

IEEE 802 LAN/MAN STANDARDS COMMITTEE (LMSC)

CRITERIA FOR STANDARDS DEVELOPMENT (CSD)

802.1CBdb Draft Standard for Local and metropolitan area networks -- Frame Replication and Elimination for Reliability - Extended Stream Identification Functions

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.

Item a) applies to this project because this project will develop necessary additional managed objects for the functions in this amendment and describe them by a MIB and a YANG model.

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.

N/A. A CA document is not applicable because the standard will have no effect on wireless coexistence.

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 extension of the stream identification capability to new mechanisms will allow more customer applications to use the existing QoS mechanisms, defined by 802.1Q and 802.1CB, such as scheduling, policing, congestion management and redundancy.

These customer applications include data-center networks and more general application domains where handling of the data communications is based on information available in the upper layers of the protocol stacks.

- b) Multiple vendors and numerous users.

Network equipment and integrated circuit vendors for Industrial Automation, In-vehicle networking, Professional Audio-Video (AV), Data Center and other systems requiring application-based traffic classification will participate in the development of the project.

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.

- a) This is an amendment to IEEE Std 802.1CB and will conform to IEEE Std 802, IEEE Std 802.1AC, and the existing provisions of IEEE 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.

This project enhances IEEE Std 802.1CB to meet expressed user needs; it does not duplicate existing capabilities. There is no other IEEE 802 standard or approved project that overlaps with the scope of this project.

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 proposed amendment incorporates techniques for stream identification that are currently available in many Ethernet bridges.

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

This standard is based on mature virtual LAN bridging and identifies streams by using techniques similar to the existing IETF flow classification.

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).

The proposed amendment does not significantly change the cost characteristics of bridges and end stations.

The amendment would add a contained incremental cost to bridges and end stations.

b) Known cost factors.

By extending the stream identification functions with flexible, future-proof identification mechanisms, the same Ethernet bridges can be used in a wider range of application domains, leading to equipment cost reduction.

c) Consideration of installation costs.

Installation costs of enhanced VLAN bridges and end stations is expected to be similar to existing implementations.

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

The proposed amendment incorporates existing technologies and as a consequence is not expected to significantly affect the operational cost of the targeted application networks.

e) Other areas, as appropriate.