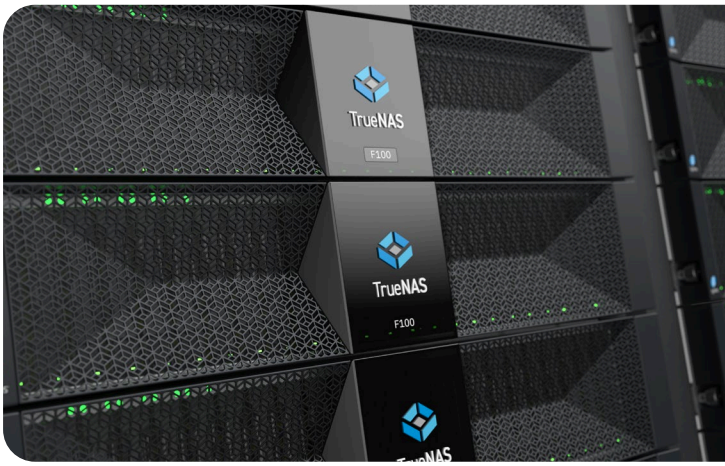
Data Sheet

# TrueNAS F-Series

## High Performance NVMe Storage




## Features

**Extreme Performance & High Availability**
Utilizes NVMe flash technology, ZFS, and up to six 100 Gb/s network ports per controller for ultra-fast data movement. Dual Node High Availability (HA) ensures uninterrupted operations with automatic failover.

**Advanced Data Protection**
Self-healing ZFS detects and repairs in-flight data corruption, prevents bit rot, and safeguards data integrity at all times.

**Intelligent Storage Efficiency**
Offers built-in compression, snapshots, clones, and thin provisioning. TrueNAS Adaptive Compression (TAC) optimizes performance while maximizing capacity without wasting system resources.

**Built-In Snapshots & Replication**
Includes configurable retention, restoration, and replication without extra licensing fees, protecting data from ransomware, accidental deletion, and ensuring efficient disaster recovery.

## Benefits

**Unmatched Reliability**
Enterprise hardware and redundancy features minimize downtime, making it ideal for mission-critical workloads.

**Cost-Effective Scalability**
Delivers enterprise-level storage optimization, including snapshots and replication, without additional licensing fees.

**Flexible Backup & Disaster Recovery**
Data can be securely replicated across local, remote, or cloud environments for seamless business continuity.

## Unmatched Performance

The TrueNAS F-Series is engineered for maximum productivity, combining industry-leading speed, density, reliability, and scalability. Designed for high-performance deployments, it seamlessly integrates open-source economics with enterprise-grade hardware and support. Whether handling media workflows, containerized applications, or other demanding workloads, the F-Series delivers the power and flexibility needed for modern IT environments.

With NVMe flash performance, a compact 2U form factor, and a unified storage approach, the TrueNAS F-Series offers high-speed data access and simplified management through an intuitive web-based interface. These systems ensure seamless scalability and enterprise reliability with award-winning support, making them an ideal solution for organizations that require both performance and ease of use.

The TrueNAS F60 and F100 models deliver all-flash, dual-controller storage with up to 20 PB capacity and support for multiple high-speed network interfaces—up to 6× 100 GbE. Built with energy-efficient, high-performance NVMe Flash, the F-Series supports demanding workloads like media production, virtualization, and high-speed file sharing. Intelligent Storage Optimization enhances efficiency with data reduction ratios exceeding 2.5x, while High Availability (HA) architecture ensures uninterrupted storage services.

# F-Series Platform

### Available Storage Media

- Enterprise Nearline Hard Drives 7200 RPM SAS3:
  - Capacities from 8 TB to 26 TB
  - SED, FIPS 140 options
- Enterprise-Class NVMe Gen4 SSD (Dual Port)
  - Capacities from 3.8 TB to 122 TB
  - SED, FIPS 140 options

### Power Management

- Dual redundant, hot-swappable, high-efficiency (80+ Platinum) power supplies
- High-line 200-240V 50/60Hz input power
- IPMI Remote power on/off

### Disk Management

- Global hot spares
- Hot-swappable drives
- Corrupted block scan
- Drive activity/alert LEDs
- Local and remote (KMIP) key management
- Enclosure monitoring and alerts

### Physical Parameters

- 2U: 24× 2.5" NVMe SSD drive bays (front-loading, hot swap)
- Dimensions (l x w x h):
  - 27" x 19" x 3.5" | 686 × 483 × 89 mm
- Rackmount rails 27" - 37"
- Operating temperature: 5°C to 35°C
- Non-operating temperature: 5°C to 45°C
- Humidity: 20% to 80% non-condensing
- Empty weight: 43 lbs | 19.5 kg
- Fully-Loaded weight: 56.2 lbs |25.4kg
- RoHS 6/6 compliant, CE, FCC Class A, UL, TÜV, BSMI, KC, VCC

# TrueNAS F-Series Models

| | TrueNAS F60 | TrueNAS F100 |
|---|---|---|
| **All-Flash Storage** | Yes | |
| **Dual Controller (HA)** | Optional | |
| **Controller** | 32 Cores (64 Threads) | 48 Cores (96 Threads) |
| **Read Cache (Max)** | 512 GB DRAM read cache | |
| **Write Cache** | Distributed Write Log | |
| **Networking** | Up to 4× 10/25/40/100 GbE (optical) | Up to 4× 10/25/40/100 GbE (optical) or Up to 8× 100GbE (optical) |
| **Management IO** | 1x IPMI Out-of-Band Management Port, 1x WebUI Port | 1x IPMI Out-of-Band Management Port, 1x WebUI Port |
| **Fiber Channel** | 4 × 32 Gb | 6 × 32 Gb |
| **Max Power Draw (HA)** | 996 Watts | 1152 Watts |
| **Typical Power Draw (HA)** | 600 Watts | 800 Watts |
| **Max Heat Output** | 3398 BTU/h | 3931 BTU/h |
| **All-Flash Storage** | | |
| **Max Capacity** | 9 PB | 20 PB |
| **Max Effective Capacity*** | 18 PB | 40 PB |
| **Max NVMe Expansion Shelves** | 2 | 6 |
| **Hybrid Storage (HDD + Flash)** | | |
| **Max Read Cache** | 4× 6.4 TB NVMe | 4× 6.4 TB NVMe |
| **Max Capacity** | 10 PB | 20 PB |
| **Max Effective Capacity*** | 20 PB | 40 PB |
| **Max SAS Expansion Shelves** | 4 | 8 |

**Maximum effective capacity assumes typical data reduction through compression and deduplication.*

# TrueNAS Enterprise Specifications

### File-Based Protocols

- SMB v1/2/3
- NFSv3, v4
- FTP, WebShare

### Block-Based Protocols

- iSCSI
- Fibre Channel
- OpenStack Cinder

### Object Protocols

- S3-compliant

### Directory Services

- Active Directory (AD)
- FreeIPA
- Kerberos
- LDAP, NIS

### Networking

- Port Trunking/NIC Teaming
- IEEE 802.3ad link aggregation
- IEEE 802.1q VLAN support

### Virtualization

- Supports VMware and VAAI, ESXi snapshot integration, VM Warn/Stun, vCenter
- Supports KVM, Citrix XenServer, Microsoft Hyper-V, and other common hypervisors
- Microsoft VSS, ODX, and CSV
- Integrated Apps

### File System

- OpenZFS Self-healing file system
- Immutable Snapshots and clones
- Thin and thick provisioning
- Online capacity expansion
- Virtual block devices
- In-line compression and deduplication
- ZFS Stripe, Mirror, RAID-Z1/Z2/Z3, dRAID

### High Availability

- Available dual controller support
- Automated rapid failover without data loss
- Virtual IP address migration
- Online software updates

### Data Mobility

- Asynchronous file replication using Syncthing
- Data ingest and export to and from any SMB/NFS server

### Backup

- Snapshot-based OpenZFS local/remote replication
- Rsync and cloudsync
- Truecloud backup to Storj
- Supports Asigra, Acronis, Veeam, Nakivo, NetBackup, and more

### Supported Public Cloud Providers

- iX-Storj
- Amazon S3
- BackBlaze B2 Cloud
- Google Cloud
- Microsoft Azure

### TrueSecure Security

- FIPS 140 for Data-at-rest and data-in-flight
- Restricted Admins (Security, Storage, Monitor)
- Auditing of SMB & Admin events (e.g. logins)
- Encrypted Drives and Datasets, KMIP
- NIST 800-209, GPOS STIG

### Remote Administration

- Alert notifications via email, AWS-SNS, Hipchat, InfluxDB, Slack, Mattermost, OpsGenie, PagerDuty, and VictorOps
- SSH, Syslog, Netdata
- TrueNAS REST/Websocket APIs and SNMP
- Automated backup of system configuration and state
- Graphical reporting, enclosure management
- Signed updates with the ability to rollback
- Out-of-Band Management
- TrueCommand Management