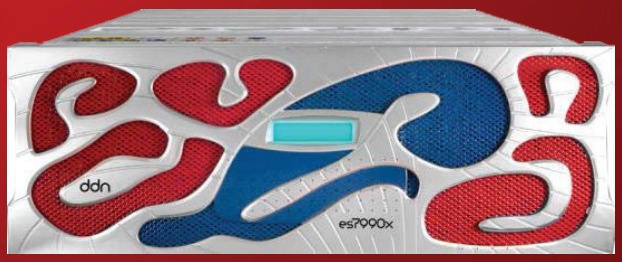
Tyrone® ddn

TYRONE DDN ES7990X DUAL CONTROLLER
UNIFIED STORAGE

Scale-Up, Scale-Out Hybrid Flash Storage Appliance



Artificial Intelligence (AI), Analytics and High-Performance Computing (HPC) enable organizations everywhere to gain insights from their data with unprecedented velocity and accuracy. DDN EXAScaler appliances are purpose-built to deliver scalable performance and capacity to address your toughest data management challenges. The ES7990™ Hybrid Flash Storage Platform is designed to grow with the needs of your accelerating business requirements and provides flexibility without compromise. Select the optimal blend of price, performance and capacity, and the ES7990 delivers, meeting the broadest range of workloads. The ES7990 addresses the most intensive Artificial Intelligence and Deep Learning application demands right through to supporting long-term retention of large volumes of infrequently accessed data.

SCALE OUT FOR PERFORMANCE, SCALE UP FOR CAPACITY

The ES7990 is the ultimate filesystem platform for the consolidation of your storage needs. Designed in the flash era to fully exploit the performance of your SSDs with predictable low- latency performance, the ES7990 delivers industry-leading innovation and data intensive capabilities for file storage at scale. Start as small as a few terabytes and grow seamlessly to petabyte capacity to service the most demanding mixed-workload challenges.

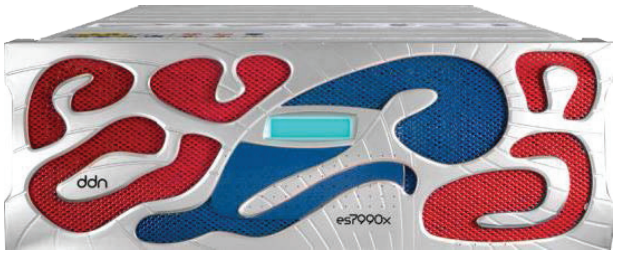
SIMPLE, EFFICIENT, INTEGRATED

The ES7990 appliance delivers high performance parallel file systems in an integrated package. DDN's EXAScaler® filesystem provides a modular approach to building the most capable platforms for parallel file storage systems. Built, deployed and supported by the experts in data intensive workloads, these appliances are the gold standard for eliminating bottlenecks and maximizing application performance.

DATA MANAGEMENT: AUTOMATED, OPTIMIZED, AND SECURE

EXA5 introduces several new data management and integrity filesystem features developed by DDN and only available in its appliances. Stratagem is a powerful data orchestration engine that gives users comprehensive data residency controls using policy-based placement. Hot Pools intelligently moves data between high-performance flash and large capacity disk and ensures efficient use of storage. A native T10DIF implementation ensures that data is handled with full integrity from application to disk. Several dozen other new features in EXA5 deliver unique value for users looking to deploy the most demanding workloads on premise, in the cloud.

TYRONE DDN ES7990X SPECIFICATIONS



Features	Detailed Specifications
System Features	Active/Active Storage Controllers DeClustered RAID (DCR) supports erasure coding schemas: RAID 6 8+2, 4+2; RAID 5 8+1, 4+1; RAID 1 1+1 Sequential read performance up to 24GB/s; Sequential write performance up to 20GB/s Up to 1.5M IOPs per appliance Performance Scaling: Linear Filesystem performance scaling with each ES7990 adding over 20GB/s read and write performance Capacity Scaling: Linear Filesystem Capacity scaling with each ES7990 adding up to 450 drives to solution capacity
Controller Host Ports per Appliance	4 x EDR/HDR100* InfiniBand or 40/100 GbE
Drive Support	90 x 3.5” drive slots support Enterprise-grade SSDs and HDDs
Supported Expansion Enclosures	SS9012 (one, two, or four enclosures) Description: 4U, 90 drive enclosure Supported Drive Types: NL SAS
Standard Software Features	LUN mapping and masking, intelligent write striping, read QoS, port zoning detection, data integrity check/correction, interface options (SSH to CLI, web-based GUI, Python API), state change messages (via e-mail, SNMP trap and syslog).
Physical and Environmental Attributes	**Dimensions** Height: 4RU rack mount 6.90” (175.3 mm), Width: 17.64” rack (448 mm) Depth: 45.25” (1150 mm) front vertical rack rail to back of CMA Weights: 140 lbs/63 kg (empty); 295 lbs/134 kg (max) **Power** Power Supply: 1,300W (empty) Input Voltage: 180 - 264 VAC Input Frequency: 47 - 63 Hz Maximum Input Current: 8.5 A RMS Peak Inrush Current: 30A AC Hold-Over Time: 8 msec **Temperature, Humidity, and Altitude** Temperature Range: 5°C to 35°C (operating); -40°C to 60°C (non-operating) Relative Humidity: 8% to 85% (non-condensing); 8% to 95% (non-condensing) Altitude: ASHRAE class A1 standard, 5 - 35°C to 3117 ft (950 m); 39,370 ft (12,000 m) non-operating
Reliability	Battery-backed write-back cache 2 + 2 Redundant hot-swappable power modules 4 + 1 Redundant hot-swappable cooling modules Dual-redundant controllers Temperature monitoring Uses SES (SCSI Enclosure Services) protocol to manage and monitor the head enclosure and all expansion enclosures
Safety	Agency Certifications UI, cUI, CE, FCC

*X-variant is HDR100 (releases begin May 2020), non-X remains EDR

Tyrone™

For enquiries reach us at:
Email: info@tyronesystems.com | www.tyronesystems.com

CONNECT WITH US

facebook.com/tyronesystems
twitter.com/tyronesystems
blog/tyronesystems.com
youtube.com/tyronesystems