

File Systems and Disk Management

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Operating Systems

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Design Goals of File Systems

Physical reality	File system abstraction
Block-oriented	Byte-oriented
Physical sectors	Named files
No protection	Users protected from one another
Data might be corrupted if machine crashes	Robust to machine failures

File System Components

- *Disk management* organizes disk blocks into files
- *Naming* provides file names and directories to users, instead of tracks and sector numbers (e.g. Takashita)
- *Protection* keeps information secure from other users
- *Reliability* protects information loss due to system crashes