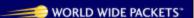


Layer 2 Tag Extensions: EFM Objective

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IEEE 802.3 Ethernet in the First Mile Study Group



Edge Networks: Stating the Obvious

- Subscribers will be (are!) accessing many different traffic types
 - HTTP, Voice, and Video (broadcast & VOD)
- Subscribers will demand "open access" to multiple service providers
 - Competition and variety
- Edge networks will be much larger than traditional enterprise LANs
 - Millions of connections?

"Logical Connections" w/ QTags

- 802.1Q/.1p tags used as logical connections between providers & subscribers
 - Can be used to establish & manage connections
- Supported in existing Ethernet equipment
 - Virtual LAN segment deployment & CoS mgmt
 - Well understood
- Limitations
 - The current 12-bit VID provides 4096 VLANs
 - Clearly not enough given the magnitude of "edge" networks

How Many Connections?

- First Pass Answer
 - Double the available VID by adding a 2nd tag?
 - Bumps effective number to 16.8M VLANs
- Is this enough?

- Note: We don't have to answer this today!
 - We simply need to establish an EFM objective to make room for a larger tag

Making Room in 802.3...

- Increase maxFrameSize to allow for additional tag octets after the QTag
 - Decide on the number of additional octets
 - Comprehend the impact to 802.3 clauses & MAC parameters
- Liaison work is required between 802.3 and 802.1
 - Tag content & usage would be developed through this liaison effort

EFM Objective

- Provide Media Access Control Parameter Specifications for:
 - Allowing an extended maxFrameSize to accommodate additional Layer 2 tag information