NAME

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

DESCRIPTION

When, as is customary, the **proc** file system is mounted on */proc*, you can find in the file */proc/filesystems* which file systems your kernel currently supports. If you need a currently unsupported one, insert the corresponding module or recompile the kernel.

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

Below a short description of a few of the available file systems.

minix is the file system used in the Minix operating system, the first to run under Linux. It has a number of shortcomings: a 64MB partition size limit, short filenames, a single timestamp, etc. It remains useful for floppies and RAM disks.

ext is an elaborate extension of the **minix** file system. It has been completely superseded by the second version of the extended file system (**ext2**) and has been removed from the kernel (in 2.1.21).

ext2 is the high performance disk file system used by Linux for fixed disks as well as removable media. The second extended file system was designed as an extension of the extended file system (**ext**). **ext2** offers the best performance (in terms of speed and CPU usage) of the file systems supported under Linux.

ext3 is a journaling version of the ext2 file system. It is easy to switch back and forth between ext2 and ext3.

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

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

JFS is a journaling file system, developed by IBM, that was integrated into Linux in kernel 2.4.24.

xiafs was designed and implemented to be a stable, safe file system by extending the Minix file system code. It provides the basic most requested features without undue complexity. The **xia** file system is no longer actively developed or maintained. It was removed from the kernel in 2.1.21.

msdos is the file system 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 file system used by Linux. It adds capability for long filenames, UID/GID, POSIX permissions, and special files (devices, named pipes, etc.) under the DOS file system, without sacrificing compatibility with DOS.

vfat is an extended DOS file system used by Microsoft Windows95 and Windows NT. VFAT adds the capability to use long filenames under the MSDOS file system.

proc is a pseudo file system 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 file system type conforming to the ISO 9660 standard.

High Sierra

Linux supports High Sierra, the precursor to the ISO 9660 standard for CD-ROM file systems. It is automatically recognized within the **iso9660** file-system 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**

file system to a Unix host, and provide information such as long filenames, UID/GID, POSIX permissions, and devices. It is automatically recognized within the **iso9660** file-system support under Linux.

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

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

nfs is the network file system used to access disks located on remote computers.

smb is a network file system 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 *ftp://sunsite.unc.edu/pub/Linux/system/Filesystems/smbfs*.

ncpfs is a network file system 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*.

SEE ALSO

proc(5), **fsck**(8), **mkfs**(8), **mount**(8)

COLOPHON

This page is part of release 3.22 of the Linux *man-pages* project. A description of the project, and information about reporting bugs, can be found at http://www.kernel.org/doc/man-pages/.