

TVB™ TELEVISION BROADCAST

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Article by Jim McKenna

For video facilities today, getting product out the door efficiently has become overwhelmingly important. It seems like everyone knows something about networking, and how to apply that knowledge to a data workflow that will result in time savings and profitability. As technology changes, client demands change, formats change—the one thing that hasn't changed is this: time is money!

As facilities are looking to new ways to save money and improve output, storage networking is one of the areas to which they turn.

WHY SHARED STORAGE?

Perhaps the biggest benefit of shared storage is collaboration. There was a time when the only viable method of sharing the editorial tasks between several editors was to make several prints or dubs of the footage and work simultaneously, yet independently, on non-overlapping scenes. With shared storage, there's no duplication of footage, and editors no longer have to work independently. Editorial timelines can be opened on many workstations, and source footage for the cut can be viewed on all connected systems simultaneously. This collaboration makes for a more creative product by allowing editors with different skill-sets to have input, while easing scheduling load by enabling multiple rooms to access the same project. The adage is true: many hands make light work, and this is particularly the case during the editorial phase of a major production.

Shared storage also delivers:

- **Migration:** Use any available workstation, or use multiple workstations; this is particularly helpful when dealing with tight deadlines, last minute changes and scheduling.
- **Centralization:** Each workstation can access large amounts of dedicated capacity, while eliminating the need to replicate files that are used by all workstations.

CAN'T I JUST USE MY CURRENT NETWORK?

Every place of business has some networking ability, whether it is a consumer router into a cable modem for Internet access, or a complex intranet with domain servers and user groups. This network is fine for email and Internet access, but good Internet download speeds are a far cry from the bandwidth required for digital video editorial work. For a long time there wasn't a network fast enough for the types of bandwidth-intensive video and film applications that required the highest quality possible for finishing work on television and digital film productions.

Then fiber channel entered the market. Fiber channel transmits mass amounts of data using light pulse, and is the fastest large-block network protocol available today. Fiber opened up workgroups to new access speeds, and allowed them to work on remote hard drives with all the speed of locally attached SCSI disks.

Fiber channel is a dedicated wire, thus outside the responsibility of most IT departments. When treated like a piece of coax video cable, it becomes just another method of transferring data in a video workflow. This simplicity results in reduced troubleshooting and maintenance time as well as potential network downtime. In addition, the management of a fiber channel-based data flow requires less training in computer operation.

ISN'T FIBER CHANNEL EXPENSIVE?

It's true that not long ago, facilities had to rely on local SCSI drives and Ethernet-based networks, because the cost of fiber was prohibitive. Like many technologies, the cost to produce fiber has reduced significantly, and that savings has been passed on to the facility owner. Today, production facilities of all sizes can afford a true fiber channel system that enables high speed and compatibility for all the platforms and applications used in a modern video and graphics workflow. The result of this new accessibility to fiber channel technology was mass adoption of the SAN.

THE STORAGE AREA NETWORK

Near the top of the list of acronyms that don't make sense is SAN. If you've heard of LAN (local area network) or WAN (wide area network), you know where the term originated. At the center of the SAN is hard drive storage that's available to workstations through a dedicated connection. Normally a SAN is high-speed and purpose built, made for the requirements of realtime video and audio playback to multiple stations.

SAN products come in multiple configurations. On one end of the spectrum are high-cost and complex server-assisted technologies and on the other, there are less robust direct-connected serverless storage solutions. In the middle is "server-direct" architecture, which takes the best attributes of both to create a simple, high-performance system that is easy to configure and costs less.

In a server-direct configuration, all clients can connect directly to a server like they would a simple hard drive. Any workstation can access storage volumes as if they were local to that machine, but in reality the volumes are shared resources that are available to the workgroup via user-based permissions on the server. This removes many of the configuration complexities that are often faced with traditional SANs that require dedicated client software or metadata-heavy custom file systems. These solutions are complex to configure, and need to release new software versions constantly due to operating system or client application changes.

SCALABILITY

Since larger jobs and new video formats will eventually put even greater demand on the storage network, smart engineers look for products that are future-proof. The best storage networks will grow with the facility, both in terms of capacity and bandwidth. The new HD and high-resolution film post production world has required a retooling of many facilities that produce the content we see every day.

A good shared storage system can be designed to withstand this advancement into bigger and better formats, while keeping cost of entry low. Some products are designed around the formats of today, offering little in the way of an upgrade path. That can be costly in the future.

Facilities around the world that have invested in server-direct networks concur: the investment pays off in efficiency and creative product. When time is money, greater collaboration and improved output from the entire workgroup makes the infrastructure worth every penny.

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