# myProject™ - P802.1Qbb PAR Detail

**Submitter Email:** pthaler@broadcom.com

**Type of Project:** Amendment to IEEE Standard

**PAR Request Date:** 13-Feb-2008

**PAR Approval Date:**

**PAR Expiration Date:**

**PAR Signature Page on File:** No

**Status:** Unapproved PAR, Amendment to an Existing IEEE Standard, Std 802.1Q-2005

**Project:**

**Root Project:** 802.1Q-2005

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**1.1 Project Number:** P802.1Qbb

**1.2 Type of Document:** Standard

**1.3 Life Cycle:** Full Use

**1.4 Is this project in ballot now?** No

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**2.1 Title:** IEEE Standard for Local and Metropolitan Area Networks---Virtual Bridged Local Area Networks - Amendment: Priority-based Flow Control

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**3.1 Working Group:** Higher Layer LAN Protocols Working Group (C/LM/WG802.1)
**Contact Information for Working Group Chair**
Anthony Jeffree
Email: tony@jeffree.co.uk
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**Contact Information for Working Group Vice-Chair**
Paul Congdon
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**3.2 Sponsoring Society and Committee:** IEEE Computer Society/Local and Metropolitan Area Networks (C/LM)
**Contact Information for Sponsor Chair**
Paul Nikolich
Email: p.nikolich@ieee.org
Phone: 857.205.0050
**Contact Information for Standards Representative**
None

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**4.1 Type of Ballot:** Individual

**4.2 Expected Date of Submission for Initial Sponsor Ballot:** 03/2009

**4.3 Projected Completion Date for Submittal to RevCom:** 07/2009

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**5.1 Approximate number of people expected to work on this project:** 80

**5.2 Scope:** This standard specifies protocols, procedures and managed objects that enable flow control per traffic class on IEEE 802 full-duplex links. Data Center Bridging networks (bridges and end nodes) are characterized by limited bandwidth-delay product and

limited hop-count. Traffic class is identified by the VLAN tag priority values. Priority-based flow control is intended to eliminate frame loss due to congestion. This is achieved by a mechanism similar to the IEEE 802.3x PAUSE, but operating on individual priorities. This mechanism, in conjunction with other Data Center Bridging technologies, enables support for higher layer protocols that are highly loss sensitive while not affecting the operation of traditional LAN protocols utilizing other priorities. In addition, PFC complements Congestion Notification in Data Center Bridging networks. Operation of priority-based flow control is limited to a domain controlled by a Data Center Bridging control protocol that controls the application of Priority-based Flow Control, Enhanced Transmission Selection, and Congestion Notification.

**5.3 Is the completion of this standard dependent upon the completion of another standard:** Yes
**If yes, please explain:** The Data Center Bridging control protocol is expected to be defined in 802.1Qaz.

**5.4 Purpose:** Data Center Bridging networks employ higher layer protocols that depend on the delivery of data frames without frame loss due to congestion. These protocols were designed for an underlying transport that approaches lossless behavior and therefore do not include appropriate response to frame loss due to congestion (e.g. back-off, slow restart, etc.). This amendment enables multiple data center networks, including those serving loss sensitive protocols (e.g. inter-processor communitcation, storage, etc.), to be converged onto an IEEE 802 network.

**5.5 Need for the Project:** There is significant customer interest and market opportunity for 802 LANs as a converged Layer 2 solution in high-speed short-range networks such as data centers, backplane fabrics, single and multi-chassis interconnects, computing clusters, and storage networks. These environments currently use Layer 2 networks that do not discard packets due to congestion (e.g., Fibre Channel, InfiniBand). This project will bring comparable frame loss characteristics to 802 LANs in Data Center Bridging environments. This in conjunction with the other Data Center Bridging technologies enable converged networks. Use of a converged network will realize operational and equipment cost benefits.

**5.6 Stakeholders for the Standard:** Developers and users of networking for data center environments including networking IC developers, switch and NIC vendors, and users.

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**Intellectual Property**
**6.1.a.** Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitting this PAR prior to the PAR submittal to the IEEE-SA Standards Board? Yes
If yes, state date: 11/13/2007
**6.1.b.** Is the Sponsor aware of any copyright permissions needed for this project? No
**6.1.c.** Is the Sponsor aware of possible registration activity related to this project? No

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**7.1 Are there other standards or projects with a similar scope?** No

**7.2 Future Adoptions**
**Is there potential for this standard (in part or in whole) to be adopted by another national, regional, or international organization?** No

**7.3 Will this project result in any health, safety, security, or environmental guidance that affects or applies to human health or safety?** No

**7.4 Additional Explanatory Notes: (Item Number and Explanation)**

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