2015 Section Leaders have begun their new term in office effective 7/1/2015

Summer meeting times have been difficult

Need help with membership drive this year
Topics for this meeting

- Meeting schedule, last Wednesday of the selected month (Tonight’s meeting was out of schedule)
  - Oct 21\textsuperscript{st} and Dec 17\textsuperscript{th}
  - October 21\textsuperscript{st} Cookout, December 17\textsuperscript{th} Meeting and Holiday Party

- Meeting format: Two presenters
  - Time of meetings will be 6:30
Topics for this meeting

- October cookout - DRONES (need help)
  - Sponsorship help with cookout plans
- 4K delivery, bandwidth live, streaming.
  - Who has what? Codecs ??? Issues
- Very High Frame Rate HD and 4K Cameras
  - Sony, Grass Valley, Hitachi, Ikegami etc
- 4K Archive
  - Securing Cloud Based Storage
Future meetings

- KVM systems and remote technology
- G&D, Portallis, Avocent all want to be here
- Evertz, IP Router technology and transmit systems
  Open invitation to present
  4K (Pan and Scan)
And Now Tonight’s Presenters

- Quantum
- Abekas
WORKFLOWS FOR MEDIA & ENTERTAINMENT FROM CREATION TO THE CLOUD

Steve D'Agostino
Solutions Architect
About Quantum

Who We Are
Leading experts in workflow storage and data protection focused on the most demanding workflow challenges

What We Do
Enable customers to capture, share and preserve digital assets over their entire lifecycle, creating new opportunities to maximize data’s value
WORKFLOW CONSIDERATIONS
Applying the Right Technology
At the Right Time

Workflow is More Than Just Moving Content

DATA MANAGEMENT LAYER

Tiers and Sites
Workflow Storage

DATA MANAGEMENT LAYER

Tiers and Sites

<table>
<thead>
<tr>
<th>Primary Tier</th>
<th>Secondary Tier</th>
<th>Archive Tier</th>
<th>Cloud</th>
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</thead>
<tbody>
<tr>
<td>SAN</td>
<td>RAID</td>
<td>Tape</td>
<td>Private</td>
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<tr>
<td>NAS</td>
<td>Object</td>
<td>Object</td>
<td>Public</td>
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<td>SAS</td>
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<td>Vendor</td>
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<tr>
<td>Performance</td>
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</tbody>
</table>
Typical High-Resolution Workflow

Ingest, WIP, Transcode/Render, Deliver, Archive
Archive on Ingest Workflow
Object Storage (Private Cloud)
Extended Online Streamlined Workflows for High Resolution
Television Network Workflow
Thank you!

Steve D'Agostino
Solutions Architect
Beyond HD Connectivity and Design Impacts

Phil Bennett  VP Engineering
• Company History

• Current Products/Technology 4K Connectivity
Founded 1982

Pioneer in Real Time Video Disk Many generations of Video Connects!
Clip Servers Production

Servers Instant Replay

Servers AirCleaner
8 channels

Very Flexible Control

Any Format/Codec Import 4K Now
Low Cost
VK Playback and On Set Display

AirCleaner Obscenity
Screening
Beyond HD in Existing Products

Import anything 8K to Cellphone Built in Tiling for Large Displays
NTSC – BNC

Analog Component  Four Wire - BNC

Composite Digital Parallel - 25 Pin
Component Digital Parallel – 25 Pin
Current Video Interconnects

SDI-SD 270Mb
SDI-HD 1.5Gb
SDI-3G 3Gb
Quad HD Raster 4x3Gb Quad HD 4SI 4x3Gb

Single Link 12Gb

Ethernet 10G/Compressed (various!)
Almost Everyone Uses FPGA Serdes Older Generations 3Gb

Latest 20nm can run at >30 Gb! 12 Gb SDI or 10GbE are easy
Abekas

Problems Ahead For 12 G SDI 4K

Needs New Infrastructure

Reach 50-75M. Islands only with Copper Another

Industry Specific Protocol
4K/60 uncompressed will not fit! Copper DAC cables to 4M Compression needed. Lacks Standard IT Industry Standard Infrastructure
25GbE Standard emerging now

Plenty fast for 4K uncompressed
25 GbE Solves the 4K problem

25GbE SFP28/100G QSFP28

4K uncompressed (possibly x2)

Top of rack switches with DAC Copper Simple

100Gb Aggregation

Not quite here yet!
20 nm FPGA
4 x QSFP28 cages on board edge 400 Gb in each direction
16 x 25 GbE!
PCIe Gen3 x 16 Format Board
Abekas® FPGA Already Running 25GbE x 16!
Single Chip 128x25GbE/32x100GbE

Designed for Top Of Rack

All Ports 100Gb capable for trunking Low cost “white box” $20K
25 GbE will be here very soon 10GbE

Compressed 4K is messy 12GB BNC SDI a

TV only standard Quad HD 3G for the

Interim is OK
Thank you!!!