

2007 Creative STORAGESM CONFERENCE

AN ENTERTAINMENT STORAGE ALLIANCESM EVENT



11:15 AM Session B. Supporting Digital Storage for Content Distribution

This session explores the support and service requirements for digital storage used in content creation and distribution. The session explores logistical requirements for data storage for optical, hard disk and tape as well as storage systems used for the entertainment market.

Moderator: Guy Finley, Associate Executive Director, IRMA, Content Delivery & Storage Association

Bob Saffari, LSI Logic

Dr. Robert Thibadeau, Seagate Technology

Don Ritzman, WhiteNoise Systems

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Challenges of Transporting 4K Resolution Digital Film between Projects and Sites

It has always been a challenge efficiently transporting digital film, increasingly with the advent of 4K "digital reels" of film. A digital 4K reel consists of approximately 1.6TB of digital content, with a full film occupying several of these 1.6TB digital reels e.g. up to 10TB. Copying this amount of data can take an awful long time especially if you are up against a tough deadline.

Take just one reel at 1.6TB (which is one quarter reel of a typical movie). The following outlines the amount of time it takes to transfer onto a particular media or via a specific type of connection to a portable storage device:

- 1Gbps LAN – 8 hours (assumes dedicated connection and 2-drive RAID0)
- USB 2.0 – 16 hours
- Firewire 400 (1394A) – 20 hours
- Firewire 800 (1394B) – 10 hours (assumes 2-drive RAID0 to achieve full rate)

So how can this process be sped up or eliminated? The choices are somewhat limited today, so it will take some new technology to speed the process up. Options today include using portable RAID or JBOD disk arrays with a high speed connection (eSATA, SAS expander, Fibre Channel) or using dark fiber and running a private point to point IP network between sites. Future options include Infiniband or external PCIe connected disk arrays. Ideally, it would be nice if you didn't have to copy the data at all... Then there are the reliability aspects of transport. What happens if the drives are dropped during transport?

The methods available to a digital media workflow for transporting 2 and 4K media are outlined and discussed, along with possible technology solutions to the problem for near term, along with options for future technologies that are being considered by the storage vendor community.

Andy Mills is the Senior Vice President of Marketing and Development for Ciprico, responsible for all aspects of their product development and marketing. He is also an author with Prentice Hall on high speed optical networking and has over 20 years industry experience in the storage, networking and telecommunications industries. Previous appointments include President and CEO, NetCell Corporation, Senior Vice President of Broadband Communications for TDK Semiconductor, Communications Technology Manager at Advanced Micro Devices and Parallel Computer architecture and product development at Ferranti Computer Systems UK. He has a Masters in Electronic Engineering from Bangor University in North Wales, United Kingdom.