

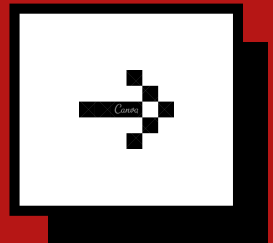
BY KELOMPOK DADAKAN



NTFS VS EXT4



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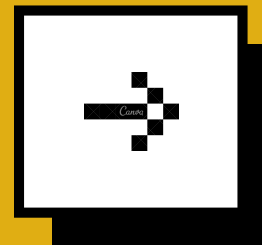
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DAFTAR ISI

Kelebihan & Kekurangan

Perbedaan Topology



Origin

EXT4

EXT4 umumnya digunakan pada sistem operasi LINUX dan distribusi berbasis LINUX seperti Debian, Ubuntu, CentOS, dan lainnya.

NTFS

Digunakan pada sistem operasi Windows, termasuk Windows XP, 7, 8, 10, dan lainnya. Selain itu, ada dukungan eksperimental untuk membaca NTFS di beberapa distribusi Linux.

FILE & PARTITIONS SIZE

EXT4

Supports large individual file sizes (up to 16 TiB) and larger partitions (up to 1 EiB)

NTFS

Supports even larger file sizes (up to 16 EiB) and larger partitions (up to 16 EiB).

JOURNALING

EXT4

Menggunakan journaling untuk mendukung file system consistency & recovery saat crash. Menggunakan delayed allocation untuk optimasi disk writes.

NTFS

Menggunakan journaling juga untuk file system integrity, tetapi fiturnya lebih maju dan memberikan lebih banyak informasi pemulihan daripada EXT4.

Permissions & Ownerships

EXT4

Menggunakan POSIX-Style permission and ownerships. Ini mendukung ownership user dan grup serta variasi permission modes

NTFS

Permission system based on Access Control Lists (ACL). Offers more fine-grained control over file and folder permissions, including inheritance and explicit deny permissions

Compression and Encryption

EXT4

Does not natively support file encryption and compression.

NTFS

Includes built-in support for file encryption and compression, yaitu NTFS Compression dan EFS.

File and Folder Attributes

EXT4

Support basic files attributes, seperti Timestamps, Permissions, dan links.

NTFS

Supports wide range of file and folder attributes, seperti last creation time dan last accessed time.

Fragmentation

EXT4

Designed to minimize fragmentation, but it can still occur over time.

NTFS

Includes features like the Master File Table (MFT) to manage file allocation efficiently, reducing fragmentation.

Cross-Platform Compatibility

EXT4

Primarily used on Linux, there are third-party drivers and software that allow limited access to Ext4 partitions on Windows and macOS.

NTFS

The preferred file system for Windows, and it has limited support on non-Windows systems through third-party drivers.

Structure

EXT4

Struktur Tree dengan inode
dibagi menjadi beberapa block
group dan memiliki satu super
block utama disetiap group

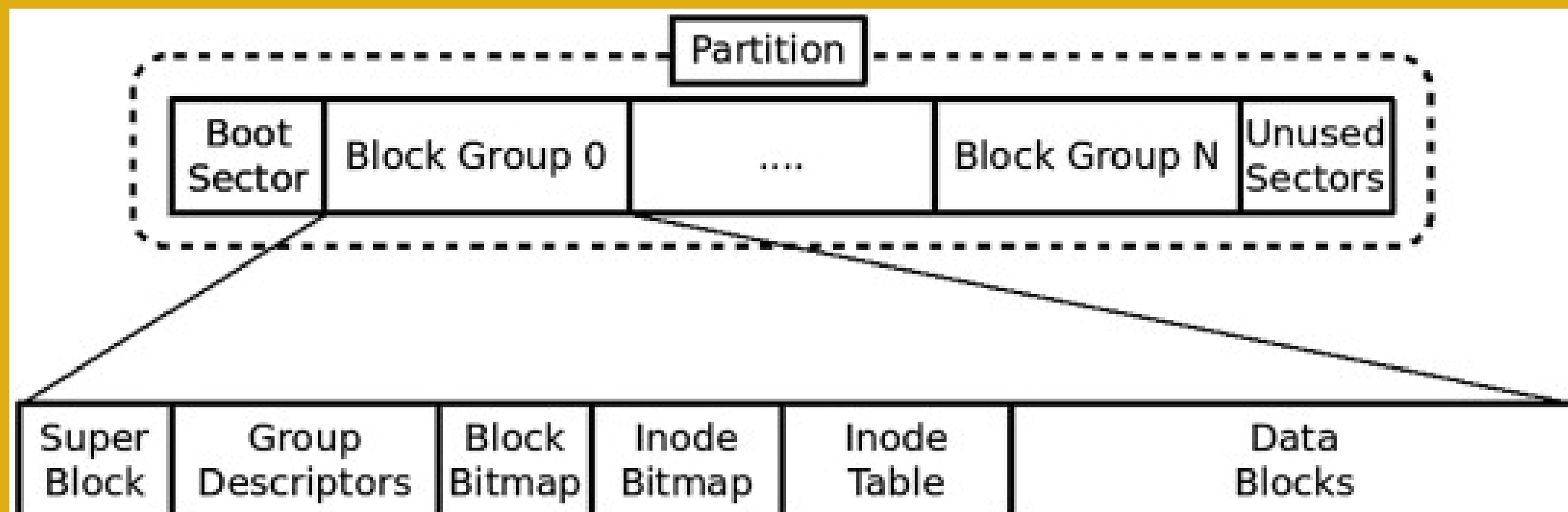
NTFS

Struktur B-Tree dengan MFT (Master
File Table)

Structure

EXT4

NTFS



Advantage of EXT4 over NTFS

1. Pencarian file pada filesystem lebih cepat.
2. File handling yang lebih baik serta lebih sedikit masalah fragmentation.
3. Overhead lebih rendah dan operasi lebih cepat.
4. Data reliability meningkat.

Advantage of NTFS over EXT4

1. Compatible dengan semua versi windows.
2. Advanced file permissions dan access control.
3. Built-in encryption.
4. Larger file sizes.
5. Proteksi terhadap data loss lebih baik.

THANK YOU

