802.3ae Report
(Including Ottawa Interim Meeting)

La Jolla, California

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Ottawa Demographic Survey

- **Total Number**: 191
- **1st Time Attendees**: 48
  - Plan to attend only this meeting: 0
  - Plan to become regular members of 802.3ae: 29
- **802.3 Voters**: 89
  - On Track to Be 802.3 Voters in July: 130
- **Attendees work for**:
  - System Integrator: 47
  - Chip Vendors: 59
  - Optical Transceiver Vendors: 43
  - Fiber Infrastructure Vendors: 19
  - Consultants: 8
  - “End Users”: 6
  - University: 5
Ottawa Synopsis

- P802.3ae has a fairly strong consensus on the
  - MAC
  - CODING SUBLAYERS
  - OPTIONAL INTERFACES
- P802.3ae appears split on PMD selection
  - One contingent supports 5 PMDs:
    - 850 nm, 1310 nm, and 1550 nm Serial
    - 850 nm and 1310 nm WWDM
  - One contingent supports 3 PMDs:
    - 1310 nm and 1550 nm Serial
    - 1310 nm WWDM
Presentations

Bruce Tolley (Cisco) – Customer Applications
  • Growth Estimates
  • Example LAN / MAN / WAN Diagrams
Brad Booth (Intel) – Tentative Document Structure
  • Clauses that need change
  • New clauses
  • Volunteer Status
Shimon Muller (Sun) – MAC Rate Control
  • Options (Word; Carrier Sense; Busy; Self Pace)
  • Busy Idle requirements shown; contention that this is too complicated
  • Self Pacing requirements shown; new Pascal code for MAC shown
  • Issues (imprecision; there is a method to fix)
Presentations

Roy Bynum (MCI-Worldcom) – OAM&P RQMTs
• Additional SONET overhead bytes: M0/M1/Z2 (FEBE) to previous proposals
Osamu Ishida (NTT) – LSS Proposal
• Method of extending OAM&P to LAN PHY
• Transparent “out of band signaling”
Rich Taborek (nSerial) – XAUI Review/Update
• Highly repetitive idles have high power spectra content -> primary EMI source
• EMI reduction via randomization of the spacing of the different idle character types (/A/K/R/)
• Theory, simulation and measured data
Rick Walker (Agilent) -- 64b/66b
• Modification of control codes
• Addition of bit sequence
Presentations

Paul Bottorff (Nortel) – WIS
- Review and more detailed explanation of proposal
- More focus on SUPI and XBI

Howard Frazier – Comparison of Hold Mech.
- Pro’s and Con’s of each method (clock stretch, word hold, busy idle, open loop, frame based flow control)
- Straw Poll: preference for open loop

Stuart Robinson (PMC-Sierra) -- XBI
- 16 (differential) x 2 (direction) I/F to PMA
- + Clocks
- Utilize OIF work; but STANDARDIZE and control
Presentations

Joseph Babanezhad – Architecture for 10G Copper
  - 25 meters on Cat 5 Cable using 10X 1000BASE-T
  - Simulation results shown

Chris Diminico – TIA FO-2.2.1 liaison report
  - FYI: working on HBW MMF specification
  - MMF recommended for building infrastructure

Michael Hackert – TIA FO-2.2.1 tech report
  - With restricted loss, 500 meters on 62 micron fiber at 1.25 Gb/s demonstrated
    - Documentation process has begun
    - FOTPs in final stage of development
    - RML measurement on fiber required
  - HBW 50 um MMF spec under development
    - Proposals under development
    - Schedule should meet 802.3ae
Presentations

Ed Chang (NetWorth) – 850 nm, WWDM using RML
- 220 m on 62.5; 300 on 50 MMF; 550 m on new HBW MMF

Jack Jewell (Picolight) – Merits of 850 nm PMD
- “Clear cost advantage”
- Cost / volumes likely to follow GbE market

Jack Jewell (Picolight) – 850 nm Serial Experiments
- Feasibility demonstrated
- Various fiber measurements show good results

Jim Tatum (Honeywell) – 5 PMDs Recommended
- Serial: 850, 1310, 1550; WDM: 850, 1310
- “Best opportunity for 75% support”
- No reason to exclude any of the 5
- All are cost effectiveness and reliable
Presentations

Paul Kolesar (Lucent) – Modeling, Sim., Experimental Study of 50 MMF 10 Gig Link
- Characterization of link configuration and specification, simulation model, etc.
- Relationship between fiber BW measurements with specific encircled flux looks good

Bill Wiedemann (Blaze) – 850 nm WWDM Proposal
- Update on proposal; specification recommendations
- Cost, risk, schedule, suitability, market support

Paul Kolesar (Lucent) – 5 PMD Set Proposal
- Potential for 80% of link < 300 meters
- Relative costs; component costs vs time; risk characterization; HBW MMF market acceptance
- Specification Recommendations
Presentations

Michael Fisk (Luminent)– 1550 nm Long Distance WDM
- 4 channel; uncooled DFB; 20 nm spacing
- 40 km a beyond demonstrated
- Benefits wrt chirp and dispersion vs serial
- No external modulator, opto-isolator...
- Uses CMOS technology

Krister Frojdh (OptoTronic)– Common Rx for 1310 & 1550
- Allowing Rx spec’s to support both wavelengths increases vendor flexibility

Ed Chang (NetWorth) – Support all PMDs

Del Hanson (Agilent) – 3 PMD Proposal
- 1310 & 1550 nm Serial + 1310 nm WWDM
- Review of previous proposal
Presentations

Rich Taborek (nSerial) – WWDM LAN PCS/PMA
- Layer Diagram and explanation (XAUI like)
- Use to create a WAN PHY Bridge

David Law (3COM) – 10 Gig Management MIB

David Law (3COM) – MDC/MDIO Proposal
- Analysis indicates needs for greater number of registers than previously indicated

Gary Nicoll (Cisco) – WIS Proposal Update
- Clock Jitter and Tolerance Discussion: Match SONET?
- Recommend support of B2 in addition to B1
- Recommend support of M1
- Much more!!!
Presentations

Brad Booth (Intel) – From the Editor….
- Recommendation on structure
- Status of volunteers

Brad Booth (Intel) – Implications of PMD Choices on Nomenclature
- 5 PMD X WAN/LAN PHYs = 10 Port Types
- Choices of style discussed

Stephen Haddock (Extreme) – How Many PMDs
- System company perspective
- Analysis of the question; recommended process for selection based on 3 application spaces
Business

1 Hour Open Discussion on PMDs
- 37 people spoke given 1 minute each
- See details in minutes

Howard Frazier (Cisco) – Warriors of the Net Movie
- http://www.warriorsofthe..net/

Motion to adopt Open Loop Rate Mechanism: approved by acclamation

Strawpoll to include XBI: Y:45; N:10
802.3ae Plan for July
Goals For The Week (1 of 2)

“Selection Phase” (March – July)

- **March:**
  - Survey membership for current “state of mind”
  - Reduce number of PMD proposals (7 or less?)

- **May:**
  - Stage for July final selection of proposals
  - Identify final candidates (e.g. coding schemes);
  - Consolidate proposals; identify clause structure

- **July:**
  - Adopt and refine baseline proposal *(CUTOFF)*
  - Plan 1st draft (September)
Goals For This Week (2 of 2)

Note: At this meeting we \textit{transition} from discussing what we are going to do \textit{to GETTING IT DONE}

\begin{center}
OUR FOCUS IS TO COMPLETE THE CORE PROPOSAL
\end{center}
802.3ae Voting

802.3 Chair Has **REQUIRED** us to “move [our] votes up to the Working Group…”

Therefore:

802.3 members will vote all **technical** motions in 802.3ae (may optionally, additionally record attendee votes)

After vote complete, TF chair will ask if any 802.3 voter will challenge vote in 802.3

- If **No**: put in “request 802.3 affirm” BOM
- If **Yes**:
  - Build distinct motion for 802.3
  - Recruit/Assign 2 advocates to present to 802.3

Note: will only be interesting if vote “hugs” 75%

1. **Bucket of Motions**
IEEE 802.3ae
10 Gigabit Ethernet

802.3ae, therefore, formally requests a up-to-the minute copy of the 802.3 voters list in SOFT COPY by 8:30 a.m. tomorrow morning