MR.PLANB FIELD GUIDE · STORAGE

Homelab Storage Map: ZFS, Ceph, PBS and More

32 guides in 8 categories, with a quick way to choose a stack by size, platform and priority.

Updated **2026-10-29** · Full guide: www.mrplanb.com/storage

The Mr.PlanB storage hub covers homelab and lab-adjacent storage from single-node ZFS to multi-node Ceph, plus the network protocols and backup strategy to match. Small homelabs do well with ZFS or Unraid, scalable cloud-native setups with Ceph, Rook-Ceph or Longhorn. Whatever you pick, add backups: three copies, two media, one offsite.

32
storage guides

8
categories, from Local & NAS to Business Workload Cluster

3
questions in the storage picker: nodes, platform, priority

3-2-1
backup rule: three copies, two media, one offsite

Pick a stack

Situation	Look at
Small homelab	ZFS or Unraid
Scalable, multi-node	Ceph
Kubernetes, lightweight	Longhorn
Kubernetes, Ceph-based	Rook-Ceph
Proxmox VE backups	Proxmox Backup Server
Long-term archive	LTO tape

The eight guide categories

Local & NAS
2 guides: ZFS and Unraid.

Distributed & Kubernetes
5 guides: Ceph, Ceph Object Storage, Longhorn, Harvester, Rook-Ceph.

Network Protocols
2 guides: NFS and iSCSI.

Backup & Archive
2 guides: Proxmox Backup Server and LTO Tape.

Cloud & Object
6 guides, including block vs object, S3-compatible storage, vendors, free cloud storage and cloud backup.

Backup Strategy
8 guides: 3-2-1, 3-2-1-1-0, retention, RPO vs RTO, testing, disaster recovery, backup vs DR, offsite.

Storage platforms in one line each

Platform	Strength
ZFS	Checksums, snapshots, replication, compression
Ceph	Self-healing block, object and file storage that scales out
Longhorn	Lightweight Kubernetes block storage with replication and DR
Proxmox Backup Server	Fast deduplicated backups with encryption
Unraid	NAS with parity, Docker and VMs, mixed drives
Harvester	Hyperconverged: Kubernetes, KubeVirt and Longhorn
Rook-Ceph	Operator-managed Ceph on Kubernetes

Backup strategy checklist

- [ ] Three copies of your data.
- [ ] Two types of media.
- [ ] One offsite or remote copy.
- [ ] One offline or immutable copy, and zero unverified recovery errors (3-2-1-1-0).
- [ ] Set recovery point and recovery time targets (RPO and RTO).
- [ ] Test restores, from job status up to a full replacement-cluster restore.
- [ ] Automate and verify with tools such as Restic, BorgBackup or Duplicati.

Network storage protocols

- NFS: simple, Unix/Linux-native file sharing.
- iSCSI: block-level storage over IP, ideal for virtualization.
- SMB/CIFS: Windows-friendly and cross-platform file sharing.
- Different workloads need different network storage approaches.

Sources and notes: Mr.PlanB storage hub, 32 guides in 8 categories · Project documentation for ZFS, Ceph, Longhorn, Proxmox Backup Server, Unraid, Harvester and Rook-Ceph, as summarized on the page