

**NAME**

filesystems – Linux filesystem types: ext, ext2, ext3, ext4, hpfs, iso9660, JFS, minix, msdos, ncpfs, nfs, ntfs, proc, Reiserfs, smb, sysv, umsdos, vfat, XFS, xiafs,

**DESCRIPTION**

When, as is customary, the **proc** filesystem is mounted on */proc*, you can find in the file */proc/filesystems* which filesystems your kernel currently supports; see **proc(5)** for more details. If you need a currently unsupported filesystem, insert the corresponding module or recompile the kernel.

In order to use a filesystem, you have to *mount* it; see **mount(8)**.

Below a short description of the available or historically available filesystems in the Linux kernel. See kernel documentation for a comprehensive description of all options and limitations.

- ext** is an elaborate extension of the **minix** filesystem. It has been completely superseded by the second version of the extended filesystem (**ext2**) and has been removed from the kernel (in 2.1.21).
- ext2** is the high performance disk filesystem used by Linux for fixed disks as well as removable media. The second extended filesystem was designed as an extension of the extended filesystem (**ext**). See **ext2(5)**.
- ext3** is a journaling version of the **ext2** filesystem. It is easy to switch back and forth between **ext2** and **ext3**. See **ext3(5)**.
- ext4** is a set of upgrades to **ext3** including substantial performance and reliability enhancements, plus large increases in volume, file, and directory size limits. See **ext4(5)**.
- hpfs** is the High Performance Filesystem, used in OS/2. This filesystem is read-only under Linux due to the lack of available documentation.
- iso9660** is a CD-ROM filesystem type conforming to the ISO 9660 standard.

**High Sierra**

Linux supports High Sierra, the precursor to the ISO 9660 standard for CD-ROM filesystems. It is automatically recognized within the **iso9660** filesystem support under Linux.

**Rock Ridge**

Linux also supports the System Use Sharing Protocol records specified by the Rock Ridge Interchange Protocol. They are used to further describe the files in the **iso9660** filesystem to a UNIX host, and provide information such as long filenames, UID/GID, POSIX permissions, and devices. It is automatically recognized within the **iso9660** filesystem support under Linux.

- JFS** is a journaling filesystem, developed by IBM, that was integrated into Linux in kernel 2.4.24.
- minix** is the filesystem used in the Minix operating system, the first to run under Linux. It has a number of shortcomings, including a 64MB partition size limit, short filenames, and a single timestamp. It remains useful for floppies and RAM disks.
- msdos** is the filesystem used by DOS, Windows, and some OS/2 computers. **msdos** filenames can be no longer than 8 characters, followed by an optional period and 3 character extension.
- ncpfs** is a network filesystem that supports the NCP protocol, used by Novell NetWare.

To use **ncpfs**, you need special programs, which can be found at <ftp://linux01.gwdg.de/pub/ncpfs>.

- nfs** is the network filesystem used to access disks located on remote computers.
- ntfs** replaces Microsoft Window's FAT filesystems (VFAT, FAT32). It has reliability, performance, and space-utilization enhancements plus features like ACLs, journaling, encryption, and so on.

<b>proc</b>	is a pseudo filesystem which is used as an interface to kernel data structures rather than reading and interpreting <i>/dev/kmem</i> . In particular, its files do not take disk space. See <b>proc(5)</b> .
<b>Reiserfs</b>	is a journaling filesystem, designed by Hans Reiser, that was integrated into Linux in kernel 2.4.1.
<b>smb</b>	is a network filesystem that supports the SMB protocol, used by Windows for Workgroups, Windows NT, and Lan Manager.  To use <b>smb</b> fs, you need a special mount program, which can be found in the ksmbfs package, found at <a href="ftp://sunsite.unc.edu/pub/Linux/system/Filesystems/smbfs">ftp://sunsite.unc.edu/pub/Linux/system/Filesystems/smbfs</a> .
<b>sysv</b>	is an implementation of the SystemV/Coherent filesystem for Linux. It implements all of Xenix FS, SystemV/386 FS, and Coherent FS.
<b>umsdos</b>	is an extended DOS filesystem used by Linux. It adds capability for long filenames, UID/GID, POSIX permissions, and special files (devices, named pipes, etc.) under the DOS filesystem, without sacrificing compatibility with DOS.
<b>vfat</b>	is an extended DOS filesystem used by Microsoft Windows95 and Windows NT. <b>vfat</b> adds the capability to use long filenames under the MSDOS filesystem.
<b>XFS</b>	is a journaling filesystem, developed by SGI, that was integrated into Linux in kernel 2.4.20.
<b>xiafs</b>	was designed and implemented to be a stable, safe filesystem by extending the Minix filesystem code. It provides the basic most requested features without undue complexity. The <b>xiafs</b> filesystem is no longer actively developed or maintained. It was removed from the kernel in 2.1.21.

## SEE ALSO

**fuse(4)**, **btrfs(5)**, **ext2(5)**, **ext3(5)**, **ext4(5)**, **nfs(5)**, **proc(5)**, **tmpfs(5)**, **fsck(8)**, **mkfs(8)**, **mount(8)**

## COLOPHON

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