

# 802.3ar Frame Expansion

## *Ad-hoc Announcement*

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# *Outline*

- **Motivation for frame expansion project**
  - **Recap March 2004 802.1/802.3 joint technical plenary**
  - **Review 802.1 work request**
  - **Review ITU-T SG15/Q12 liaison**
- **Frame Expansion Ad-hoc**
  - **Announce meeting time/place**
  - **Proposed agenda**
  - **Website:**
    - **[www.ieee802.org/3/frame\\_study](http://www.ieee802.org/3/frame_study)**

# ***802.1/802.3 Joint Tech (1/2)***

- **March 2004, Orlando**
- **Tony Jeffree, 802.1 Chair gave presentation:**
  - **Directory:**  
<http://www.ieee802.org/1/files/public/docs2004/>
  - **Filename:**  
**“Joint 802-1 802-3 tech plenary.pdf”**

*Note: There are spaces between each word*

# ***802.1/802.3 Joint Tech (2/2)***

- **Last July, 802.3 made plea for single request from 802.1 rather than multiple, piecemeal requests**
- **Current 802.1 projects require frames supporting at least 68 additional octets**
  - **802.1ad Provider Bridges**
    - 4 octets
  - **802.1AE MACSec**
    - 32 octets Customer Security
    - 32 octets Provider Security
- **Unresolved issues:**
  - **Larger cipher blocks may be required**
    - 64-160 octets
  - **Request for larger .1ad Provider Tag**
  - **Request for 2nd FCS**

# *Work request from 802.1 (1/4)*

- **Directory:**

[http://www.ieee802.org/3/frame\\_study/](http://www.ieee802.org/3/frame_study/)

- **Filename:**

**“8021\_Frame\_Size\_Revision\_Request\_to\_8023.pdf”**

# *Work request from 802.1 (2/4)*

- Increase 802.3's frame size to support 802.1ad, Provider Bridges, and 802.1AE, MACSec.
- Currently an additional 64 to 128 octets are required to support the above 802.1 standards, but future work in these standards could expose the need for a few more octets.
- 802.1 is requesting 802.3 to **start a project to define a larger 802.3 maximum frame size** with the new size being in the range of 1650 to 2048 octets.
- 802.1 further requests 802.3 to **investigate and define what the largest feasible maximum frame size increase should be with minimal impact to existing networks and standards.**

# *Work request from 802.1 (3/4)*

- The frame would be extended by:
  1. Allowing a tag prefix between the Source MAC Address and the MAC Client Length/Type field of length 0 or 2-to-n octets, where the first two octets must be an Ethertype. (The QTag is the only currently-defined tag prefix.)
  2. Allowing a postfix between the MAC Client Data and the FCS of 0-to-m octets. The format and length of any postfix is defined by an associated tag prefix.
  3.  $n + m + 1518$  must be less than or equal to the new maximum frame size.
  4. **The size of the MAC Client data portion of the frame (46-1500 octets) is not to be changed.**

# *Work request from 802.1 (4/4)*

## ■ Rationale for revision

- Current work in 802.1 requires a larger frame size. The rationale of increasing the size to beyond what is currently needed is to prevent the need for 802.1 from asking for another frame size increase in the near future.

## ■ Impact on existing networks

- Needs to be determined by the work being done in 802.3.



# *ITU-T liaison (1/2)*

- **Directory:**

  - [http://www.ieee802.org/3/frame\\_study/](http://www.ieee802.org/3/frame_study/)

- **Filename:**

  - “COM15-LS281.doc”**

# ITU-T liaison (2/2)

- *It has been noted that one option to support Ethernet services is MPLS. In this scenario the customer's Ethernet frame is encapsulated in MPLS. The MPLS router may be connected to conventional transport equipment via an Ethernet interface. **In this case, the length of the Ethernet frame on the interface from the router to the network is the customer's original frame, plus an MPLS header, plus a further Ethernet header.***
- *We would appreciate some guidance from IEEE on the maximum frame length that could be offered to an originating customer and the maximum length that must be supported by the network.*

# *Plans for the week*

## ■ Ad-hoc meeting schedule

- Day: Tue 7/13                      Time: 8a-6p
- Room: Chief Poker Jim (lobby level)

## ■ Agenda

- Review/finalize PAR/5 criteria
- Review presentations on impact to existing networks, if any
- Review presentations on proposed changes to Clauses 3/4/4A

**Thank you!**