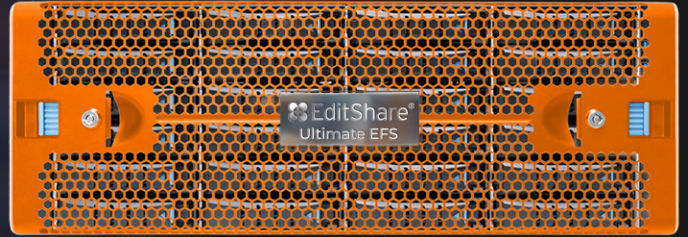


Designed for Mission-Critical
Environments that Demand Optimal Uptime



EFS 410



Innovation in Storage: It's in Our DNA

For over two decades, EditShare has delivered highly scalable shared storage systems that enable media professionals to deliver outstanding content. Along with companion asset management and archiving solutions, EditShare's media storage and management tools have increased productivity across broadcast and mission-critical media enterprises around the globe.

The EditShare Ultimate EFS 410 is an enterprise-grade scale-out storage system built for demanding mission-critical collaborative media production. It features an advanced distributed file system (EFS), intelligent load balancing, and a scalable, fault-tolerant architecture with cost-effective 10/40/100GbE connectivity. This media-optimized solution delivers high bandwidth to hundreds of concurrent users, tolerates significant hardware faults, and offers a cost-efficient approach to building enterprise media-focused clustered storage environments. Delivering optimal uptime with EFS 410 nodes in a high-availability configuration is a baseline requirement for doing business in the media industry.

Feature-Rich Collaboration

The EFS 410 permits wide-scale, simultaneous users of media with project sharing and support for the leading NLEs, including Avid Media Composer Ultimate®, Adobe Premiere Pro®, Davinci Resolve®, Apple Final Cut X®, and a host of other creative finishing tools.

All EFS 410 systems can be purchased with the option of our FLOW Asset Management software,

an integrated platform for creative control of all files during the production process. FLOW will log, index, tag, organize and manage your media assets from ingest to archive. Unique collaboration tools within FLOW allow remote users to browse, search, and download proxy or high-res files to support review & approval. Add FLOW's multi-channel live ingest node to the EFS 410 for end-to-end workflows.

In addition, all EFS 410 systems can be purchased with the option of our ARK Media Archiving software combined with the ARK Tape Libraries. Furthermore, nearline project parking is supported through storage goals with our Ultimate EFS 60NL. The Ultimate EFS 60NL stays within the single EFS namespace, ensuring media can easily move between online and nearline storage.

Limitless Storage Expansion

EFS 410 is the ideal solution for any media enterprise managing or preparing for massively expanding media volumes. Its unique architecture lets users start small and build up to 15 PB and beyond with additional storage nodes that can be added at any time. As additional nodes are added to the cluster, the throughput and performance scale linearly.

EFS 410 eliminates the management challenges of other forms of media storage. No matter how large the system grows, it always presents a single global namespace. Capacity expansion is as simple as connecting additional storage nodes and allowing the EFS file system to redistribute content across the expanded system dynamically. And all the while, users continue to use their

regular production workflows. Finally, you will enjoy the peace of mind delivered by Editshare technical services personnel and our regional partners as we support your growing EFS system.

Elite Performance, Every Time

EFS 410 is designed to eliminate, minimize, and manage the impact of resource contention produced in all shared storage applications to ensure continuous high bandwidth performance. System metadata plays a vital role in directing storage clients to the assigned location of media assets. Typically, if multiple clients request the same asset, one might be delayed until a preceding request is fulfilled. Unlike typical media storage systems, EFS Metadata Controllers store metadata in fast memory and virtually eliminate delays and latency associated with concurrent asset requests.

Similarly, the EditShare File System (EFS) distributes media data across many disks within each storage node, as well as across many storage nodes. This is done to reduce the chances of disk contention due to concurrent file requests. And in the rare but statistically unavoidable case where a storage node is busy servicing another request, EditShare Swift Read technology allows EFS 410 to skip that node and obtain the requested data through other means.

The unique design approach of the EditShare File System enables the EFS to support hundreds of concurrent users and to deliver the bandwidth necessary for today's UHD, 4K DPX and other High Resolution, High Dynamic Range and High Frame Rate media formats.

EFS Control is a comprehensive application that enables system administrators to manage users, permissions, quotas, workspaces, projects, reporting, and other aspects of system usage.

EditShare Connect is a powerful client software application that allows users to mount EFS media spaces as shared network volumes for seamless collaboration. In addition to providing access to permitted media assets and workstations, it enforces quotas, read and write permissions, and implements project sharing and bin locking.

EditShare Swift Link allows secure, collaborative remote work by transforming on-premise storage into a private cloud. Users can mount media spaces on their remote devices use FLOW panels to find clips, and the system automatically adjusts for latency to ensure optimal performance.

EditShare Swift Sync enables high-speed, secure synchronization of media and projects between EFS nodes in different locations. Shoot on set with the Ultimate Field Unit and sync dailies back to base. It's ideal for organizations or broadcasters with regional offices looking to share content across locations easily.

EditShare Guardian is an analytics platform for EFS and FLOW that offers real-time visibility into system operations. It features customizable dashboards and reports, along with advanced search capabilities. The system regularly samples metrics like CPU, memory, and disk space usage. Additionally, monitoring data can be forwarded to third-party SIEM systems like SolarWinds or Splunk for enhanced security monitoring.

EFS Auditing

Global cyber threats have prompted the media industry to adopt stronger security measures. EditShare's EFS storage now includes File Auditing, which tracks all file access, modifications, and user activity in a dedicated audit log. Administrators can analyze these logs in real time to identify errors or potentially malicious behavior.

Each EFS 410 storage node can come pre-configured with a wide range of networking ports. 10/25 GbE is sufficient for most customer workflows, where individual connected workstations need to playback multiple layers of uncompressed HD or UltraHD codecs such as DNxHR, or Prores HQ. The building blocks of EFS enable the throughput to linearly grow as additional nodes are dynamically added. The system will automatically rebalance and distribute media accordingly.

Native Fault-Tolerance

At EditShare, we understand that great performance is meaningless without the ability to deliver it 24 hours a day, 7 days a week. Whenever possible, we let this philosophy influence the decisions and choices we pursued in the design of EFS 410. Every hardware chassis, for example, is equipped with redundant hot-swappable power supplies, mirrored hardware RAID hot-swappable OS boot drives, and redundant fans. Similarly, we chose Ubuntu, a distribution of Linux that is renowned for reliable operation and freedom from viruses and other security problems.

EFS metadata controllers journal metadata changes every few seconds, snapshot metadata every hour, and export backup copies of journals and snapshots to the EFS 410 storage node. Even in the extremely unlikely case of a complete metadata controller failure, system metadata is automatically backed up to another part of the system.

Metadata files are protected via two separate mechanisms. Within each storage node, files are protected with standard RAID 6 redundancy and permit that node to survive one (or two)

disk failures without impact to the media files. In addition, media files are distributed across as many storage nodes as required with similar data/parity protection. This allows an EFS system to lose an entire storage node without suffering any loss of media data or interruption in workflow.

Playout Storage

The EFS 410 is ideal for broadcasters and telcos looking for mission-critical playout storage architecture. Integrated and approved by leading playout vendors, the EFS 410 has become the bedrock of many of the world's largest playout centers.

High Availability

The EFS 410 is designed to be deployed in High Availability (HA) configurations. These deployments include dual metadata controllers and the EditShare HA software stack that implements advanced IPMI-fencing and PDU-fencing mechanisms. The result is a robust storage solution with No single point of failure.

EFS 410 Product Information

Available in a minimum configuration of 3 nodes, MDC required.

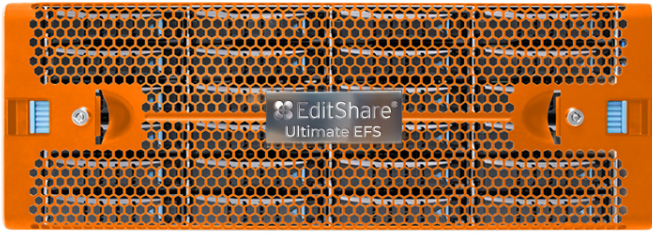
SERVER MODELS

EFS 410 Storage Server - Rack mountable 4U server with minimum 3-node configuration. MDC required.

STORAGE HARDWARE

- Motherboard with powerful multi-core CPU
- 128 GB DDR5 – 3400 MHz ECC high speed RAM
- Dual 10GbE and 1 x 1 GbE NICs¹
- PCIe 4.0 Hardware RAID controller with RAID 6 and cache protection module
- 24 enterprise media drives in 6TB, 10TB, 16TB, 20TB or 22 TB capacities
- Mirrored 480GB SSD OS drives, hot-swappable, rear-accessible
- Standard dual port 10G-BaseT RJ45
- IPMI management port RJ45
- Hot-swappable power supplies and fans

¹ Other network interface cards are available. Consult with EditShare Sales Management for details



Ultimate EFS 410 Front



Ultimate EFS 410 Back

Technical Specifications

ELECTRICAL

EFS 1.5U Storage Server

Input Voltage	100-240 VAC
Input Frequency	50/60 Hz

DIMENSIONS

Width/Height/Depth

EFS 4U Storage Server	483 x 66 x 889 mm 19.0 x 2.6 x 35 in
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ENVIRONMENTAL³

Operating Temperature	0°C (32°F) - 50°C (122°F)
Operating Humidity	5% - 95% non-condensing

WEIGHTS

EFS 4U Storage Server

Shipping Weight	41.2 kg / 91 lb
Racked (no HDD)	21.3 kg / 47 lb
Racked (HDD installed)	32.2 kg / 71 lb

For more information on the Ultimate EFS 410 unit, reach out to us at sales@editshare.com or visit our website.

[LEARN MORE](#)

³ Applies to all servers listed in this document