CSD for P802.1CQ Multicast and Local Address Assignment

Michael Johas Teener
mikejt@broadcom.com

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Roger Marks, EthAirNet Associates
and attendees of the LASG meeting on 10 March 2015)

Content and format

This presentation includes the text for a proposed PAR and corresponding CSD.

The PAR text uses light formatting **for boilerplate and bold for new content.**

The CSD uses a **blue box with white text** **for the CSD questions and follows with the answers in black text on white background.**

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.

a) The definitions of managed objects will be part of this project.

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.**

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

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.

Today, every physical bridgeable port (e.g. IEEE 802.3 and 802.11) shipped consumes a globally unique MAC address.

Emerging usage for the Internet of Things (IoT) ports on sensors, actuators, lights, appliances, etc. could vastly increase address usage by physical ports. Most such devices would not need globally unique MAC addresses if there were protocols available to obtain a local MAC address.

Proprietary protocols have been created to distribute addresses for virtual ports. Fibre Channel over Ethernet (FCoE) has standardized a protocol for distributing FCoE virtual port MAC addresses from blocks in the local MAC address space.

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.

Yes, it will comply with IEEE Std 802 (as amended by IEEE 802c), IEEE Std 802.1AC and IEEE Std 802.1Q.

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 that defines a method for obtaining locally-unique addresses from a peer or server protocol.

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.**

Existing protocols including orchestration protocols for virtualization and the T11 FC-BB-6 standard on FCoE demonstrate that protocols to distribute or claim addresses in local address space are feasible.

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.**

Existing protocols demonstrate that local address distribution or claiming procedures have economic feasibility and costs are known. Local address space usage is being specified in 802c (see 5.3 of the PAR). Such usage may include use of Company ID (CID). CIDs are available from the IEEE-SA Registration Authority RAC for a known cost.

Such protocols reduce installation cost by eliminating the need to configure addresses for virtual ports and simplify manufacturing by not requiring administration and distribution of unique addresses.

There should be no significant impact on operational cost.