiary_server>	The IP address of the Tertiary server (blank on the Tertiary server)
Upload Frequency	07,00	The frequency which data will be uploaded at (See note below)
Upload Time	01:20	Scheduled time of upload
Upload URL	scopeftp.neverfailgroup.com	The URL of the FTP server to upload data to
AMFDisableInfoLogging	True	Disable AMF message logging from SCOPE Data Collector
AMFJobDisable	False	Disable the AMF from SCOPE Data Collector
Auto Update Enabled	1	Enable updating of local configuration and binaries
Auto Upload Enabled	1	Enable automatic upload of data
CheckForSplitBrain	True	Checks if two Neverfail SCOPE servers in a Cluster are both active
CheckMemoryConsumption	True	Checks memory consumption and if they exceed the threshold, Neverfail SCOPE service is restarted
EnableFtpSSL	False	Send ftp data using secured sockets (SSL)
EnableManagementServices	False	Operates as a management server for SLM
EnableOutputCompressing	True	Compress the midnight files that are older than 1 month to a <monthName> <year>.cab file
EnableServerDataHistory	False	Keep the remote servers data in case one goes down for 1 day and append it to the Neverfail SCOPE data file
LimitEventsTo24h	False	Limit events to 24 hours
Randomized	1	Randomize upload time/download time
Remote Management Enabled	1	Enable remote management
Upgrade On Server Activation	1	Perform Neverfail SCOPE configuration and binaries auto-update in case the server becomes active
Veto HB Settings Constraint	0	Disregard the 'Heartbeat must be stopped to measure bandwidth' constraint
Veto SCOPE Bandwidth All	False	Measure bandwidth to all given IP addresses
Veto SCOPE Bandwidth IPs	0	Measure bandwidth only to IPs from the same Cluster (set in Neverfail Heartbeat and Neverfail SCOPE)

Note: The performance frequency is currently locked to 900 seconds (15 minutes) in order to maintain compatibility with the analyzer. Changes to this value will be ignored.

The upload and download frequencies are specified as two pairs of digits separated by a comma. Such as 01,00 or 00,08. The first pair designates a period in number of days between uploads/downloads, the second pair specifies the day of the month on which uploads/downloads should take place. Only one of these pairs of digits should be specified and the other must be 00. For example, 07,00 means every 7 days, 00,07 would mean on the 7th of every month.

Configure Bandwidth Measurement

Neverfail SCOPE Data Collector Service can measure the bandwidth between servers in the cluster but must be configured prior to initiating the measurement.

Prerequisites

To calculate the bandwidth available between two servers, you must install SCOPE Data Collector Service on both servers.

Procedure

1. Configure one server as the Primary server and the other as the Secondary server.
2. Connect the two network cards to one another in the same way you propose to configure the dedicated channel link between your Neverfail server pair. This connection may be a dedicated crossover cable, or it may be set up over a LAN or WAN.
3. Configure the two network cards with appropriate static IP addresses to allow network traffic between them. You should test the link before running Neverfail SCOPE Data Collector Service.
4. On the Primary server, configure the correct IP address for the Secondary server, and on the Secondary server, configure the correct IP address for the Primary server.
On the Primary server:
5. Start the SCOPE Configuration Tool application by navigating to **Start > All Programs > Neverfail > SCOPE > SCOPE Configuration Tool**.
6. Select the **General** tab.
7. Set the server role to active by selecting the *This machine is the active server in the pair* check box.
8. Enter the IP Address of the Secondary server in the *Remote Configuration* pane.
9. Save and exit the Neverfail SCOPE Configuration Tool.
On the Remote (Secondary) server:
10. Start the SCOPE Configuration Tool application by navigating to **Start > All Programs > Neverfail > SCOPE > SCOPE Configuration Tool**.
11. Select the **General** tab.
12. Select the Secondary server role by clearing (un-checking) the *This machine is the active server in the pair* check box.
13. Save and exit the Neverfail SCOPE Configuration Tool.

Neverfail SCOPE Network Ports

The SCOPE Data Collector Service uses the network ports listed in the following table. For full operation of Neverfail SCOPE, these ports must be opened on any firewalls.

Table 2: Network Ports Used by Neverfail SCOPE Data Collector Service

Ports	Default Use
62000	Inter-process communications between the Primary and Secondary servers and remote management. This port is customizable.
61000	Bandwidth calculations between the Primary and Secondary servers. This port is customizable.

Daylight Savings Time

Neverfail SCOPE Data Collector does not use an internal time but instead uses the server's clock to operate.

Since Neverfail SCOPE Data Collector Service uses the server's clock, manually adjusting the server time may result in longer or shorter periods between data capture.

For example, if Neverfail SCOPE is configured to gather data at 17:15, but an administrator or automated process resets the server's clock at 17:02 to 16:02 (-1 hour), Neverfail SCOPE still gathers the data at 17:15 by the server's clock. In the performance data, the timestamp will contain 17:15 resulting in 25 hours worth of data.

Chapter 4

Neverfail SCOPE Analysis Reports

Neverfail SCOPE Reports

The Neverfail SCOPE Report provides the results of a detailed interrogation of the server environment.

Neverfail SCOPE Analysis Report

As stated previously, Neverfail SCOPE is a combination of both software and process, designed to ensure a stable server environment and a successful Neverfail Heartbeat implementation. The information collected must be uploaded to the Neverfail Extranet for analysis. If Neverfail SCOPE is configured for automatic upload, this task is accomplished automatically and requires no user input. If Neverfail SCOPE is not configured for automatic upload, you must upload the collected information manually.

Once uploaded, the raw data file is immediately analyzed and a Neverfail SCOPE Report is available for viewing using a standard web browser.

The Neverfail SCOPE Report provides information about:

- Windows version, including Service Packs and Hotfixes
- System memory (RAM)
- Disk size, type, partition structure, and available space
- Shared folders
- Windows services
- Third-party application services
- Optional available bandwidth measurement and replication bandwidth estimate if Neverfail SCOPE runs for at least 24 hours
- A detailed performance report
- Recommended changes (in red)

Note: The required bandwidth estimate is based upon an actual network measurement using server disk activity. You can use the estimate as a guide to determine bandwidth requirements for the dedicated Neverfail Channel link between servers.

The Neverfail SCOPE Analysis Report provides an overview of the analyzed criteria and identifies any areas of the current environment that are likely to pose problems when implementing Neverfail Heartbeat. Problems that must be resolved before installing Neverfail Heartbeat are highlighted in red for easy identification. This report should be reviewed in its entirety to ensure that the current server environment is adequate for a successful Neverfail Heartbeat installation.

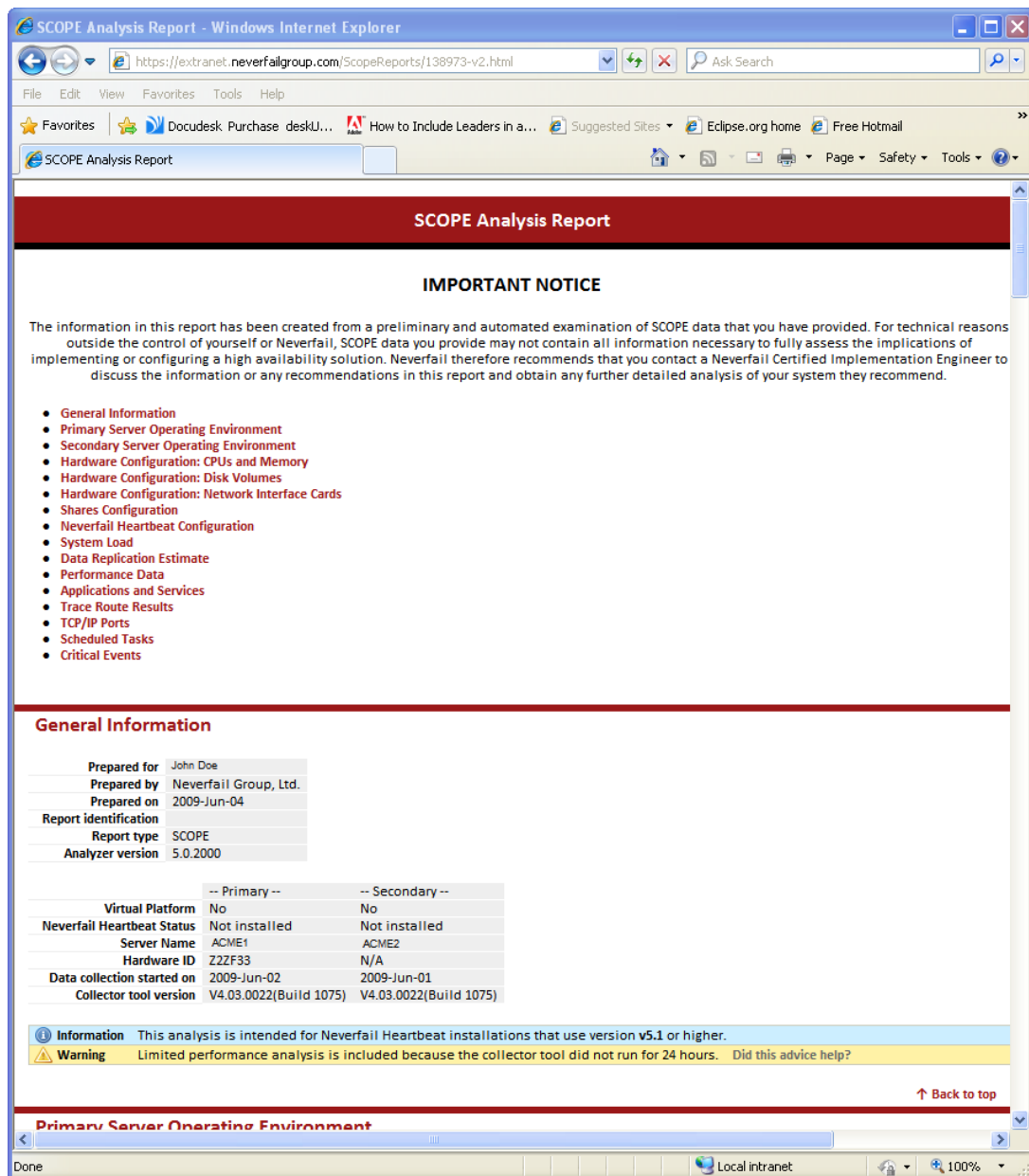


Figure 25: SCOPE Analysis Report

Neverfail SCOPE Graphs

The Neverfail SCOPE Analysis Report provides an overview of the analyzed criteria and identifies any areas of the current environment that are likely to pose problems when implementing Neverfail Heartbeat. Problems that must be resolved before installing Neverfail Heartbeat are highlighted in red for easy identification. This report should be reviewed in its entirety to ensure that the current server environment is adequate for a successful Neverfail Heartbeat installation.

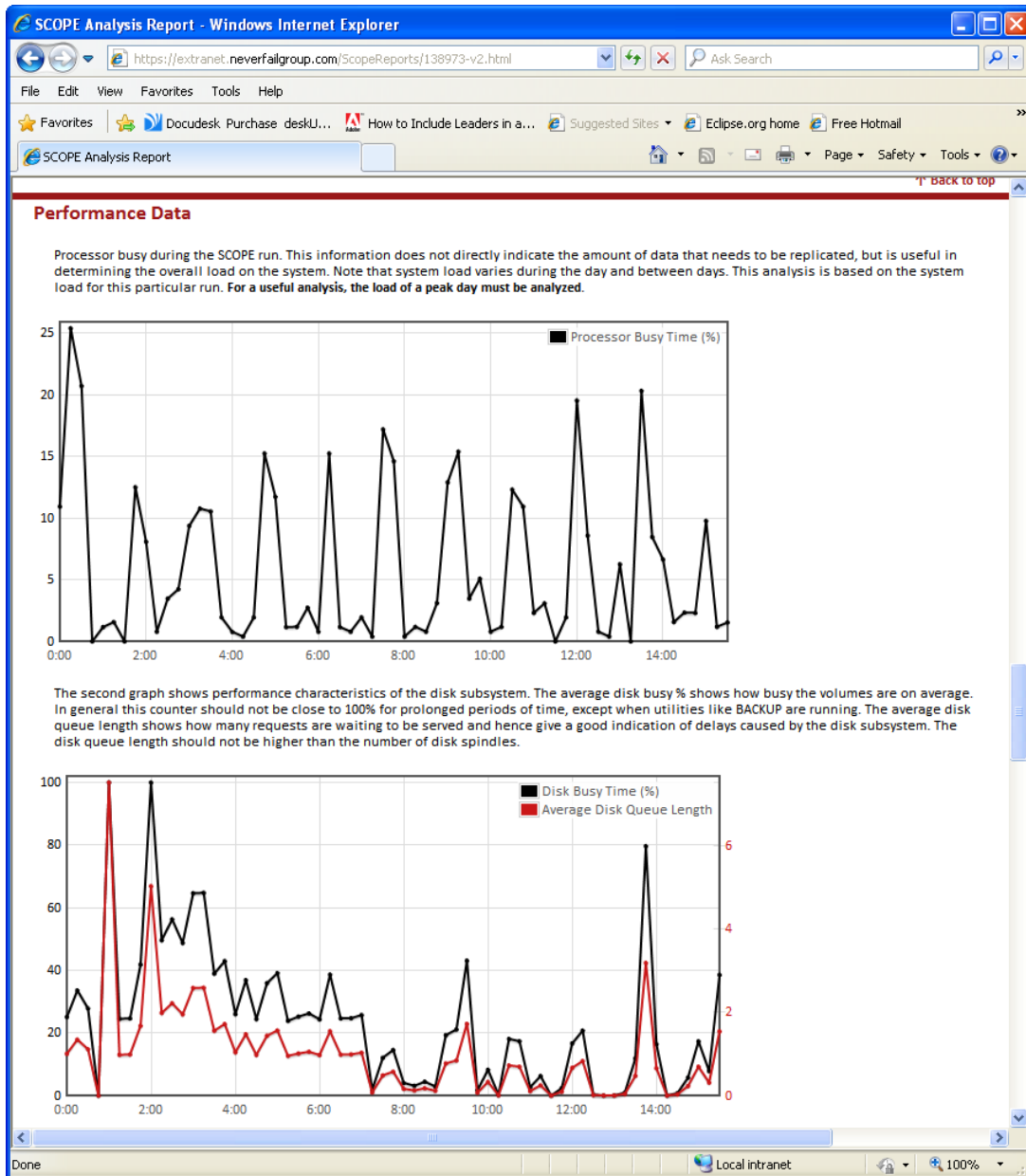


Figure 26: Neverfail SCOPE Graphs

Neverfail SCOPE Performance Counters

The Neverfail SCOPE Performance Counter graph provides for selection of a variety of counters and permits comparison between servers. Placing the cursor over a data point displays the exact value of the counter.

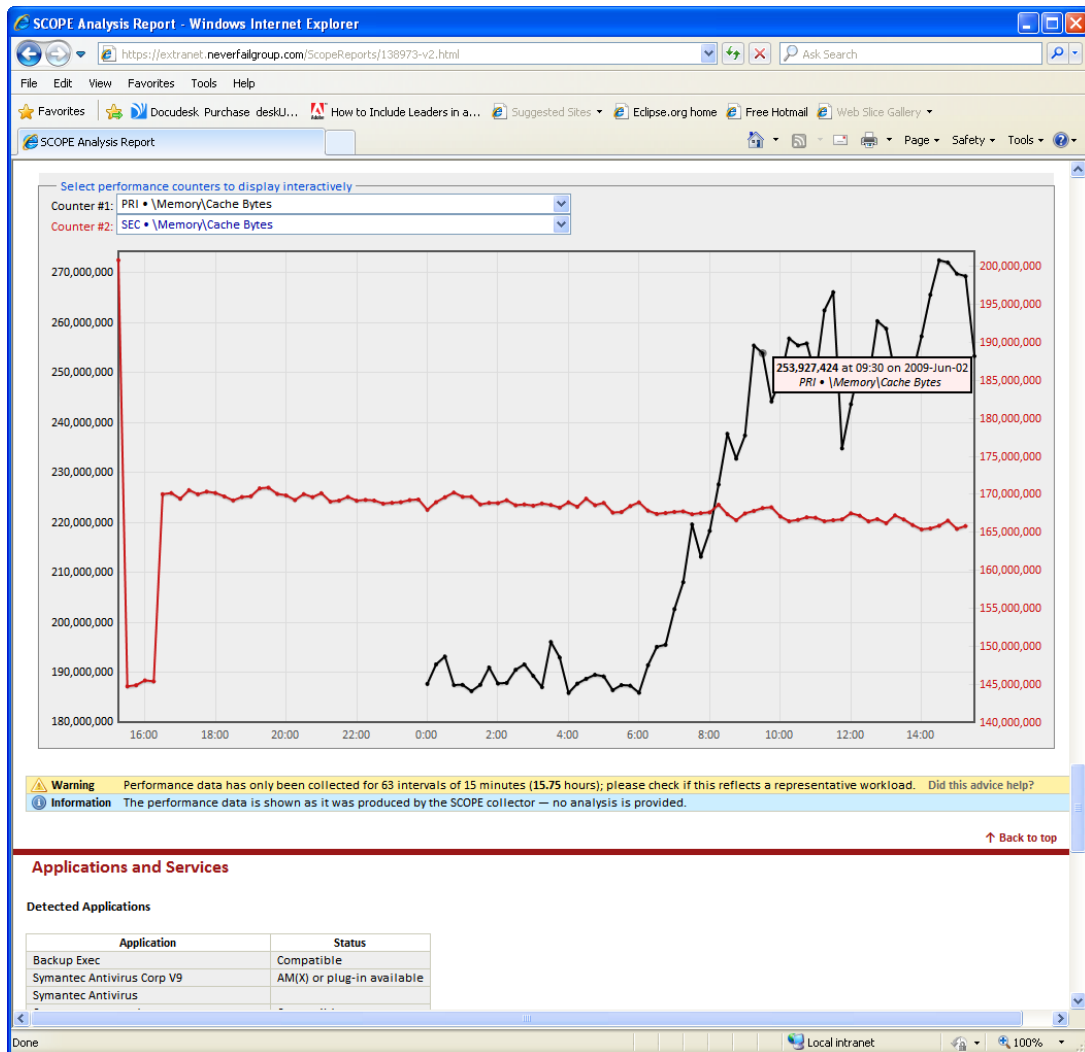


Figure 27: Neverfail SCOPE Performance Counters