Video Post-Production
Technical Brief

Delivering Next Generation IP-based Post Production Studios

The move to IP networks is benefitting the video post-production process by eliminating stranded islands and allowing for a continuous workflow and collaborative approach to post-production processes.

Larger Files and Solid State Storage Require High-Performance Networks

Digital technologies including evolving imaging standards, higher resolution video effects and a move to Flash-based storage are placing extreme demands on Media and Entertainment companies. Innovations like these are driving the need for a high-speed network made up of a fast and efficient components that scale with ease.

Outperform with Tomorrow’s Network Today
Mellanox End-to-End 25GbE IP Broadcast Network Offering

ConnectX Series Adapters
- Single and Dual port
- 10/25/40/50/100/200G

Adapter Features:
- High-performance I/O connectivity
- Lower latency with RDMA or RoCE for latency-sensitive applications
- Line-rate throughput with ultra-low latency to enable high-performance applications including 4K/8K video streaming and editing

SN Series Open Ethernet Switches
- 16-ports of 100G in ½ RU
- 32-ports of 100G in 1 RU
- 64-ports of 50G in 1RU

Switch Features:
- Predictability, zero packet loss, wire-speed throughput
- True cut-through switching for the lowest latency
- Choice of operating systems to eliminate vendor lock-in
- Lowest power and density

LinkX Cables and Transceivers
- Copper and active optical cables and transceivers
- 10/25/40/50/100/200G

LinkX Interconnects:
- DACs: Low cost, no power
- DAC Splitters: breakout 40G/100G to 10G/25G links
- AOCs: Lowest cost optical link - reaches to 200m
- SR & SR4: multi-mode transceivers to 300m
- PSM4 Silicon Photonics, single-mode transceivers for reaches to 2km

A high bandwidth IP network enables maximum throughput to accommodate higher resolution files and faster flash-based storage
Accelerate Your Infrastructure With Mellanox RDMA

Remote Direct Memory Access (RDMA)

RDMA increases the efficiency at which data is transferred by removing the CPU from I/O tasks and enabling the industries lowest latency. This permits for more efficient data movement between the storage and video editing workstation while it frees the host CPU from data movement tasks. This results in more CPU cycles available to accelerate the applications performance.

<table>
<thead>
<tr>
<th>Without RDMA</th>
<th>With RDMA and Offload</th>
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<tbody>
<tr>
<td>User Space</td>
<td>~53% CPU Efficiency</td>
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<tr>
<td>System Space</td>
<td>~47% CPU Overhead/Idle</td>
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• RDMA increase in CPU efficiency by up to 60%
• While reducing CPU overhead but almost 4X

Mellanox High Performance Ethernet Has You Covered

• Ethernet supports maximum performance and flexibility (Mac OS supported through ATTO)
• Reduce infrastructure costs, expedite production, and reduce software licenses
• Process more video in less time, at a lower cost
• Future-proof solution ready for 8K video
• 10GbE for HD, 25GbE for 4K, and 100GbE for 8K.

A Broad Partner Ecosystem is Pivotal in Your Success

Over the years, Mellanox has been leading technical discussions, integrating and testing jointly with many of the industries top solution application to ensure our products deliver as promised.

To learn more visit: www.mellanox.com/media-entertainment