WHITE PAPER

TrueNAS for Audio Editing

CONTENTS

1 TrueNAS is Perfect for Avid® Pro Tools™
2 TrueNAS for Media and Entertainment
3 Lower Power, TCO, and Latency

1 TrueNAS is Perfect for Avid® Pro Tools™

Professional audio editing and most Media & Entertainment (M&E) workflows begin with recording, move through post-production, and finally go to broadcast. The process can take anywhere from months for a major motion picture to hours or even minutes for up-to-the-minute news broadcasts. Users require multi-stream performance, flexibility in sharing files across departments, and peace of mind that their data is safely stored and available when needed.

TrueNAS from iXsystems meets and exceeds these demands with robust connectivity, scalability, and caching technologies. Avid Pro Tools is the premium audio editing platform of choice for music and sound production houses. Users often edit hundreds of tracks simultaneously on workstations running Windows or macOS, tweaking each recording until every tone, pitch, and effect sound perfect. When compositing background effects, music, and voiceovers, the last thing these professionals want to think about is storage lag.

Direct-attached storage (DAS) with a few large drives and Thunderbolt™ connectivity may work well for individual audio editors. However, large organizations managing petabytes of content and teams of editors can quickly find DAS solutions to be unmanageable, with files strewn throughout the organization. TrueNAS appliances with 1/10/40/100GbE connectivity and scalable read-ahead caching eliminate both problems so editors can share their files lag-free.

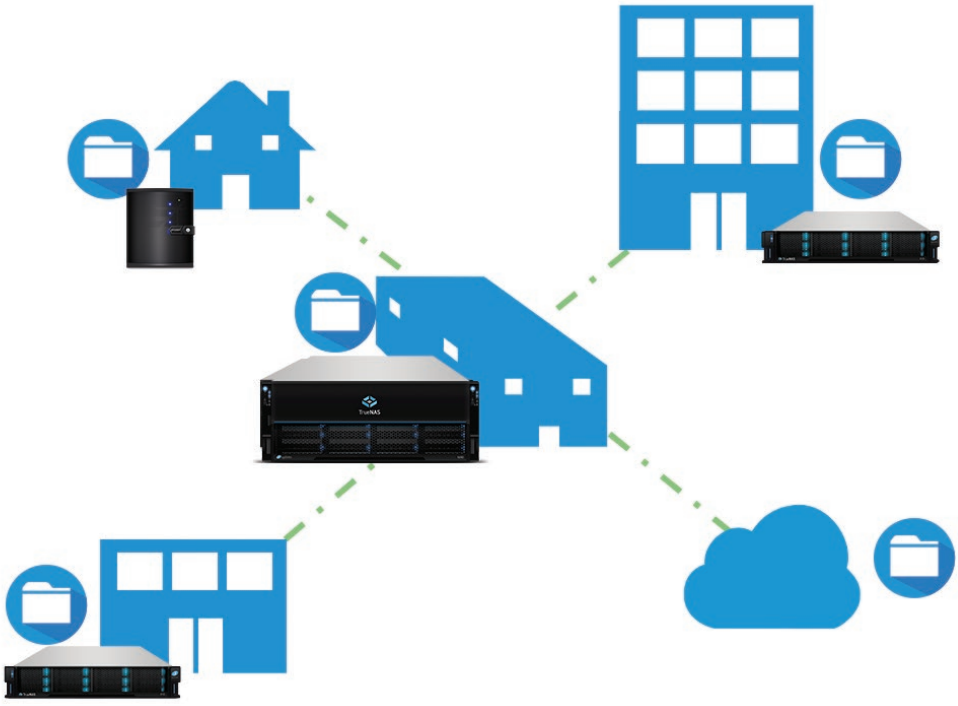
Major studios and post production houses have already turned to TrueNAS for their Pro Tools editing. Eliminating the complications of having to consolidate and archive content on dozens of DAS boxes makes it possible to better focus on production.

2 TrueNAS for Media and Entertainment (M&E)

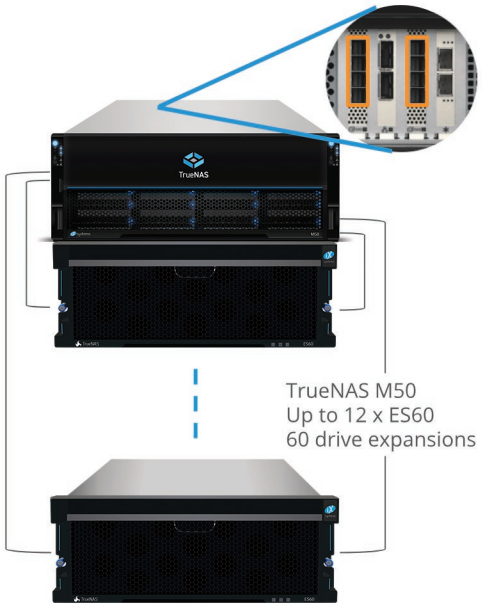
TrueNAS employs the ultra-scalable ZFS filesystem to handle drive and dataset management. ZFS unleashes powerful performance with a unique two-tier caching system: ARC in memory, and SLOG & L2ARC in flash. ZFS ensures data integrity with copy-on-write and checksums to protect against bit rot. The filesystem is essentially limitless in scale. TrueNAS appliances have no limitations to LUN or dataset sizes, allowing users to easily scale from terabytes to petabytes. TrueNAS systems capitalize on this functionality with a unique failover design to ensure hardware redundancy at every level and achieve 99.999% availability.

Studios with workstations and rendering farms running Windows, Linux, or macOS are fully supported by TrueNAS. The appliances provide SMB, AFP, and NFS file sharing, iSCSI and Fibre Channel block sharing, and S3 native object sharing, allowing access to virtually every computing environment. They also sync with major cloud vendors, such as Amazon Web Services™, Microsoft® Azure™, Google Cloud™, and more. Additionally, TrueNAS provides remote replication and file sync features so cross-site collaboration and disaster recovery are easily set up between NAS appliances.

For M&E workloads demanding high availability and performance, TrueNAS protects, performs, and scales.



3 Lower Power, TCO, and Latency



As important to performance as total bandwidth, latency has a significant impact on the overall performance and feel of lag when editing files on a network. Even 10 or 40GbE connections can slow down if too many hops or connections are needed. TrueNAS appliances minimize latency by scaling up to 10PB of storage on a single system. TrueNAS controllers also directly attach to each expansion shelf via external, four-lane 12Gb/s SAS connections. There is no daisy-chaining.

To achieve similar capacity and bandwidth, scale-out storage systems require several controllers working in tandem with multiple hops to access data. Increased latency can lead to laggy performance on audio/video editing. TrueNAS scale-up design simply does not have this problem.

Managing and maintaining scale-out designs can be costly and complicated. More controllers mean more processors, RAM, expansion cards, network connections, IPs, MACs, drives, power, and maintenance fees. These costs have a persistent impact on TCO with limited performance advantages to individual users and editors.

With single-system scalability, TrueNAS appliances minimize latency, power draw, and TCO, while offering strong throughput performance for editing departments.