

**NAME**

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

**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 a few of the available filesystems.

- 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.
- 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 It has been completely superseded by the second version of the extended filesystem (**ext2**) and has been removed from the kernel (in 2.1.21).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**). **ext2** offers the best performance (in terms of speed and CPU usage) of the filesystems supported under Linux.
- ext3** is a journaling version of the ext2 filesystem. It is easy to switch back and forth between ext2 and ext3.
- ext4** is a set of upgrades to ext3 including substantial performance and reliability enhancements, plus large increases in volume, file, and directory size limits.
- Reiserfs** is a journaling filesystem, designed by Hans Reiser, that was integrated into Linux in kernel 2.4.1.
- XFS** is a journaling filesystem, developed by SGI, that was integrated into Linux in kernel 2.4.20.
- JFS** is a journaling filesystem, developed by IBM, that was integrated into Linux in kernel 2.4.24.
- xiafs** 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 **xia** filesystem is no longer actively developed or maintained. It was removed from the kernel in 2.1.21.
- 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.
- umsdos** 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.
- vfat** is an extended DOS filesystem used by Microsoft Windows95 and Windows NT. VFAT adds the capability to use long filenames under the MSDOS filesystem.
- 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.
- proc** is a pseudo filesystem which is used as an interface to kernel data structures rather than reading and interpreting */dev/kmem*. In particular, its files do not take disk

space. See [proc\(5\)](#).

**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.

**hpfs** is the High Performance Filesystem, used in OS/2. This filesystem is read-only under Linux due to the lack of available documentation.

**sysv** is an implementation of the SystemV/Coherent filesystem for Linux. It implements all of Xenix FS, SystemV/386 FS, and Coherent FS.

**nfs** is the network filesystem used to access disks located on remote computers.

**smb** is a network filesystem that supports the SMB protocol, used by Windows for Workgroups, Windows NT, and Lan Manager.

To use **smb** fs, you need a special mount program, which can be found in the `ksmbfs` package, found at [Unknown](#).

**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 [Unknown](#).

### SEE ALSO

[proc\(5\)](#), [fsck\(8\)](#), [mkfs\(8\)](#), [mount\(8\)](#)

### COLOPHON

This page is part of release 3.74 of the Linux *man-pages* project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <http://www.kernel.org/doc/man-pages/>.