



ControlNet, Inc.

IEEE 1394 Presentation

Corporate Overview

- Founded by Vinod Bhardwaj
 - Founder of Kalpana
 - Inventor of Ethernet Switching
- Focus on Ethernet
- Based in Campbell, California

EtherSwitch

EtherChannel



Full-duplex Ethernet



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ControlNet India

- Engineering Services
 - Software
 - COT-Based ASIC Design
- Two Facilities
 - Mumbai (Bombay)
 - Goa
 - Satellite Linked



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Our Announcement



*Networking
the World™*

- 802 Tutorial
 - Tuesday November 10th
 - Albuquerque, NM
- Topic: 1394 and 802

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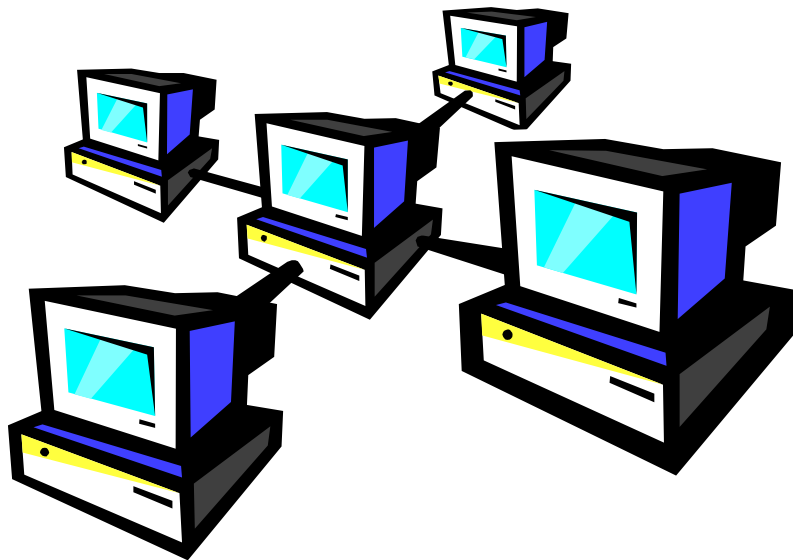
Our Intentions

- Call for Participation of 1394 in 802
 - Propose New Study Group
- 802 Participation in 1394.1



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Our Goals



- Switch 1394 in LAN
- Extend Media to 100 Meters at 400Mbps*
- Incorporate Ethernet Connectivity

*and faster

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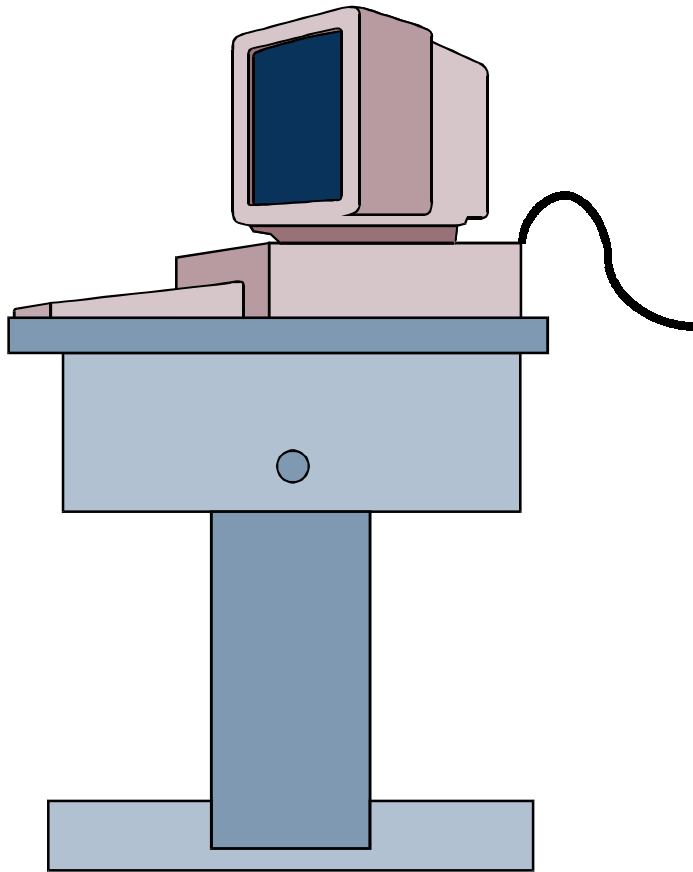
Our Relevance to 1394b

- Intention to Use 1394b Standards
 - Fiber
 - 100 meter UTP
 - New “PMII” (PHY/Link interface)
 - Bus Protocols
- Intention to Produce a New UTP PHY
 - Based on 802.3y for 100/200/400
 - Based on 802.3ab for 800/1600

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Our Value Proposition



- Lower Cost, Higher Speed Networking
 - PC Interfaces
 - Switches
- QoS and Isochronous Support for Ethernet
 - No RSVP/TCP/IP Overhead
 - Very Low Latency

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EtherWire™

- EtherWire is a Switch
 - Multi-port 1394 Bridge
- EtherWire is a LAN Gateway
 - Ethernet LAN

EtherWire is a Trademark of ControlNet, Inc.

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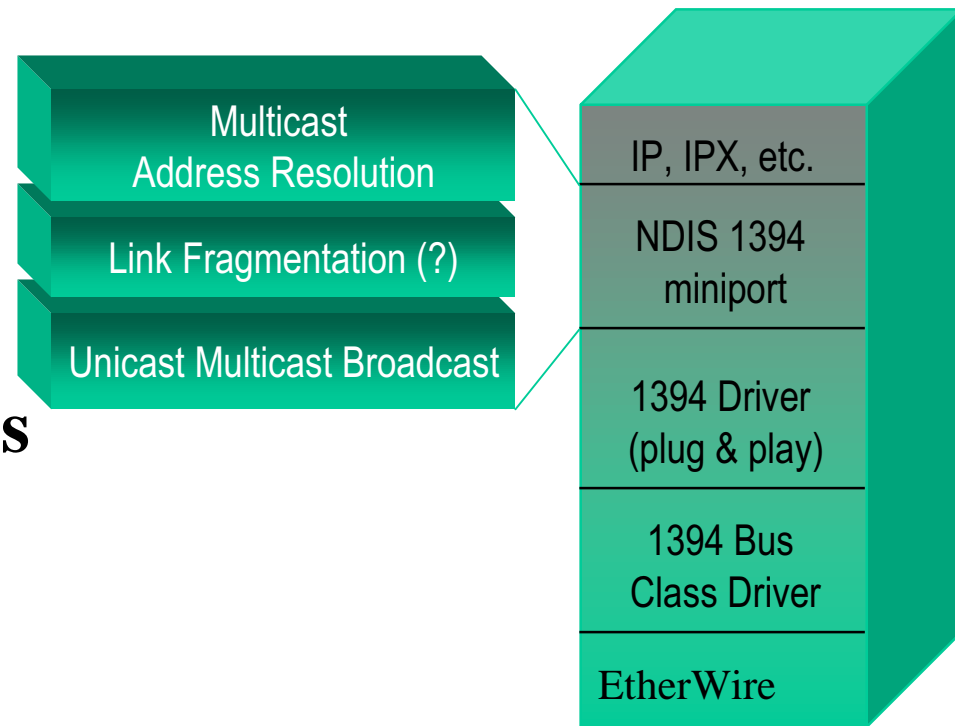
EtherWire PHY

- 100/200/400Mbps IEEE1394 at 100 Meters
 - Up to 100Mbps Full-Duplex on Each of 4-pairs
 - Synchronous Signaling
 - Based on 802.3 Standard
- Uses Fast Ethernet Copper Wiring
 - Certifiable FCC Class B
- Single Chip Transceiver
 - Data Cable Only, No Power



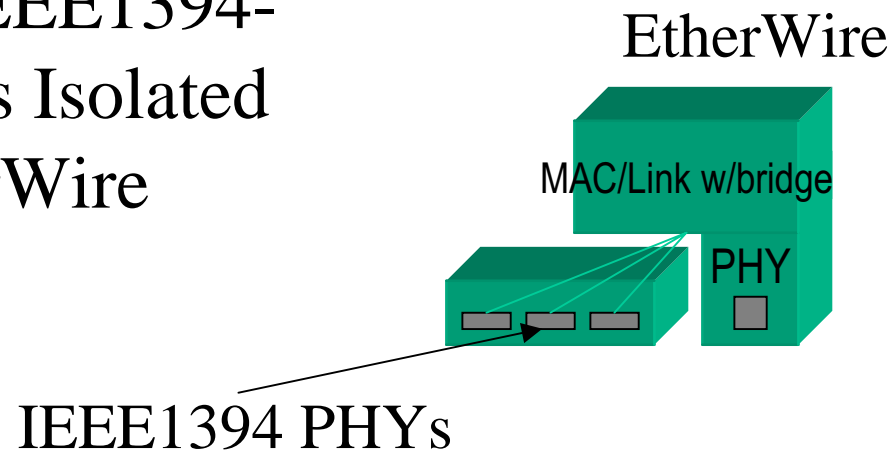
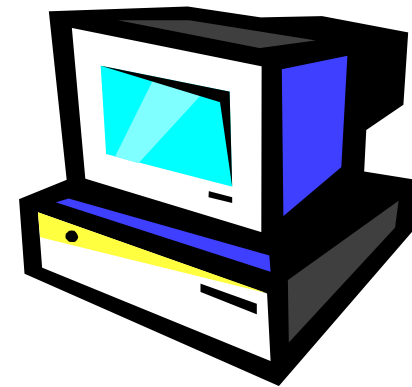
EtherWire™

- Ethernet Over IEEE1394 PHY/LINK Interface
- 100/200/400Mbps
- Uses Streams for Multicast Traffic



EtherWire Configuration

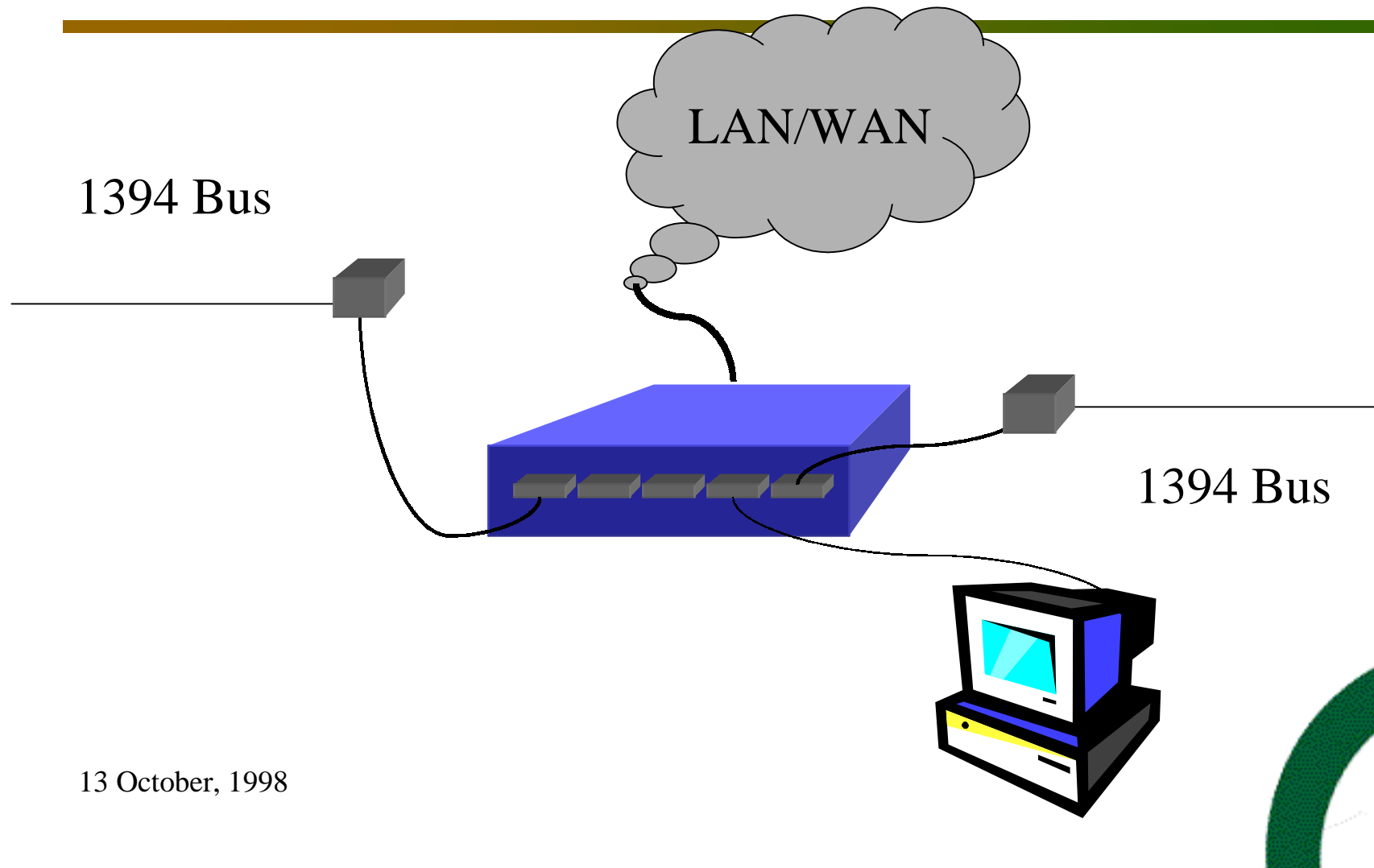
- EtherWire Bridges
100 Meter UTP
Connections into
IEEE1394 Bus
- Standard IEEE1394-
1995 Bus Is Isolated
From EtherWire



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EtherWire Example



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EtherWire Differences

- 1394 Bus
- Shared Bandwidth
- Half Duplex
- Peripheral Connectivity
- Limited Topology
- EtherWire Link
- Dedicated Bandwidth
- Full Duplex
- Networking
- Unlimited Topology



EtherWire Inherent Value

- Reliable Physical Layer Service
 - Confirmed Delivery
- Low-Overhead Audio and Video
 - No RSVP/TCP/IP Overhead
 - Very Low Latency



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EtherWire Value Proposition

- NetPC, NC, Thin Client
 - Dedicated Disk I/O
 - No NOS Overhead
- Peripheral Networking
 - Peripheral Services Located Anywhere
- VideoNet



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EtherWire Market Opportunities

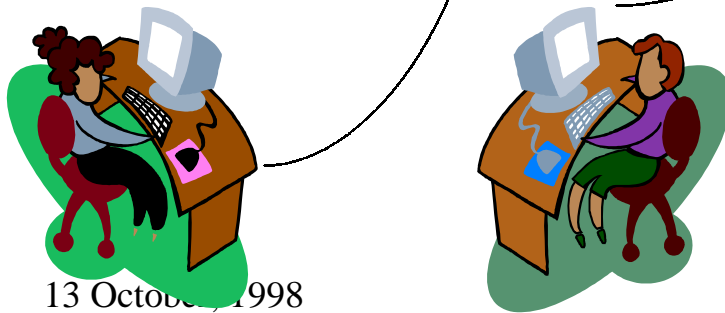
- Cheaper PC Networks
 - NIC-less PC
 - EtherWire Switch
- Higher Bandwidth
 - 400Mbps at 100Mbps Pricing



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EtherWire Market Opportunities

- NotPC
 - Peripherals-Only Desktop
- Enabled by EtherWire
Peripheral Network

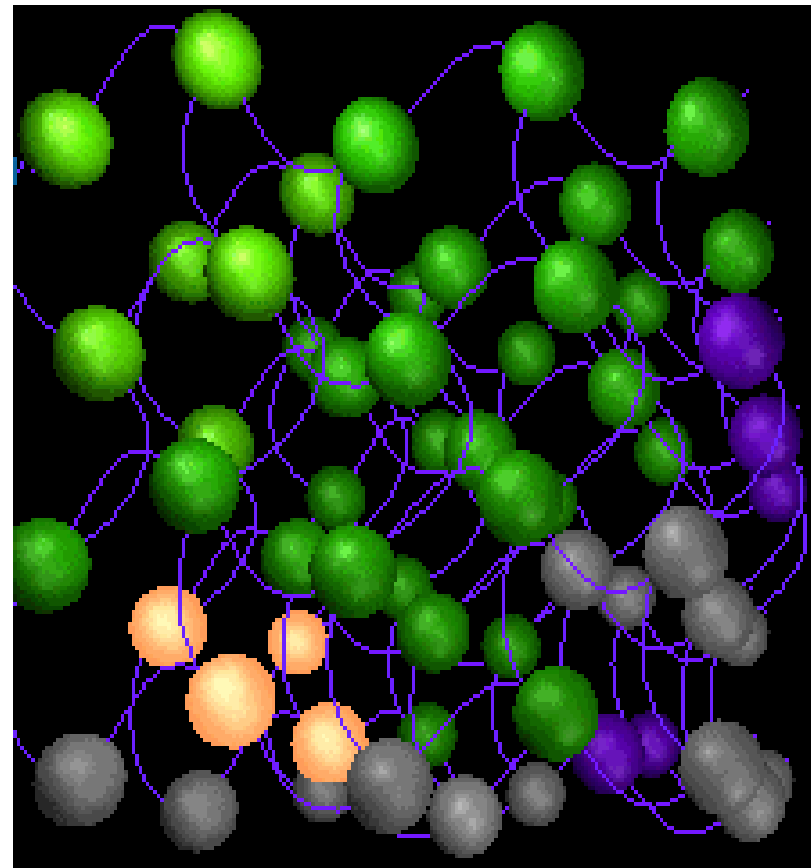


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EtherWire Market Opportunities

- Computing Fabrics
 - Commodity Level
- Single System Image
 - Cache Coherent Non-Uniform Memory Access (CCNUMA)
- Windows Ready
 - D-COM or else Java VM



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Other EtherWire Markets



- Manufacturing
- Process Control
- Video Production

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Peripheral Networking in the Home

- Any Digital TV in the House is a Remote PC Monitor
- Full Support of TV Video without the overhead of TCP/IP
- Full Support of Internet without the burden of TV video

TV Net
Audio Net
VideoGame Net



PC Net
Internet



Summary

- Converge Two Technologies
 - Ethernet
 - FireWire

> EtherWire
- Partnerships
 - Standards work, development
- Meeting Invitation
 - November 10th in Albuquerque

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