



# EFM OAM Work Plan

St Louis, March 2002

Opening Plenary

# Status

- ◆ We have consensus on requirements
- ◆ Been discussion transport options for two meetings
  - Audience has continually asked for more information
  - Proposals have been refined
  - Attempted to use meetings and reflector for education and discussions
- ◆ Have multiple baseline proposals to choose from
  - OAM in Frames
  - OAM in Preamble
  - Channelized Ethernet
- ◆ Must reach agreement this week to stay on schedule

# Plan for the week

## ◆ Tuesday

- Straw poll to gauge support of each proposal in 802.3ah plenary
- Informal planning session for Weds showdown (lunch or afternoon)

## ◆ Wednesday

- *10-12am – All 802.3ah*
  - ◆ Informative presentations on each proposal
  - ◆ Comparative presentations
  - ◆ Discussions
  - ◆ Vote(s)
- Afternoon – Other contributions, liaisons, baseline refinements, discussions and plan for May

# Straw Poll 1

◆ My level of understanding on the baseline OAM proposals is:

	All voters
High (ready to vote)	32 (28%)
Medium (probably vote)	38 (34%)
Low (probably abstain)	43 (38%)

# Straw Poll 2

- ◆ Vote based upon your understanding (no floor discussion).
- ◆ In a 3-way alternative for baseline OAM proposals, I would *prefer*:

	All voters	802.3 voters
Channelized	1 (1%)	1 (2%)
Preamble	32 (44%)	23 (43%)
Frames	41 (55%)	30 (55%)

# Straw Poll 3

- ◆ Vote based upon your understanding (no floor discussion).
- ◆ In a 2-way vote on baseline OAM *for use on copper proposals*, I would prefer:

	All	802.3
Preamble		
Frames		

*Did not ask because of previous results*



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# OAM Agenda

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Weds AM

OAM in front of all 802.3ah

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# Agenda for Wed morn session

- ◆ Informative – get a common understanding
  - R. Bynum, *Out of Band OAM in bit stream* (15 min)
  - H. Suzuki, *EFM OAM on Preamble* (15 min)
  - D. Gentry, *OAM in Frames* (15 min)
- ◆ Comparative – which is better?
  - H. Suzuki, *Preamble-biased Comparison* (10 min)
  - D. Gentry, *Frame-biased Comparison* (10 min)
  - M. Squire, *Middle-ground Comparison* (10 min)
- ◆ Yelling and screaming (10 min)
- ◆ Voting (10 min)
- ◆ More yelling and screaming (10 min)
- ◆ Ideas for moving forward? (10 min)



# Straw Poll 1

◆ My level of understanding on the baseline OAM proposals is:

	All voters
High (ready to vote)	32 (28%)
Medium (probably vote)	38 (34%)
Low (probably abstain)	43 (38%)

# Straw Poll 1a

◆ My level of understanding on the baseline OAM proposals is:

	All voters
High (ready to vote)	70
Medium (probably vote)	16
Low (probably abstain)	5

# Straw Poll 2

- ◆ Vote based upon your understanding (no floor discussion).
- ◆ In a 3-way alternative for baseline OAM proposals, I would *prefer*:

	All voters	802.3 voters
Channelized	1 (1%)	1 (2%)
Preamble	32 (44%)	23 (43%)
Frames	41 (55%)	30 (55%)

# Straw Poll 2

- ◆ Vote based upon your understanding.
- ◆ I support the following baseline OAM proposal:

	All voters	802.3 voters
Preamble	47	27
Frames	33	23

# Questions if we're stuck...

- ◆ How do we change peoples' minds to get consensus?
- ◆ For those that "don't know enough," what will it take to get you to know enough?
- ◆ What function/feature is missing from the frames based approach? What changes could be made to make it better? What would it take for me to support OAM in Frames?
- ◆ What function/feature is missing from the preamble based approach? What changes could be made to make it better? What would it take to make me support OAM in Preamble?

# Liaison w SG13

## ◆ Ethernet OAM problems

- Default Detection
- Service Recovery
- Defect Isolation

◆ Answer (for now): EFM is specifically addresses needs of access market. List accepted objectives. Many recognize wider applicability of OAM function. IEEE will not address network (e2e) OAM, including TLS. MEF also looking into problems. Refer to 802.1 for STP issues. Usual thanks, always welcome for input, please participate, ...

# Agenda Weds Afternoon

- ◆ Bob Barrett: Loopback Control
- ◆ ITU SG13: Liaison response
- ◆ Next steps on transport deadlock



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# 802.3ah OAM Recap

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St Louis, March 2002

Closing Plenary

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# Our week

## ◆ Tuesday

- Three proposed baselines
- No consensus

## ◆ Weds Morning

- 1.5 hours of education of the masses
- 1.5 hours of comparisons of the options
- Even *less* consensus

## ◆ Weds (long) Afternoon

- Agreement!

# Frame-Based OAM

- ◆ Universally applicable to all Ethernets, existing, developing, and yet unconsidered
- ◆ Maximal flexibility and extensibility
- ◆ Simplest implementation
- ◆ Natural way to transmit data on Ethernet links

# Preamble-Based OAM

- ◆ Very responsive for small pieces of information (ie bit flags)
- ◆ Easier to implement fault localization and fault signaling
- ◆ Faster for error detection

# Consensus Framework For Moving Forward

- ◆ Need for a hierarchical OAM strategy
  - Ethernet is a MAC-PHY
    - ◆ Some OAM functions better at the MAC layer
    - ◆ Some OAM functions better at the PHY layer
- ◆ OAM in preamble good for sending bits of info quickly
  - Use OAM in preamble for OAM bit flags targeted at PHY
    - ◆ LFI/RFI, PHY Ping, etc.
- ◆ OAM in frames good for larger pieces of info
  - Use frames to transport non-bit data
    - ◆ Monitoring (statistics, asynchronous event data, MAC ping, etc.)
- ◆ OAM function to be partitioned so that function is not replicated in multiple layers
  - Some stuff in PHY
  - Some stuff in MAC Control
- ◆ We do not have all of the details ironed out to call this a “baseline”
  - We expect a consensus baseline to be ready quickly (well before next meeting)

# Motion: Accept Framework

- ◆ Adopt suzuki\_2\_0302.pdf and gentry\_1\_0302.pdf as a framework for EFM OAM, where the functionality is partitioned as:
  - Use OAM in frames for following functions
    - ◆ Performance monitoring
    - ◆ Asynchronous event reporting
    - ◆ Remote Status
    - ◆ Extensible management control channel
  - Use OAM in preamble for
    - ◆ Fault detection (ping)
    - ◆ Fault signaling (remote/local failure bits)
    - ◆ Alarm bit
  - OAM for EFM Cu are not addressed by this motion.
- ◆ Result in 802.3ah OAM sub task force
  - All voters Y: 18 N: 1 A: 1
  - 802.3 voters Y: 12 N: 1 A: 1
  - Moved Dan Romascanu, second Bob Barrett
- ◆ Result in 802.3ah
  - All voters Y: N: A:
  - 802.3 voters Y: N: A:

# Liaison response to ITU SG13

- ◆ Review liaison response to ITU-T SG13
  
- ◆ Motion: Approve liaison (with blank parts to be filled in) response to ITU-T SG13
  - All voters Y: N: A:
  - 802.3 voters Y: N: A:

# Actions for next meeting...

- ◆ Create a baseline OAM proposal – deadline 1 month
- ◆ Have an initial OAM draft for next meeting
  - Work on draft before baseline accepted (assumes motions pass strongly)
  - Goal is to “catch up” to original schedule by coming with both baseline and draft at the same meeting
- ◆ Must coordinate with the EFM Cu group to determine EFM OAM and copper interactions
- ◆ Determine OAM capabilities discovery procedures(s)