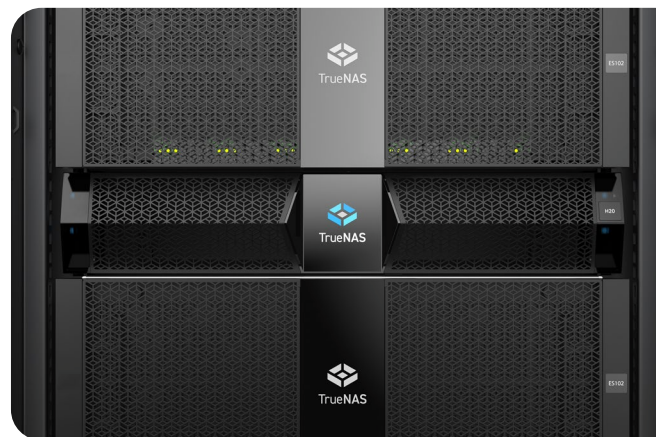




Data Sheet

TrueNAS Expansion Shelves

Effortless Scaling As You Grow



Features

- Up to 102 drive bays per shelf for dense, high-capacity deployments
- Support for SAS HDD, SSD, and NVMe for performance and flexibility
- Redundant controllers, power supplies, and cooling for continuous availability
- Zero-downtime updates with built-in management and 24/7 enterprise support

Benefits

- Scale capacity seamlessly from terabytes to petabytes without downtime or disruption
- Reduce upfront costs with flexible, pay-as-you-grow expansion model
- Consolidate storage into one unified platform, eliminating silos and complexity
- Maximize efficiency with high-density designs that save rack space and power

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TrueNAS Enterprise is built for organizations facing rapid data growth and increasing performance demands. Supporting a full range of storage protocols across Windows, macOS, Unix, and mobile environments, it provides a unified platform for everything from everyday workloads to large-scale analytics and Big Data applications. With the ability to retain and manage petabytes of data, TrueNAS ensures your infrastructure is ready for both current needs and future expansion.

TrueNAS Expansion Shelves extend this capability with simple, flexible scaling that eliminates storage silos and complexity. Designed around a “pay-as-you-grow” model, they allow you to add capacity only when needed—maximizing efficiency in power, space, and cost. Whether expanding with high-density HDD shelves or high-performance NVMe options, organizations can scale seamlessly without disruption or costly overprovisioning.

Every TrueNAS system is engineered for enterprise reliability and continuous operation. Built-in features like enclosure management, redundant storage controllers, global hot spares, and zero-downtime updates ensure consistent availability. Combined with 24/7 enterprise support, TrueNAS Expansion Shelves provide a dependable, scalable foundation that grows alongside your data without compromise.



Expansion Shelf Max Capacities

Base Unit		SAS HDD			NVMe SSD
		ES24	ES60	ES102	ES24N
SAS HDD	TrueNAS M30 500 TB	1.5 PB (two shelves)	2 PB (one shelf)	Not Supported	Not Supported
	TrueNAS M40 500 TB	1.5 PB (two shelves)	3.5 PB (two shelves)	5.5 PB (two shelves)	Not Supported
	TrueNAS M50 500 TB	5.5 PB (eight shelves)	13 PB (eight shelves)	21 PB (eight shelves)	Not Supported
	TrueNAS M60 500 TB	8 PB (twelve shelves)	19 PB (twelve shelves)	32 PB (twelve shelves)	Not Supported
	TrueNAS H10 250 TB	500 TB (one shelf)	1.5 PB (one shelf)	Not Supported	Not Supported
NVMe SSD	TrueNAS H20 360 TB	500 TB (one shelf)	1.5 PB (one shelf)	2.5 PB (one shelf)	Not Supported
	TrueNAS H30 720 TB	500 TB (one shelf)	1.5 PB (one shelf)	2.5 PB (one shelf)	Not Supported
	TrueNAS F60 1.4 PB	N/A	5 PB (four shelves)	8.5 PB (four shelves)	4 PB (two shelves)
	TrueNAS F100 1.4 PB	N/A	6 PB (four shelves)	10 PB (four shelves)	10 PB (six shelves)
	TrueNAS V160 2.5 PB	9 PB (fourteen shelves)	22 PB (fourteen shelves)	37.5 PB (fourteen shelves)	20.5 PB (six shelves)

ES Platform

Available Storage Media	Power Management
- Enterprise Nearline Hard Drives ◦ 7200 RPM SAS3 - 12 Gb/s ◦ Capacities available from 8 TB to 26 TB ◦ Self-Encrypting Drives (SED), FIPS 140 Options - Enterprise Solid State Drives ◦ (SAS3 - 12 Gb/s) ◦ Capacities available from 1.92 TB to 15.3 TB ◦ Self-Encrypting Drives (SED), FIPS 140 Options - Enterprise-Class NVMe Gen4 SSD (Dual Port) ◦ Capacities from 3.8 TB to 120 TB ◦ Self-Encrypting Drives (SED), FIPS 140 Options	- Redundant, hot-swappable, high-efficiency (90%+) power supplies 100-240V 50/60Hz input power on TrueNAS ES24/ES24F/ES24N (Auto-Switching) - High-line (200-240V 50/60HZ) input power only on TrueNAS ES60/ES102 - UPS signal response and alerts - Redundant cooling - All expansion shelves are RoHS 6/6 compliant

Hardware Specifications

TrueNAS ES24	TrueNAS ES24N	TrueNAS ES60	TrueNAS ES102
4U: 24× 3.5"/2.5" hard drive bays (front-loading, hot swap) - Redundant, hot-swap SAS3 (12 Gb/s) controllers 3x Mini-SAS HD Host Connections per Controller (SFF-8644) - Physical Dimensions (Lx W x H) ◦ 20.5 × 19 × 7" 521 × 483 x 178 mm - Rackmount Rail Depth: 26 to 36.5" - Empty weight: 40 lbs 18 kg - Fully-loaded weight: 76 lbs 34.5 kg - Power Draw: 316W (typical); 400W (max)	2U: 24× 2.5" NVMe SSD drive bays (front-loading, hot swap) - Redundant, hot-swap fabric modules - Physical Dimensions of Shelf (L x W x H): ◦ 27" x 19" x 3.5" 686 × 483 × 89 mm - Physical Dimensions of Shelf with Cable Management Arm (L x W x H) ◦ 38.9" x 19 x 3.5" 988 × 483 × 88 mm - Rackmount Rail Depth: 27" - 37" - Empty weight: 43 lbs 19.5 kg - Fully-Loaded weight: 56.2 lbs 25.4kg - Power Draw: 558W (typical); 825W (max)	4U: 60× 3.5"/2.5" hard drive bays (top-loading, hot swap) - Redundant, hot-swap SAS3 (12 Gb/s) controllers 6x Mini-SAS HD Host Connections per Controller (SFF-8644) - Physical Dimensions of Shelf (L x W x H) ◦ 28.03 × 19 × 6.9" 712 × 483 × 176 mm - Physical Dimensions of Shelf with Cable Management Arm (L x W x H) ◦ 35.04 × 19 × 6.9" 890 × 483 × 176 mm - Designed to fit in a standard 19" wide, 1000 mm depth cabinet - Rackmount Rail Depth ◦ 24" to 32" (610 to 813 mm) with Cable Management - Empty weight: 82 lbs 37.2 kg - Fully-loaded weight: 178 lbs 80.8 kg - Power Draw with 60 HDDs: 1000W (typical); 1250W (max)	4U: 102 × 3.5" hard drive bays (top-loading, hot swap) - Redundant, hot-swap SAS4 (24 Gb/s) controllers 4x Mini-SAS HD Host Connections per Controller (SFF8644) - Physical Dimensions of Shelf (L x W x H) ◦ 38.6 × 19 × 6.9" 980.4 × 482.6 × 175.3 mm - Physical Dimensions of Shelf with Dual Cable Management Arm (L x W x H) ◦ 39.4 × 19 × 6.9" 1197 × 482.6 × 1000 mm - Designed to fit in a standard EIA-310 compliant rack, 17.72" - 18.31" wide, 1000 mm deep cabinet ◦ Narrow cabinets could require a rack-mounted PDU to properly allow the enclosure to be fully installed into the rack and properly cabled with the included Cable Management Arms - Rackmount Rail Depth ◦ 27" to 32" (813 to 914 mm) with Cable Management ◦ Balance Warning: The ES102 also extends 39.4 in outward when fully extended from rack - Rack Width: 17.72" to 18.31" (450mm to 465mm) + 1.5mm nominal hole spacing (EIA-310 standard) - Fully-loaded weight: 262 lbs 118.8 kg - Power Draw: 707W (typical); 1228W (max)