

Data Backups and Archives

Backups

- Backups are copies of data files or records, made at a moment in time, and primarily used in the event of failure of the active files.
- Deletion or corruption of an original working file converts the most recent backup into the de facto original.
- Archives—Although backups are used to store and retrieve operational data chronologically, data archives are used to store data that is seldom or no longer used but, when needed for reference

Need

- To replace lost or corrupted data with valid versions
- To satisfy audit and legal requirements for access to retained data
- In forensic examination of data to recognize and characterize a crime and to identify suspects
- To satisfy requirements of due care and diligence in safeguarding corporate assets
- To demonstrate the authorship of documents or works of art through a chain of documented, dated copies

Making Backups

- Fault-Tolerant Systems
- Hierarchical Storage Systems
- Disk Mirroring
 - RAID
 - SAN
 - NAS
 - Workstation and Personal Computer Mirroring
- Logging and Recovery

Making Backups

- Backup Software
- Removable Media
 - External Hard Disk Drives
 - Removable Hard Disk Drives
 - Optical Storage
 - Tape Cartridge Systems
 - Personal Storage Devices: Flash Memory
- Labeling
- Indexing and Archives
- Registry Backups
- Bootable Versions
- Cloud Backup

Backup Strategies

- Exclusive Access
- Types of Backups
 - Full
 - Differential
 - Incremental
 - Delta
 - Versions
- Computer Systems
 - Mainframes
 - Servers
 - Workstations, Laptop Computers
 - Mobile Computing Devices

Safeguarding Backups

- Environmental Protection
- Onsite Protection
- Offsite Protection
 - Care during Transport
 - Homes
 - Safes
 - Banks

Disposal

- Scavenging
- Data and Media Destruction
 - Operating System Formatting
 - Clearing Data
 - Shredding