

# NTFS3

## Summary and Features

NTFS3 is fully functional NTFS Read-Write driver. The driver works with NTFS versions up to 3.1. File system type to use on mount is *ntfs3*.

- This driver implements NTFS read/write support for normal, sparse and compressed files.
- Supports native journal replaying
- Supports NFS export of mounted NTFS volumes.
- Supports extended attributes. Predefined extended attributes:

- *system.ntfs\_security* gets/sets security

Descriptor: SECURITY\_DESCRIPTOR\_RELATIVE

- *system.ntfs\_attr* gets/sets ntfs file/dir attributes.

Note: Applied to empty files, this allows to switch type between sparse(0x200), compressed(0x800) and normal.

## Mount Options

The list below describes mount options supported by NTFS3 driver in addition to generic ones. You can use every mount option with **no** option. If it is in this table marked with **no** it means default is without **no**.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\filesystems\linux-master) (Documentation) (filesystems) ntfs3.rst, line 35)**

Unknown directive type "flat-table".

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.. flat-table::
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   * - iocharset=name
     - This option informs the driver how to interpret path strings and
       translate them to Unicode and back. If this option is not set, the
       default codepage will be used (CONFIG_NLS_DEFAULT).

       Example: iocharset=utf8

   * - uid=
     - :rspan:`1`
   * - gid=

   * - umask=
     - Controls the default permissions for files/directories created after
       the NTFS volume is mounted.

   * - dmask=
     - :rspan:`1` Instead of specifying umask which applies both to files and
       directories, fmask applies only to files and dmask only to directories.
   * - fmask=

   * - noacsrules
     - "No access rules" mount option sets access rights for files/folders to
       777 and owner/group to root. This mount option absorbs all other
       permissions.

     - Permissions change for files/folders will be reported as successful,
       but they will remain 777.

     - Owner/group change will be reported as successful, but they will stay
       as root.

   * - nohidden
     - Files with the Windows-specific HIDDEN (FILE_ATTRIBUTE_HIDDEN) attribute
       will not be shown under Linux.

   * - sys_immutable
```

- Files with the Windows-specific SYSTEM (FILE\_ATTRIBUTE\_SYSTEM) attribute will be marked as system immutable files.
- \* - discard
  - Enable support of the TRIM command for improved performance on delete operations, which is recommended for use with the solid-state drives (SSD).
- \* - force
  - Forces the driver to mount partitions even if volume is marked dirty. Not recommended for use.
- \* - sparse
  - Create new files as sparse.
- \* - showmeta
  - Use this parameter to show all meta-files (System Files) on a mounted NTFS partition. By default, all meta-files are hidden.
- \* - prealloc
  - Preallocate space for files excessively when file size is increasing on writes. Decreases fragmentation in case of parallel write operations to different files.
- \* - acl
  - Support POSIX ACLs (Access Control Lists). Effective if supported by Kernel. Not to be confused with NTFS ACLs. The option specified as acl enables support for POSIX ACLs.

## Todo list

- Full journaling support over JBD. Currently journal replaying is supported which is not necessarily as effective as JBD would be.

## References

- Commercial version of the NTFS driver for Linux.  
<https://www.paragon-software.com/home/ntfs-linux-professional/>
- Direct e-mail address for feedback and requests on the NTFS3 implementation.  
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