IEEE 802 LAN/MAN STANDARDS COMMITTEE (LMSC)

CRITERIA FOR STANDARDS DEVELOPMENT (CSD)

P802.1ABdh Standard for Local and metropolitan area networks - Station and Media Access Control Connectivity Discovery - Amendment: Support for Multiframe Protocol Data Units

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) is applicable. New managed objects will be defined for the extensions

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.

   Item b) is applicable. This project is not a wireless project; therefore, the CA document is not applicable.

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 802.1AB defines the Link Layer Discovery Protocol (LLDP), a highly successful and widely deployed protocol in the industry. It is used in numerous applications ranging from wireless environments, to enterprise LAN, to data centers and anything that involves an 802 station or network link. Many of these applications require the exchange of larger quantities of data than can fit in a single frame. Additionally, the flexibility of restricting the size of the Link Layer Discovery Protocol Data Unit (LLDPDU) to meet timing constraints is needed in certain time sensitive environments.
b) LLDP is available in nearly all vendor network infrastructure implementations and end-station implementations. Multiple vendors and users have requested the new capability provided by this amendment.

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.

a) Yes, the proposed project is an amendment to IEEE Std 802.1AB which already complies with the referenced standards. This amendment will maintain conformance with these standards.
b) Not applicable.

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.

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.

There is no other IEEE 802 standard or project that defines extensions to IEEE Std 802.1AB allowing more than one frame worth of TLVs to be sent and received.

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) The proposed amendment will maintain compatibility with existing implementations conformant with IEEE Std 802.1AB. The additional capabilities defined by this amendment have similar resource requirements as Shortest Path Bridging specified in 802.1Q and implemented on similar devices.
b) Existing layer 2 and layer 3 routing protocols, such as the Intermediate System to Intermediate System (IS-IS) protocol, defined in ISO/IEC 10589:2002, have similar transmission and reception characteristics and have been implemented and supported for many years on similar devices.

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).

The proposed amendment will update an existing protocol implemented by both infrastructure and attached stations and will not change the well-established cost balance between the two.

The cost factors, including installation and operational costs of IEEE Std 802.1AB are well known. The backward compatible proposed amendment will not increase installation or operational costs and may require a negligible increase in CPU processing and memory to support multiframe operation. The incremental costs of the new capability are minimal compared to the benefits specified by the amendment.