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 It has been completely superseded by the second version of the extended filesystem (**ext2**) and has been removed from the kernel (in 2.1.21).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 activ ely 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/.