10 Gigabit Ethernet Standards & Market Update

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10 GE Market Drivers

- Research Institutions: Hungry for Bandwidth for Supercomputing

- ISP, ASP & Telco: LAN & WAN

- B2B & Remote Offices: Voice, Video & Data

- Investment Protection

Feature Objectives

- 10 Gbps

- Full-Duplex only

- 100 m or 300 m MMF

- Copper Not Defined Yet. Cat. 6 Proposed

- LAN & WAN

- Rate Adaptation of 10 Gbps WAN to 9.58 Gbps OC-192 SONET

- Supports Link Aggregation/Trunking

PHY Proposals

- Single High-Power Laser

- Parallel 4-Channel Wave-Division Multiplexing

LAN/WAN Applications

- MAC Standard to Allow Vendors to Add Logic for 9.584640 Gbps OC-192 SONET WAN

- Application Scenario: Campus LAN Traffic to Fiber to Telco CO Repeater into SONET Frame/WDM

- 10 GE May Need Frame Wrapper for Management

- Cost Savings

10 Gigabit Ethernet Alliance

- Founded on February, 2000

- Founding Members: Sun, 3Com, Cisco, Extreme, Intel, Nortel & Worldwide Packets

- Goals:
  - Contributes to IEEE 802.3ae standard effort
  - Promotes 10 GE Standard Awareness
  - Creates Guidelines for Product Compatibility & Interoperability

10 Gigabit Ethernet Alliance

- Technical Committee to Address Standard Issues & Interoperability Demo

- Marketing Activities at N+I in Las Vegas

- Membership Info
  - Email: 10GEA @expomarketing.com
  - Phone: (949)250-7155

IEEE 802.3ae

- IEEE 802 Plenary Meeting in Kauai Approved Project Authorization Request (PAR) on November, 1999

- Formed 802.3ae Task Force for 10 GE

- Objectives to Preserve Ethernet Frame Format & Size

- Technology Demo Prior to Standard Approval

- Major Challenge in PHY Selection

IEEE 802.3ae Timeline

- 3/99:   Call For Interest (Kick-Off)

- 11/99: Project Authorization Request (PAR) Approved

- 1/00   802.3ae Task Force Formed

- 7/00:   Last New Proposal

- 5/01:   Last Technical Change

- 3/02:   Standard Approved

Interim Solution

- Sun Trunking Software Available Now

- Aggregates 2 GE Links or 8 FE Links

- IEEE 802.3ad Link Aggregation Standard to be Ratified on March, 2000

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