

Veritas InfoScale™ 7.0

Readme First - Linux

Installing Veritas InfoScale products

This document includes the following topics:

- [Important release information](#)
- [About Veritas Services and Operations Readiness Tools](#)
- [System requirements](#)
- [Performing preinstallation checks and configuration](#)
- [Prechecking your systems using the installer](#)
- [About configuring secure shell or remote shell communication modes before installing products](#)
- [Manually configuring passwordless ssh](#)
- [Restarting the ssh session](#)
- [Enabling rsh for Linux](#)
- [Mounting a software disc](#)
- [Downloading the Veritas InfoScale software](#)
- [Installing and upgrading prerequisites](#)
- [Starting and stopping processes for the Veritas InfoScale products](#)
- [Restarting the installer after a failed connection](#)
- [Installation program has improved failure handling](#)

Important release information

Review the Release notes for the latest information before you install the product.

Review the current compatibility lists to confirm the compatibility of your hardware and software:

- For important updates regarding this release, review the Late-Breaking News TechNote on the Symantec Technical Support website:
<http://www.veritas.com/docs/000025342>
- For the latest patches available for this release, go to:
<https://sort.veritas.com/>
- The hardware compatibility list contains information about supported hardware and is updated regularly. For the latest information on supported hardware, visit the following URL:
<http://www.veritas.com/docs/000025352>
- The software compatibility list summarizes each Veritas InfoScale product stack and the product features, operating system versions, and third-party products it supports. For the latest information on supported software, visit the following URL:
<http://www.veritas.com/docs/000025344>

About Veritas Services and Operations Readiness Tools

[Veritas Services and Operations Readiness Tools \(SORT\)](#) is a website that automates and simplifies some of the most time-consuming administrative tasks. It helps you identify risks in your datacenters and improve operational efficiency, enabling you to manage the complexity that is associated with datacenter architectures and scale.

[Table 1-1](#) lists three major datacenter tasks and the SORT tools that can help you accomplish them.

Table 1-1 Datacenter tasks and the SORT tools

Task	SORT tools
Prepare for installations and upgrades	■ Installation and Upgrade checklists Display system requirements including memory, disk space, and architecture. ■ Installation and Upgrade custom reports Create reports that determine if you're ready to install or upgrade a Veritas InfoScale product. ■ Array-specific Module Finder List the latest Array Support Libraries (ASLs) and Array Policy Modules (APMs) for UNIX servers, and Device Driver Installers (DDIs) and Device Discovery Layers (DDLs) for Windows servers. ■ High Availability Agents table Find and download the agents for applications, databases, replication, and Symantec partners.
Identify risks and get server-specific recommendations	■ Patch notifications Receive automatic email notifications about patch updates. (Sign in required.) ■ Risk Assessment check lists Display configuration recommendations based on your Veritas InfoScale product and platform. ■ Risk Assessment custom reports Create reports that analyze your system and give you recommendations about system availability, storage use, performance, and best practices. ■ Error code descriptions and solutions Display detailed information on thousands of error codes.

Table 1-1 Datacenter tasks and the SORT tools *(continued)*

Task	SORT tools
Improve efficiency	■ Patch Finder List and download patches for your Veritas InfoScale enterprise products. ■ License/Deployment custom reports Create custom reports that list your installed Veritas InfoScale products and license keys. Display licenses by product, platform, server tier, and system. ■ Symantec Performance Value Unit (SPVU) Calculator Use the calculator to assist you with the pricing meter transition. ■ Documentation List and download Veritas InfoScale product documentation, including manual pages, product guides, and support articles. ■ Related links Display links to Veritas InfoScale product support, forums, customer care, and vendor information on a single page.

SORT is available at no additional charge.

To access SORT, go to:

<https://sort.symantec.com>

System requirements

See your product Release Notes for more information.

Performing preinstallation checks and configuration

This document is designed for system administrators who already have a knowledge of basic UNIX system and network administration. Basic knowledge includes commands such as `tar`, `mkdir`, and simple shell scripting. Also required is basic familiarity with the specific platform and operating system where the Veritas InfoScale product is installed.

Only users with superuser (`root`) privileges can install Veritas InfoScale products.

Review the preinstallation requirements and system requirements. Install the operating system before installing the Veritas InfoScale software.

Mount the Veritas InfoScale software disc, or download and uncompress the Veritas InfoScale software.

If patches to the Linux operating system are required, the patches should be applied prior to installing the Veritas InfoScale products. Patches may be required to resolve Linux kernel, product performance, or other issues.

The system should be in a quiescent state before adding patches.

See the product *Release Notes* for last minute information on recommended patches.

For remote installation, or installation on multiple systems, set up rsh or ssh.

See [“About configuring secure shell or remote shell communication modes before installing products”](#) on page 6.

Prechecking your systems using the installer

The precheck option checks for the following:

- Recommended swap space for installation
- Recommended memory sizes on target systems for Veritas InfoScale programs for best performance
- Required operating system versions

To use the precheck option

- 1 Start the installer from root on the system where you want to perform the check.

```
# ./installer
```

In the Task Menu, press the p key to start the precheck.

- 2 Enter the system name or the IP address of the system that you want to check.
- 3 Review the output and make the changes that the installer recommends.

About configuring secure shell or remote shell communication modes before installing products

Establishing communication between nodes is required to install Veritas InfoScale software from a remote system, or to install and configure a system. The system from which the installer is run must have permissions to run `rsh` (remote shell) or

`ssh` (secure shell) utilities. You need to run the installer with superuser privileges on the systems where you plan to install the Veritas InfoScale software.

You can install products to remote systems using either secure shell (`ssh`) or remote shell (`rsh`). Symantec recommends that you use `ssh` as it is more secure than `rsh`.

You can set up `ssh` and `rsh` connections in many ways.

- You can manually set up the `ssh` and `rsh` connection with UNIX shell commands.
- You can run the `installer -comsetup` command to interactively set up `ssh` and `rsh` connection.
- You can run the password utility, `pwdutil.pl`.

This section contains an example of how to set up `ssh` password free communication. The example sets up `ssh` between a source system (`sys1`) that contains the installation directories, and a target system (`sys2`). This procedure also applies to multiple target systems.

Note: The product installer supports establishing passwordless communication.

Manually configuring passwordless ssh

The `ssh` program enables you to log into and execute commands on a remote system. `ssh` enables encrypted communications and an authentication process between two untrusted hosts over an insecure network.

In this procedure, you first create a DSA key pair. From the key pair, you append the public key from the source system to the `authorized_keys` file on the target systems.

Read the `ssh` documentation and online manual pages before enabling `ssh`. Contact your operating system support provider for issues regarding `ssh` configuration.

Visit the Openssh website that is located at: <http://openssh.org> to access online manuals and other resources.

To create the DSA key pair

- 1 On the source system (sys1), log in as root, and navigate to the root directory.

```
sys1 # cd /root
```

- 2 To generate a DSA key pair on the source system, type the following command:

```
sys1 # ssh-keygen -t dsa
```

System output similar to the following is displayed:

```
Generating public/private dsa key pair.  
Enter file in which to save the key (/root/.ssh/id_dsa):
```

- 3 Press Enter to accept the default location of /root/.ssh/id_dsa.
- 4 When the program asks you to enter the passphrase, press the Enter key twice.

```
Enter passphrase (empty for no passphrase):
```

Do not enter a passphrase. Press Enter.

```
Enter same passphrase again:
```

Press Enter again.

- 5 Output similar to the following lines appears.

```
Your identification has been saved in /root/.ssh/id_dsa.  
Your public key has been saved in /root/.ssh/id_dsa.pub.  
The key fingerprint is:  
1f:00:e0:c2:9b:4e:29:b4:0b:6e:08:f8:50:de:48:d2 root@sys1
```

To append the public key from the source system to the `authorized_keys` file on the target system, using secure file transfer

- 1 From the source system (sys1), move the public key to a temporary file on the target system (sys2).

Use the secure file transfer program.

In this example, the file name `id_dsa.pub` in the root directory is the name for the temporary file for the public key.

Use the following command for secure file transfer:

```
sys1 # sftp sys2
```

If the secure file transfer is set up for the first time on this system, output similar to the following lines is displayed:

```
Connecting to sys2 ...
The authenticity of host 'sys2 (10.182.00.00)'
can't be established. DSA key fingerprint is
fb:6f:9f:61:91:9d:44:6b:87:86:ef:68:a6:fd:88:7d.
Are you sure you want to continue connecting (yes/no)?
```

- 2 Enter `yes`.

Output similar to the following is displayed:

```
Warning: Permanently added 'sys2,10.182.00.00'
(DSA) to the list of known hosts.
root@sys2 password:
```

- 3 Enter the root password of sys2.
- 4 At the `sftp` prompt, type the following command:

```
sftp> put /root/.ssh/id_dsa.pub
```

The following output is displayed:

```
Uploading /root/.ssh/id_dsa.pub to /root/id_dsa.pub
```

- 5 To quit the SFTP session, type the following command:

```
sftp> quit
```

- 6 Add the `id_dsa.pub` keys to the `authorized_keys` file on the target system. To begin the `ssh` session on the target system (sys2 in this example), type the following command on sys1:

```
sys1 # ssh sys2
```

Enter the root password of sys2 at the prompt:

```
password:
```

Type the following commands on sys2:

```
sys2 # cat /root/id_dsa.pub >> /root/.ssh/authorized_keys
sys2 # rm /root/id_dsa.pub
```

- 7 Run the following commands on the source installation system. If your `ssh` session has expired or terminated, you can also run these commands to renew the session. These commands bring the private key into the shell environment and make the key globally available to the user `root`:

```
sys1 # exec /usr/bin/ssh-agent $SHELL
sys1 # ssh-add
```

```
Identity added: /root/.ssh/id_dsa
```

This shell-specific step is valid only while the shell is active. You must execute the procedure again if you close the shell during the session.

To verify that you can connect to a target system

- 1 On the source system (sys1), enter the following command:

```
sys1 # ssh -l root sys2 uname -a
```

where `sys2` is the name of the target system.

- 2 The command should execute from the source system (sys1) to the target system (sys2) without the system requesting a passphrase or password.
- 3 Repeat this procedure for each target system.

Restarting the ssh session

After you complete this procedure, `ssh` can be restarted in any of the following scenarios:

- After a terminal session is closed
- After a new terminal session is opened

- After a system is restarted
- After too much time has elapsed, to refresh ssh

To restart ssh

- 1 On the source installation system (sys1), bring the private key into the shell environment.

```
sys1 # exec /usr/bin/ssh-agent $SHELL
```

- 2 Make the key globally available for the user `root`

```
sys1 # ssh-add
```

Enabling rsh for Linux

The following section describes how to enable remote shell.

Symantec recommends configuring a secure shell environment for Veritas InfoScale product installations.

See [“Manually configuring passwordless ssh”](#) on page 7.

See the operating system documentation for more information on configuring remote shell.

To enable rsh for rhel6/sles

- 1 To ensure that the `rsh` and `rsh-server` RPMs are installed, type the following command:

```
# rpm -qa | grep -i rsh
```

If it is not already in the file, type the following command to append the line `"rsh"` to the `/etc/securetty` file:

```
# echo "rsh" >> /etc/securetty
```

- 2 Modify the line `disable = no` in the `/etc/xinetd.d/rsh` file.
- 3 In the `/etc/pam.d/rsh` file, change the `"auth"` type from `"required"` to `"sufficient"`:

```
auth      sufficient
```

- 4 Add the `"promiscuous"` flag into `/etc/pam.d/rsh` and `/etc/pam.d/rlogin` after item `"pam_rhosts_auth.so"`.

- 5 To enable the rsh server, type the following command:

```
# chkconfig rsh on
```

- 6 Modify the `.rhosts` file. Each line of the `.rhosts` file contains a fully qualified domain name or IP address for each remote system. This file also contains the name of a user having access to the local system. For example, if the root user must remotely access `sys1` from `sys2`, add an entry for `sys2.companyname.com` to the `.rhosts` file on `sys1` by typing the following command:

```
# echo "sys2.companyname.com" >> $HOME/.rhosts
```

- 7 Install the Veritas InfoScale product.

To disable rsh for rhel6/sles

- 1 Remove the "rsh" entry in the `/etc/securetty` file.
- 2 Disable the rsh server by typing the following command:

```
# chkconfig rsh off
```

- 3 After you complete an installation procedure, delete the `.rhosts` file from each user's `$HOME` directory to ensure security:

```
# rm -f $HOME/.rhosts
```

To enable rsh for rhel7

- ◆ Run the following commands to enable rsh passwordless connection:

```
# systemctl start rsh.socket
# systemctl start rlogin.socket
# systemctl enable rsh.socket
# systemctl enable rlogin.socket
# echo rsh >> /etc/securetty
# echo rlogin >> /etc/securetty
# echo "+ +" >> /root/.rhosts
```

To disable rsh for rhel7

- ◆ Run the following commands to disable rsh passwordless connection:

```
# systemctl stop rsh.socket
# systemctl stop rlogin.socket
# systemctl disable rsh.socket
# systemctl disable rlogin.socket
```

Mounting a software disc

Veritas InfoScale software is provided on a DVD format disc. If you have the media kit, then get the software disc from the media kit.

To mount the software disc

- 1 Log in as superuser.
- 2 Place the Veritas InfoScale software disc into a DVD drive connected to your system.

Note: For platforms that do not have access to the cdrom, copy the software packages to virtual machines using ftp.

- 3 Insert the disc and type the following command:

```
# mount -t iso9660 /dev/sr0 /media
```

- 4 Change to the appropriate distribution directory and product subdirectory to view the product release notes and installation guides, or install the products.

Downloading the Veritas InfoScale software

Before you download the software, verify that you have enough space on your filesystem to store the downloaded software.

The estimated space for download, gunzip, and tar extract is 1 GB.

To see the space available, you can use the `df` command with the name of the local file system where you intend to download the software.

```
# df -k filesystem
```

Caution: When you select a location to download files, do not select a directory that contains Veritas InfoScale products from a previous release or maintenance pack. Make sure that different versions exist in different directories.

To download the trialware software

- 1 Open the following link in your browser:
<http://www.symantec.com/index.jsp>
- 2 In Products and Solutions section, click the **Trialware** link.
- 3 On the next page near the bottom of the page, click **Business Continuity**.
- 4 Under Cluster Server, click **Download**.
- 5 In the new window, click **Download Now**.
- 6 Review the terms and conditions, and click **I agree**.
- 7 You can use existing credentials to log in or create new credentials.
- 8 Find the product that you want to download and select it. Continue with the installation.

Note: Trialware is the full product version. The enabled licensing places the product in a demo or a trial state.

Installing and upgrading prerequisites

See your product Installation Guide for more information.

Starting and stopping processes for the Veritas InfoScale products

After the installation and configuration is complete, the Veritas InfoScale product installer starts the processes that the installed products use. You can use the product installer to stop or start the processes, if required.

To stop the processes

- ◆ Use the `-stop` option to stop the product installation script.

For example, to stop the product's processes, enter the following command:

```
# ./installer -stop
```

To start the processes

- ◆ Use the `-start` option to start the product installation script.

For example, to start the product's processes, enter the following command:

```
# ./installer -start
```

Restarting the installer after a failed connection

If an installation is killed because of a failed connection, you can restart the installer to resume the installation. The installer detects the existing installation. The installer prompts you whether you want to resume the installation. If you resume the installation, the installation proceeds from the point where the installation failed.

Installation program has improved failure handling

The product installer has improved ability to recover from failed installations, as follows:

- A recovery file is created if an installation fails due to a failed network connection. This file enables the install program to resume from the point where the installation failed.
- New options are available to start or stop the Veritas processes without requiring a full installation or configuration.