IEEE 802 LAN/MAN STANDARDS COMMITTEE (LMSC)

CRITERIA FOR STANDARDS DEVELOPMENT (CSD)

IEEE P802.1Qdv Enhancements to Cyclic Queuing and Forwarding

Based on IEEE 802 LMSC Operations Manuals approved 4 August 2020
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1. IEEE 802 criteria for standards development (CSD)

The CSD documents an agreement between the WG and the Sponsor that provides a description of the project and the Sponsor's requirements more detailed than required in the PAR. The CSD consists of the project process requirements, 1.1, and the 5C requirements, 1.2.

1.1 Project process requirements

1.1.1 Managed objects

Describe the plan for developing a definition of managed objects. The plan shall specify one of the following:

a) The definitions will be part of this project.
b) The definitions will be part of a different project and provide the plan for that project or anticipated future project.
c) The definitions will not be developed and explain why such definitions are not needed.

   The definitions will be part of this project.

1.1.2 Coexistence

A WG proposing a wireless project shall prepare a Coexistence Assessment (CA) document unless it is not applicable.

a) Will the WG create a CA document as part of the WG balloting process as described in Clause 13? (yes/no)
b) If not, explain why the CA document is not applicable.

   This is not a wireless project.

1.2 5C requirements

1.2.1 Broad market potential

Each proposed IEEE 802 LMSC standard shall have broad market potential. At a minimum, address the following areas:

a) Broad sets of applicability.

   The features of this standard broaden the applicability of Time-Sensitive Networking (TSN) to networks with simpler bridges than are possible with the existing, deployed TSN features, and to service provider networks, a large market so far untapped by TSN.

b) Multiple vendors and numerous users.

   The interest expressed by vendors and users in IEEE 802.1 indicates that sufficient interest will exist outside IEEE 802.1 for this standard to succeed.

1.2.2 Compatibility

Each proposed IEEE 802 LMSC standard should be in conformance with IEEE Std 802, IEEE 802.1AC, and IEEE 802.1Q. If any variances in conformance emerge, they shall be thoroughly disclosed and reviewed with IEEE 802.1 WG prior to submitting a PAR to the Sponsor.

a) Will the proposed standard comply with IEEE Std 802, IEEE Std 802.1AC and IEEE Std 802.1Q?
b) If the answer to a) is no, supply the response from the IEEE 802.1 WG.

The review and response is not required if the proposed standard is an amendment or revision to an existing standard for which it has been previously determined that compliance with the above IEEE 802 standards is not possible. In this case, the CSD statement shall state that this is the case.

   The amendment will be in conformance with IEEE Std 802, IEEE Std 802.1AC, and the existing provisions of IEEE Std 802.1Q.

1.2.3 Distinct Identity

Each proposed IEEE 802 LMSC standard shall provide evidence of a distinct identity. Identify standards and standards projects with similar scopes and for each one, describe why the proposed project is substantially different.

   No existing IEEE Standard or standard projects specifies the proposed mechanisms.

1.2.4 Technical Feasibility

Each proposed IEEE 802 LMSC standard shall provide evidence that the project is technically feasible within the time frame of the project. At a minimum, address the following items to demonstrate technical feasibility:

a) Demonstrated system feasibility.
b) Proven similar technology via testing, modeling, simulation, etc.

The existing Asynchronous Traffic Shaping and Cyclic Queuing and Forwarding provisions of IEEE Std 802.1Q bound, on either side, the complexity of this standard. Both are deployed, indicating the feasibility of this standard.

1.2.5 Economic Feasibility

Each proposed IEEE 802 LMSC standard shall provide evidence of economic feasibility. Demonstrate, as far as can reasonably be estimated, the economic feasibility of the proposed project for its intended applications. Among the areas that may be addressed in the cost for performance analysis are the following:

a) Known cost factors.

The component mechanisms required for this standard are the same as, or very similar to, those used for other queuing technologies deployed for TSN.

b) Balanced costs.

The well-established cost balance between infrastructure and attached stations will not be changed by the proposed standard.

c) Consideration of installation costs.

Installation costs are those of a minor upgrade to existing queuing functionality typical of periodic product enhancements.

d) Consideration of operational costs (e.g., energy consumption).

The features require configuration to be used.

e) Other areas, as appropriate.

No other areas have been identified.