Symantec AntiVirus™ for Network Attached Storage Integration Guide
Introducing Symantec AntiVirus™ for Network Attached Storage

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- Product release level
■ Hardware information
■ Available memory, disk space, and NIC information
■ Operating system
■ Version and patch level
■ Network topology
■ Router, gateway, and IP address information
■ Problem description:
  ■ Error messages and log files
  ■ Troubleshooting that was performed before contacting Symantec
  ■ Recent software configuration changes and network changes

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■ Product registration updates, such as address or name changes
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■ Latest information about product updates and upgrades
■ Information about upgrade assurance and support contracts
■ Information about the Symantec Buying Programs
■ Advice about Symantec's technical support options
■ Nontechnical presales questions
■ Issues that are related to CD-ROMs or manuals
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Asia-Pacific and Japan  
customercare_apac@symantec.com

Europe, Middle-East, and Africa  
semea@symantec.com

North America and Latin America  
supportsolutions@symantec.com
Introducing Symantec AntiVirus™ for Network Attached Storage

This document includes the following topics:

- About Symantec AntiVirus for Network Attached Storage
- How to use the Symantec AntiVirus for Network Attached Storage documentation
- Why you need virus protection in a network attached storage environment
- About preparing for installation
- Post-installation tasks

About Symantec AntiVirus for Network Attached Storage

Symantec AntiVirus™ for Network Attached Storage provides virus scanning and repair services for a number of network-attached storage (NAS) devices. Symantec AntiVirus for Network Attached Storage features the Symantec™ Scan Engine, a carrier-class virus scanning and repair engine. The Symantec Scan Engine features all of the virus-scanning technologies that are available in Symantec antivirus products, making the Symantec Scan Engine one of the most effective virus solutions available for detecting and preventing virus attacks.

You can scan files for viruses automatically as they are accessed from storage before the requesting user gains access to it. Based on a configurable virus scan
policy, when a virus is found in a file, the file is repaired. The clean file is stored on the NAS device and only then is the requesting user granted access.

Symantec Scan Engine uses the following protocols to interface with network attached storage devices:

- The Internet Content Adaptation Protocol (ICAP), version 1.0, as presented in RFC 3507 (April 2003)
- A proprietary implementation of remote procedure call (RPC)
- The scan engine native protocol

Each NAS device maintains a connection with Symantec Scan Engine to request scanning and repairing of files.

About software components

In most cases, adding virus scanning to a supported NAS device requires installation and configuration of the following components:

- Symantec Scan Engine, which provides the virus scanning and repair services
  See “About Symantec Scan Engine” on page 9.
- Connector, which lets the NAS device communicate with Symantec Scan Engine
  See “About the connector” on page 10.

The connector handles the communication between the scan engine and the NAS device and interprets the results that are returned from the scan engine after scanning. The manufacturer of the NAS device develops and provides support to the connector. The connector typically is installed and configured on the NAS device. (In some cases, the manufacturer pre-installs the connector.)

Figure 1-1 shows a typical integration of a network attached storage device with Symantec Scan Engine.
1. The client tries to access a file on the network attached storage device.
2. The network attached storage device, by means of a connector, sends the file to the Symantec Scan Engine for scanning.
3. Symantec Scan Engine scans the file, repairs it if it is infected, and returns the clean file to the network attached storage device.
4. The network attached storage device writes the cleaned file to disk, caches the fact that the file has been cleaned, and sends the file to the client.

About Symantec Scan Engine

Symantec Scan Engine, formerly marketed as Symantec AntiVirus Scan Engine, is a carrier-class content scanning engine. Symantec Scan Engine provides content scanning capabilities to any application on an IP network, regardless of platform. Any application can pass files to Symantec Scan Engine for scanning.

Symantec Scan Engine accepts scan requests from client applications that use the following protocols:

- The Internet Content Adaptation Protocol (ICAP), version 1.0, as presented in RFC 3507 (April 2003)
- A proprietary implementation of remote procedure call (RPC)
- Symantec Scan Engine native protocol

Symantec Scan Engine is included in the Symantec AntiVirus for Network Attached Storage distribution package.
For more information about the scan engine, see the *Symantec Scan Engine Implementation Guide* on the product CD.

**About the connector**

The connector handles the communication between the scan engine and the NAS device and interprets the results that are returned from the scan engine after scanning. The manufacturer of the NAS device develops and provides support for the connector. The connector typically is installed and configured on the NAS device. (In some cases, the manufacturer pre-installs the connector.)

In some cases, no connector is necessary. The NAS device handles the communication with the scan engine, and any configuration options are available directly on the device.

**How to use the Symantec AntiVirus for Network Attached Storage documentation**

To configure Symantec AntiVirus for Network Attached Storage to work with one of the supported NAS devices, you need the documentation that is included in the Symantec AntiVirus for Network Attached Storage distribution package. You need the documentation that is provided by the manufacturer of the NAS device as well.

The Symantec AntiVirus for Network Attached Storage distribution package includes the following documents:

- *Symantec Scan Engine Implementation Guide*
- *Symantec AntiVirus for Network Attached Storage Integration Guide*
- Configuration guides for Symantec certified Network Attached Storage devices

The manufacturer of the NAS device develops the connector to integrate Symantec Scan Engine. The manufacturer of the NAS device also prepares and distributes supporting documentation for the connector. Obtain the connector and any supporting documentation from the manufacturer if you do not receive it with the NAS device.

**About the Symantec Scan Engine Implementation Guide**

Use the *Symantec Scan Engine Implementation Guide* as the primary guide for installing and configuring Symantec Scan Engine. This guide contains the information that you need to consider about the scan engine configuration options.
Refer to the *Symantec AntiVirus for Network Attached Storage Integration Guide* for instructions on configuring Symantec Scan Engine to work with a specific NAS device.

### About the Symantec AntiVirus for Network Attached Storage Integration Guide

The *Symantec AntiVirus for Network Attached Storage Integration Guide* includes a chapter for each supported NAS device. Use the guidance and recommendations that are in the appropriate chapter of this guide with the manufacturer-prepared documentation to implement virus scanning.

Each chapter in the Symantec AntiVirus for Network Attached Storage Integration Guide includes the following information:

<table>
<thead>
<tr>
<th>General information on how antivirus scanning works with the NAS device</th>
<th>Virus scanning functionality can differ depending on the capabilities of the NAS device and the complexity of the connector. Some of the virus scanning functions include handling of infected files, timing of file scanning, and logging of infections found. This section provides an overview of how Symantec Scan Engine and the NAS device interact during virus scanning.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information for configuring the scan engine to work with the NAS device</td>
<td>This section discusses the configuration options on the scan engine that must be configured to work with the NAS device. It may highlight other options that are important in setting up comprehensive virus protection as well. This information does not replace the Symantec Scan Engine Implementation Guide. Consult the implementation guide for installation information and for additional information on configuring Symantec Scan Engine to meet your needs.</td>
</tr>
</tbody>
</table>
This section discusses any configuration options on the NAS device that must be configured to work with Symantec Scan Engine. It may make recommendations for configuring the NAS device to ensure comprehensive virus protection. This information does not replace the documentation that is provided by the manufacturer of the NAS device. Consult the product documentation for additional information on configuring the NAS device for virus scanning.

Known issues

This section describes the issues that can affect operation between Symantec Scan Engine and the NAS device.

Why you need virus protection in a network attached storage environment

Network attached storage provides many benefits, such as increased performance, heterogeneous data access, data redundancy, ease of storage management, and real-time backup recovery. However, the implementation of a NAS system introduces security risks that should be addressed. Data can be accessed and compromised more quickly when it is consolidated into a centralized NAS system. This occurs because NAS systems are typically connected directly to the local network.

Installing virus protection software at key locations in the corporate network is not sufficient to protect data on NAS servers. Examples of such key locations are firewalls, email gateways, and desktops.

Dedicated antivirus protection for a NAS system should be part of a comprehensive security policy for the following reasons:

- Storage servers are susceptible to attacks from viruses, worms, Trojan horses, and other malicious code because large number of users access them and they contain large amounts of data.

- Malicious code can result in lost, stolen, or corrupted files, which can result in costly downtime to the enterprise.

- The NAS system can become a vector for the malicious code when a threat is stored on the NAS system. It can compromise the computers and the data of the users who access the NAS system.
Malicious code can be replicated multiple times in multiple locations through NAS backup, mirroring of data, and archiving. The malicious code can be re-introduced to the NAS system when NAS data that contains malicious code is restored from one of these locations. This re-introduction can potentially reinfect the network.

Malicious code could replicate on the NAS system in multiple locations and infect other parts of the network. The effort to remove a threat becomes a time-consuming task that involves significant downtime as well as time and money for data recovery.

The NAS system can be used as an access point to the rest of the network or as a launch point for an attack. For example, a denial-of-service attack can be launched in a NAS system.

Industry regulations and laws now require that organizations that maintain financial, medical, personal, and email data should protect the data from being stolen, altered, or destroyed. Organizations are legally responsible for providing comprehensive protection for stored data.

How the scan engine protects against viruses

Symantec Scan Engine detects viruses, worms, and Trojan horses in all major file types (for example, Windows files, DOS files, and Microsoft Word and Excel files). Symantec Scan Engine includes a decomposer that handles most compressed and archive file formats and nested levels of files. You can configure the scan engine to limit scanning to certain file types by a file extension and file type exclusion list.

Symantec Scan Engine provides protection against those container files that can cause denial-of-service attacks. Examples are those container files that are overly large, that contain large numbers of embedded compressed files, or that have been designed to use resources maliciously and degrade performance. You can specify the maximum amount of time that the scan engine devotes to extracting a file and its contents, the maximum file size for container files, and the maximum number of nested levels to be decomposed for scanning.

Symantec Scan Engine also detects mobile code such as Java™, ActiveX®, and standalone script-based threats. Symantec Scan Engine uses Symantec antivirus technologies, including Bloodhound™, for heuristic detection of new or unknown viruses; NAVEX™, which provides protection from new classes of viruses automatically through LiveUpdate; and Striker, for the detection of polymorphic viruses.

The scan engine can also be configured to send alerts when specific thresholds are met or exceeded. For example, if the same type of virus has been detected ten
times in a 20-minute interval, the scan engine can be configured to send an alert to any of the scan engine logging or alerting destinations.

**About Symantec Security Response**

Symantec Scan Engine is supported by the Symantec Security Response team. These Symantec engineers work 24 hours per day, 7 days per week, tracking new virus outbreaks and identifying new virus threats.

For more information about protection against a specific virus, visit the Symantec Security Response Web site at: [http://securityresponse.symantec.com](http://securityresponse.symantec.com)

For more information, see the *Symantec Scan Engine Implementation Guide*. 

**About preparing for installation**

Before you install Symantec Antivirus for Network Attached Storage, you should ensure that your computer meets the system requirements for installing the scan engine. The scan engine is included on the Symantec AntiVirus for Network Attached Storage CD.

If the scan engine uses RPC protocol to interface with your network attached storage device, Symantec Scan Engine must be installed on Windows 2000 Server/Windows 2003 Server/Windows 2008 Server platforms only.

For more information about installing the scan engine, see the *Symantec Scan Engine Implementation Guide* on the product CD.

**Windows system requirements**

The following are the system requirements for installing Symantec AntiVirus for Network Attached Storage on a Windows 2000 Server/Windows 2003 Server/Windows 2008 Server:

- **Operating system**
  - Windows 2000 Server with the latest service pack
  - Windows Server 2003 (32-bit)
  - Windows Server 2003 R2 (32-bit and 64-bit)
  - Windows Server 2008 (32-bit and 64-bit)
  - Windows Server 2008 R2 (64-bit)

- **Processor**
  - Pentium 4 processor 3.4 GHz or higher

- **Memory**
  - 2 GB of RAM or higher
Disk space
2 GB of hard disk space
10 GB of hard disk space for using URL Filtering feature

Hardware
- 1 network interface card (NIC) running TCP/IP with a static IP address
- Internet connection to update definitions
- 100 Mbits/s Ethernet link (1 Gbit/s recommended)

Software
- J2SE Runtime Environment (JRE) 5.0 (update 13 or later) or JRE 6.0
  The most current version of JRE 5.0 and JRE 6.0 at the time of product ship is provided on the product CD in the following folder: Tools\Java\Win32
- One of the following Web browsers to access the Symantec Scan Engine console
  - Microsoft Internet Explorer 6 (SP1) or later
    Use Microsoft Internet Explorer to access the Symantec Scan Engine console from a Windows client computer.
  - Mozilla Firefox 1.5 or later
    Use Mozilla Firefox to access the Symantec Scan Engine console from a Solaris or Linux client computer.
  
  The Web browser is only required for Web-based administration. You must install the Web browser on a computer from which you want to access the Symantec Scan Engine console. The computer must have access to the server on which Symantec Scan Engine runs.

Solaris system requirements

The following are the system requirements for installing Symantec AntiVirus for Network Attached Storage on a Sun Solaris system:

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Solaris 9 and 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>SPARC® 3.4 GHz or higher</td>
</tr>
<tr>
<td>Memory</td>
<td>2 GB of RAM or higher</td>
</tr>
<tr>
<td>Disk space</td>
<td>2 GB of hard disk space</td>
</tr>
<tr>
<td></td>
<td>10 GB of hard disk space for using URL Filtering feature</td>
</tr>
</tbody>
</table>
### Hardware
- 1 network interface card (NIC) running TCP/IP with a static IP address
- Internet connection to update definitions
- 100 Mbits/s Ethernet link (1 Gbit/s recommended)

### Software
- J2SE Runtime Environment (JRE) 5.0 (update 13 or later) or JRE 6.0
  The most current version of JRE 5.0 and JRE 6.0 at the time of product ship is provided on the product CD in the following folder: Tools\Java\Solaris
  If you install the self-extracting JRE, ensure that you note the installation location. You must provide the location of the JRE if the installer is unable to detect it.
- One of the following Web browsers to access the Symantec Scan Engine console
  - Mozilla Firefox 1.5 or later
    Use Mozilla Firefox to access the Symantec Scan Engine console from a Solaris or Linux client computer.
  - Microsoft Internet Explorer 6 (SP1) or later
    Use Microsoft Internet Explorer to access the Symantec Scan Engine console from a Windows client computer.

The Web browser is only required for Web-based administration. You must install the Web browser on a computer from which you want to access the Symantec Scan Engine console. The computer must have access to the server on which Symantec Scan Engine runs.

### Linux system requirements

The following are the system requirements for installing Symantec AntiVirus for Network Attached Storage on a Linux system:

<table>
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<tr>
<th>Operating system</th>
</tr>
</thead>
<tbody>
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<td>Red Hat Linux Enterprise Server 3 and 4</td>
</tr>
<tr>
<td>Red Hat Linux Advanced Server 3 and 4</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 5 (32-bit and 64-bit)</td>
</tr>
<tr>
<td>SUSE Linux Enterprise Server 9 (32-bit)</td>
</tr>
<tr>
<td>SUSE Linux Enterprise Server 10 and 11 (32-bit and 64-bit)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Processor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentium 4 processor 3.4 GHZ or higher</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 GB of RAM or higher</td>
</tr>
</tbody>
</table>
Disk space

- 2 GB of hard disk space
- 10 GB of hard disk space for using URL Filtering feature

Hardware

- 1 network interface card (NIC) running TCP/IP with a static IP address
- Internet connection to update definitions
- 100 Mbits/s Ethernet link (1 Gbit/s recommended)

Software

- Ensure that the following packages are installed:
  - GNU sharutils-4.6.1-2 or later
    Use this package to expand the Rapid Release packages.
  - ncompress-4.2.4-44 or later
    Use this package to expand the Rapid Release packages.
  - initscripts
    This package is required for Red Hat Linux only.
  - aaa_base package
    This package is required for SuSE only.
  - J2SE Runtime Environment (JRE) 5.0 (update 13 or later) or JRE 6.0
    The most current version of JRE 5.0 and JRE 6.0 at the time of product ship is provided on the product CD in the following folder: Tools\Java\Red Hat
    Install the JRE using Red Hat Package Manager (RPM).
    Ensure that you note the installation location. You must provide the location of the JRE if the installer is unable to detect it.

- One of the following Web browsers to access the Symantec Scan Engine console
  - Mozilla Firefox 1.5 or later
    Use Mozilla Firefox to access the Symantec Scan Engine console from a Solaris or Linux client computer.
  - Microsoft Internet Explorer 6 (SP1) or later
    Use Microsoft Internet Explorer to access the Symantec Scan Engine console from a Windows client computer.

The Web browser is only required for Web-based administration. You must install the Web browser on a computer from which you want to access the Symantec Scan Engine console. The computer must have access to the server on which Symantec Scan Engine runs.
Post-installation tasks

The Symantec AntiVirus for Network Attached Storage connectors do not require licensing from Symantec. However, you must install the appropriate licenses for Symantec Scan Engine. These licenses are required to activate antivirus scanning functionality for the scan engine and to receive updated virus definitions.

For more information about licensing, see the *Symantec Scan Engine Implementation Guide*.

After you install and configure the scan engine, you must configure the connector for your network attached storage device to send files to the scan engine.
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