

```
.feedback_submit { transform: translateX(280px) translateY(0px); font-weight: bold; } #tofeedback{ margin-top: 2px !important; color:#0057B8 !important; font-weight:600 !important; }
```

Installation and Upgrade Checklist Report for Storage Foundation Cluster File System HA 5.1, SUSE Linux Enterprise Server 11 , x86-64

Index

[Back to top](#)

- Important Notes
- System requirements
- Product features
- Product documentation
- Patches for Storage Foundation Cluster File System HA and Platform
- End of Support Life information
- Platform configuration
- Host bus adapter (HBA) parameters and switch parameters
- Operations Manager
- Array Support Libraries (ASLs)

Important Notes

[Back to top](#)

Note: You have not selected the latest product version. Consider installing or upgrading to the latest version; otherwise, you may encounter issues that have already been fixed. To run a new report for the latest product version, select it from the Veritas product drop-down list.

Veritas File Systems with Disk Layout Version 4 or Version 5 Cannot be Mounted or Upgraded with Veritas File System Release 5.1

As documented in the 5.1 Release Notes, Veritas File System (VxFS) 5.1 supports only disk layout Version 6 and Version 7, and no prior disk layout versions can be created or mounted.

Due to a software restriction, the vxfsconvert utility in release 5.1 is currently unable to support a layout upgrade from disk layout Version 4 or Version 5 to disk layout Version 7. The vxfsconvert utility in release 5.1 can still be used to upgrade disk layout Version 2 and Version 3 to disk layout Version 7.

If an upgrade to release 5.1 is performed, it will not be possible to mount any file systems with disk layout Version 4 or Version 5, nor will it be possible to upgrade from disk layout Version 4 or Version 5 to disk layouts Version 6 or Version 7.

For complete details and our recommendations, please visit the following reference document: File systems with disk layout Version 4 or Version 5 cannot be mounted or upgraded running VERITAS File System (VxFS) 5.1 <http://entsupport.symantec.com/docs/339064>

Array Support Libraries (ASLs)

When installing Veritas products, please be aware that ASLs updates are not included in the patches update bundle. Please go to the Array Support Libraries (ASLs) to get the latest updates for your disk arrays.

System requirements

[Back to top](#)

Required number of CPUs: 2

Required disk space:

Partitions	Minimum space required	Maximum space required	Recommended space
/opt	243 MB	422 MB	386 MB
/root	42 MB	44 MB	44 MB
/usr	52 MB	53 MB	53 MB
/var	1 MB	1 MB	1 MB

Supported architectures:

AMD Opteron architecture [\[1\]](#)

Intel EM64T architecture [\[1\]](#)

1. Supports only the 64-bit versions of the software stacks.

Product features

[Back to top](#)

The features in the list are enabled in this release.

Feature	Storage Foundation CFSHA
1-256 TB File System	✓
CFS Multi-transaction server	✓
Cluster File System	✓
Cluster Server	✓
Cluster Volume Manager	✓
Concurrent I/O	✓
Data management application programming interface (DMAPI)	✓
Device names consistent across cluster nodes	✓
Device names using Array Volume IDs	✓
Direct I/O	✓
Dirty region logging	✓
Dynamic LUN expansion	✓
Dynamic Multi-pathing	✓
Dynamic Storage Tiering	✓
Enclosure based naming	✓
File Change Log	✓
File system snapshots	✓
File system storage checkpoints	✓
Flashsnap: Disk group split & join	✓
Flashsnap: Fast resynchronization	✓

Full size instant snapshots	✓
Hardware assisted copy	✓
Hot-relocation	✓
Import cloned LUN	✓
Keyless licensing	✓
Mount lock	✓
Named data streams	✓
Online coordinator disk replacement	✓
Online file system defragmentation	✓
Online file system grow & shrink	✓
Online relay out	✓
Online volume grow & shrink	✓
Operations Manager	✓
Oracle Disk Manager (ODM) and Cached ODM (CODM)	✓
Portable Data Containers (formerly known as Cross-Platform Data Sharing (CDS))	✓
Remote mirrors for campus clusters	✓
Rolling upgrade	✓
SCSI-3 based I/O fencing	✓
SSD device exploitation	✓
Site awareness with remote mirrors	✓
SmartMove	✓
Space-optimized instant snapshot	✓
Split-mirror snapshot	✓
Thin storage reclamation	✓
User & group quotas	✓
iSCSI device support	✓
Volume Replicator option	Optional
Database Dynamic Storage Tiering	Oracle only
Database storage checkpoints & rollback	Oracle only
FlashSnap: Database	Oracle only

Product documentation

[Back to top](#)

Product guides






Release Notes



Veritas Storage Foundation Cluster File System Release Notes - English



Veritas File System Administrator's Guide - English

File System Guides	  Veritas File System Programmer's Reference Guide - English
Storage Foundation Cluster File System Guides	  Veritas Storage Foundation Cluster File System Installation Guide - English
	  Veritas Storage Foundation Cluster File System Administrator's Guide - English
Storage Foundation Cluster File System for Oracle RAC Guides	  Veritas Storage Foundation Cluster File System Administrator's Guide - English

▼

Patches for Storage Foundation Cluster File System HA and Platform

Back to top

Product (recommended)		
Patch	Date	Size
cpi-5.1P4	2011-07-13	2.48 KB
cpi-5.1RP1P2	2011-07-13	2.58 KB
cpi-5.1P2	2010-11-26	3.01 KB
sfha-sles11_x86_64-5.1RP2	2010-09-17	149.86 MB
vm-sles11_x86_64...ltipathing_patch	2010-09-15	12.92 MB
cpi-5.1P1	2010-08-17	1.17 KB
Platform (required)		
No patches required.		

▼

End of Support Life information

Back to top

Last updated on 2024-04-19. Refer to EOSL page for more information about support.			
Release Date(GA)	Extended Support Starts	Sustaining Support Starts	End of Support Life Date(EOSL)
2009-12-05	2016-12-19	2018-12-31	2024-12-31

▼

Platform configuration

Back to top

Unless otherwise stated, the specified Veritas product supports all platform kernel versions.	
Supported platform version	
Product versionPlatform version5.1 SUSE Linux Enterprise Server 11	
Required platform packages:	
libstdc++33-32bit	
glibc-32bit	

Host bus adapter (HBA) parameters and switch parameters

[Back to top](#)

Unless otherwise stated, the specified Veritas product supports all HBAs (except iSCSI HBAs) and fibre channel switches supported by the platform and storage array manufacturers listed in the hardware compatibility list (HCL).

Operations Manager

[Back to top](#)

Veritas InfoScale Operations Manager gives you a single, centralized management console for the InfoScale products. You can use it to monitor, visualize, and manage storage and cluster resources, and generate reports about these components in the Management Server domain. It can also help administrators centrally manage diverse data center environments. This section lists the documents for Veritas InfoScale Operations Manager 8.0.2.

Documentation

Array Support Libraries (ASLs)

[Back to top](#)

Array family (model)	Documentation	Libraries	
3PAR E-Class, S-Class		libvx3par (embedded in the package VRTSaslapm)	See TechNote
Dell EqualLogic PS3000 series		libvxelogic (embedded in the package VRTSaslapm)	See TechNote
Dell EqualLogic PS4000 series		libvxelogic (embedded in the package VRTSaslapm)	See TechNote
Dell EqualLogic PS5000 series		libvxelogic (embedded in the package VRTSaslapm)	See TechNote
Dell EqualLogic PS6000 series		libvxelogic (embedded in the package VRTSaslapm)	See TechNote
Dot Hill 5730		libvxdohill (embedded in the package VRTSaslapm)	See TechNote
EMC CLARiiON AX series		libvxpp (embedded in the package VRTSaslapm)	See TechNote
		libvxCLARiiON (embedded in the package VRTSaslapm)	See TechNote
EMC CLARiiON CX series	CLARiiON CX Series	libvxCLARiiON (embedded in the package VRTSaslapm)	See TechNote
		libvxpp (embedded in the package VRTSaslapm)	See TechNote
EMC CLARiiON CX3 series		libvxCLARiiON (embedded in the package VRTSaslapm)	See TechNote
		libvxpp (embedded in the package VRTSaslapm)	See TechNote
EMC CLARiiON CX3 series with PowerPath		libvxpp (embedded in the package VRTSaslapm)	See TechNote
EMC CLARiiON CX4 series		libvxCLARiiON (embedded in the package VRTSaslapm)	See TechNote
		libvxpp (embedded in the package VRTSaslapm)	See TechNote
EMC CLARiiON CX4 series with PowerPath		libvxpp (embedded in the package VRTSaslapm)	See TechNote
EMC Symmetrix 8000 series	EMC Symmetrix 8000 Series	libvxemc (embedded in the package VRTSaslapm)	See TechNote

EMC Symmetrix DMX series	EMC Symmetrix DMX Architecture	libvxemc (embedded in the package VRTSaslapm)	See TechNote
EMC Symmetrix DMX series with PowerPath	EMC Symmetrix DMX Architecture	libvxemc (embedded in the package VRTSaslapm)	See TechNote
EMC Symmetrix VMAX series		libvxemc (embedded in the package VRTSaslapm)	See TechNote
EMC Symmetrix VMAX series with PowerPath		libvxemc (embedded in the package VRTSaslapm)	See TechNote
EMC VNX series		libvxpp (embedded in the package VRTSaslapm)	See TechNote
		libvxCLARiiON (embedded in the package VRTSaslapm)	See TechNote
EMC VNX series with PowerPath		libvxpp (embedded in the package VRTSaslapm)	See TechNote
EMC VNX2 series with PowerPath		libvxpp (embedded in the package VRTSaslapm)	See TechNote
EMC VNX2 series		libvxCLARiiON (embedded in the package VRTSaslapm)	See TechNote
		libvxpp (embedded in the package VRTSaslapm)	See TechNote
EMC VPLEX		libvxInvista (embedded in the package VRTSaslapm)	See TechNote
Fujitsu ETERNUS DX400/DX500 /DX600 series		libvxFJTSe8k (embedded in the package VRTSaslapm)	See TechNote
		libvxFJTSe8k (embedded in the package VRTSaslapm)	See TechNote
Fujitsu ETERNUS DX60/DX80/DX90 /DX100/DX200 series		libvxfjtsye2k (embedded in the package VRTSaslapm)	See TechNote
		libvxfjtsye2k (embedded in the package VRTSaslapm)	See TechNote
Fujitsu ETERNUS DX8000 series		libvxFJTSe8k (embedded in the package VRTSaslapm)	See TechNote
		libvxFJTSe8k (embedded in the package VRTSaslapm)	See TechNote
Fujitsu ETERNUS2000 series	ETERNUS2000 Disk Storage Systems	libvxfjtsye2k (embedded in the package VRTSaslapm)	See TechNote
		libvxfjtsye2k (embedded in the package VRTSaslapm)	See TechNote
Fujitsu ETERNUS4000 series	ETERNUS4000 Disk Storage Systems	libvxFJTSe8k (embedded in the package VRTSaslapm)	See TechNote
		libvxFJTSe8k (embedded in the package VRTSaslapm)	See TechNote
Fujitsu ETERNUS8000 series	ETERNUS8000 Disk Storage Systems	libvxFJTSe8k (embedded in the package VRTSaslapm)	See TechNote
		libvxFJTSe8k (embedded in the package VRTSaslapm)	See TechNote
Fujitsu FibreCAT SX80/100 series		libvxfsc (embedded in the package VRTSaslapm)	See TechNote
Fujitsu ETERNUS VS850		libvxibmsvc (embedded in the package VRTSaslapm)	See TechNote
		libvxibmsvc (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise 2000 G2 series		libvxmsa2kfc_sa (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise 3PAR F/T-Class, StoreServ 7000/8000/10000 /20000 Storage		libvx3par (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise EVA4000 /6000/8000		libvxhpalua (embedded in the package VRTSaslapm)	See TechNote
		libvxhpalua (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise EVA4100		libvxhpalua (embedded in the package VRTSaslapm)	See TechNote

/6100/8100		libvxhpalua (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise EVA4400 /6400/8400 series		libvxhpalua (embedded in the package VRTSaslapm)	See TechNote
		libvxhpalua (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise MSA2000fc series		libvxmsa2k (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise P2000 G3 MSA series		libvxmsa2kfc_sa (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise P6000 EVA series		libvxhpalua (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise XP10000 /12000		libvxxp1281024 (embedded in the package VRTSaslapm)	See TechNote
		libvxxp12k (embedded in the package VRTSaslapm)	See TechNote
		libvxxp1281024 (embedded in the package VRTSaslapm)	See TechNote
		libvxxp256 (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise XP20000 /24000		libvxxp1281024 (embedded in the package VRTSaslapm)	See TechNote
		libvxxp256 (embedded in the package VRTSaslapm)	See TechNote
		libvxxp1281024 (embedded in the package VRTSaslapm)	See TechNote
		libvxxp12k (embedded in the package VRTSaslapm)	See TechNote
Hewlett Packard Enterprise P9500		libvxxp12k (embedded in the package VRTSaslapm)	See TechNote
		libvxxp256 (embedded in the package VRTSaslapm)	See TechNote
		libvxxp1281024 (embedded in the package VRTSaslapm)	See TechNote
		libvxxp1281024 (embedded in the package VRTSaslapm)	See TechNote
Hitachi AMS/WMS series		libvxhdsalua (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsalua (embedded in the package VRTSaslapm)	See TechNote
Hitachi HUS 100 series	Hitachi Unified Storage 100 Family	libvxhdsalua (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsalua (embedded in the package VRTSaslapm)	See TechNote
Hitachi Lightning 9900V series	Lightning 9900V Series Enterprise Storage Systems	libvxhds9980 (embedded in the package VRTSaslapm)	See TechNote
		libvxhds (embedded in the package VRTSaslapm)	See TechNote
Hitachi SMS/AMS2000 series		libvxhdsalua (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsalua (embedded in the package VRTSaslapm)	See TechNote
Hitachi Thunder 9500V series	Thunder 9500V Series Modular Storage Systems	libvxhdsalua (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsalua (embedded in the package VRTSaslapm)	See TechNote
Hitachi USP/NSC series		libvxhds9980 (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsusp (embedded in the package VRTSaslapm)	See TechNote
		libvxhds (embedded in the package VRTSaslapm)	See TechNote
Hitachi USPV/USPVM		libvxhdsusp (embedded in the package VRTSaslapm)	See TechNote
		libvxhds (embedded in the package VRTSaslapm)	See TechNote

		libvxhds9980 (embedded in the package VRTSaslapm)	See TechNote
Hitachi HUS VM		libvxhds9980 (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsusp (embedded in the package VRTSaslapm)	See TechNote
		libvxhds (embedded in the package VRTSaslapm)	See TechNote
Hitachi TMS1000		libvxhdsalua (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsalua (embedded in the package VRTSaslapm)	See TechNote
Hitachi VSP		libvxhds9980 (embedded in the package VRTSaslapm)	See TechNote
		libvxhds (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsusp (embedded in the package VRTSaslapm)	See TechNote
Huawei S5000 series		libvxhuawei (embedded in the package VRTSaslapm)	See TechNote
Huawei S5000T series		libvxhuawei (embedded in the package VRTSaslapm)	See TechNote
Huawei VIS series		libvxhuawei (embedded in the package VRTSaslapm)	See TechNote
		libvxhuawei (embedded in the package VRTSaslapm)	See TechNote
IBM Storwize series		libvxibmsvc (embedded in the package VRTSaslapm)	See TechNote
		libvxibmsvc (embedded in the package VRTSaslapm)	See TechNote
IBM System Storage DS3000 series		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
IBM System Storage DS5000 series		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
IBM System Storage DS6000 series	IBM System Storage DS6000 Series	libvxibmds6k (embedded in the package VRTSaslapm)	See TechNote
IBM System Storage DS8000 series	IBM System Storage DS8000 series	libvxibmds8k (embedded in the package VRTSaslapm)	See TechNote
IBM System Storage N series	IBM System Storage N series IBM System Storage N7000 Modular Disk Storage System	libvxnetapp (embedded in the package VRTSaslapm)	See TechNote
IBM System Storage XIV series		libvxxiv (embedded in the package VRTSaslapm)	See TechNote
		libvxxiv (embedded in the package VRTSaslapm)	See TechNote
IBM TotalStorage DS4000 series	IBM DS4000 series: Overview - IBM TotalStorage Disk Storage Systems	libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
IBM DS3950		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
IBM DS5020		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
NetApp FAS2000/FAS900/FAS200 series		libvxnetapp (embedded in the package VRTSaslapm)	See TechNote
NetApp FAS3000/V3000 series		libvxnetapp (embedded in the package VRTSaslapm)	See TechNote
NetApp FAS6000/V6000 series		libvxnetapp (embedded in the package VRTSaslapm)	See TechNote

NetApp FAS8000/FAS9000 Series		libvxnetapp (embedded in the package VRTSaslapm)	See TechNote
Oracle Storage 6580/6780 series		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
Oracle StorageTek 2500 series		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
Oracle StorageTek 9900 series		libvxhds9980 (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsusp (embedded in the package VRTSaslapm)	See TechNote
		libvxhds (embedded in the package VRTSaslapm)	See TechNote
Oracle StorageTek 9985/9990 series		libvxhds (embedded in the package VRTSaslapm)	See TechNote
		libvxhds9980 (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsusp (embedded in the package VRTSaslapm)	See TechNote
Oracle ZFS Storage Appliance series		libvxsun7x10 (embedded in the package VRTSaslapm)	See TechNote
Oracle StorageTek 6140 array		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
Oracle StorageTek 9985V system		libvxhds (embedded in the package VRTSaslapm)	See TechNote
		libvxhds9980 (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsusp (embedded in the package VRTSaslapm)	See TechNote
Oracle StorageTek 9990V system		libvxhds (embedded in the package VRTSaslapm)	See TechNote
		libvxhds9980 (embedded in the package VRTSaslapm)	See TechNote
		libvxhdsusp (embedded in the package VRTSaslapm)	See TechNote
Oracle Sun Storage 6180 array		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote
		libvxlsiall (embedded in the package VRTSaslapm)	See TechNote