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_attrib* 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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   * - 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, butthey will stay
         as root.

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

   * - sys_immutable
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        - 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 effectice 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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