**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. There is also a legacy **sysfs**(2) system call (whose availability is controlled by the **CONFIG_SYSFS_SYSCALL** kernel build configuration option since Linux 3.15) that enables enumeration of the currently available filesystem types regardless of */proc* availability and/or sanity.

If you need a currently unsupported filesystem, insert the corresponding kernel module or recompile the kernel.

In order to use a filesystem, you have to *mount* it; see **mount**(2) and **mount**(8).

iThe following list provides a short description of the available or historically available filesystems in the Linux kernel. See the 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 It has been completely superseded by the second version of the extended filesystem (**ext2**) and has been removed from the kernel (in 2.1.21).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 64 MB 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.

**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).

**Reiserfs**   is a journaling filesystem, designed by Hans Reiser, that was integrated into Linux in kernel 2.4.1.

**smb**       is a network filesystem that supports the SMB protocol, used by Windows for Workgroups, Windows NT, and Lan Manager. See ⟨https://www.samba.org/samba/smbfs/⟩.

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

**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.

**tmpfs**     is a filesystem whose contents reside in virtual memory. Since the files on such filesystems typically reside in RAM, file access is extremely fast. See **tmpfs**(5).

**vfat**      is an extended FAT filesystem used by Microsoft Windows95 and Windows NT. **vfat** adds the capability to use long filenames under the MSDOS filesystem.

**XFS**      is a journaling filesystem, developed by SGI, that was integrated into Linux in kernel 2.4.20.

**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 **xiafs** 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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