802.3 Frame Expansion Study Group

Proposed objectives

Kevin Daines

World Wide Packets

Ottawa, Ontario

Objectives

1) Preserve the IEEE 802.3 MAC data service interface
2) Preserve the basic frame format
3) Remove the Tagged frame format
4) Add an Envelope frame format
5) Support 802.1ad Provider Bridging
6) Support 802.1AE MACSec
7) Support ITU-T SG15 Q12 Ethernet transport encapsulations
8) Investigate and define the largest maximum frame size with minimal impact to existing networks and standards

Detail on #1 (1/2)

- The IEEE 802.3 MAC data service interface consists of the following two required service primitives:
  - MA_DATA.request
    (
    destination_address,
    source_address,
    mac_data_service_unit
    frame_check_sequence
)
  - MA_DATA.indication
    (
    destination_address,
    source_address,
    mac_data_service_unit
    frame_check_sequence,
    reception_status
)

Detail on #1 (2/2)

- Clause 31 pointed out that 4.3.2 defines two functions that are related but different from the MAC data service interface service primitives:
  - function TransmitFrame
    (
      destinationParam: AddressValue;
      sourceParam: AddressValue;
      lengthOrTypeParam: LengthOrTypeValue;
      dataParam: DataValue
    ): TransmitStatus
  - function ReceiveFrame
    (
      var destinationParam: AddressValue;
      var sourceParam: AddressValue;
      var lengthOrTypeParam: LengthOrTypeValue;
      var dataParam: DataValue
    ): ReceiveStatus

Detail on #3,4 (2/2)

- Clause 3.5 defines the Tagged MAC frame format
  - Specific to IEEE 802.1Q
- Replacing 3.5 with a generic Envelope MAC frame format allows flexible prefix and suffix fields