Restructuring the draft

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Background

- Like many previous projects, EFM defines changes to existing clauses in IEEE Std 802.3, and introduces new clauses.
- As an amendment, the material in P802.3ah would normally be published initially as a separate document and eventually merged into IEEE Std 802.3.



Changes to existing clauses

- Clause 1 definitions, abbreviations, references
- Clause 22 management registers
 - Allow access to Clause 45 registers
 - Support for OAMPDU transmission on "one way" links
- Assign identifiers administered by 802.3
 - Annex 43B; slow protocols, Annex 31A; MAC Control opcodes
- Management
 - Clause 30, Annex 30A, Annex 30B, Clause 45
- **P2MP**
 - Clause 4; ifsStretch, Clause 35; RS extensions for LLID, Clause 36 changes to support FEC & burst mode operation
- OAM
 - Clause 24, 36, 46; OAMPDU transmission on "one way" link

Point of concern

- This has stimulated concern because all readers may have trouble identifying the requirements that are introduced by and <u>unique</u> to EFM, regardless of whether they care about EFM
- This has been a growing concern about the standard as a whole, for some time, getting worse with every new project





Ballot comments

 Several comments submitted during WG ballot on P802.3ah suggest restructuring all of IEEE Std 802.3 into various partitions (or even separate 802.3 standards) e.g. "legacy", "carrier grade", etc.

Partitioning

- This is a non-trivial exercise, and requires more thought, more definition, and a great deal of work unrelated to EFM
- This suggestion runs contrary to and is outside the scope of the P802.3ah PAR, which requires us to produce an amendment to the base standard, formatted as a series of clauses



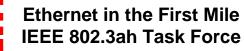
Proposal summary

- The concerns can be addressed without performing a total restructuring of IEEE Std 802.3 as part of the EFM project:
 - Avoid making changes to existing clauses where possible
 - Where change to an existing clause is required, and is unique to EFM, create a new clause that incorporates the existing clause by reference, and adds the required change
- This will result in a more self-contained document for EFM
- Provides significant insulation from the effects of any overall restructuring of IEEE Std 802.3



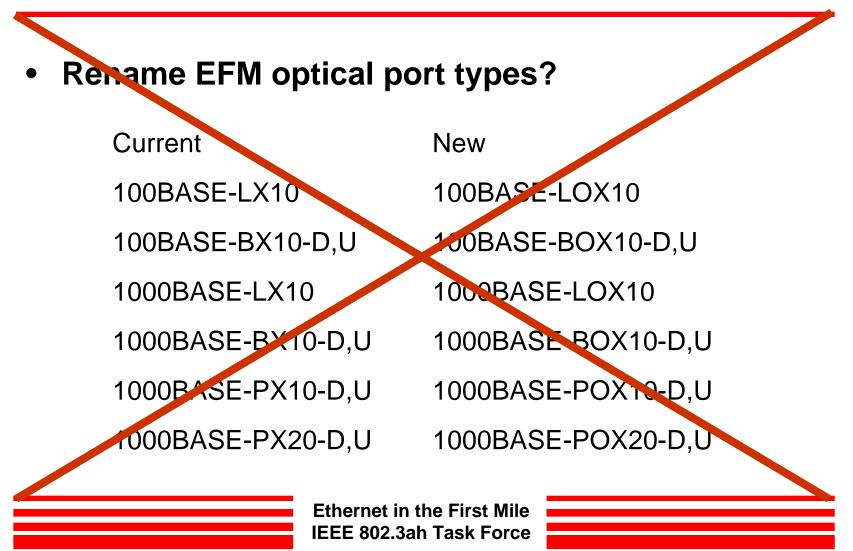
Avoid changing IEEE Std 802.3

- Clause 24, 36, 46: changes to allow transmission of OAMPDUs on "one way" links
 - Consolidate in Clause 66: Extensions of the 10 Gigabit RS, 100BASE-X PCS, and 1000BASE-X PCS for OAM, which incorporates 24, 36, 46 by reference, in the style of Clause 26
 - Renumber current 66/66A to 67/67A





Avoid changing IEEE Std 802.3



Avoid changing IEEE Std 802.3

- Clause 4: changes to ifsStretch for FEC
 - Eliminate by using a different rate adaptation method that leaves Clause 4 alone
- Clause 35, 36: changes to support FEC and burst mode operation
 - already consolidated in Clause 65
 - change references from Clause 36 PCS to Clause 66 PCS



Where change is unavoidable

- Additions to Clause 1 definitions, abbreviations, references
 - Style manual constraint
- Change to Clause 22 management registers
 - Allow access to Clause 45 registers
 - Not unique to EFM, "service to humanity"
 - Support for OAMPDU transmission on "one way" links
 - No other method for assigning these bits
- Assign identifiers administered by 802.3
 - Annex 43B; slow protocols, Annex 31A; MAC Control opcodes
 - No other method for assignment
- Changes related to management
 - Clause 30, Annex 30A, Annex 30B, Clause 45
 - 802.3 management is monolithic



Revising IEEE Std 802.3

- IEEE-SA rules will require us to do a revision
- This task must be given a very high priority
- Will be discussed in 802.3 WG in November
- Partitioning the std will be discussed at that time

Revising IEEE Std 802.3

- Revising management is a very large task
 - Clause 30 attributes are not easily partitioned
 - Clause 45 registers are not easily partitioned
 - There is no obvious way to break the monolith
 - A reasonable approach to solving this problem is key to any partitioning proposal





Revising IEEE Std 802.3

- Not a job for the EFM Task Force
- Will require new PAR(s) & significant study
- IEEE Std 802.3 will require revision in the very near future no matter what we do in EFM
- Proposed restructuring of P802.3ah will make it somewhat easier
 - The clauses added by P802.3ah can stand on their own
 - Changes to existing clauses are minimized
- Proposed restructuring will minimize the potential harm to EFM from possible future partitioning

Motion

Adopt as the response to comments 952, 837, 1167:

Direct the editors to implement the changes described on slides 8, 10 of frazier_1_0903.pdf

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