**PAR for a New IEEE Standard**

# Section 1

* 1. **Assigned Project Number**:

If left blank, a project number will be assigned by the NesCom Administrator when your PAR is received. Please contact the NesCom Administrator for any questions about a specific project number.

802.1Qcz

* 1. **Type of Document: *Standard, Recommended Practice, or Guide***

Standards, Guides and Recommended Practices are generically referred to as IEEE Standards.

**Standards** are documents with mandatory requirements. Standards are generally characterized by the use of the verb “shall.”

**Recommended Practices** are documents in which procedures and positions preferred by the IEEE are presented. Recommended practices are generally characterized by the use of the very “should.”

**Guides** are documents in which alternative approaches to good practice are suggested, but no clear-cut recommendations are made. Guides are generally categorized by the use of the verb “may.”

Standard

* 1. **Life Cycle: *Full Use or Trial Use***

A standard can be designated full-use or trial-use.

A standard can be designated as **trial-use** when a draft satisfies the criteria of the standards-developing group (i.e., subcommittee or working group), but needs input from a very broad constituency. This is a preferred alternative to the widespread distribution of unapproved drafts. Such a draft requires a letter ballot of the sponsor and approval by the IEEE-SA Standards Board as a trial-use standard. Trial-use standards are effective for no more than two years from the date of publication. If no comments are received during the trial period, the standard is subject to adoption as a full-use standard upon receipt of written recommendation from the sponsor and approval by the IEEE-SA Standards Board.

Full Use

# Section 2

**2.1 Project Title:**

The title shall not contain the acronym “IEEE.” This is added to the title when the standard publishes. All other acronyms shall be spelled out in the title. Typically titles begin with “Standard for….”, “Guide for….” or “Recommended Practice for….”

If a general term is used to represent ranges (e.g. high, medium, low) within the title, scope or purpose, numerically define such ranges where they first appear (title, scope or purpose as applicable).

Standard for Local and Metropolitan Area Networks---Virtual Bridged Local Area Networks Amendment: Congestion Isolation

# Section 3

**3.1 Working Group:** (auto-filled)

**3.2 Sponsoring Society and Committee:** (auto-filled)

[A listing of Sponsor P&Ps and Sponsor Scopes is available at <https://development.standards.ieee.org/pub/view-sponsor-pnps>]

**3.3 Joint Sponsor:** (chosen from drop down menu)

If you are not adding a joint sponsor to this project, you may leave this field blank.

# Section 4

**4.1 Sponsor Balloting Information: *Individual or Entity***

Is the balloting group for this standard expected to be composed of **individuals** or **Entities** (persons representing corporations/government bodies, institutions or SDO’s)? See Section 5.4.1 in the IEEE Standards Board Operations Manual for further explanation.

Individual

**4.2 Expected Date of Submission of Draft to the IEEE-SA for Initial Sponsor Ballot**

**Month:** 03 **Year:** 2021

Additional communication and input from other organizations or other IEEE Standards Sponsors should be encouraged through participation in the working group or the invitation pool prior to Sponsor Ballot.

**4.3 Projected Completion Date for Submittal to RevCom**

**Month:** 09 **Year:** 2021

Enter the date the draft standard is planned to be submitted to RevCom for processing (not to exceed four years from the date of PAR submission). **It is suggested to allow at least six months after Initial Sponsor Ballot for the ballot process.** Cutoff dates for submitting draft standards to RevCom are generally in February, May, August, and October. Check the appropriate calendars for the specific dates as the draft matures. Use a best guess estimate for the PAR.

# Section 5

**5.1 Approximate number of people expected to be actively involved in the development of this project:** 20

This includes Working Group members, additional non-voting participants, etc.

**5.2 Scope of the proposed standard:**

The Scope should appear as it will in the draft standard. The Scope stated on the PAR shall be written in present tense, in complete sentences, and with proper grammar as it is intended to appear in the published standard. All acronyms shall be spelled out at first use. The title and (if appropriate) date of any document referenced in the Scope shall be listed in the Additional Explanatory Notes field at the end of this PAR form.

This standard specifies protocols, procedures and managed objects that support the isolation of congested data flows within wired networks of limited bandwidth delay product. This is achieved by enabling bridges to individually identify flows creating congestion and adjusting transmission selection for packets of those flows. When coupled with congestion notification signaling, this mechanism avoids head-of-line blocking for uncongested flows sharing a traffic class in lossless networks. This mechanism provides support for higher layer protocols that utilize end-to-end congestion control in order to reduce packet loss and latency.

**5.3 Is the completion of this standard contingent upon the completion of another standard? Yes or No**

**If yes, explain:**

Your explanation should include how the standard is dependent upon the completion of another standard. Also, if applicable, explain why a PAR request is being submitted if the standard currently under development is not yet complete. The title and number of the standard which this project is contingent upon shall be included in the explanation.

No

**5.4 Will this document contain a Purpose clause? Yes or No**

**If yes, enter the purpose of the proposed standard:**

A purpose statement is encourage but not mandatory. If the document will not include a purpose statement choose “No” and leave the purpose field blank.

The purpose stated on the PAR shall be written in present tense, in complete sentences, and with proper grammar as it is intended to appear in the published standard. The title and (if appropriate) date of any document referenced in the Purpose shall be listed in the Additional Explanatory Notes field at the end of the PAR form.

Data center networks employ higher layer protocols with end-to-end congestion control in order to avoid packet loss, reduce overall latency and minimize flow completion time. However the end-to-end congestion control loop takes time to react and support is needed from data center bridges to isolate flows causing congestion to avoid head-of-line blocking and minimize flow completion time of the uncongested flows during the convergence time of the end-to-end congestion control protocol. This amendment will support the identification and isolation of the higher layer protocol flows creating congestion and will interoperate with existing IEEE 802 congestion management capabilities.

**5.5 Need for the project:**

The need for the project details the specific problem that the standard will resolve and the benefit that users will gain by the publication of the standard. The need statement should be brief, no longer than a few sentences.

There is significant customer interest and market opportunity for large scale, low latency, lossless Ethernet based data centers to support high-performance computing and distributed storage applications. Congestion is the primary cause of loss and delay in these environments. These applications currently use higher layer end-to-end congestion control coupled with priority-based flow control at Layer 2 to avoid performance degradation from packet loss due to congestion. As the Ethernet data center network scales in size, speed and number of concurrent flows, the current environment creates head-of-line blocking for flows sharing the same traffic class. Isolating flows that cause congestion reduces latency for flows not causing congestion and improves the scale and performance of the Ethernet based data center network. Use of a consolidated Ethernet data center network will realize operational and equipment cost benefits.

**5.6 Stakeholders for the standard:**

The stakeholders (e.g., telecom, medical, environmental) for the standard consist of any parties that have an interest in or may be impacted by the development of the standard.

Developers and users of networking for data center environments including networking IC developers, switch and NIC vendors, and users.

# Section 6

**6.1 Intellectual Property:**

**A. Is the Sponsor aware of any copyright permissions needed for this project? *Yes or No***

**If yes, please explain below:**

If the proposed standard uses copyrighted material, copyright releases must be obtained by the working group and shall be included in the final package submitted to the IEEE-SA Standards Board. Additionally, remember that during development of your approved project, the proper IEEE copyright notices must be maintained on all drafts.

No

**B. Is the Sponsor aware of possible registration activity related to this project? *Yes or No***

No

**If YES, please explain below:**

The IEEE Registration Authority Committee (RAC) is a mandatory coordination body. A YES answer to this question provides early notification that RAC mandatory coordination will occur during Sponsor ballot. Working groups are welcome to engage the RAC if appropriate earlier in the project.

If the proposed standard requires (or is expected to require) the unique identification of objects or numbers for use in industry, the project has registration activity. This does not cover things like code points defined within the standard.

A YES answer with brief explanation is appropriate if:

1. The proposed standard creates a new registry.
2. The proposed standard includes new use of an existing registry (whether IEEE RA or other registry authority). An existing IEEE registry example would be use of an Organizationally Unique Identifier (OUI). An explanation of a new registration activity should be supplied on the PAR. Please visit the IEEE Registration Authority website (<http://standards.ieee.org/develop/regauth/>) for additional information regarding existing registries.
3. When RAC review of previously reviewed text is appropriate to assure terminology and descriptions of usage are current.

A NO answer is appropriate:

1. When the project has no registration activity.
2. When a project modifying an existing standard with registration activity will not be adding new text nor modifying existing registration activity text previously reviewed by the IEEE Registration Authority (e.g., corrigendum on non-registry content). Please briefly explain why RAC review is not required.

# Please note that the RAC may request mandatory coordination on any project, independent of the answer to this question.

# Section 7

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

Identify any standard(s) or project(s) of similar scope(s), both within or outside of the IEEE, and explain the need for an additional standard in this area.

No

**Sponsor Organization:**

**Project/Standard Number:**

**Project/Standard Date:**

**Project/Standard Title:**

Information from 7.2 – 7.4 is captured for potential follow up and coordination but will not appear on the final PAR view.

**7.2 Joint Development - Is it the intent to develop this document jointly with another organization? *Yes or No***

No

If this document will be developed jointly with another organization, your IEEE-SA Staff Liaison must be made aware of this prior to final approval of the document by the IEEE-SA Standards Board [RevCom].

**If yes, please indicate the organization, technical committee name/number and contact person within external organization**

**Organization:**

**Technical Committee Name:**

**Technical Committee Number:**

**Contact Name:**

**Phone:**

**Email:**

**7.3 International Standards Activities**

**A. Adoptions - Is there potential for this standard to be adopted by another organization?: *Yes or No***

No

If this document is to be adopted by another organization, the document must be adopted intact (whole and unmodified) and the requested contact persons entered on the submittal form. For information about adoptions, contact your IEEE-SA Staff Liaison.

**If yes, please indicate the organization, technical committee name/number and contact person within external organization**

**Organization:**

**Technical Committee Name:**

**Technical Committee Number:**

**Contact Name:**

**Phone:**

**Email:**

**B. Harmonization - Are you aware of another organization that may be interested in portions of this document in their standardization development efforts?**

<< Possibly the IETF TSVWG or ICCRG? >>

**If yes, please indicate the organization, technical committee name/number and contact person within external organization**

**Organization:**

**Technical Committee Name:**

**Technical Committee Number:**

**Contact Name:**

**Phone:**

**Email:**

**7.4 Does the sponsor foresee a longer term need for testing and/or certification services to assure conformity to the standard? *Yes or No***

No

**Additionally, is it anticipated that testing methodologies will be specified in the standard to assure consistency in evaluating conformance to the criteria specified in the standard? *Yes or No***

# Section 8

**8.1 Additional Explanatory Notes:**

Include the Item # in front of each explanation to distinguish which PAR field it is referring to.

If there is any further information that may assist NesCom in recommending approval for this project, include this information here. The title of any documents referenced in the PAR should be listed here.

**8.2 IEEE Code of Ethics**

The PAR will not be accepted if the box below is not checked.

**I acknowledge that I have read and I understand the** [**IEEE Code of Ethics**](http://www.ieee.org/portal/pages/iportals/aboutus/ethics/code.html)

**I agree to conduct myself in a manner that adheres to the IEEE Code of Ethics when engaged in official IEEE business.**