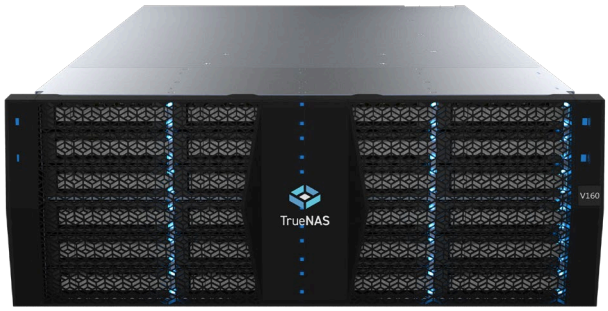
Data Sheet

# TrueNAS V-Series

## Powerful, Scalable, Versatile




## Features

**Tri-Mode Storage Flexibility**
Consolidate storage choices in a single box with 24 front-loading bays supporting SAS HDD and Gen4 NVMe SSDs.

**Massive Scalability**
Support for up to 20 PB of NVMe storage or up to 35 PB of HDD storage with added expansion shelves.

**Next-Gen Performance**
Includes 4 rear Gen5 NVMe drive bays for high-velocity data caching.

**Extreme Network Velocity**
Support for high-speed fabrics up to 400 GbE.

**Advanced Data Management**
Features Fast Deduplication, block copy, and RDMA support as part of the TrueNAS Enterprise suite.

## Benefits

**High Availability (HA)**
Ensure uninterrupted operations with dual controllers featuring automated rapid failover.

**Frictionless Versatility**
Easily adapt to changing workloads with tri-mode bays that support both hybrid and all-flash configurations.

**Simplified Portfolio**
Benefit from a versatile platform and an intuitive interface that requires no sharp learning curve.

**Enterprise Efficiency**
Advanced features like inline compression, deduplication, snapshots, and replication come standard, reducing management costs.

## Powerful Enterprise Storage

The TrueNAS V160 is engineered for organizations that demand fewer constraints and more simplicity. Designed to support a wide range of workloads—hybrid or flash, big or small—the V-Series integrates seamlessly into any environment without the friction of a sharp learning curve. By consolidating storage choices into a single tri-mode platform, users can easily map their bandwidth and deployment needs to a high-performance system that delivers enterprise flexibility in a familiar, customer-friendly package.

This next-generation platform features 24 front-loading tri-mode bays supporting SAS and Gen4 NVMe drives, alongside four rear Gen5 NVMe bays for high-velocity data caching. With support for up to 20 PB of NVMe storage and high-speed fabrics up to 400 GbE, the V-Series provides massive scalability and extreme network velocity. Dual controllers with automated rapid failover ensure high availability, maintaining uninterrupted operations for mission-critical data.

Efficiency is built into the TrueNAS Enterprise suite, which includes advanced data management tools like fast deduplication, inline compression, and RDMA support. These features, combined with snapshots and replication, come standard to reduce management costs and optimize performance. The V-Series “just fits,” offering a versatile, frictionless platform that adapts to changing workloads while providing the robust, high-performance storage required for modern enterprise environments.

# V-Series Platform

### Available Storage Media

- Enterprise Nearline Hard Drives 7200 RPM SAS3:
  - Available from 8 TB to 26 TB
  - SED, FIPS 140 options
- NVMe SSDs:
  - from 3.8 TB to 122.8 TB
  - SED and FIPS 140 options available

### Power Management

- Dual redundant hot-swappable high-efficiency 80 Plus Titanium (90%+) power supplies
- 200-240V 50/60Hz input Power Required
  - ES60/ES102 expansion shelves require 200-240V 50/60Hz input power
- Remote power-on/off via IPMI (Integrated Platform Management Interface)
- UPS signal response and alerts

### Disk Management

- Global hot spares
- Hot-swappable drives
- Corrupted block scan + HDD S.M.A.R.T.
- Hard drive activity/alert LEDs
- Hardware-accelerated disk encryption (AES-NI)
- Enclosure monitoring and alert LEDs

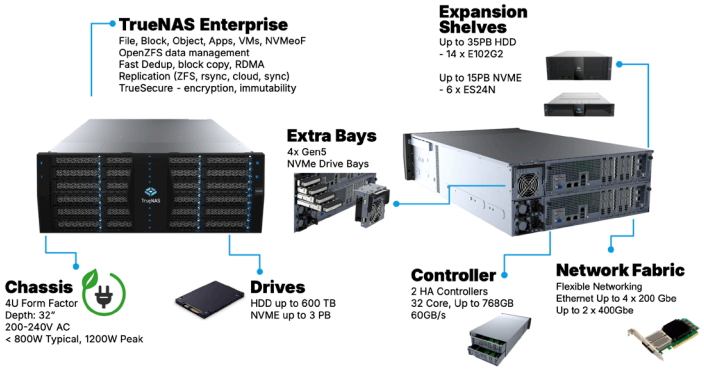
### Physical Parameters

- 4U: 24× 3.5/2.5" hard drive bays (front-loading, hot swap)
- Dimensions (l x w x h):
  - 32 X 19 X 7" | 803 X 483 X 178mm
- Rackmount Rails:
  - 26" - 36.5" | 660mm - 927mm
- Operating temperature: 0°C to 35°C
- Non-operating temperature: 5°C to 45°C
- Humidity: 20% to 80% non-condensing
- Empty weight: 75 lbs | 34 kg
- Fully-loaded weight: 117 lbs | 52 kg
- RoHS 6/6 compliant CE, FCC Class A, UL, BSMI

# TrueNAS V-Series Configurations

| | Hybrid Cache | Hybrid Flash | All-Flash |
|---|---|---|---|
| **Dual Controller (HA)** | 32 Core (64 Threads) | | |
| **RAM (Max)** | 384 GB | 768 GB | 768 GB |
| **Read Cache (Max)** | 12 TB NVMe | 24 TB NVMe | DRAM |
| **Max Write Speed** | 8 GB/s | 16 GB/s | 30 GB/s |
| **Management Network** | 1x IPMI Out-of-Band Management Port<br>1x TrueNAS WebUI Management Port | | |
| **Data Network (Max)** | 4× 100 GbE | 4 × 200 GbE or 2× 400 GbE | |
| **Fibre Channel** | 4 × 16 Gb or 2 × 32 Gb | | |
| **System Overview** | 4U - 80.2 cm deep | | |
| **Max System Bandwidth** | 15 GB/s | 30 GB/s | 60 GB/s |
| **Max HDD Storage (Raw)** | 6 PB | 35 PB | N/A |
| **Max NVMe Flash (Raw)** | N/A | 8 PB | 20 PB |
| ***Max Effective Storage** | 12 PB | 70 PB | 40 PB |
| **Max Expansion Shelves** | 2x ES102 | 14x ES102 | 6x ES24N |
| **Average Power Draw** | 600 Watts | 800 Watts | |
| **Peak Power Draw** | 900 Watts | 1200 Watts | |
| **Heat Output** | 3000 BTU/h | 4000 BTU/h | |

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




*TrueNAS V160 shown above. Specifications may vary based on your selected model and configuration.*

# TrueNAS Enterprise Specifications

### File-Based Protocols

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

### Block-Based Protocols

- iSCSI, RDMA via iSER
- NVMe-oF (TCP/RDMA)
- OpenStack Cinder

### Object Protocols

- S3-compliant
- MinIO Alstor

### Directory Services

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

### Networking

- Port Trunking/NIC Teaming
- IEEE 802.3ad link aggregation
- IEEE 802.1q VLAN support
- IPv4 and IPv6

### Virtualization

- VMware and VAAI, ESXi snapshot integration, VM Warn/Stun, vCenter plugin
- Supports KVM, Citrix XenServer, Microsoft Hyper-V, OpenShift, and other hypervisors
- Microsoft VSS, ODX, and CSV
- Integrated Apps, Kubernetes CSI
- Proxmox Plugin with iSCSI, Snapshot integration
- Integrated HA Data Hypervisor

### 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 Veeam, HYCU, Asigra, CommVault, 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
- 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 and TrueNAS Connect Management