

Veritas InfoScale™ 7.4 Getting Started Guide - Solaris

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Documentation

Make sure that you have the current version of the documentation. Each document displays the date of the last update on page 2. The latest documentation is available on the Veritas website:

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Veritas Services and Operations Readiness Tools (SORT)

Veritas Services and Operations Readiness Tools (SORT) is a website that provides information and tools to automate and simplify certain time-consuming administrative tasks. Depending on the product, SORT helps you prepare for installations and upgrades, identify risks in your datacenters, and improve operational efficiency. To see what services and tools SORT provides for your product, see the data sheet:

https://sort.veritas.com/data/support/SORT_Data_Sheet.pdf

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Veritas InfoScale products overview

This chapter includes the following topics:

- [About this guide](#)
- [About the Veritas InfoScale product suite](#)
- [About Veritas InfoScale product licensing](#)

About this guide

This guide provides a high-level overview of installing Veritas Infoscale products using the script-based installer. There are other installation methods that are not described in this guide. For the other installation methods, refer to the *Veritas InfoScale Installation Guide*. This guide is useful for new users and returning users that want a quick refresher.

Note: Before you install, see the release notes for the system requirements, supported operating system versions, disk space usage, and other hardware or software requirements.

About the Veritas InfoScale product suite

The Veritas InfoScale product suite addresses enterprise IT service continuity needs. They provide resiliency and software defined storage for critical services across a data center in physical, virtual, and cloud environments. The clustering solution provides high availability and disaster recovery for applications across geographies.

The Veritas InfoScale product suite offers the following products:

- Veritas InfoScale Foundation
- Veritas InfoScale Storage
- Veritas InfoScale Availability
- Veritas InfoScale Enterprise

About Veritas InfoScale product licensing

You must obtain a license to install and use Veritas InfoScale products.

You can choose one of the following licensing methods when you install a product:

- Install product with a permanent license
When you purchase a Veritas InfoScale product, you receive a License Key certificate. The certificate specifies the products and the number of product licenses purchased.
See “[Registering Veritas InfoScale using permanent license key file](#)” on page 6.
- Install product without a permanent license key (keyless licensing)
Installation without a license does not eliminate the need to obtain a license. The administrator and company representatives must ensure that a server or cluster is entitled to the license level for the products installed. Veritas reserves the right to ensure entitlement and compliance through auditing.
See “[Registering Veritas InfoScale using keyless license](#)” on page 8.

Visit the Veritas licensing Support website, for more information about the licensing process.

www.veritas.com/licensing/process

Registering Veritas InfoScale using permanent license key file

If license key files are required while registering Veritas InfoScale using a permanent license key file. Ensure that the license key file is downloaded on the local host, where you want to install or upgrade the product.

Note: The license key file must not be saved in the root (“/”) directory of the local host. You can save the licence key file inside any other directory on the local host

You can register your permanent license key file in the following ways:

Using the installer

You can register your InfoScale product using a permanent license key file during the installation process.

- Run the following command:

```
./installer
```

- During the installation, the following interactive message appears:

```
1) Enter a valid license key(key file path needed)
2) Enable keyless licensing and complete system
licensing later
```

```
How would you like to license the systems? [1-2,q] (2)
```

- Enter **1** to register the license key.
- Then provide the absolute path of the .slf license key file saved on the current node.

Example:

```
/downloads/InfoScale_keys/XYZ.slf
```

Alternatively, you can register your InfoScale product using the installer menu.

- Run the following command:

```
./installer
```

- Select the **L) License a Product** option in the installer menu.
- Then proceed to provide the licensing details as prompted.

To install InfoScale using the installer:

Manual

If you are performing a fresh installation, run the following commands on each node:

```
# cd /opt/VRTS/bin  
# ./vxlicinstupgrade -k <key file path>
```

or

```
# ./vxlicinst -k <key file path>
```

then,

```
# vxdctl license init
```

Note: It is recommended to use the `vxlicinstupgrade` utility to manage licenses. The `vxlicinst` utility is expected to be deprecated in near future.

If you are performing an upgrade, run the following commands on each node:

```
# cd /opt/VRTS/bin  
# ./vxlicinstupgrade -k <key file path>
```

For more information:

Even though other products are included on the enclosed software discs, you can only use the Veritas InfoScale software products for which you have purchased a license.

Registering Veritas InfoScale using keyless license

You can enable keyless licensing for your product in the following ways:

Using the `installer`

You can enable keyless licensing for InfoScale during the installation process.

- Run the following command:

```
./installer
```

- During the installation, the following interactive message appears:

```
1) Enter a valid license key(key file path needed)
2) Enable keyless licensing and complete system
licensing later
```

```
How would you like to license the systems? [1-2,q] (2)
```

- Enter **2** to enable keyless licensing.

Alternatively, you can enable keyless licensing for your InfoScale product using the installer menu.

- Run the following command:

```
./installer
```

- Select the **L) License a Product** option in the installer menu.
- Then proceed to enable keyless licensing as prompted.

To install InfoScale using the installer:

Manual

If you are performing a fresh installation or upgrade, perform the following steps:

- 1 Change your current working directory:

```
# export PATH=$PATH:/opt/VRTSvlic/bin
```

- 2 View the keyless product code for the product you want to install:

```
# vxkeyless displayall
```

- 3 Enter the product code in the exact format as displayed in the previous step:

```
# vxkeyless set <product code>
```

Example:

```
# vxkeyless set ENTERPRISE
```

For more information:

Warning: Within 60 days of choosing this option, you must install a valid license key file corresponding to the license level entitled, or continue with keyless licensing by managing the systems with Veritas InfoScale Operation Manager. If you fail to comply with the above terms, continuing to use the Veritas InfoScale product is a violation of your End User License Agreement, and results in warning messages.

For more information about keyless licensing, see the following URL:

<http://www.veritas.com/community/blogs/introducing-keyless-feature-enablement-storage-foundation-ha-51>

For more information to use keyless licensing and to download the Veritas InfoScale Operation Manager, see the following URL:

www.veritas.com/product/storage-management/infoscale-operations-manager

Installation and configuration of Veritas InfoScale products

This chapter includes the following topics:

- [Obtaining the product binaries](#)
- [Directory structure](#)
- [Mounting the ISO image](#)
- [Assessing your systems](#)
- [Installing your Veritas InfoScale product](#)
- [Configuring your Veritas InfoScale product](#)

Obtaining the product binaries

The installation media or tar ball includes multiple products. When you run the installation program, you can choose which product to install. If you are not sure which product to install, refer to the high-level overview about the products.

If you are not installing from the installation media, you need to obtain the product binaries from Veritas's electronic distribution site.

Obtaining the product binaries

- 1 Call Customer Care for your region by following the instructions provided at:

<https://www.veritas.com/customer-center.html>

Do one of the following:

- If you have not obtained a license, ask Customer Care to email you a licensing template. Follow the instructions in the email to license your product, and repeat these instructions.
 - If you have already obtained a license, ask Customer Care to email you a FileConnect download template.
- 2 Locate the email that contains the FileConnect download template, and locate the serial number. (The serial number is not a license key; it is a code you need to download Veritas Infoscale products from the portal).
 - 3 Go to Veritas's electronic distribution website at:
<https://www.veritas.com/customer-center.html>.
 - 4 Select a language.
 - 5 Enter the serial number contained in the FileConnect download email, and click **Enter**, and then agree to the license agreement.
 - 6 Select the product you want to download.
 - 7 Under step 1, select a download method. Do one of the following:
 - If you are only downloading one item, click **HTTP Download** to make the download go faster.
 - If you are downloading more than one item, click **Managed Download**.
 - 8 Select the product you want to download, and click **Begin Downloading**.

The binaries are available as a tar file or as an ISO image.

.tar.gz format

- 1 Open the tar file and save it to your local system.
- 2 Unzip the tar file.

```
# gunzip Veritas_InfoScale_\
<version>_<platform>.tar.gz
```

- 3 Untar the file. For example, enter the following:

```
# tar -xvf Veritas_InfoScale_\
<version>_<platform>.tar
```

ISO image format

See "Mounting the ISO image" on page 13.

Directory structure

Table 2-1 lists the directory and contents of the Veritas InfoScale product suite.

These are contained in directories for each supported operating system or architecture.

Table 2-1 Veritas InfoScale product directories

Directory name or file name	Contents
EULA	Veritas software license agreement
copyright	The Copyright (©) file
installer	Product installation script
perl	Perl language binaries and library functions
pkgs	Veritas InfoScale product packages
scripts	Veritas InfoScale scripts
windows	Volume Replicator Advisor Windows client

Mounting the ISO image

An ISO file is a disc image that must be mounted to a virtual drive for use. You must have superuser (root) privileges to mount the Veritas InfoScale ISO image.

To mount the ISO image

- 1 Log in as superuser on a system where you want to install Veritas InfoScale.
- 2 Associate the ISO image to a block device:

```
# lofiadm -a <ISO_image_path> <block_device>
```

Where:

<ISO_image_path> is the complete path to the ISO image

<block_device> is the complete path to the block device

- 3 Mount the image:

```
# mount -F hsfs -o ro <block_device> /mnt
```

Assessing your systems

Before you install, you can assess your systems for installation readiness using one of the following methods:

Automatically assessing your systems See “[Automatically assessing your systems](#)” on page 14.

Manually assessing your systems See “[Manually assessing your systems](#)” on page 15.

Automatically assessing your systems

You can use the data collection tool available on the Veritas Services and Operations Readiness Tools (SORT) website to create a custom report that assesses your systems for installation readiness, and provides all the information you need to install your Veritas InfoScale product.

Note: If you automatically assess your systems, you can skip the instructions for creating a preinstallation checklist and checking the hardware compatibility list. The automatic assessment already generates that information.

To automatically assess your systems

- 1 Go to the My SORT page on the SORT website at:
<https://sort.veritas.com/home>
- 2 Find the **Custom Reports using Data Collectors** widget.
- 3 Click the **Data Collector** tab.
- 4 Click the appropriate link in the **Platform** column to download the data collection tool for your environment.
- 5 Follow the instructions in the readme file to install the data collection tool.
- 6 In your environment, run the data collection tool on each of the systems on which you plan to install the product. The data collection tool analyzes your systems and stores the results in an XML file.
- 7 On the widget's **Upload Report** tab, upload the XML file to generate a report.

If you plan to do a lot of Veritas Infoscale product installations, consider bookmarking the My SORT page on the SORT website at:

<https://sort.veritas.com/home>

Manually assessing your systems

[Table 2-2](#) lists the tasks you need to perform to manually assess your systems.

Table 2-2 Tasks for manually assessing your systems

<p>Filling out the online preinstallation checklist</p>	<p>The preinstallation checklist helps you make sure that your configuration meets the operating system requirements and that you are installing the correct product patch level.</p> <ol style="list-style-type: none"> 1 Go to the Assessments > Install and Upgrade tab on the Veritas Services and Operations Readiness Tools (SORT) website at: https://sort.veritas.com/checklist/install 2 From the drop-down lists, select the information for the Veritas InfoScale product you want to install. <p>You see a checklist with system requirements, patch information, operating system parameters, and product information. You can print the checklist, save it as a PDF, and email it.</p>
<p>Checking the compatibility lists</p>	<p>The hardware compatibility list contains up-to-date information about supported arrays, host bus adapters, switches, and other hardware products. Check the hardware compatibility list to make sure that the hardware in your configuration is supported. Before you install your Veritas InfoScale product, follow any instructions that are needed to prepare your hardware.</p> <p>The software compatibility list summarizes each Veritas InfoScale Solutions product and product features, operating system versions, and third-party products it supports.</p> <ol style="list-style-type: none"> 1 Go to the Documentation > Documents page on the Veritas Services and Operations Readiness Tools (SORT) website at: https://sort.veritas.com/documents 2 From the Document categories list, click the check box for Compatibility lists. 3 Select the compatibility list for your product version and platform. <p>The compatibility list shows as a PDF file in the bottom-left corner of your browser window. Open the PDF and check the hardware or the software information depending on the compatibility list you have selected.</p>

Installing your Veritas InfoScale product

Note: Before you install, run the installation program with the `-precheck` option to check the recommended swap space, optimal memory size, and supported operating system versions.

```
# ./installer -precheck sys1 sys2
```

Keep the following information handy before you start the installation:

- The system name with the fully-qualified domain name
- The product license key if there are no plans to use keyless licensing
- The cluster name and cluster ID (high availability products only)
- The public NIC device name (high availability products only)
- The private heartbeat NIC device name (high availability products only)

To install your product

- 1 Mount the media or navigate to the installation directory.
- 2 From this directory, type the following command to start the installation on the local system. Use this command to install on remote systems if Secure Shell or Remote Shell communication modes are configured:

```
# ./installer
```

- 3 Follow the prompts of the installation program to install your product.

Configuring your Veritas InfoScale product

Each Veritas InfoScale product has several configurable components. The configuration steps differ according to the component you want to configure.

[Table 2-3](#) provides an overview of the configurable components and the corresponding documents that provide the configuration steps.

Table 2-3 Configurable components

Product	Configurable components	Reference documents
Veritas Infoscale Foundation	SF	Refer to the following document: <i>Storage Foundation Configuration and Upgrade Guide</i>
Veritas Infoscale Storage	SF SFCFS	Refer to the following documents: <ul style="list-style-type: none"> ■ <i>Storage Foundation Configuration and Upgrade Guide</i> ■ <i>Storage Foundation Cluster File System High Availability Configuration and Upgrade Guide</i>
Veritas Infoscale Availability	VCS	<i>Cluster Server Configuration and Upgrade Guide</i>
Veritas Infoscale Enterprise	SF SFHA SFCFSHA SF Oracle RAC SF Sybase CE VCS	Refer to the following documents: <ul style="list-style-type: none"> ■ <i>Storage Foundation Configuration and Upgrade Guide</i> ■ <i>Storage Foundation and High Availability Configuration and Upgrade Guide</i> ■ <i>Storage Foundation Cluster File System High Availability Configuration and Upgrade Guide</i> ■ <i>Storage Foundation for Oracle RAC Configuration and Upgrade Guide</i> ■ <i>Storage Foundation for Sybase ASE CE Configuration and Upgrade Guide</i> ■ <i>Cluster Server Configuration and Upgrade Guide</i>

For additional configuration options, consult the feature-specific user documentation.

- *Veritas InfoScale 7.4 Virtualization Guide*
- *Veritas InfoScale 7.4 Solutions Guide*
- *Veritas InfoScale 7.4 Replication Administrator's Guide*
- *Veritas InfoScale 7.4 Disaster Recovery Implementation Guide*
- *Veritas InfoScale SmartIO for Solid-State Drives Solutions Guide*

See [“Veritas InfoScale documentation”](#) on page 22.

Patching and updating

This chapter includes the following topics:

- [Checking installed product versions and downloading maintenance releases and patches](#)
- [Obtaining installer patches](#)

Checking installed product versions and downloading maintenance releases and patches

Use the `installer` command with the `-version` option to:

- Determine the product packages that are installed on your system.
- Download required maintenance releases or patches .

The `version` option or the `showversion` script in the `/opt/VRTS/install` directory checks the specified systems and discovers the following:

- Veritas InfoScale product versions that are installed on the system
- All the required packages and the optional packages installed on the system
- Any required or optional packages (if applicable) that are not present
- Installed patches
- Available base releases (major or minor)
- Available maintenance releases
- Available patch releases

To check your systems and download maintenance releases and patches

- 1 Mount the media, or navigate to the installation directory.
- 2 Start the installer with the `-version` option.

```
# ./installer -version sys1 sys2
```

For each system, the installer lists all of the installed base releases, maintenance releases, and patches, followed by the lists of available downloads.

- 3 If you have Internet access, follow the prompts to download the available maintenance releases and patches to the local system.
- 4 If you do not have Internet access, you can download any needed maintenance releases and patches from the Veritas Services and Operations Readiness Tools (SORT) website in the Patch Finder page at:

<https://sort.veritas.com/patch/finder>

You can obtain installer patches automatically or manually.

See “[Obtaining installer patches](#)” on page 20.

Downloading maintenance releases and patches requires the installer to make outbound networking calls. You can also disable external network connection attempts.

See “[Disabling external network connection attempts](#)” on page 21.

Obtaining installer patches

You can access public installer patches automatically or manually on the Veritas Services and Operations Readiness Tools (SORT) website's Patch Finder page at:

<https://sort.veritas.com/patch/finder>

To download installer patches automatically

- ◆ If you are running Veritas InfoScale version 7.0 or later, and your system has Internet access, the installer automatically imports any needed installer patch, and begins using it.

Automatically downloading installer patches requires the installer to make outbound networking calls. You can also disable external network connection attempts.

See “[Disabling external network connection attempts](#)” on page 21.

If your system does not have Internet access, you can download installer patches manually.

To download installer patches manually

- 1 Go to the Veritas Services and Operations Readiness Tools (SORT) website's Patch Finder page, and save the most current patch on your local system.
- 2 Navigate to the directory where you want to unzip the file you downloaded in step 1.
- 3 Unzip the patch tar file. For example, run the following command:

```
# gunzip cpi-7.4P2-patches.tar.gz
```

- 4 Untar the file. For example, enter the following:

```
# tar -xvf cpi-7.4P2-patches.tar
patches/
patches/CPI7.4P2.pl
README
```

- 5 Navigate to the installation media or to the installation directory.
- 6 To start using the patch, run the `installer` command with the `-require` option. For example, enter the following:

```
# ./installer -require /target_directory/patches/CPI7.4P2.pl
```

Disabling external network connection attempts

When you execute the `installer` command, the installer attempts to make an outbound networking call to get information about release updates and installer patches. If you know your systems are behind a firewall, or do not want the installer to make outbound networking calls, you can disable external network connection attempts by the installer.

To disable external network connection attempts

- ◆ Disable inter-process communication (IPC).

To disable IPC, run the installer with the `-noipc` option.

For example, to disable IPC for system1 (sys1) and system2 (sys2) enter the following:

```
# ./installer -noipc sys1 sys2
```

Where to find more information

This appendix includes the following topics:

- [Veritas InfoScale documentation](#)
- [Documentation set](#)
- [Service and support](#)
- [About Veritas Services and Operations Readiness Tools \(SORT\)](#)

Veritas InfoScale documentation

The latest documentation is available on the Veritas Services and Operations Readiness Tools (SORT) website in the Adobe Portable Document Format (PDF).

See the release notes for information on documentation changes in this release.

Make sure that you are using the current version of documentation. The document version appears on page 2 of each guide. The publication date appears on the title page of each document. The documents are updated periodically for errors or corrections.

<https://sort.veritas.com/documents>

You need to specify the product and the platform and apply other filters for finding the appropriate document.

Documentation set

The Veritas InfoScale documentation includes a common installation guide and release notes that apply to all products. Each component in the Veritas InfoScale

product includes a configuration guide and additional documents such as administration and agent guides.

Note: The GNOME PDF Viewer is unable to view Veritas InfoScale documentation. You must use Adobe Acrobat to view the documentation.

Veritas InfoScale product documentation

[Table A-1](#) lists the documentation for Veritas InfoScale products.

Table A-1 Veritas InfoScale product documentation

Document title	File name	Description
<i>Veritas InfoScale Installation Guide</i>	infoscale_install_74_sol.pdf	Provides information on how to install the Veritas InfoScale products.
<i>Veritas InfoScale Release Notes</i>	infoscale_notes_74_sol.pdf	Provides release information such as system requirements, changes, fixed incidents, known issues, and limitations of Veritas InfoScale.
<i>Veritas InfoScale Getting Started Guide</i>	infoscale_getting_started_74_sol.pdf	Provides a high-level overview of installing Veritas InfoScale products using the script-based installer. The guide is useful for new users and returning users that want a quick refresher.
<i>Veritas InfoScale Solutions Guide</i>	infoscale_solutions_74_sol.pdf	Provides information about how Veritas InfoScale components and features can be used individually and in concert to improve performance, resilience and ease of management for storage and applications.
<i>Veritas InfoScale Virtualization Guide</i>	infoscale_virtualization_74_sol.pdf	Provides information about Veritas InfoScale support for virtualization technologies. Review this entire document before you install virtualization software on systems running Veritas InfoScale products.
<i>Veritas InfoScale SmartIO for Solid State Drives Solutions Guide</i>	infoscale_smartio_solutions_74_sol.pdf	Provides information on using and administering SmartIO with Veritas InfoScale. Also includes troubleshooting and command reference sheet for SmartIO.

Table A-1 Veritas InfoScale product documentation (*continued*)

Document title	File name	Description
<i>Veritas InfoScale Disaster Recovery Implementation Guide</i>	infoscale_dr_impl_74_sol.pdf	Provides information on configuring campus clusters, global clusters, and replicated data clusters (RDC) for disaster recovery failover using Veritas InfoScale products.
<i>Veritas InfoScale Replication Administrator's Guide</i>	infoscale_replication_admin_74_sol.pdf	Provides information on using Volume Replicator (VVR) for setting up an effective disaster recovery plan by maintaining a consistent copy of application data at one or more remote locations.
<i>Veritas InfoScale Troubleshooting Guide</i>	infoscale_tshoot_74_sol.pdf	Provides information on common issues that might be encountered when using Veritas InfoScale and possible solutions for those issues.
<i>Dynamic Multi-Pathing Administrator's Guide</i>	dmp_admin_74_sol.pdf	Provides information required for administering DMP.

Storage Foundation for Oracle RAC documentation

[Table A-2](#) lists the documentation for Storage Foundation for Oracle RAC.

Table A-2 Storage Foundation for Oracle RAC documentation

Document title	File name	Description
<i>Storage Foundation for Oracle RAC Configuration and Upgrade Guide</i>	sfrac_config_upgrade_74_sol.pdf	Provides information required to configure and upgrade the component.
<i>Storage Foundation for Oracle RAC Administrator's Guide</i>	sfrac_admin_74_sol.pdf	Provides information required for administering and troubleshooting the component.

Storage Foundation Cluster File System High Availability documentation

[Table A-3](#) lists the documentation for Storage Foundation Cluster File System High Availability.

Table A-3 Storage Foundation Cluster File System High Availability documentation

Document title	File name	Description
<i>Storage Foundation Cluster File System High Availability Configuration and Upgrade Guide</i>	sfcfsha_config_upgrade_74_sol.pdf	Provides information required to configure and upgrade the component.
<i>Storage Foundation Cluster File System High Availability Administrator's Guide</i>	sfcfsha_admin_74_sol.pdf	Provides information required for administering the component.

Storage Foundation and High Availability

[Table A-4](#) lists the documentation for Storage Foundation and High Availability.

Table A-4 Storage Foundation and High Availability documentation

Document title	File name	Description
<i>Storage Foundation and High Availability Configuration and Upgrade Guide</i>	sfha_config_upgrade_74_sol.pdf	Provides information required to Configure and upgrade the component.

Cluster Server documentation

[Table A-5](#) lists the documents for Cluster Server.

Table A-5 Cluster Server documentation

Title	File name	Description
<i>Cluster Server Configuration and Upgrade Guide</i>	vcs_config_upgrade_74_sol.pdf	Provides information required to configure and upgrade the component.
<i>Cluster Server Administrator's Guide</i>	vcs_admin_74_sol.pdf	Provides information required for administering the component.
<i>Cluster Server Bundled Agents Reference Guide</i>	vcs_bundled_agents_74_sol.pdf	Provides information about bundled agents, their resources and attributes, and more related information.
<i>Cluster Server Agent Developer's Guide</i>	vcs_agent_dev_74_unix.pdf	Provides information about the various Veritas InfoScale agents and procedures for developing custom agents.

Table A-5 Cluster Server documentation (*continued*)

Title	File name	Description
<i>Cluster Server Application Note: Dynamic Reconfiguration for Oracle Servers</i>	vcs_dynamic_reconfig_74_sol.pdf	Provides information on how to perform dynamic reconfiguration operations on VCS clustered system domains of Oracle servers.
<i>Cluster Server Agent for DB2 Installation and Configuration Guide</i>	vcs_db2_agent_74_sol.pdf	Provides notes for installing and configuring the DB2 agent.
<i>Cluster Server Agent for Oracle Installation and Configuration Guide</i>	vcs_oracle_agent_74_sol.pdf	Provides notes for installing and configuring the Oracle agent.
<i>Cluster Server Agent for Sybase Installation and Configuration Guide</i>	vcs_sybase_agent_74_sol.pdf	Provides notes for installing and configuring the Sybase agent.

Storage Foundation documentation

[Table A-6](#) lists the documentation for Storage Foundation.

Table A-6 Storage Foundation documentation

Document title	File name	Description
<i>Storage Foundation Configuration and Upgrade Guide</i>	sf_config_upgrade_74_sol.pdf	Provides information required to configure and upgrade the component.
<i>Storage Foundation Administrator's Guide</i>	sf_admin_74_sol.pdf	Provides information required for administering the component.
<i>Veritas InfoScale Storage and Availability Management for Oracle Databases</i>	infoscale_oracle_admin_74_unix.pdf	Provides information about the deployment and key use cases of the SFDB tools with Veritas InfoScale products in Oracle database environments. It is a supplemental guide to be used in conjunction with other Veritas InfoScale guides.
<i>Veritas File System Programmer's Reference Guide</i>	vxfs_ref_74_sol.pdf	Provides developers with the information necessary to use the application programming interfaces (APIs) to modify and tune various features and components of the Veritas File System.

Veritas InfoScale Operations Manager is a management tool that you can use to manage Veritas InfoScale products. If you use Veritas InfoScale Operations Manager, refer to the Veritas InfoScale Operations Manager product documentation at:

<https://sort.veritas.com/documents>

Service and support

To access the self-service knowledge base, go to the following URL:

https://www.veritas.com/support/en_US.html

About Veritas Services and Operations Readiness Tools (SORT)

Veritas Services and Operations Readiness Tools (SORT) is a Web site that automates and simplifies some of the most time-consuming administrative tasks. SORT helps you manage your datacenter more efficiently and get the most out of your Veritas products.

SORT can help you do the following:

- | | |
|---|---|
| Prepare for your next installation or upgrade | <ul style="list-style-type: none">■ List product installation and upgrade requirements, including operating system versions, memory, disk space, and architecture.■ Analyze systems to determine if they are ready to install or upgrade Veritas products.■ Download the latest patches, documentation, and high availability agents from a central repository.■ Access up-to-date compatibility lists for hardware, software, databases, and operating systems. |
| Manage risks | <ul style="list-style-type: none">■ Get automatic email notifications about changes to patches, array-specific modules (ASLs/APMs/DDIs/DDIs), and high availability agents from a central repository.■ Identify and mitigate system and environmental risks.■ Display descriptions and solutions for hundreds of Veritas error codes. |
| Improve efficiency | <ul style="list-style-type: none">■ Find and download patches based on product version and platform.■ List installed Veritas products and license keys.■ Tune and optimize your environment. |

Note: Certain features of SORT are not available for all products. Access to SORT is available at no extra cost.

To access SORT, go to:

<https://sort.veritas.com>