NAME

fsck_ufs – file system consistency check and interactive repair

SYNOPSIS

fsck –F ufs [*generic-options*] [*special* . . .]
fsck –F ufs [*generic-options*] [**–o** *specific-options*] [*special* . . .]

DESCRIPTION

fsck audits and interactively repairs inconsistent conditions on file systems. A file system to be checked may be specified by giving the name of the block or character *special* device or by giving the name of its mount point if a matching entry exists in **/etc/vfstab**.

special represents the block or character special device (for example, **/dev/rdsk/c1d0s7**) on which the file system resides. In general, the character special device should be used. **fsck** will not work on a block device if the block device is mounted, unless the file system is error-locked.

If no *special* device is specified, all **ufs** file systems specified in the **vfstab** with a **fsckdev** entry will be checked. If the **–p** (''preen'') option is specified, **ufs** file systems with an **fsckpass** number greater than one are checked in parallel. See **fsck**(1M).

In the case of correcting serious inconsistencies, by default, **fsck** asks for confirmation before making a repair and waits for the operator to respond either **yes** or **no**. If the operator does not have write permission on the file system, **fsck** will default to a **–n** (no corrections) action. See **fsck**(1M).

Repairing some file system inconsistencies may result in loss of data. The amount and severity of data loss may be determined from the diagnostic output.

fsck automatically corrects innocuous inconsistencies such as unreferenced inodes, too-large link counts in inodes, missing blocks in the free list, blocks appearing in the free list and also in files, or incorrect counts in the super block automatically. It displays a message for each inconsistency corrected that identifies the nature of the correction on which the file system took place. After successfully correcting a file system, **fsck** prints the number of files on that file system, the number of used and free blocks, and the percentage of fragmentation.

Inconsistencies checked are as follows:

- Blocks claimed by more than one inode or the free list.
- Blocks claimed by an inode or the free list outside the range of the file system.
- Incorrect link counts.
- Incorrect directory sizes.
- Bad inode format.
- Blocks not accounted for anywhere.
- Directory checks, file pointing to unallocated inode, inode number out of range, absence of '**.**' and '**..**' as the first two entries in each directory.
- Super Block checks: more blocks for inodes than there are in the file system.
- Bad free block list format.
- Total free block and/or free inode count incorrect.

Orphaned files and directories (allocated but unreferenced) are, with the operator's concurrence, reconnected by placing them in the **lost+found** directory. The name assigned is the inode number. If the **lost+found** directory does not exist, it is created. If there is insufficient space in the **lost+found** directory, its size is increased.

OPTIONS

The *generic-options* consist of the following options:

−**m** Check but do not repair. This option checks that the file system is suitable for mounting, returning the appropriate exit status. If the file system is ready for mounting, **fsck** displays a message such as:

ufs fsck: sanity check: /dev/rdsk/c0t3d0s1 okay

−**n** | **N** Assume a **no** response to all questions asked by **fsck**; do not open the file system for writing.

−**V** Echo the expanded command line, but do not execute the command. This option may be used to verify and validate the command line.

−**y** | **Y** Assume a **yes** response to all questions asked by **fsck**.

See generic **fsck**(1M) for the details for specifying *special*.

−**o** *specific-options* Specify **ufs** file system specific options. These options can be any combination of the following separated by commas (with no intervening spaces).

b=*n* Use block *n* as the super block for the file system. Block 32 is always one of the alternate super blocks. The location of other super blocks may be determined by running **newfs**(1M) with the −**Nv** options specified.

c If the file system is in the old (static table) format, convert it to the new (dynamic table) format. If the file system is in the new format, convert it to the old format provided the old format can support the file system configuration. In interactive mode, **fsck** will list the direction the conversion is to be made and ask whether the conversion should be done. If a negative answer is given, no further operations are done on the file system. In preen mode, the direction of the conversion is listed and done if possible without user interaction. Conversion in preen mode is best used when all the file systems are being converted at once. The format of a file system can be determined from the first line of output from **fstyp**(1M).
It should be noted that the **c** option is seldom used and is included only for compatibility with pre-4.1 releases. There is no guarantee that this option will be included in future releases.

f Force checking of file systems regardless of the state of their super block clean flag.

p ("preen") Check and fix the file system non-interactively. Exit immediately if there is a problem requiring intervention. This option is required to enable parallel file system checking.

w Check writable file systems only.

FILES

/etc/vfstab list of default parameters for each file system

SEE ALSO

clri(1M), **crash**(1M), **fsck**(1M), **fsdb_ufs**(1M), **fsirand**(1M), **fstyp**(1M), **mkfs**(1M), **mkfs_ufs**(1M), **mountall**(1M), **newfs**(1M), **reboot**(1M), **fs_ufs**(4), **vfstab**(4)

WARNINGS

The operating system buffers file system data. Running **fsck** on a mounted file system can cause the operating system's buffers to become out of date with respect to the disk. For this reason, the file system should be *unmounted* when **fsck** is used. If this is not possible, care should be taken that the system is quiescent and that it is rebooted immediately after **fsck** is run. Quite often, however, this will not be sufficient. A panic will probably occur if running **fsck** on a file system modifies the file system.

NOTES

It is usually faster to check the character special device than the block special device.