Linux File Systems: Fourth Extended File System (EXT4)

- EXT4 is a journaling file system, developed as the **replacement of the commonly used EXT3 file system**
- With incorporation of new features, EXT4 has **significant advantages over EXT3 and EXT2** file systems particularly in terms of performance, scalability, and reliability
- Supports Linux Kernel v2.6.19 onwards

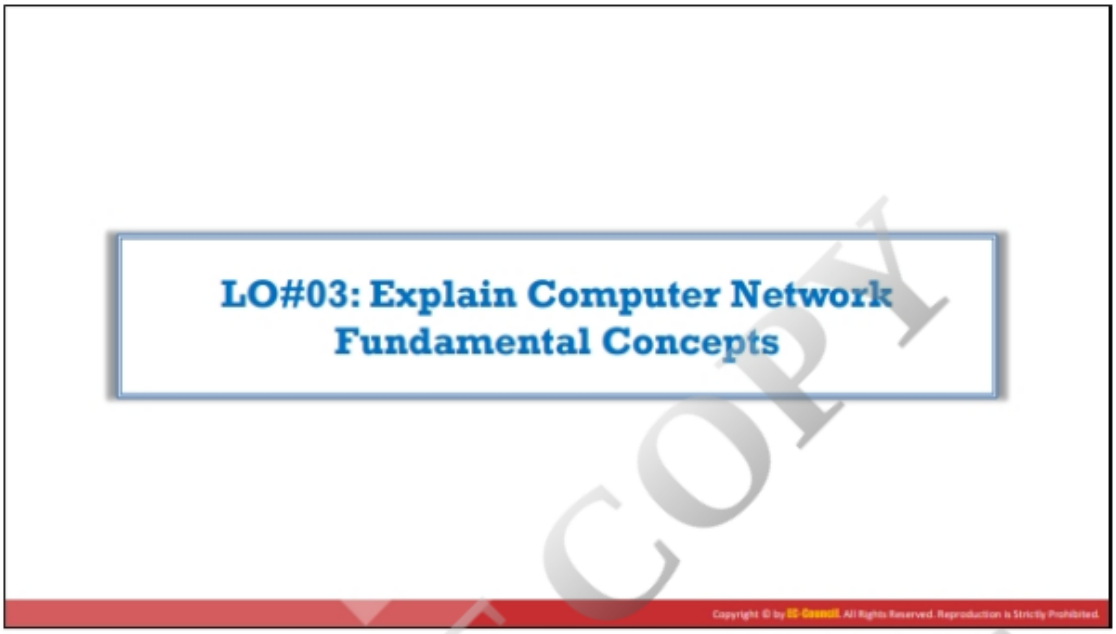
Key Features

- File System Size — supports a maximum individual file size 16TB and overall maximum EXT4 file system size 1EB (exabyte)
- Extents — replaces block mapping scheme used by EXT2 and EXT3, improving large file performance and reducing fragmentation
- Delayed allocation — improves performance and reduces fragmentation by effectively allocating larger amounts of data at a time
- Multi-block allocation — allocates files contiguously on disk
- fsck speed — supports faster file system checking
- Journal checksumming — uses checksums in the journal to improve reliability
- Persistent preallocation — pre-allocates on-disk space for a file
- Improved Timestamps — provides timestamps measured in nanoseconds
- Backward compatibility — makes it possible to mount EXT3 and EXT2 as EXT4

macOS File Systems

Hierarchical File System (HFS)	Developed by **Apple Computer** to support the Mac operating system
HFS Plus	HFS Plus (HFS+) is a successor of HFS and is used as a **primary file system** in Macintosh
UNIX File System (UFS)	Derived from the **Berkeley Fast File System (FFS)** that was originally developed at Bell Laboratories from the first version of UNIX FS All BSD UNIX derivatives including FreeBSD, NetBSD, OpenBSD, NeXTStep, and Solaris use a variant of UFS Acts as a substitute for HFS in macOS

Notes:



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