

# Solutions and Examples for Backup and Restore

**Tags:** [backup](#) [data integrity](#) [data restore](#) [recovery](#) [restore](#)

Making regular backups is a necessary but laborious and time consuming task. As the amount of information increases, the process becomes longer and even more cumbersome. Ultimately the question of data integrity arises: How reliably can backups be restored and how fast can mission critical systems be brought back online?

[Open-E Data Storage Software V6](#) offers a simple and dependable solution that will allow you to secure and restore data with minimal interruption to your workflow. It gives users the choice of using built-in backup and restore capabilities, or utilizing commercial backup clients like Veritas, EMC Dantz, and CA BrightStor.

Open-E DSS V6 makes it easy to centralize backup operations by storing server applications like e-mail clients, web sites, and databases on the file server.

In short order, any PC or server hardware can be converted into a dedicated network file server for a flexible, cost effective solution.

An Open-E DSS V6 server can store a copy of every application server on inner disks to quickly restore data in case of a disk or server breakdown.

## Use of snapshots for backup

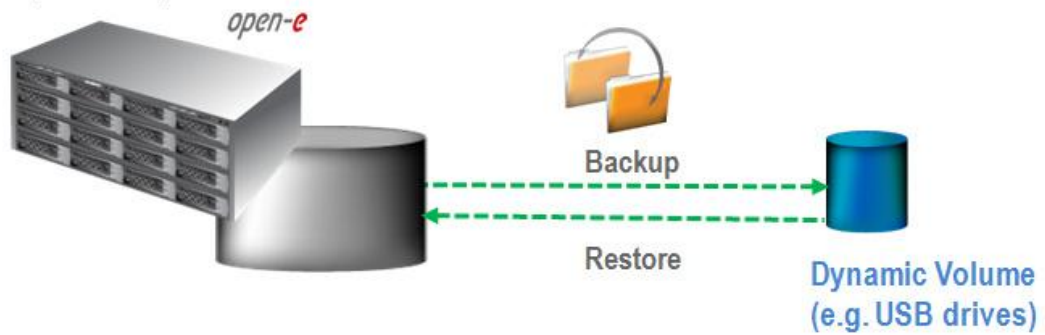
If the intention is to recover previous versions or deleted files, snapshots are quick and easy, and require no tape or other device. At any time, snapshots can be mounted and used for fast data recovery just like an external disk. While recovering data from tapes can take hours, an online snapshot takes only moments to 'freeze' the data at any point in time. As soon as a snapshot is initiated, the source volume is free and running applications resume. Snapshots then work by copying off any blocks before they are subsequently changed, keeping a full copy of the original data, in conjunction with the unchanged data, on the volume that can be mounted and browsed.

Example solutions:

### 1. Low cost (Backup to a Dynamic Volume)

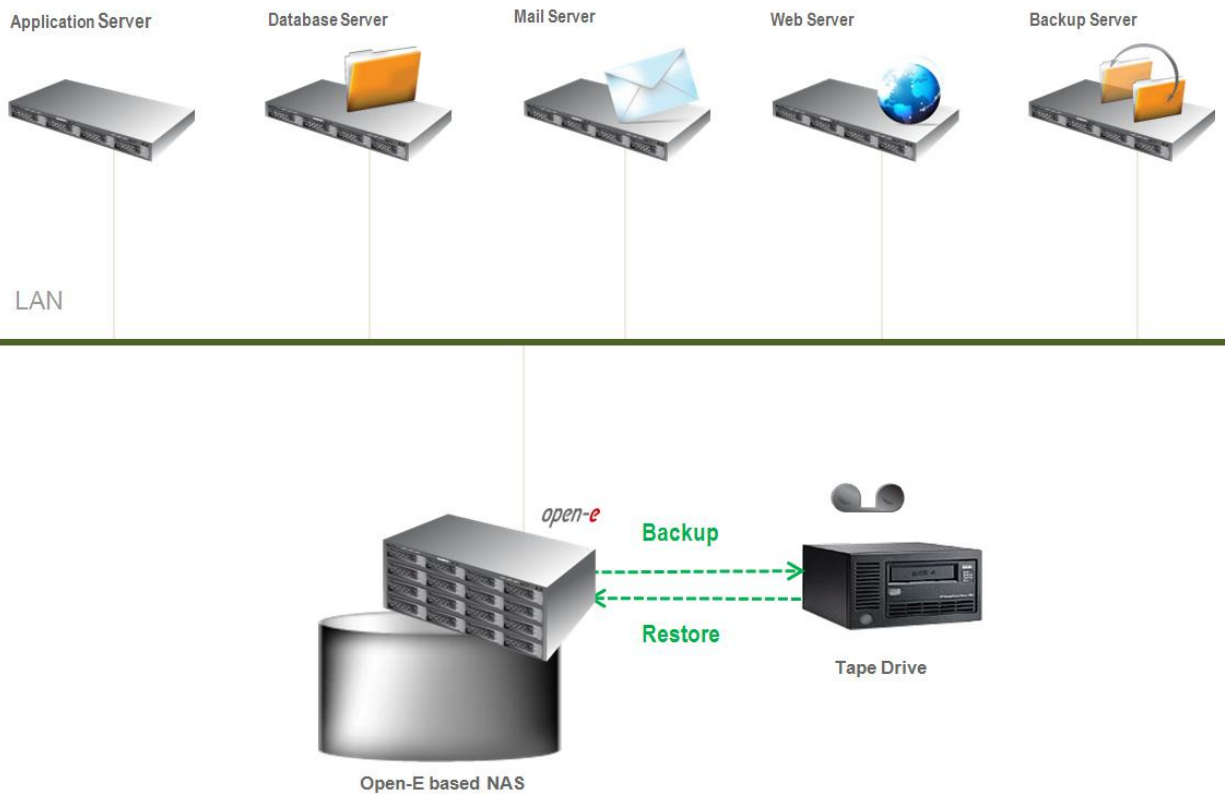
- Motherboard (e.g. all in one with 1 CPU - 1 GHz, NIC)
- 1 GB main memory
- Software RAID or single hard disk drive
- External drives (USB/ATA/SATA drives) as dynamic volume

## Data Server (DSS V6)



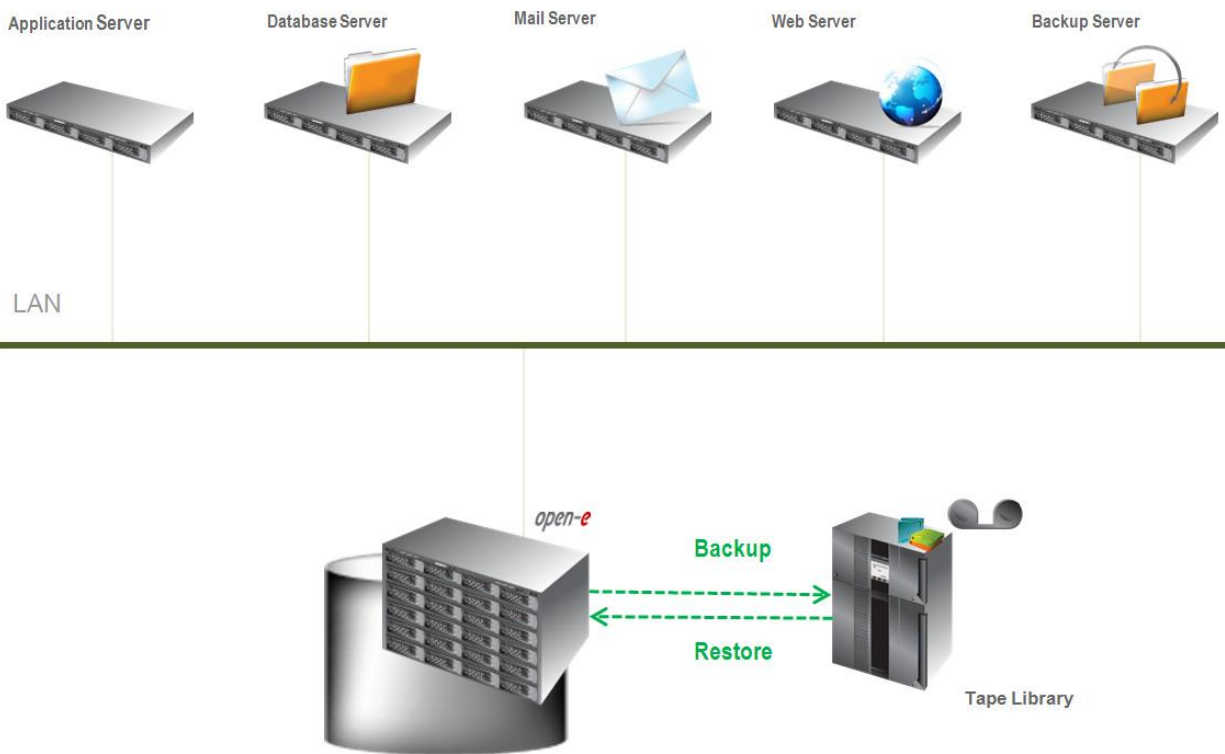
## 2. Medium (Backup to Tape Drive)

- Motherboard with 2 x Dual Core CPU – 2.8 GHz
- 8 GB main memory
- SATA 3Gbps hardware RAID controller with RAID5
- 8 SATA hard disk drives
- 4x 1GbE (for bonding)
- SCSI controller (for tape drive)
- Tape drive (for streaming)



### 3. High End (Backup to Tape Library)

- Motherboard with 2 x Quad Core CPU – 2.4 GHz
- 32 GB main memory
- SAS/SATA 3Gbps hardware RAID controller with RAID6 or external storage (e.g. Open-E DSS V6 FC or iSCSI target)
- 24 SAS/SATA hard disk drives
- 2x 10GbE (for bonding)
- FC controller (for external storage)
- SCSI controller (for tape library)
- Tape library
- Enclosure with redundant power supply



How to configure Backup & Restore using Open-E DSS V6:  
[Backup to a Dynamic Volume using USB /ATA/SATA drives with Open-E DSS V6](#)  
[Backup to attached Tape Drive using Open-E DSS V6](#)  
[Backup to attached Tape Library using Open-E DSS V6](#)