IEEE 802.3 Working Group
July 2009 Plenary Week

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Current IEEE 802.3 activities

- IEEE P802.3at DTE Power Enhancements
- IEEE P802.3av 10 Gb/s EPON
- IEEE P802.3az Energy Efficient Ethernet
- IEEE P802.3ba 40 Gb/s and 100 Gb/s Ethernet
- IEEE P802.3-2008/Cor 1 (IEEE 802.3bb) Pause Reaction Delay Corrigendum
- IEEE P802.3bc Ethernet Organizationally Specific TLVs
- IEEE P802.3bd MAC Control Frame for Priority-based Flow Control
  (project is being undertaken by the IEEE 802.1 DCB Task Group)
- IEEE P802.3.1 (IEEE 802.3be) Ethernet MIB
- IEEE 802.3 Ethernet Support for the IEEE P802.1AS Time Synchronization Protocol Study Group
IEEE P802.3at DTE Power Enhancements

• Description
  – Increase the amount of power delivered over twisted pair copper from that specified by IEEE Std 802.3af-2003 (Clause 33 of IEEE Std 802.3)
  – At least 24 watts at powered device
  – Maintain compatibility with IEEE Std 802.3 Clause 33
  – Extended classification

• Meeting plan
  – Resolve 3 comments received on Sponsor recirculation ballot draft IEEE P802.3at/D4.2
  – Request approval to proceed to RevCom submittal
    • Conditional if a recirculation is required
  – Project contingent on IEEE P802.3bc Ethernet TLVs
    • Can only be approved at same time, or after, IEEE P802.3bc
IEEE P802.3av 10 Gb/s EPON

• Description
  – Define higher speed Ethernet passive optical network operation
  – 10 Gb/s downstream/1 Gb/s upstream, single SM fiber
  – 10 Gb/s downstream/10 Gb/s upstream, single SM fiber
  – Up to 3 power budgets that support 1:16 and 1:32 split ratios at distances of at least 10 and at least 20 km

• Meeting plan
  – Request approval to proceed to RevCom submittal
    • Sponsor recirculation ballot draft IEEE P802.3av/D3.4 received 100% approval with no comment
IEEE P802.3az Energy Efficient Ethernet

• Description
  – Transition to and from low-power use state in response to network demand
  – PHY energy efficiency enhancements for selected PHY types (twisted pair and backplane)
  – Maximize transparency to higher layers
  – Lower power 10BASE-T

• Meeting plan
  – Working Group preview and preparation to request approval to proceed to Working Group ballot
IEEE P802.3ba 40 Gb/s & 100 Gb/s Ethernet

• Description
  – Define operation at 40 Gb/s & 100 Gb/s over adopted objectives for link media / distance
  – 40 Gb/s, at least: 1 m backplane, 10 m copper cable, 100 m OM3 multimode fiber, 10 km single mode fiber
  – 100 Gb/s, at least: 10 m copper cable, 100 m OM3 multimode fiber, 10 km single mode fiber, 40 km single mode fiber

• Meeting plan
  – Resolve comments on Working Group recirculation ballot draft IEEE P802.3ba/D2.1
IEEE 802.3 Maintenance

• Projects:
  – IEEE P802.3-2008/Cor 1 (IEEE 802.3bb) Pause Reaction Delay Corrigendum
    • Increase the Pause reaction delay value allocated to 10GBASE-T and 10GBASE-KR with FEC PHYs
  – IEEE P802.3bc, Ethernet Organizationally Specific TLVs
    • Transfer IEEE 802.3 Organizationally Specific type, length, values (TLVs) from IEEE Std 802.1AB to IEEE Std 802.3

• Meeting plan
  – Consider new maintenance requests
  – Resolve comments on Working Group recirculation ballot draft IEEE P802.3-2008/Cor 1 (IEEE 802.3bb)/D1.2
  – Resolve comments on initial Sponsor ballot draft IEEE P802.3bc/D3.0
  – Prepare to request conditional approval to proceed to RevCom submittal for IEEE P802.3bc
IEEE P802.3.1 Ethernet MIB

• Provide SMIv2 (SNMP) and GDMO MIB modules specifications for Ethernet
  – Transfer existing SMIv2 Ethernet MIBs from Internet Engineering Task Force (IETF)
  – Transfer existing GDMO Ethernet MIBs from IEEE Std 802.3
  – Add extensions resulting from recent amendments of IEEE Std 802.3
  – Transfer the Ethernet LLDP extension MIB module from IEEE Std 802.1AB

• Meeting plan
  – Continue to review draft
IEEE 802.3 Ethernet Support for the IEEE P802.1AS Time Synchronization Protocol Study Group

- Study group to examine IEEE 802.3 Support for IEEE 802.1AS Time and Synchronization.
  - The IEEE 802.1 Audio/Video Bridging (AVB) project has requested IEEE 802.3 support for IEEE 802.1AS Timing and Synchronization protocol. A project would be completing the work begun in the IEEE 802.3 Residential Ethernet project, subsequently transferred to IEEE 802.1 that became the Audio Video Bridging (AVB) project.

- Meeting plan
  - Develop PAR, 5 Criteria and Objectives for proposed project
10GBASE-CR1 Call for Interest

• This Call for Interest (CFI) proposes the use of IEEE P802.3ba Clause 85 (40GBASE-CR4 and 100GBASE-CR10) to specify 10GBASE-CR1, a low-cost physical layer copper option for 10 Gigabit Ethernet.

• The CFI is supported by individuals from companies in the telecommunications industry, who will demonstrate the market need, technical feasibility, and broad support for forming a Study Group.
IEEE 802.3 Officers

IEEE 802.3 Chair: David Law (david_law@3com.com)
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IEEE P802.3at DTE Power Enhancements: Mike McCormack (mike_mccormack@ti.com)
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IEEE P802.3az Energy Efficient Ethernet: Mike Bennett (mjbennett@lbl.gov)
IEEE P802.3ba 40 Gb/s and 100 Gb/s Ethernet: John D’Ambrosia (jdambrosia@ieee.org)

IEEE 802.3 Maintenance: Wael Diab (wdiab@broadcom.com)
  IEEE 802.3 Maintenance request
  IEEE P802.3-2008/Cor 1 (IEEE 802.3bb) Pause Reaction Delay Corrigendum
  IEEE P802.3bc Ethernet Organizationally Specific TLVs

IEEE P802.3bd MAC Control Frame for Priority-based Flow Control
  This project is being undertaken by the IEEE 802.1 DCB Task Group

IEEE P802.3.1 (IEEE 802.3be) Ethernet MIB: Howard Frazier (hfrrazier@broadcom.com)

IEEE 802.3 Ethernet Support for the IEEE P802.1AS Time Synchronization Protocol Study Group:
  Steve Carlson (scarlson@ieee.org)
Preliminary Meeting Plan

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IEEE 802.3 TSSG
IEEE 802.3 Standards

- IEEE Std 802.3™-2008 (26 Dec 2008)*
- Superseded standards
  - IEEE Std 802.3™-2005 (12 Dec 2005)
    - IEEE Std 802.3™-2005/Cor 1-2006 (26 Jun 2006)
    - IEEE Std 802.3an™-2006 (1 Sep 2006)
    - IEEE Std 802.3aq™-2006 (16 Oct 2006)
    - IEEE Std 802.3as™-2006 (13 Nov 2006)
    - IEEE Std 802.3ap™-2007 (22 May 2007)
    - IEEE Std 802.3™-2005/Cor 2-2007 (17 Aug 2007)

* Available through Get IEEE 802
  http://standards.ieee.org/getieee802/802.3.html
Current project drafts

- IEEE P802.3at/D4.2 - DTE Power Enhancements
  - Sponsor recirculation ballot draft
- IEEE P802.3av/D3.4 – 10Gb/s EPON
  - Sponsor recirculation ballot draft
- IEEE P802.3az/D1.5 – Energy-efficient Ethernet
  - Working Group preview draft
- IEEE P802.3ba/D1.2 – 40Gb/s and 100Gb/s Ethernet
  - Working Group recirculation ballot draft
- IEEE P802.3-2008/Cor 1/D1.2 (IEEE 802.3bb) Pause Reaction Delay Corrigendum
  - Working Group recirculation ballot draft
- IEEE P802.3bc/D3.0 – Ethernet Organizationally Specific TLVs
  - Initial Sponsor ballot draft
- IEEE P802.3.1/D0.6 Ethernet MIB
  - Task Force review draft