

Avere FXT Series

High-Performance, Tiered NAS Appliances

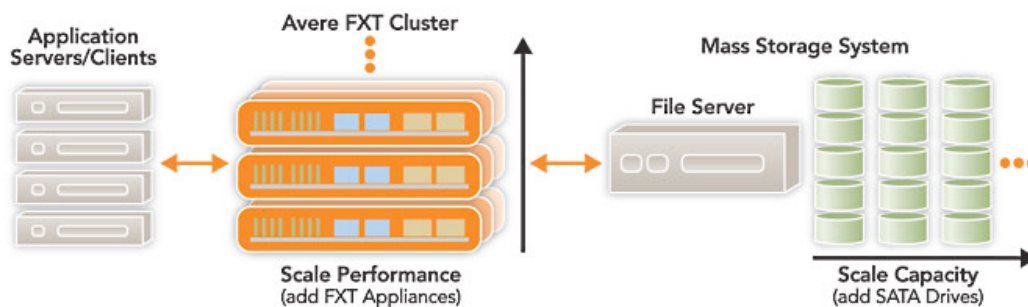
A V E R E

Challenge

The performance of current generation network attached storage (NAS) is limited by the quantity and performance of the attached disk drives. For even modest application performance requirements, this limitation results in costly over-provisioning of storage capacity, inefficient use of limited data center space, and wasted power consumption.

Solution

The Avere FXT Series of tiered NAS appliances separates data delivery from data retention and more efficiently delivers both. Active client data is stored and accessed on a cluster of FXT appliances optimized for performance. Inactive data is stored on traditional NAS systems (in Avere terms, mass storage systems) optimized for storage capacity and retention. System performance scales by adding appliances to the FXT cluster and capacity scales by adding disk storage to the mass storage systems.



The FXT cluster dynamically stores active file data on multiple tiers of internal SSD and HDD media and manages the placement of inactive data on the mass storage systems. The Avere OS allocation algorithms running on the FXT appliance constantly monitor data access patterns and actively manage data placement to increase performance, distribute workload in the cluster, and minimize accesses to the mass storage systems.

Performance

The Avere FXT Series enables linear system performance scaling without adding servers or disks to the mass storage system. The FXT cluster accelerates performance for any mass storage system and for any application workload mix. The FXT cluster takes ownership of heavily accessed files from the mass storage system and accelerates all operations to those files including reads, writes, file attribute updates, and other metadata operations. The FXT Series supports up to 25 appliances per cluster and linearly scales to millions of operations/sec performance and tens of gigabytes/sec throughput.

Cost Savings

Avere solutions are highly efficient; the total equipment deployed is typically one-fifth of traditional NAS deployments, resulting in dramatic savings in rack space and power/cooling costs. For existing NAS deployments, the Avere FXT Series enables administrators to dramatically increase the performance of their system without adding storage. For new deployments, the FXT Series enables administrators to meet their performance requirements with the highest possible storage density on the mass storage systems, using low-cost, high-capacity SATA drives. By using Avere tiered NAS, system acquisition costs are one-third of traditional NAS solutions.

Simplicity

The Avere FXT Series has near-zero impact on data center management and workflow. The first FXT appliance in a cluster is configured in minutes via a secure web interface from any browser. Additional FXT appliances join the cluster automatically and are configured upon entry. Introduction of an FXT cluster into existing data center applications is non-disruptive, requiring no changes to application servers and clients, no changes to the mass storage systems, and no changes to existing operational procedures for backups, mirroring, storage provisioning, and other storage management tasks. Visibility into the operations of the Avere cluster, application servers and clients, and mass storage systems is provided by a wealth of statistics and graphical display on the Avere Control Panel.

Availability & Data Protection

The Avere FXT Series supports a rich set of availability and data protection features. Avere clusters provide N+1 protection to ensure data remains available in the event of a failure. Integrated NVRAM provides high-performance and persistent write operations. FXT appliances are highly reliable and provide redundant network ports and power. The Avere FXT Series supports existing procedures for tape backup, D2D backup & mirroring via policy management.

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Key Benefits

Performance

Achieve faster time-to-market by dramatically increasing the performance of your NAS applications.

Cost Savings

Avere FXT Series enables a 5-to-1 reduction in disks, power, and rack space.

Simplicity

Performance improvements are automatic, require no changes to clients or storage, and free admins from manual data movement and other mundane tasks.

Availability & Data Protection

Avere solutions are highly available and support existing procedures for tape backup, D2D backup & mirroring via policy management.

Leverage Existing Infrastructure

Turbo-charge the performance of your existing NAS infrastructure and add years to its productive life.

Data Sharing Over WAN

Accelerate performance and hide WAN latency while coherently accessing remote data.

Product Overview

Avere OS

- Dynamically organizes data into storage tiers
- Automatically places active data on FXT appliances
- Accelerates performance of read, write & metadata operations
- NFSv3 & CIFS support, requires no changes to app. servers/clients

Clustering

- Scale to 25 FXT appliances in a single cluster
- Performance scales linearly to millions of ops/sec, tens of GBs/sec
- Adding new FXT appliances is non-disruptive and takes just minutes
- Coherent, automatic balancing of load across cluster

Management

- Simple & intuitive web GUI management
- Rich, historical statistics & graphical monitoring
- SNMP support, XML API, RRD data format
- Email & pager alerts

Availability & Data Protection

- Clustering with N+1 protection for high-availability
- Persistent non-volatile memory
- Fast-restart logging file system
- Support existing procedures for backup & mirroring

Avere FXT Series

- 64GB DRAM provides extreme performance
- Flash SSD storage (SLC) for massive random read performance
- HDD storage (15k SAS) supports large data working sets
- NVRAM for high-performance, persistent writes
- Redundant network ports and power

| Hardware Specification | FXT 2300 | FXT 2500 | FXT 2700 |
|------------------------|---|----------|----------|
| DRAM | 64GB | 64GB | 64GB |
| NVRAM | 1GB | 1GB | 1GB |
| SSD Capacity (SLC) | - | - | 512GB |
| HDD Capacity (15k SAS) | 1.2TB | 3.6TB | - |
| Network Ports | 2x10GbE + 2x1GbE or 10x1GbE | | |
| Power Supply | Dual-redundant, hot-swappable, universal-input 700W | | |
| Height | 2U | | |
| Max. Nodes per Cluster | 25 | 25 | 25 |
| Max. DRAM per Cluster | 1600GB | 1600GB | 1600GB |
| Max. SSD per Cluster | - | - | 13TB |
| Max. HDD per Cluster | 29TB | 90TB | - |