

# Networking in N'awlins

New Orleans Convention Center, 15-18 November 2010



## ***Ethernet Alliance at SC10 Booth #4513***



ethernet alliance

# Ethernet Alliance

## Bringing Ethernet Standards to Life

For *any* standards-based Ethernet technology we offer:

- Incubation
- Standards development support
- Education
- Interoperability testing
- Public demonstrations

To help grow new markets faster and make existing markets bigger:

- Facilitate the development and expeditious completion of Ethernet standards
- Grow the Ethernet ecosystem by expanding Ethernet into new applications
- Simplify IT decision making process and accelerate the adoption of new standards-based Ethernet technologies



# We Grow the Ethernet Ecosystem

- Supporting the expansion of Ethernet applications
- Enhancing Ethernet capabilities
  - Through standards incubation
  - Market education
- Building a community with programs that include end users, developers and academia
- Facilitating networking for networkers



# Active Subcommittees

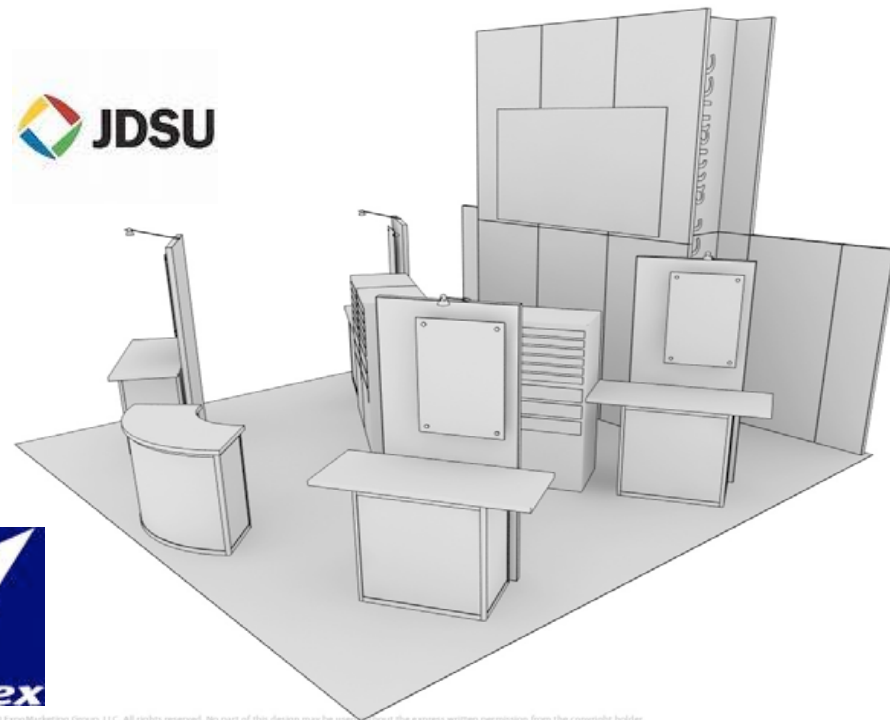
- Higher Speed Ethernet
- Data Center
- Energy Efficient Ethernet
- SFP+/EDC
- 10GBASE-T
- POE+



# Booth Layout & Participants #4513



ethernet alliance



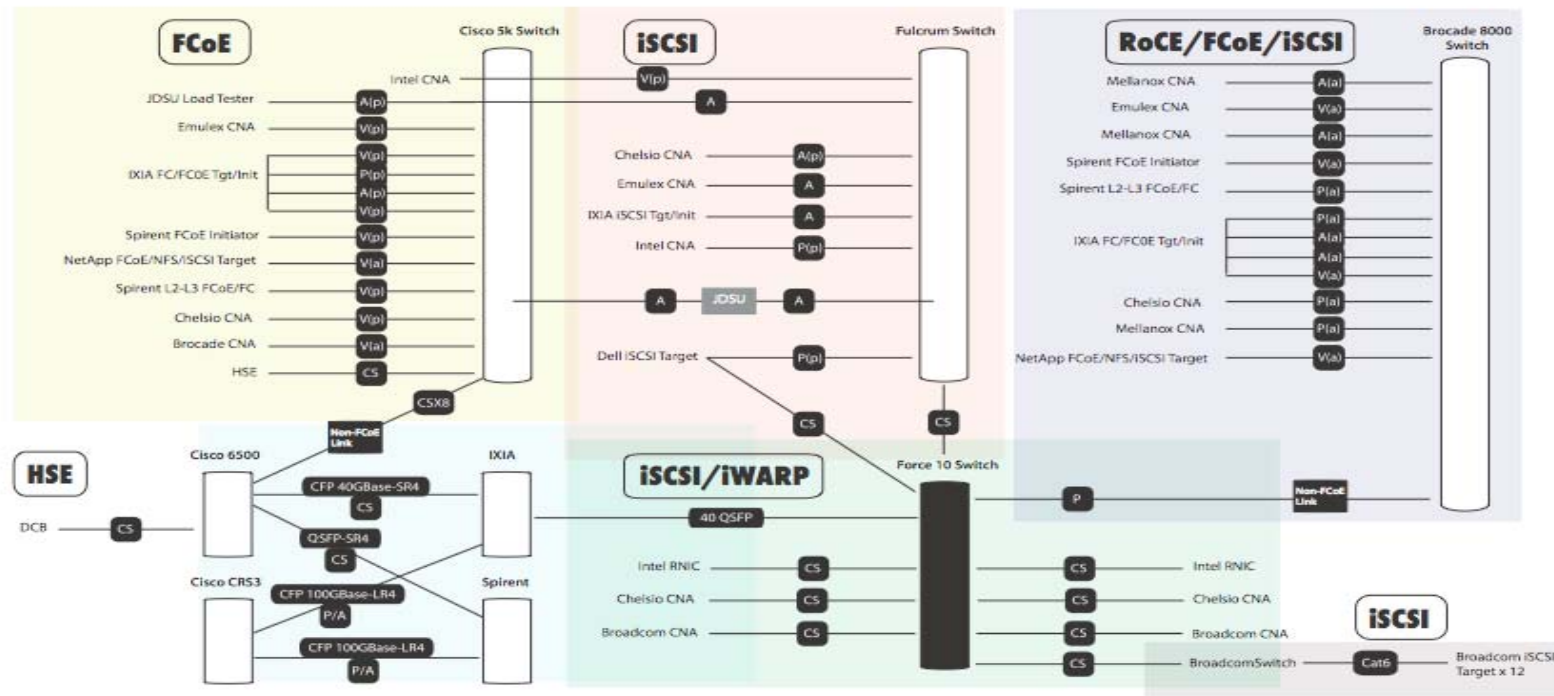
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# What are we demonstrating?

- Live 40G and 100G Ethernet products moving traffic through a live 40G network
- Lossless traffic, including Fibre Channel over Ethernet (FCoE), iSCSI, RDMA over Ethernet (iWARP, RoCE) and other transport technologies
- iWARP and RoCE with MPI applications
- RNIC iWARP interoperability will be showcased in the iWARP cluster
- FCoE and iSCSI using SCSI I/O generation tools to measure throughput and latency



# Demonstration Overview



# Technologies Displayed

## Data Center Bridging (DCB)

- Enables Ethernet networks to transport LAN, SAN, and IPC traffic
- IEEE 802.1Q task group
  - Enhanced transmission selection (ETS)
  - Priority Flow Control (PFC)
  - DCB Exchange Protocol (DCBX)
  - Congestion Notification



# Technologies Displayed

## FCoE

- FCoE is an ANSI T11 standard for the encapsulation of a complete FC frame into an Ethernet frame
- No TCP/IP overhead
- First Implementations in Converged Network Adapters (CNA) and FCoE Capable Switches



# Technologies Displayed

## iSCSI

- iSCSI = Internet Small Computer System Interface
- iSCSI was developed by the IETF and became an official standard in February 2003
- Ethernet packets that encapsulate SCSI block storage commands and uses TCP/IP transport protocol
- SAN technology that enables a SAN to be deployed in a LAN, WAN, or MAN
- Allows GbE and 10GbE NICs to function like SAN controllers
- Allows shared storage solutions such as tape drives and RAID units to be shared over IP



# Technologies Displayed

## iWARP / RDMA

- iWARP = Internet Wide Area RDMA Protocol
- RDMA = Remote Direct Memory Access
- iWARP implements the RDMA protocol over TCP / IP over Ethernet
- iWARP specification developed by RDMA consortium and maintained by IETF
- iWARP software stack developed and maintained by open-source effort of the Open Fabric Alliance
- Focused on delivering low-latency Ethernet connectivity



# Technologies Displayed

## 10GBASE-T & SFP+

- 10GBASE-T standardized by IEEE 802.3an in 2006; first NICs and switches available
- SFP+ is the latest & smallest 10G pluggable form factor supporting a range of options such as 10GBASE-SR & SFP+ Direct Attached Cables



# Summary of Participation at SC10

- 18 member organization live network demonstration
- Participation from server, switch, storage, test equipment, and cabling / interconnect community
- Focus on a variety of storage, LAN and IPC traffic types



# Where to find the Ethernet Alliance

- Booth 4513 @ SC10
- Twitter: EthernetAllianc
- Linked In: Ethernet Alliance
- Facebook: Ethernet Alliance
- URL: [www.EthernetAlliance.org](http://www.EthernetAlliance.org)

