

**Veritas Storage Foundation™ Basic - Technical FAQ**  
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GENERAL QUESTIONS.....	3
What is Veritas Storage Foundation Basic?.....	3
What are edge-tier workloads?.....	3
How much does Storage Foundation Basic cost? .....	3
How is this different than Storage Foundation Standard or Enterprise? .....	3
What are the technical support options?.....	3
Are there deployment limitations to Storage Foundation Basic?.....	3
What happens to my data when I exceed the limit of Storage Foundation Basic? .....	3
What error message can I expect when I am exceeding the limits for Storage Foundation Basic?.....	4
How are the limits defined? .....	4
How do I upgrade from Storage Foundation Basic to Storage Foundation Enterprise? .....	4
Where can I find technical documentation?.....	4
Is there an online forum for Storage Foundation Basic? .....	4
Is Dynamic Multi-pathing included in Storage Foundation Basic? .....	4
Is there HP-UX support for Storage Foundation Basic? .....	4
SOLARIS QUESTIONS.....	5
Which Solaris versions and architectures are supported?.....	5
Is Storage Foundation Basic 5.0 available for Solaris x64? .....	5
Which storage arrays are supported with Storage Foundation Basic for Solaris SPARC & x64? .....	5
LINUX QUESTIONS.....	5
Which Linux versions are supported? .....	5
Which kernel versions are supported?.....	5
Which servers are supported? .....	6
Is Storage Foundation supported on 64-bit kernels? .....	6
Is Red Hat Fedora supported?.....	6
Is Gentoo Linux supported? .....	6
Is Asianux or Red Flag Linux supported? .....	6
Is SE Linux supported?.....	6
Which storage arrays are supported with Storage Foundation Basic? .....	6
How do I get access to maintenance packs for SF Basic? .....	7
Are the ES and WS versions supported in Red Hat?.....	7
If I update the kernel, will I need a new version of Storage Foundation Basic? .....	7
Why am I getting a “kernel tainted” message after installing Storage Foundation Basic? .....	7
AIX QUESTIONS.....	- 7 -
What versions of AIX are supported? .....	- 7 -
Which storage arrays are supported with Storage Foundation Basic? .....	- 7 -
Are partitions supported?.....	- 7 -
Is the Virtual I/O Server supported?.....	- 7 -
WINDOWS QUESTIONS.....	- 8 -
Which Windows Server versions are supported?.....	- 8 -
Which storage arrays are supported with Storage Foundation Basic? .....	- 8 -
Which applications are supported with Storage Foundation Basic? .....	- 8 -
How is Storage Foundation Basic licensed for virtual server environments? .....	- 8 -

# GENERAL QUESTIONS

## What is Veritas Storage Foundation Basic?

Storage Foundation Basic is a free version of the industry leading Storage Foundation designed for use on edge-tier, departmental, and test/development workloads. Storage Foundation Basic combines the industry-leading Veritas File System and Veritas Volume Manager to provide heterogeneous online storage management.

## What are edge-tier workloads?

Edge-tier workloads include web, application, and other infrastructure servers, as well as departmental and test/development servers. These are typically run on smaller servers in scale-out architectures.

## How much does Storage Foundation Basic cost?

A free license is downloadable at <http://www.symantec.com/sfbasic> or via your sales representative, including free self-service support. For production workloads, a range of annual support subscriptions are available, starting at under \$100 per processor. For details on how to purchase, please visit <http://www.symantec.com/sfbasic>.

## How is this different than Storage Foundation Standard or Enterprise?

Storage Foundation Basic is designed for edge tier workloads, and has system configuration guidelines. Storage Foundation Standard and Enterprise are typically used for business and mission critical applications, and databases. Additional advanced functionality include: local and remote replication, dynamic storage tiering capabilities, database integration, etc.

## What are the technical support options?

Users can choose the level of support that fits their needs:

- Free, online support is available at [http://support.veritas.com/menu\\_ddProduct\\_8010.htm](http://support.veritas.com/menu_ddProduct_8010.htm)
- Gold/Basic support during regional business hours is available for \$98/processor (socket)/ year
- Platinum/Extended 24x7 support is available for \$125/processor (socket)/year

## Are there deployment limitations to Storage Foundation Basic?

Deployment is limited by your end-user license agreement (EULA) to 2-way servers with up to four Veritas File System (VxFS) data file systems and four Veritas Volume Manager (VxVM) data volumes:

- Maximum four VxVM volumes per physical server (excluding system volumes required for booting root disks)
- Maximum four mounted VxFS file systems per physical server (excluding root file systems)
- Maximum physical server capacity of two CPU sockets

The limits defined by Storage Foundation Basic only apply to VxVM volumes and VxFS file systems.

## What happens to my data when I exceed the limit of Storage Foundation Basic?

Nothing happens to the data stored in a file system or a volume. The non-compliance warning message is displayed and you are now exceeding the usage limits set for Storage Foundation Basic. If you are under a support contract and call support while exceeding the usage limits, then support has the right to refuse to help until you are using the product according to the EULA. Furthermore, you will be subject to

appropriate audits and legal recourse for such non-compliance.

### **What error message can I expect when I am exceeding the limits for Storage Foundation Basic?**

The following error message can be expected when exceeding the limit for Volume Manager. A very similar error message is displayed when exceeding the limit for mounted file systems:

WARNING V-5-1-12761 You have exceeded the authorized usage for this product and are out of compliance with your License Agreement. Please email [sales\\_mail@symantec.com](mailto:sales_mail@symantec.com) or contact your Symantec sales representative for information on how to obtain additional licenses for this product.

WARNING: V-3-20000: You have exceeded the authorized usage (maximum 4 unique mounted user-data file systems) for this product and are out of compliance with your License Agreement. Please email [sales\\_mail@symantec.com](mailto:sales_mail@symantec.com) or contact your Symantec sales representative for information on how to obtain additional licenses for this product.

### **How are the limits defined?**

The volume limit is four VxVM data volumes. The root disk and its associated volumes (only applicable if the root disk is encapsulated with Veritas Volume manager) are not included in the volume limit.

The File System limit is four mounted data file systems (VxFS file systems only).

The CPU limit is determined by physical processor sockets. Servers with up to 2 physical CPU sockets per server are allowed (independent of the number of cores on each socket).

The limitations of Storage Foundation Basic are per physical server (and are not defined by virtual servers).

### **How do I upgrade from Storage Foundation Basic to Storage Foundation Enterprise?**

You can upgrade to Storage Foundation Standard or Enterprise without having to reinstall the software or reboot the server (please refer to installation guide for more detail). For example, after purchasing Storage Foundation Enterprise, input the license key and execute one command to re-read the license key information:

```
# vxlicinst -k <license key>
```

```
# vxdctl license init
```

### **Where can I find technical documentation?**

For additional information, please refer to Knowledgebase at [http://support.veritas.com/menu\\_ddProduct\\_8010.htm](http://support.veritas.com/menu_ddProduct_8010.htm)

### **Is there an online forum for Storage Foundation Basic?**

The online forum can be found here: <http://news.support.veritas.com/dnewsweb.exe>

### **Is Dynamic Multi-pathing included in Storage Foundation Basic?**

Storage Foundation Basic has the same feature set as Storage Foundation Standard. This includes features like journaling file system, disk virtualization, striping and mirroring and Dynamic multi-pathing. For a complete listing of features, see the SF Basic data sheet at: [http://eval.veritas.com/mktginfo/enterprise/fact\\_sheets/ent-sf\\_basic\\_4.1\\_04-2006.en-us.pdf](http://eval.veritas.com/mktginfo/enterprise/fact_sheets/ent-sf_basic_4.1_04-2006.en-us.pdf)

### **Is there HP-UX support for Storage Foundation Basic?**

HP-UX support with Storage Foundation Basic is planned for a future release.

# SOLARIS QUESTIONS

## Which Solaris versions and architectures are supported?

Storage Foundation Basic 4.1 supports Solaris 10 for the x64 platform.

Storage Foundation Basic 5.0 supports Solaris 8, 9 and 10 for the SPARC platform, and Solaris 10 for the x64 platform.

	Solaris x64	Solaris SPARC
Storage Foundation Basic 5.0	Yes	Yes

## Is Storage Foundation Basic 5.0 available for Solaris x64?

No. Solaris x64 is not supported with Storage Foundation 5.0. For Solaris x64 support, use Storage Foundation Basic 4.1.

## Which storage arrays are supported with Storage Foundation Basic for Solaris SPARC & x64?

Storage Foundation Basic supports the entire range of storage that is supported on Storage Foundation Enterprise. The standard Hardware Compatibility List applies to Storage Foundation Basic. The columns that are applicable are VxVM and DMP. Please make sure you read the Notes column in case you need to download an array support library.

<http://support.veritas.com/docs/279538> - Hardware Compatibility List (HCL) for Storage Foundation 4.1 MP1 Solaris x64

<http://support.veritas.com/docs/283161> - Hardware Compatibility List (HCL) for Storage Foundation 5.0

# LINUX QUESTIONS

## Which Linux versions are supported?

Storage Foundation Basic supports the market leading Linux distributions for enterprise environments, Red Hat Enterprise Linux (RHEL) 4 and 5 and Novell's SUSE Linux Enterprise Server (SLES) 9 and 10

For kernel and security updates, please see question below regarding kernel updates.

## Which kernel versions are supported?

Storage Foundation Basic 4.1 and 5.0 supports different architectures, ensure that you are installing the correct version for the architecture of the server.

The following table summaries on a high level what OS is supported on the different CPU architectures. See below the table for the details.

	X86_32 (32-bit)	X86_64 (64 bit EM64T/Opteron)	IA64 (Itanium)
Storage Foundation	RHEL 4 and 5, SLES 9	RHEL 4 and 5, SLES 9 and	RHEL 4 and 5, SLES 9

Basic 4.1	and 10	10	and 10
Storage Foundation Basic 5.0	N/A	RHEL 4 and 5, SLES 9 and 10	N/A

See Storage Foundation release notes and Late Breaking news for specific Kernel level support – remember Storage Foundation Basic is the same as Storage Foundation Standard except for the socket, user data file system, and volume count restrictions, so you can refer to storage foundation standard docs for detailed information.

<http://www.symantec.com/business/support/documentation.jsp?language=english&view=manuals&pid=15107&version=FOUNDSSUITEPVER27802>

### **Which servers are supported?**

All servers (of the supported architectures) supported by Red Hat/SUSE are supported as long as the server fulfills the minimum requirement for Storage Foundation Basic:

#### Minimum server requirements:

1 CPU

1 GB memory

### **Is Storage Foundation supported on 64-bit kernels?**

Yes, Storage Foundation Basic is fully supported in 64-bit kernels.

### **Is Red Hat Fedora supported?**

No, only server versions of Red Hat Enterprise Linux 4 (RHEL 4) are supported.

### **In Gentoo Linux supported?**

No, Gentoo is not supported.

### **Is Asianux or Red Flag Linux supported?**

Symantec has certified Storage Foundation and High Availability solutions 4.1 release with Red Flag 5.0 release. [ftp://exftpp.symantec.com/pub/support/products/Foundation\\_Suite/286223.pdf](ftp://exftpp.symantec.com/pub/support/products/Foundation_Suite/286223.pdf) If your customer requires certification of a more recent version, please contact Symantec sales.

### **Is SE Linux supported?**

Yes. Coexistence with SE Linux is supported on 4.1 and 5.0 in permissive mode – it is not supported in enforced mode. The coexistence is to ensure that if SELinux is enabled on the Linux system, the system will continue to function properly. Please note that the coexistence does not imply that VxFS supports the functionalities and features of SELinux. The SELinux contexts cannot be stored into the objects in the VxFS filesystems and VxFS will not support the additional security functionalities and features provided by SELinux.

### **Which storage arrays are supported with Storage Foundation Basic?**

Storage Foundation Basic supports the entire range of storage that is supported on Storage Foundation Enterprise. The standard Hardware Compatibility List applies to Storage Foundation Basic. The columns that are applicable are VxVM and DMP. Please make sure you read the Notes column in case you need to download an array support library.

<http://support.veritas.com/docs/277905> - Hardware Compatibility List (HCL) for Storage Foundation 4.1 for RHEL 4 and SUSE SLES 9, SLES 10

<http://support.veritas.com/docs/283161> - Hardware Compatibility List (HCL) for Storage Foundation 5.0

### **How do I get access to maintenance packs for SF Basic?**

A valid support contract is required to download a maintenance pack.

### **Are the ES and WS versions supported in Red Hat?**

Yes, we fully support Red Hat Enterprise Linux 4 AS, ES and WS. Our installation and startup script will detect the different versions and install the appropriate kernel drivers.

### **If I update the kernel, will I need a new version of Storage Foundation Basic?**

On Red Hat, kernel updates are automatically supported. For example, an update from RHEL 4 update 1 to RHEL 4 update 3 does not require a patch from Symantec. For any future updates and if there are any exceptions to this policy then they would be documented and patches made available on this page:

<http://support.veritas.com/docs/277033>

On SUSE, the kernel upgrades can be more disruptive, installing security updates and minor kernel patches are usually OK and do not require a patch. However, ServicePack updates can introduce kABI changes and will require a patch from Symantec. This link is updated with the latest news:

<http://support.veritas.com/docs/277033>

### **Why am I getting a “kernel tainted” message after installing Storage Foundation Basic?**

The Red Hat/SUSE kernel tainted message is harmless and has no effect on your system. The kernel tainted message is displayed as our kernel drivers are not open source. It does not affect the support of your operating system or any other product that is installed on the system.

## **AIX QUESTIONS**

### **What versions of AIX are supported?**

AIX version 5.2 and 5.3 are supported with Storage Foundation Basic 5.0

### **Which storage arrays are supported with Storage Foundation Basic?**

Storage Foundation Basic supports the entire range of storage that is supported on Storage Foundation Enterprise. The standard Hardware Compatibility List applies to Storage Foundation Basic. The columns that are applicable are VxVM and DMP. Please make sure you read the Notes column in case you need to download an array support library.

<http://support.veritas.com/docs/283161> - Hardware Compatibility List (HCL) for Storage Foundation 5.0

### **Are partitions supported?**

Yes, both LPAR's and micro partitions are supported. Keep in mind that Storage Foundation Basic is limited to 1 and 2 CPU servers. The License Agreement would be broken if a larger server is used even though the partition only has one or two CPU's configured.

### **Is the Virtual I/O Server supported?**

Yes, LUN's on an external storage array can be accessed with the Virtual SCSI capability. That is, the LUN's can be accessed through shared HBA's (controlled by a Virtual I/O Server). In this configuration

only one path is currently supported. DMP support for multiple (virtual) paths will be supported in a future update.

## WINDOWS QUESTIONS

### Which Windows Server versions are supported?

Storage Foundation Basic supports the same Windows 2000 and Windows Server 2003 operating systems supported by Veritas Storage Foundation 5.0 for Windows which include:

- Windows 2000 Server, Advanced Server, or Datacenter Server (all require Service Pack 4 with Update Rollup1)
- Windows Server 2003 (32-bit): Standard Edition, Enterprise Edition, or Datacenter Edition (SP 1 required for all editions)
- Windows Server 2003 R2 (32-bit): Standard Edition, Enterprise Edition, or Datacenter Edition
- Windows Server 2003 (32-bit): Web Edition: fully supports SFW and supports only file share for SFW HA (SP 1 required)
- Windows Server 2003 for 64-bit Itanium (IA64): Enterprise Edition or Datacenter Edition (SP 1 required for all editions)
- Windows Server 2003 x64 Editions (for AMD 64 or Intel EM64T): Standard x64 Edition, Enterprise x64 Edition, or Datacenter x64 Edition
- Windows Server 2003 x64 Editions (for AMD 64 or Intel EM64T): Standard x64 R2 Edition, Enterprise x64 R2 Edition, or Datacenter x64 R2 Edition

### Which storage arrays are supported with Storage Foundation Basic?

Storage Foundation Basic supports the entire range of storage that is supported by Veritas Storage Foundation 5.0 for Windows. The standard Windows Hardware Compatibility List (WxRT HCL) also applies to Storage Foundation Basic.

- 5.0 HCL: <http://support.veritas.com/docs/286541>

### Which applications are supported with Storage Foundation Basic?

Storage Foundation Basic supports the entire range of Windows applications that are supported by Veritas Storage Foundation 5.0 for Windows. The standard Windows Software Compatibility List (WxRT SCL) also applies to Storage Foundation Basic.

- 5.0 SCL: <http://support.veritas.com/docs/286594>

### How is Storage Foundation Basic licensed for virtual server environments?

Storage Foundation Basic for Windows may be used for up to four (4) Volumes and/or four (4) File Systems, which all must be located on the same physical Server. The Server may have no more than two (2) physical Processors. These limits apply to all physical Servers, independent of how many virtual machines may be deployed on the physical Server. You may only obtain one license per physical Server and may not aggregate licenses to increase the number of Volumes and/or File Systems permitted on any one physical Server. The aggregate total of Volumes and File Systems for all virtual servers located on one physical Server may not exceed four (4) Volumes and/or four (4) File Systems.