

THE Converged Network @ Booth 1259

Ethernet Alliance
SC09 Portland



ethernet alliance

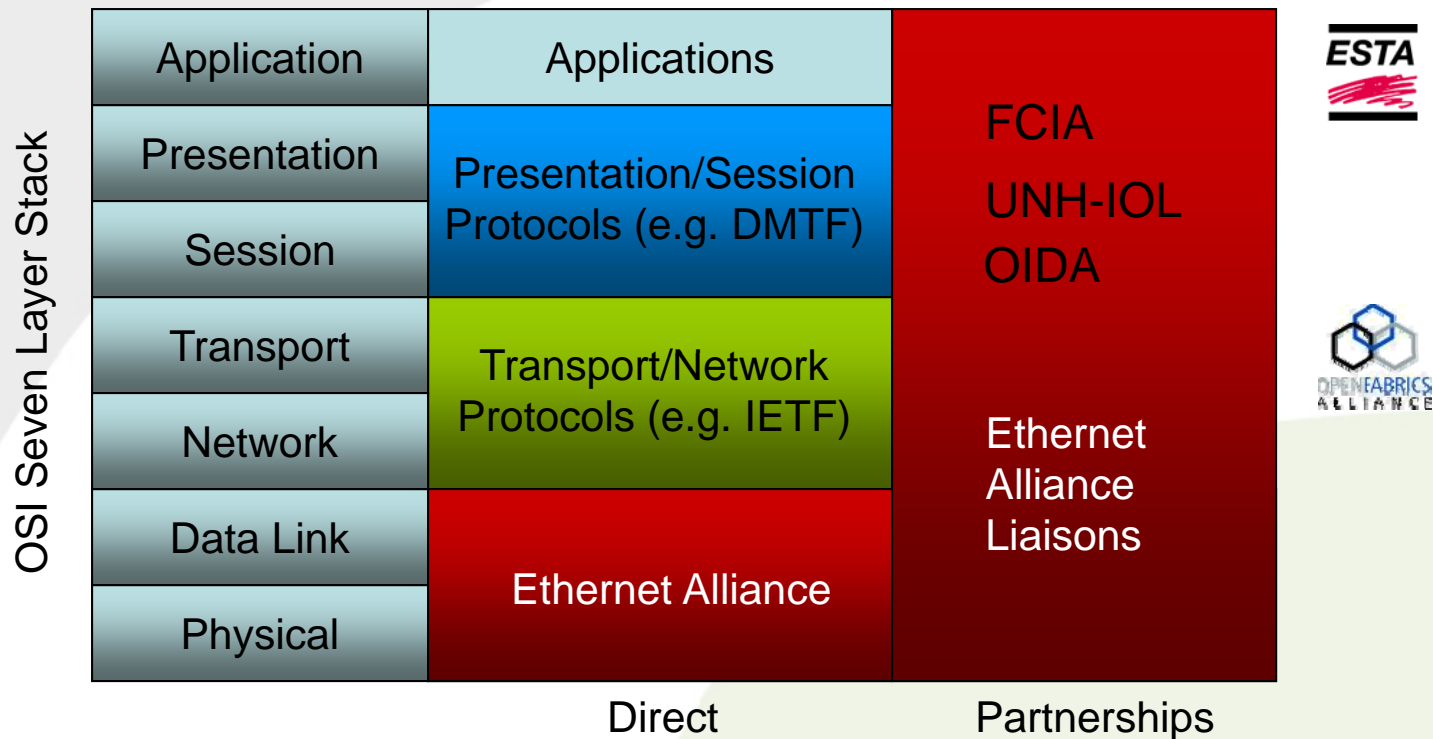
But first off...

What is the Ethernet Alliance?

- We represent the spectrum of IEEE 802 Ethernet standard developments
- We support activities that span from incubation of new Ethernet technologies to interoperability demonstrations certification and education
- 80+ Member Companies & Consulting Organizations



Where the Ethernet Alliance Fits



- Primary focus: Layer 1 and 2 Ethernet Standards
- Partnerships and liaisons with Ethernet users/influencers

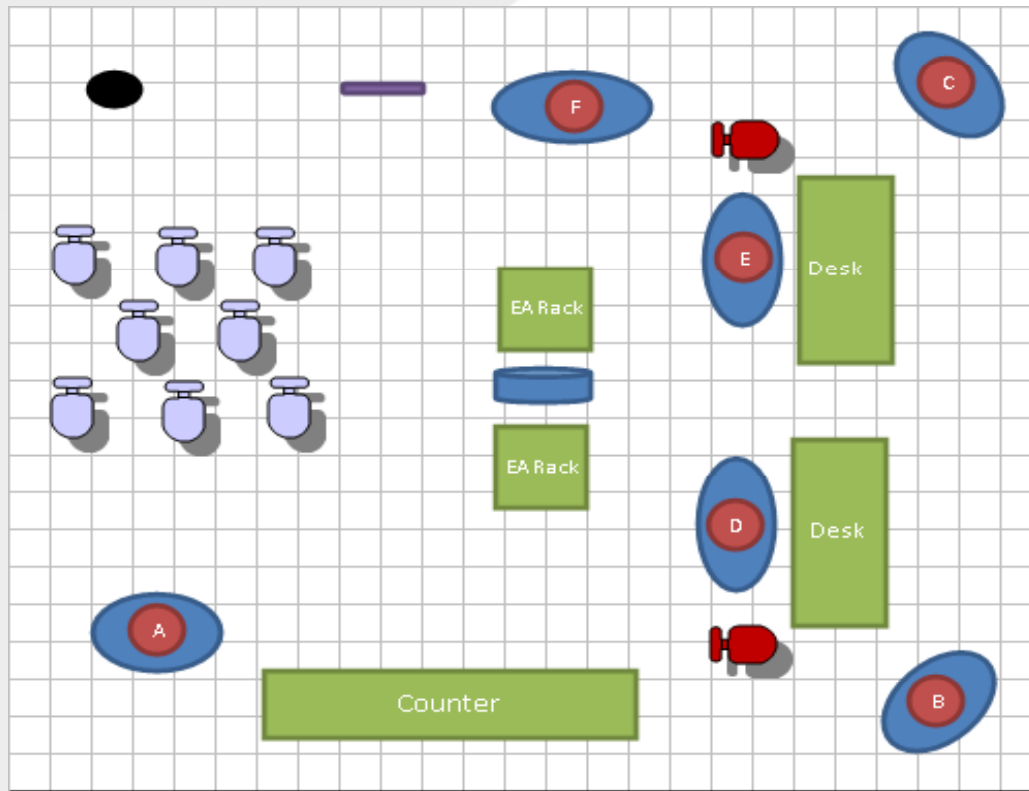


Active Subcommittees

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



Booth Layout and Participants



Amphenol



ethernet alliance

Booth 1259

What do we demonstrate?

“THE Converged Ethernet Network“

shows a lossless, high-performance, enterprise data center infrastructure while converging client messaging, storage and server application communications over a unified network.



EA @ SC09: Demonstration Overview

Technologies

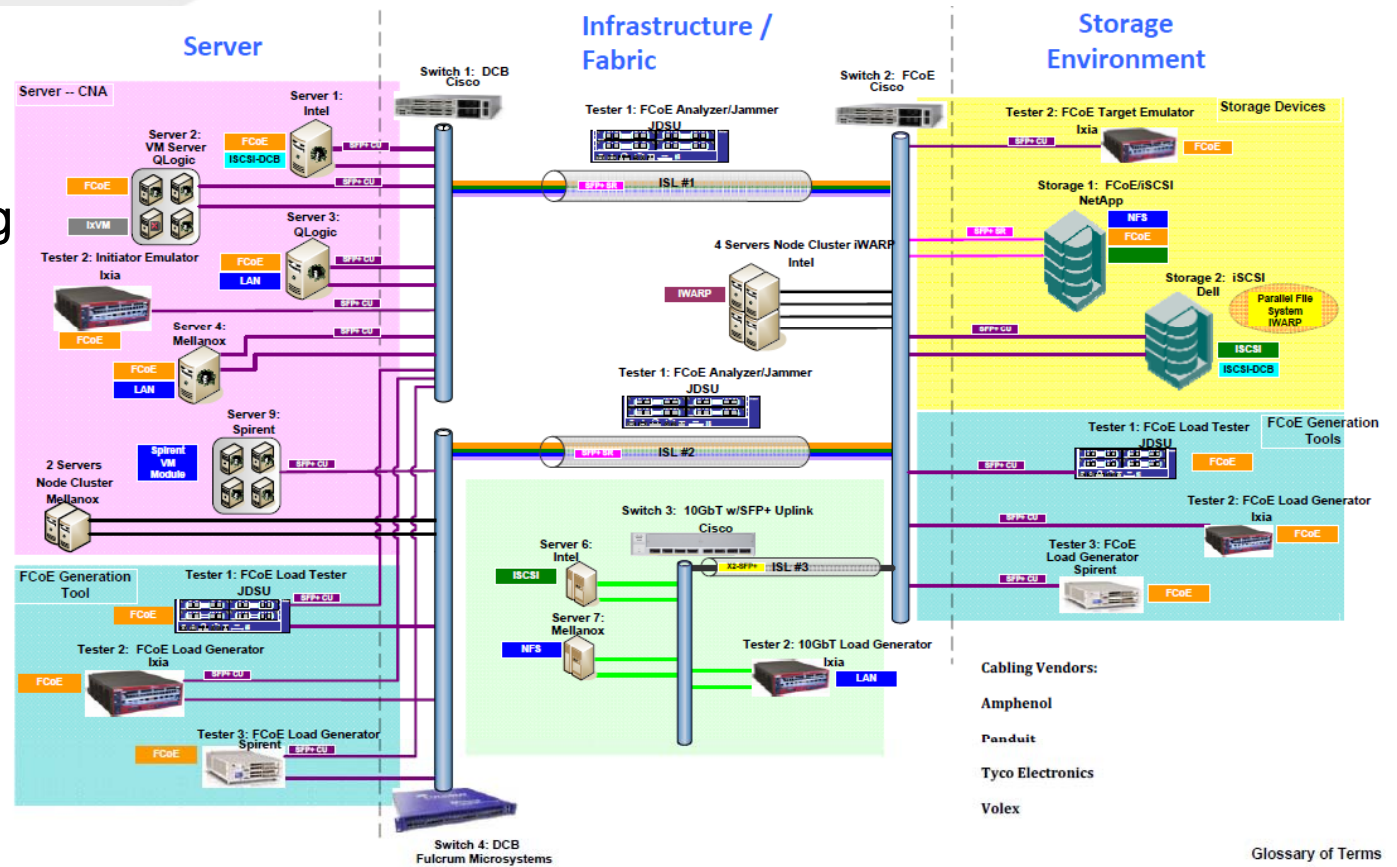
Data Center Bridging

FCoE

iSCSI

iWARP/RDMA

10GBASE-T, SFP+



Glossary of Terms

Booth 1259

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 **S**mall **C**omputer **S**ystem 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
- Widely deployed today



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+

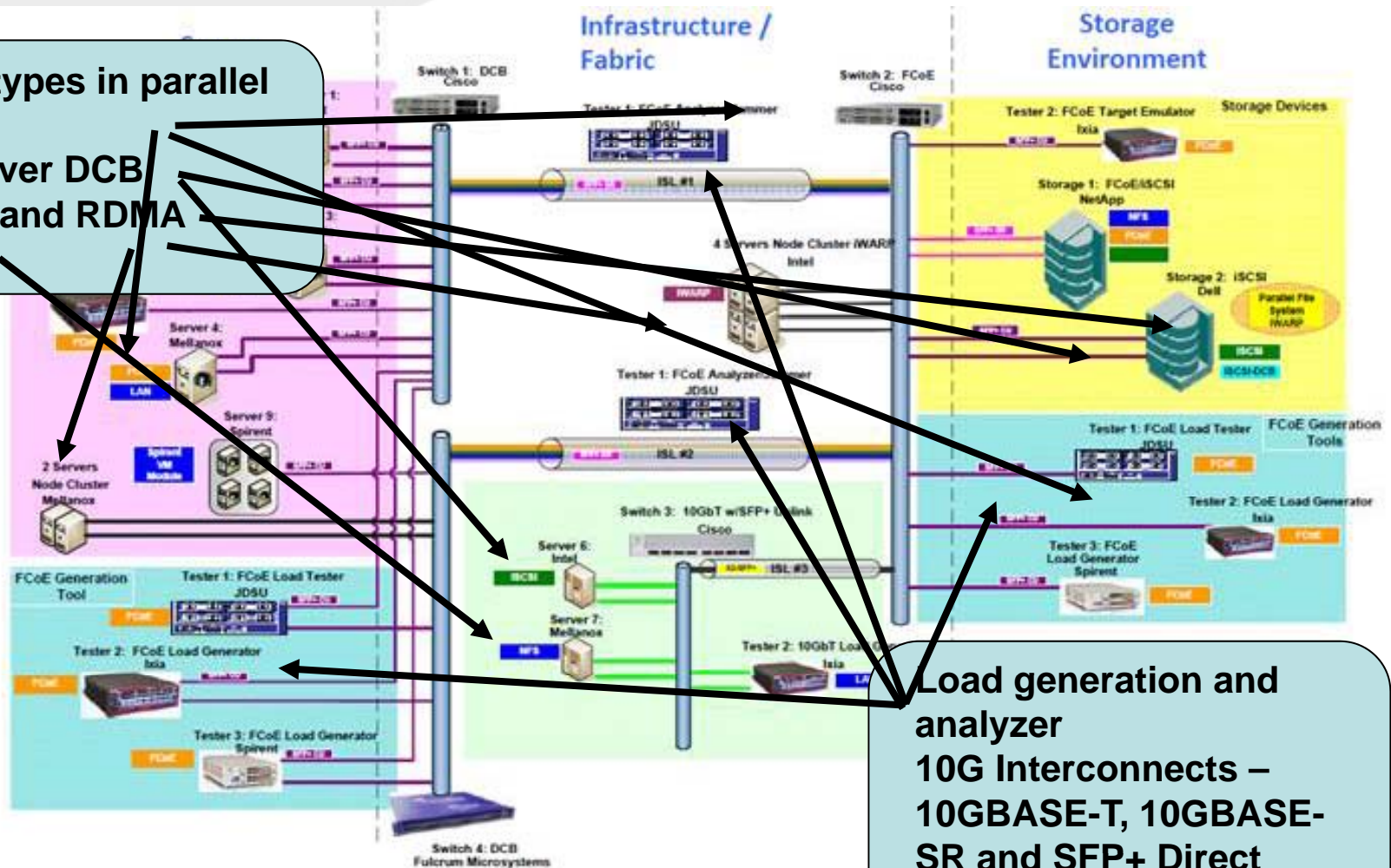
- 10GBASE-T standardized by IEEE 802.3an in 2006; first NICs and switches available
- SFP+ is latest/ smallest 10G pluggable form factor supporting a range of options such as 10GBASE-SR and SFP+ Direct Attached Cables (SFF 8431)



EA @ SC09: Demonstration Overview

4 traffic types in parallel

- FCoE
- iSCSI over DCB
- iWARP and RDMA
- TCP/IP



Load generation and analyzer
10G Interconnects –
10GBASE-T, 10GBASE-SR and SFP+ Direct Attach Cable



Wrap-Up



ethernet alliance

The Converged Ethernet Network

- 14 vendor network running multiple applications over a single 10GbE fabric
- Participation from server, switch, storage, test equipment, and cabling/ interconnect community
- Focus on variety of storage, LAN, and IPC traffic types



What is Next?

- iWARP initiative in Data Center Subcommittee
- 2nd Technology Exploration Forum: Next Generation Ethernet Data Center February 2nd, 2010
- 10GEPON initiative in AsiaPac
- Planned Interoperability Events 2010
 - 40G/100G
 - Energy Efficient Ethernet



Where to Find the Ethernet Alliance

- Booth 1259 @ SC09
- Twitter: @ethernetallianc
- LinkedIn: Ethernet Alliance
- Facebook: Ethernet Alliance
- URL: www.ethernetalliance.org



Thank you



ethernet alliance