ON-SITE EDITING WITH ALL-FLASH NAS

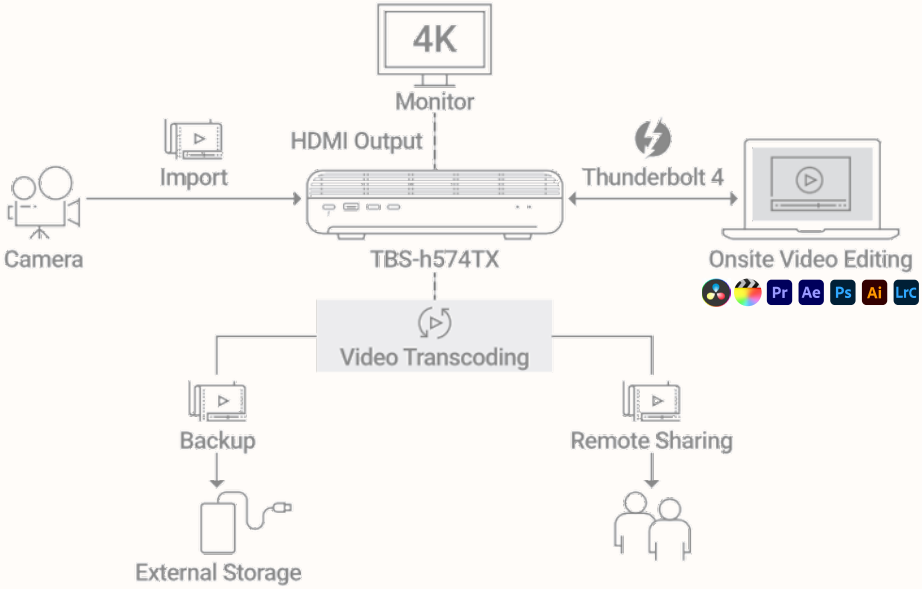
Overview

The rise in demand for high-quality, low-latency access to digital assets including raw and compressed videos for on-site editing in DIT (Digital Imaging Technician) carts, SOHO collaborative environments, and content creators has revolutionized the architecture and form factor of modern Network Attached Storage (NAS) systems. Traditional hard disk drive (HDD)-based NAS systems, while cost-effective, might not meet the performance and mobility requirements of these modern editing workflows. The emergence of all-flash NAS systems, leveraging high performance NVMe™ solid-state drives (SSDs) and high bandwidth network or direct-attached interfaces, offers a transformative storage solution for these workflows by delivering low latency, high throughput, multi-user concurrency, low power, and seamless scalability.

All-Flash Network Attached Storage (NAS) Systems

Network Attached Storage (NAS) serves as a centralized repository for digital assets, accessible over a network such as 10GbE to workstations or PCs or directly with high speed direct interfaces such as Thunderbolt 4 and USB 3.2. NAS systems support applications to enable professionals and prosumers to organize and access digital assets quickly and seamlessly. All-flash NAS replaces HDDs with NVMe™ SSDs providing scalable performance while lowering the physical and acoustic profile for mobility or office use.

On-site editing requires rapid digital asset retrieval, storing, and backing up while also demanding small form-factors such as for DIT carts. The QNAP® NASbook TBS-H574TX is an all-NVMe™ flash NAS features a compact, portable design with five NVMe™ M.2 SSD slots and delivers extreme performance for on-site editing or collaborative environments. Designed for film sets, small studios, small-scale video production teams and SOHO users, the compact TBS-h574TX Thunderbolt™ 4 all-NVMe™ flash NASbook elevates video production for optimum productivity. It packs high-speed I/O and Intel® Core™ performance required by video production, allowing creators to enjoy the smoothest experience ever in real-time video editing, large file transfer, video transcoding, and backup. Creators can direct attach for peer to peer connections using the TBS-h574TX with 2 Thunderbolt™ 4 connections, making the TBS-H574TX an ideal bridge between pre-production and post-production for next level video projects and team collaboration. The TBS-H574TX has a storage capacity for media of up to five NVMe™ M.2 SSD slots[1].



The NASbook TBS-h574TX is equipped with 2.5GbE and 10GbE networks for dedicated or collaborative access to shared media libraries making it ideal for SOHO environments or for prosumers sharing content[1].

NVMe™ SSDs

NVMe™ SSDs enables all-flash NAS systems to provide consistent high performance access to massive libraries of high resolution raw or compressed media while offering high quality of service (QoS) to support collaborative environments. NVMe™ SSDs are designed with PCIe® interface allowing it to scale to over 15x the speed of HDDs providing real-time access to digital assets for professional and prosumer workflows. NVMe™ SSDs are also more power efficient and slimmer than HDDs allowing all-flash NAS have a reduced physical footprint and quiet.

The SANDISK™ WD_BLACK™ SN850X NVMe™ SSDs are the ideal choice for all-flash NAS such as the QNAP NASbook TBS-H574TX by delivering consistent high throughput in a small form-factor. The WD_BLACK SN850X SSD has capacities ranging from 1TB[2] to 4TB[2] offering massive storage capacity for growing digital media libraries. Each WD _BLACK SN850X NVMe™ SSD can handle concurrent I/O request efficiently in collaborative environments since it utilizes NVMe™ technology. The QNAP® NASbook TBS-H574TX combined with up to five WD_BLACK SN850X NVMe™ SSDs helps to enable low latency access, helping to ensure smooth playback of high-bitrate digital media content. The TBS-H574HX can also easily configure RAID 6 for a balance of speed and redundancy.

Conclusion

All-flash NAS systems represent a paradigm shift in on-site video editing by offering unmatched performance, scalability, and reliability. With performance scalability of NVMe™ SSDs vs. HDDs, low profile all-flash NAS systems are suitable for on-site editing in DIT carts, collaborative SOHO environments, or at home for content creators. Sandisk's WD_BLACK SN850X NVMe™ SSDs delivering low latency access to digital assets in collaborative environments combined with 2.5GbE and 10GbE networks along with direct attached Thunderbolt 4 interfaces in the QNAP® TBS-574TX all-flash NAS, delivers the ideal storage for the modern professional or prosumer. For those seeking scalability or to be future-ready, the QNAP® TBS-574TX all-flash NAS and WD_BLACK SN850X SSD offers capacity at scale for growing digital media libraries.

1. All QNAP® product information and visuals can be found at https://www.qnap.com/en-us/product/tbs-h574tx
2. 1GB = 1 billion bytes and 1TB = 1 trillion bytes. Actual user capacity may be less depending on operating environment.

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