IEEE 802 LAN/MAN STANDARDS COMMITTEE (LMSC)

CRITERIA FOR STANDARDS DEVELOPMENT (CSD)

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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.

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 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.

a) No.
b) This project is not a wireless project; therefore, the CA document is not applicable. (The project will only specify control plane extensions, which can be useful for existing wireless LAN technologies.)

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.

a) IEEE Std 802.1Q-2022 includes bridge attributes that are suitable to support traffic engineering for bridged LANs comprised of bridges implementing wireline MAC technologies. These bridged LANs may use Time-Sensitive Networking (TSN) features and may be configured along Software Defined Networking (SDN) principles, i.e., the traffic engineering may be implemented by an SDN Controller (aka Central Network Controller, CNC). The interest in including wireless segments in such bridged LANs has greatly increased during the last years. However, the characteristics of LANs with more uncertain delays than those of point-to-point wireline MAC technologies, e.g., wireless LANs cannot be described by current bridge attributes. The increased need of including wireless LANs to bridged LANs in markets like industrial automation raise the need for extensions to the bridge attributes.
b) Multiple vendors and users of industrial automation professional audio-video, and other systems require the support of wireless LANs for efficient traffic engineering.

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 standard project addresses traffic engineering for bridged networks including LANs with more uncertain delays than those of point-to-point wireline MAC technologies.

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.

a) Basic bridge attributes are already established in the base standard. The proposed amendment will extend these established system capabilities.
b) The already specified bridge attributes have been implemented and tested.

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

a) The amendment will specify extensions to already existing management attributes and will not add hardware costs to bridges and end stations beyond the minimal and firmly bounded resources consumed by additional management modules.
b) The well-established balance between infrastructure and attached stations will not be changed by the proposed amendment.
c) The installation cost factors of bridged LANs are well-known, and the proposed amendment will not change them.
d) The proposed bridge attribute extensions will improve economic feasibility as they enable more efficient operation of a bridged network, e.g., reduce energy consumption via more efficient traffic engineering.
e) No other areas.