

# IEEE 802 LAN/MAN STANDARDS COMMITTEE (LMSC)

## CRITERIA FOR STANDARDS DEVELOPMENT (CSD)

Based on IEEE 802 LMSC Operations Manuals approved 15 November 2013  
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**P802.1Qdj Standard for Local and metropolitan area networks - Bridges and Bridged Networks  
Amendment: Configuration Enhancements**

### 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.

**This project will use method a). The managed objects definitions will be part of this project.**

##### 1.1.2 Coexistence

A WG proposing a wireless project shall demonstrate coexistence through the preparation of a Coexistence Assurance (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 project will use method b). This project 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.
- b) Multiple vendors and numerous users.

IEEE Std 802.1Qcc-2018 ‘Stream Reservation Protocol (SRP) Enhancements and Performance Improvements’ specifies configuration models, functionalities, and a User/Network Interface (UNI) to allow configuration of bridged LANs that use Time-Sensitive Networking (TSN) features. These configuration functionalities can be implemented as part of a Software Defined Networking (SDN) Controller, i.e., along the SDN principles, which are supported by IEEE Std 802.1Q. Interest in these features by the industrial and automotive markets has greatly increased during the last years. The large interest and success of IEEE 802.1 TSN features has expanded the requirements on the management of these features beyond the capabilities described in the current standard. These additional requirements of the industrial and automotive markets raise the need for enhancements to the configuration models and the UNI.

Multiple vendors and users of industrial automation, professional audio-video, automotive, and other systems require complete and comprehensive management of TSN features in bridged LAN networks through common interfaces.

### 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 802 standard or approved project provides a UNI that allows for a configuration workflow from the view of end users satisfying the requirements from the target markets.

This amendment differs from existing IEEE 802.1 standards in that it addresses and closes gaps in the configuration workflow that have been identified by users from the target markets.

### 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.

The configuration enhancements are similar in principle to the schemes and interfaces introduced in IEEE Std 802.1Qcc-2018 and will build on them to provide additional capabilities.

- b) Proven similar technology via testing, modeling, simulation, etc.

There is a considerable body of experience in supplying interfaces and mechanisms for network management. Mechanisms needed for this project are widely used by other protocols already, e.g. NETCONF/RESTCONF, for specifying management modules.

### 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) Balanced costs (infrastructure versus attached stations).

- b) Known cost factors.
- c) Consideration of installation costs.
- d) Consideration of operational costs (e.g., energy consumption).
- e) Other areas, as appropriate.

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

The amendment will specify management mechanisms and interfaces to enhance already existing management and add no additional hardware costs to bridges and end stations beyond the minimal and firmly bounded resources consumed by additional management modules.

The cost factors, including installation and operational costs of bridged LANs are well-known. The proposed amendment will specify enhancements and interfaces that provide more comprehensive configuration of TSN features as well as a standardized interface between the management entities introduced by IEEE Std 802.1Qcc-2018 and thus will provide better economic feasibility.