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Case Study FOX | STUDIO LOT

At A Glance

Fox Newman Studio

Entertainment

Los Angeles, CA

foxstudiolot.com/scoring

Challenges

- Increased digitization
- Increased complexity of scoring technology
- Limited production time frames

Solution

TrueNAS ENTERPRISE

Benefits

- Control costs of storage with open source
- Rapid data access
- Flexible access to data platforms
- Improved operational efficiency

Fox Turns to TrueNAS for Scoring a New Generation of TV Shows and Movies

The Challenge

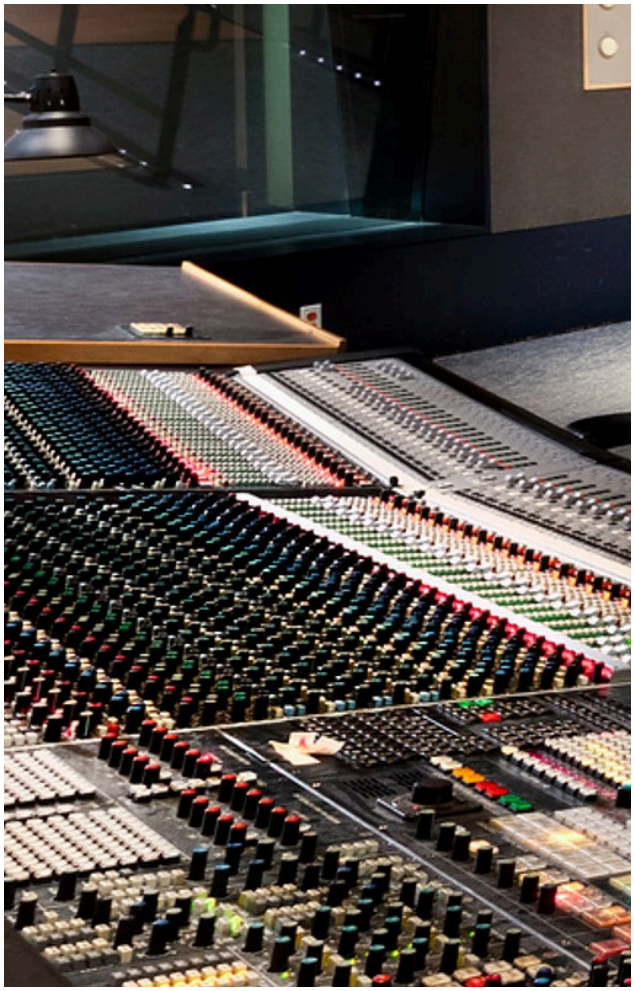
Over recent decades, music production has become increasingly digital. The result is enormous growth in storage requirements in the media and entertainment industry (M&E). As more complex editing studios are created to manage the expanding digital files, M&E productions require the ability to manage the data in a safe and secure environment while still receiving the performance necessary to meet tight deadlines.

The Newman Scoring Stage on the Fox Studio premises is one of the oldest large-scale scoring facilities in Los Angeles and the world. The famous and historic facility resumed its rightful place as a leader with its reopening in 1997. The magnificently appointed control room features a state-of-the-art scoring console and top-quality systems to accommodate all possible scoring requirements.

Fox Studio had upgraded their scoring and editing systems, including an AMS-Neve 88RS console, so the studio needed to improve storage systems to keep pace with the data generated by modern scoring and recording technology.

TrueNAS

The Solution



Professional audio editing 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 some productions. Studio professionals require multi-stream performance, flexibility in sharing files across departments, and assurance that data is safely and reliably stored, protected, and accessible.

TrueNAS was preferred over proprietary systems for its flexibility, performance characteristics, value, and connectivity with respect to 40 Gb/s networking compatibility and the ability to seamlessly interconnect to other environments. One disadvantage of other products was Fiber Channel (FC) system performance which would negatively impact operational efficiency. TrueNAS stood up against or beat proprietary storage systems on performance and price per TB.

For M&E studios such as Fox's Newman Scoring Stage, TrueNAS provides advantages well-suited for audio post-production. Studios with workstations and rendering farms running a broad range of computing environments will find TrueNAS provides comprehensive connectivity to support the workgroups necessary for post-production. At Fox, engineers are able to access virtually every computing environment and even sync with major cloud vendors, such as Amazon Web Services™, Microsoft® Azure™, and Google Cloud™. TrueNAS is quickly making a name for itself in M&E.

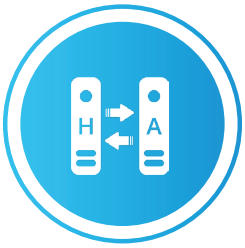
The TrueNAS enterprise storage appliances deliver a range of features which are ideal for scoring, and, with the volume of data being managed, have the necessary scalability for planned workloads. For high-speed ingestion, editing, and sharing, these systems offer a caching engine and fast interconnects up to 100GbE to provide maximum bandwidth and simple integration with existing environments. Configurable as all-flash or hybrid disk/flash designs for use in a wide range of editing environments, including Windows, macOS, and even Linux clusters and rendering farms, the multi-purpose systems are well-suited for a mixed M&E environment.

> *"With TrueNAS, the rich, voluminous tone of the recording hall is captured in our work and made available to our post-production audio experts, making these systems critical for our workloads."*
>
> Erin Rettig
> Supervising Engineer, Sound Scoring, Fox

The Architecture

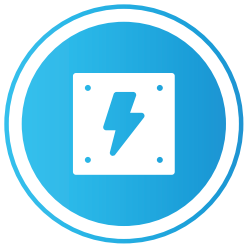
The TrueNAS M40 was selected for its balance of performance, scalability, and cost for this environment. Fox purchased both TrueNAS M40 systems with a High-Availability (HA) implementation, featuring two storage controllers per chassis with an active/standby configuration that ensures the systems are accessible 24 hours a day. The TrueNAS M40 systems are connected to a 40 Gb/s network using Brocade and Cisco network switches. Client machines attach to the storage through a 10Gb Base-T copper (Sonnet) network to connect streams from Pro Tools using both Mac Pro workstations and new Mac Pro Towers. The TrueNAS storage environment has been set up and partitioned into two pools for both high-speed production (using flash drives) and long-term storage (using spinning disk). The storage systems also have a 1Gb/s connect for third party access, including backups and client downloads.

With TrueNAS systems deployed by Fox, the scalable ZFS filesystem used to handle drive and dataset management uncaps performance with a two-tier caching system: ARC in memory, and SLOG & L2ARC in flash. ZFS defends data integrity with copy-on-write, snapshots, and checksums to protect against bit rot and other file corruption. The filesystem is essentially limitless in scale, and supported appliances have no limitation to LUN or dataset sizes, allowing studios to easily scale from terabytes to petabytes.



High Availability

Open ZFS



Two-Tier Cache

Enterprise Software

The TrueNAS M40