Veritas InfoScale™ 7.1 Getting Started Guide - Solaris

VERITAS™

Veritas InfoScale Getting Started Guide

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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 document version appears on page 2 of each guide. 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

Contents

Veritas InfoScale products overview

This chapter includes the following topics:

- About this guide

- About the Veritas InfoScale product suite

- Components of the Veritas InfoScale product suite

- About Veritas InfoScale Foundation

- About Veritas InfoScale Storage

- About Veritas InfoScale Availability

- About Veritas InfoScale Enterprise

- 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. It draws on Veritas' long heritage of world-class availability and storage management solutions to help IT teams in realizing ever more reliable operations and better protected information across their physical, virtual, and cloud infrastructures. It provides resiliency and software defined storage for critical services across the datacenter infrastructure. It realizes better Return on Investment (ROI) and unlocks high performance by integrating next-generation storage technologies. The solution provides high availability and disaster recovery for complex multi-tiered applications across any distance. Management operations for Veritas InfoScale are enabled through a single, easy-to-use, web-based graphical interface, Veritas InfoScale Operations Manager.

The Veritas InfoScale product suite offers the following products:

- Veritas InfoScale Foundation

- Veritas InfoScale Storage

- Veritas InfoScale Availability

- Veritas InfoScale Enterprise

Components of the Veritas InfoScale product suite

Each new InfoScale product consists of one or more components. Each component within a product offers a unique capability that you can configure for use in your environment.

Table 1-1 lists the components of each Veritas InfoScale product.

Table 1-1 Veritas InfoScale product suite

Product	Description	Components
Veritas InfoScale™ Foundation	Veritas InfoScale™ Foundation delivers a comprehensive solution for heterogeneous online storage management while increasing storage utilization and enhancing storage I/O path availability.	Storage Foundation (SF) Standard (entry-level features)

Table 1-1 Veritas InfoScale product suite *(continued)*

Product	Description	Components
Veritas InfoScale™ Storage	Veritas InfoScale™ Storage enables organizations to provision and manage storage independently of hardware types or locations while delivering predictable Quality-of-Service, higher performance, and better Return-on-Investment.	Storage Foundation (SF) Enterprise including Replication Storage Foundation Cluster File System (SFCFS)
Veritas InfoScale™ Availability	Veritas InfoScale™ Availability helps keep an organization's information and critical business services up and running on premise and across globally dispersed data centers.	Cluster Server (VCS) including HA/DR
Veritas InfoScale™ Enterprise	Veritas InfoScale™ Enterprise addresses enterprise IT service continuity needs. It provides resiliency and software defined storage for critical services across your datacenter infrastructure.	Cluster Server (VCS) including HA/DR Storage Foundation (SF) Enterprise including Replication Storage Foundation and High Availability (SFHA) Storage Foundation Cluster File System High Availability (SFCFSHA) Storage Foundation for Oracle RAC (SF Oracle RAC) Storage Foundation for Sybase ASE CE (SFSYBASECE)

About Veritas InfoScale Foundation

Veritas InfoScale™ Foundation is specifically designed for enterprise edge-tier, departmental, and test/development systems. InfoScale Foundation combines the industry-leading File System and Volume Manager technology, and delivers a complete solution for heterogeneous online storage management while increasing storage utilization and enhancing storage I/O path availability.

Storage features included in InfoScale Foundation products are listed below:

- No restriction on number of Volumes or File Systems being managed

- Veritas InfoScale Operations Manager Support

- Supports file systems upto 256 TB

- Device names using Array Volume IDs

- Dirty region logging

- Dynamic LUN expansion

- Dynamic Multi-pathing

- Enclosure based naming

- iSCSI device support

- Keyless licensing

- Online file system defragmentation

- Online file system grow & shrink

- Online relayout

- Online volume grow & shrink

Storage features included in InfoScale Storage and Enterprise products, but not included in the InfoScale Foundation product are listed below:

- Hot-relocation

- Remote mirrors for campus clusters

- SCSI-3 based I/O Fencing

- SmartMove

- Split-mirror snapshot

- Thin storage reclamation

- Flexible Storage Sharing

About Veritas InfoScale Storage

Veritas InfoScale™ Storage enables organizations to provision and manage storage independently of hardware types or locations. InfoScale Storage delivers predictable Quality-of-Service by identifying and optimizing critical workloads. InfoScale Storage increases storage agility enabling you to work with and manage multiple types of storage to achieve better ROI without compromising on performance and flexibility.

About Veritas InfoScale Availability

Veritas InfoScale™ Availability helps keep organizations' information available and critical business services up and running with a robust software-defined approach. Organizations can innovate and gain cost benefits of physical and virtual across commodity server deployments. Maximum IT service continuity is ensured at all times, moving resiliency from the infrastructure layer to the application layer.

About Veritas InfoScale Enterprise

Veritas InfoScale™ Enterprise addresses enterprise IT service continuity needs. It provides resiliency and software defined storage for critical services across your datacenter infrastructure. Realize better ROI and unlock high performance by integrating next-generation storage technologies. The solution provides high availability and disaster recovery for complex multi-tiered applications across any distance in physical and virtual environments.

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 with a license key for the product
  When you purchase a Veritas InfoScale product, you receive a License Key certificate. The certificate specifies the product keys and the number of product licenses purchased.
  See "Registering Veritas InfoScale using product license keys" on page 10.

- Install without a 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 product using keyless licensing" on page 11.

If you encounter problems while licensing this product, visit the Veritas licensing Support website.

www.veritas.com/licensing/process

Registering Veritas InfoScale using product license keys

You can register your product license key in the following ways:

Using the `installer`	The installer automatically registers the license at the time of installation or upgrade.

- You can register your license keys during the installation process. During the installation, you will get the following prompt:

```
1) Enter a valid license key
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 your license key.

- You can also register your license keys using the installer menu. Run the following command:

  `./`**installer**

  Select the **L) License a Product** option in the installer menu.

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

cd /opt/VRTS/bin

./vxlicinst -k *license key*

vxdctl license init

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

cd /opt/VRTS/bin

./vxlicinstupgrade -k *license key*

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 product using keyless licensing

The keyless licensing method uses product levels to determine the Veritas InfoScale products and functionality that are licensed.

You can register a Veritas InfoScale product in the following ways:

Using the `installer`	■ Run the following command:
	``` ./installer ```
	The installer automatically registers the license at the time of installation or upgrade. During the installation, you will get the following prompt:
	``` 1) Enter a valid license key 2) Enable keyless licensing and complete system licensing later ```
	``` How would you like to license the systems? [1-2,q] (2) ```
	Enter **2** for keyless licensing.
	■ You can also register your license keys using the installer menu. Run the following command:
	``` ./installer ```
	Select the **L) License a Product** option in the installer menu.
Manual	Perform the following steps after installation or upgrade:
	1 Change your current working directory:
	``` # export PATH=$PATH:/opt/VRTSvlic/bin ```
	2 View the possible settings for the product level:
	``` # vxkeyless displayall ```
	3 Register the desired product:
	``` # vxkeyless set prod_levels ```
	where *prod_levels* is a comma-separated list of keywords. The keywords are the product levels as shown by the output of step 2.

Warning: Within 60 days of choosing this option, you must install a valid license key 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

- 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.

See "Components of the Veritas InfoScale product suite" on page 7.

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/support/en_US.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 16.

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

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 2-1 lists the tasks you need to perform to manually assess your systems.

Table 2-1   Tasks for manually assessing your systems

Filling out the online preinstallation checklist	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.
	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.
	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.

Table 2-1   Tasks for manually assessing your systems *(continued)*

Checking the compatibility lists	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.
	The software compatibility list summarizes each Veritas InfoScale Solutions product and product features, operating system versions, and third-party products it supports.
	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.
	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.

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 2-2 provides an overview of the configurable components and the corresponding documents that provide the configuration steps.

Table 2-2   Configurable components

Product	Configurable components	Reference documents
Veritas Infoscale Foundation	SF	Refer to the following document: *Storage Foundation Configuration and Upgrade Guide*
Veritas Infoscale Storage	SF SFCFS	Refer to the following documents: ■ *Storage Foundation Configuration and Upgrade Guide* ■ *Storage Foundation Cluster File System High Availability Configuration and Upgrade Guide*
Veritas Infoscale Availability	VCS	*Cluster Server Configuration and Upgrade Guide*

Table 2-2   Configurable components *(continued)*

Product	Configurable components	Reference documents
Veritas Infoscale Enterprise	SF SFHA SFCFSHA SF Oracle RAC SF Sybase CE VCS	Refer to the following documents: ■ *Storage Foundation Configuration and Upgrade Guide* ■ *Storage Foundation and High Availability Configuration and Upgrade Guide* ■ *Storage Foundation Cluster File System High Availability Configuration and Upgrade Guide* ■ *Storage Foundation for Oracle RAC Configuration and Upgrade Guide* ■ *Storage Foundation for Sybase ASE CE Configuration and Upgrade Guide* ■ *Cluster Server Configuration and Upgrade Guide*

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

■ *Veritas InfoScale 7.1 Virtualization Guide*

■ *Veritas InfoScale 7.1 Solutions Guide*

■ *Veritas InfoScale 7.1 Replication Administrator's Guide*

■ *Veritas InfoScale 7.1 Disaster Recovery Implementation Guide*

■ *Veritas InfoScale SmartIO for Solid-State Drives Solutions Guide*

See "Veritas InfoScale documentation" on page 26.

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 22.

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 23.

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 23.

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-7.1P2-patches.tar.gz
```

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

```
# tar -xvf cpi-7.1P2-patches.tar
patches/
patches/CPI7.1P2.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/CPI7.1P2.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
```

How the discs are organized

This appendix includes the following topics:

- Contents of the media kit

- Directory structure

Contents of the media kit

Veritas InfoScale Solutions includes several products.

Read this guide and the release notes before you begin an installation procedure.

Veritas InfoScale is a licensed product. Refer to the End User License Agreement (EULA) in the product directories for the terms and the conditions that govern the use of the product.

Contents of the language pack disc

Language discs are not available in every Solaris release.

Veritas InfoScale products are partially or wholly localized in Japanese and Simplified Chinese.

If you purchase a Veritas InfoScale non-English language product, you can find a language disc and a language documentation disc. This disc is located in the Veritas InfoScale Solutions kit. The language disc contains the localized packages that must be installed for Veritas InfoScale products to operate in the supported locale. The language documentation disc contains translated product guides.

Directory structure

lists the directory and contents of the Veritas InfoScale product suite.

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

Table A-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

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

Veritas InfoScale documentation is available in the Adobe Portable Document Format (PDF) on the product media or with the downloaded software.

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

The documentation is available in the `/docs` directory on the product media.

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. The latest documentation is available on the Veritas Services and Operations Readiness Tools (SORT) website.

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 B-1 lists the documentation for Veritas InfoScale products.

Table B-1   Veritas InfoScale product documentation

Document title	File name	Description
Veritas InfoScale Installation Guide	infoscale_install_71_sol.pdf	Provides information on how to install the Veritas InfoScale products.
Veritas InfoScale Release Notes	infoscale_notes_71_sol.pdf	Provides release information such as system requirements, changes, fixed incidents, known issues, and limitations of Veritas InfoScale.
Veritas InfoScale—What's new in this release	infoscale_whatsnew_71_unix.pdf	Provides information about the new features and enhancements in the release.
Veritas InfoScale Getting Started Guide	infoscale_getting_started_71_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.
Veritas InfoScale Solutions Guide	infoscale_solutions_71_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.
Veritas InfoScale Virtualization Guide	infoscale_virtualization_71_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.

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

Document title	File name	Description
Veritas InfoScale SmartIO for Solid State Drives Solutions Guide	infoscale_smartio_solutions_71_sol.pdf	Provides information on using and administering SmartIO with Veritas InfoScale. Also includes troubleshooting and command reference sheet for SmartIO.
Veritas InfoScale Disaster Recovery Implementation Guide	infoscale_dr_impl_71_sol.pdf	Provides information on configuring campus clusters, global clusters, and replicated data clusters (RDC) for disaster recovery failover using Veritas InfoScale products.
Veritas InfoScale Replication Administrator's Guide	infoscale_replication_admin_71_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.
Veritas InfoScale Troubleshooting Guide	infoscale_tshoot_71_sol.pdf	Provides information on common issues that might be encountered when using Veritas InfoScale and possible solutions for those issues.
Dynamic Multi-Pathing Administrator's Guide	dmp_admin_71_sol.pdf	Provides information required for administering DMP.

Storage Foundation for Oracle RAC documentation

Table B-2 lists the documentation for Storage Foundation for Oracle RAC.

Table B-2   Storage Foundation for Oracle RAC documentation

Document title	File name	Description
Storage Foundation for Oracle RAC Configuration and Upgrade Guide	sfrac_config_71_sol.pdf	Provides information required to configure and upgrade the component.
Storage Foundation for Oracle RAC Administrator's Guide	sfrac_admin_71_sol.pdf	Provides information required for administering and troubleshooting the component.

The Veritas InfoScale documents describe functionality and solutions relevant to the SF Oracle RAC product.

Storage Foundation for Sybase ASE CE documentation

Table B-3 lists the documentation for Storage Foundation for Sybase ASE CE.

The Veritas InfoScale documents describe functionality and solutions relevant to the Sybase ASE CE product.

See Table B-1 on page 27.

Table B-3　　　Storage Foundation for Sybase ASE CE documentation

Document title	File name	Description
Storage Foundation for Sybase ASE CE Configuration and Upgrade Guide	sfsybasece_config_71_sol.pdf	Provides information required to configure and upgrade the component.
Storage Foundation for Sybase ASE CE Administrator's Guide	sfsybasece_admin_71_sol.pdf	Provides information required for administering the component.

Storage Foundation Cluster File System High Availability documentation

Table B-4 lists the documentation for Storage Foundation Cluster File System High Availability.

The Veritas InfoScale documents describe functionality and solutions relevant to the SFCFSHA product.

See Table B-1 on page 27.

Table B-4　　　Storage Foundation Cluster File System High Availability documentation

Document title	File name	Description
Storage Foundation Cluster File System High Availability Configuration and Upgrade Guide	sfcfs_config_71_sol.pdf	Provides information required to configure and upgrade the component.
Storage Foundation Cluster File System High Availability Administrator's Guide	sfcfs_admin_71_sol.pdf	Provides information required for administering the component.

Storage Foundation and High Availability

Table B-5 lists the documentation for Storage Foundation and High Availability.

For cluster administration, refer to the Cluster Server Administrator's Guide.

See the section called " Cluster Server documentation" on page 30.

For storage administration, refer to the Storage Foundation Administrator's Guide.

The Veritas InfoScale documents describe functionality and solutions relevant to the SFHA product.

Table B-5   Storage Foundation and High Availability documentation

Document title	File name	Description
Storage Foundation and High Availability Configuration and Upgrade Guide	sfha_config_71_sol.pdf	Provides information required to Configure and upgrade the component.

Cluster Server documentation

Table B-6   Cluster Server documentation

Title	File name	Description
Cluster Server Configuration and Upgrade Guide	vcs_config_71_sol.pdf	Provides information required to configure and upgrade the component.
Cluster Server Administrator's Guide	vcs_admin_71_sol.pdf	Provides information required for administering the component.
Cluster Server Bundled Agents Reference Guide	vcs_bundled_agents_71_sol.pdf	Provides information about bundled agents, their resources and attributes, and more related information.
Cluster Server Generic Application Agent Configuration Guide	vcs_gen_agent_71_sol.pdf	Provides notes for installing and configuring the generic Application agent.
Cluster Server Agent Developer's Guide	vcs_agent_dev_70_unix.pdf	Provides information about the various Veritas InfoScale agents and procedures for developing custom agents.
Cluster Server Application Note: Dynamic Reconfiguration for Oracle Servers	vcs_dynamic_reconfig_71_sol.pdf	Provides information on how to perform dynamic reconfiguration operations on VCS clustered system domains of Oracle servers.
Cluster Server Agent for DB2 Installation and Configuration Guide	vcs_db2_agent_71_sol.pdf	Provides notes for installing and configuring the DB2 agent.
Cluster Server Agent for Oracle Installation and Configuration Guide	vcs_oracle_agent_71_sol.pdf	Provides notes for installing and configuring the Oracle agent.

Table B-6   Cluster Server documentation *(continued)*

Title	File name	Description
Cluster Server Agent for Sybase Installation and Configuration Guide	vcs_sybase_agent_71_sol.pdf	Provides notes for installing and configuring the Sybase agent.

Storage Foundation documentation

Table B-7 lists the documentation for Storage Foundation.

Table B-7   Storage Foundation documentation

Document title	File name	Description
Storage Foundation Configuration and Upgrade Guide	sf_config_71_sol.pdf	Provides information required to configure and upgrade the component.
Storage Foundation Administrator's Guide	sf_admin_71_sol.pdf	Provides information required for administering the component.
Veritas InfoScale Storage and Availability Management for Oracle Databases	infoscale_oracle_admin_70_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.
Veritas File System Programmer's Reference Guide	vxfs_ref_71_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	■ 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	■ Get automatic email notifications about changes to patches, array-specific modules (ASLs/APMs/DDIs/DDLs), 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	■ 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