CRITERIA FOR STANDARDS DEVELOPMENT (CSD)

Based on IEEE 802 LMSC Operations Manuals approved 15 November 2013

Last edited 20 January 2014

**Revision to IEEE 802.15.3:**

**Standard for High Data Rate Wireless Networks**

# 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.

## Project process requirements

### Managed objects

Describe the plan for developing a definition of managed objects. The plan shall specify one of the following:

1. The definitions will be part of this project. Yes. Definitions were already and part of this standard and its completed amendments. In implementing this revision, no changes are contemplated with regard to these.
2. The definitions will be part of a different project and provide the plan for that project or anticipated future project.
3. The definitions will not be developed and explain why such definitions are not needed.

###  Coexistence

A WG proposing a wireless project shall demonstrate coexistence through the preparation of a Coexistence Assurance (CA) document unless it is not applicable.

1. Will the WG create a CA document as part of the WG balloting process as described in Clause 13? (yes/no) No
2. If not, explain why the CA document is not applicable. The purpose of this revision is to roll up amendments 15.3 b and c plus convert the Standard from 64 bit MAC addressing to 48 bit MAC addressing. Nothing is being added or done to modify the existing coexistence environment.

## 5C requirements

### Broad market potential

Each proposed IEEE 802 LMSC standard shall have broad market potential. At a minimum, address the following areas:

1. Broad sets of applicability.

The standard was originally developed to service a set of multi-media applications and applications requiring predictable Quality of Service (QoS) with a MAC optimized to that task rather than one optimized for WLANs. That need still exists for a set of consumer multimedia industry needs and is expected to grow as new applications areas are added serving wireless switched point-to-point applications in data centers at speeds up to 100Gbps, wireless backhaul/fronthaul intra-device communications, and a wide variety of additional use cases such as rapid large multimedia data downloads (in 250ms or less) and file exchanges between two devices in close proximity, including between mobile devices and stationary devices (kiosks, ticket gates, etc.), and/or wireless data storage devices.

1. Multiple vendors and numerous users.

There are a large number of multimedia and data center equipment companies who are expected to serve this application space which is aimed at broad consumer and commercial markets, both of which are comprised of a large number of users. Participants in the standard include chip vendors, chip designers, technology suppliers, radio frequency (RF) equipment manufacturers, infrastructure providers, international wireless carriers/service providers, academic researchers, government research laboratories, communication equipment manufacturers, system integrators and consumers.

### 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.

1. Will the proposed standard comply with IEEE Std 802, IEEE Std 802.1AC and IEEE Std 802.1Q?

YES. As part of this revision, the standard is being converted to use 48bit MAC addressing rather than 64 bit MAC addressing. This is necessary to effectively serve the data center environment and will also make it easier to use the standard in a variety of existing and contemplated applications. Although this introduces a backward compatibility issue, deployment of the standard is currently light but expected to grow substantially with the completion of the 2 in process amendments (which are being timed to complete after the completion of this revision). Given that, now is the time rather than later to make such a change since it will impact the least number of deployments.

b) If the answer to a) is no, supply the response from the IEEE 802.1 WG.

* + 1. 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.

When this standard and its amendments were originally completed there were no other standards addressing this space. That situation has changed somewhat over the years as other standards have implemented some similar capabilities. This revision does nothing to change that since its primary purpose is to roll up the 2 completed amendments and change the MAC addressing from 64 bit to 48bit to allow compatibility with 802.1 and to provide a better platform for the 2 amendments in development. The 802.15.3 MAC does remain uniquely optimized for multi-media and applications demanding high QoS levels with the ability to dynamically reconfigure within a superframe between Guaranteed Time Slot (GTS) and a Contention Access Period (CAP). This revision and the MAC address change from 64 to 48 bit, pave the way for a series of new capabilities which re-establish a true distinct identity.

### 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:

1. Demonstrated system feasibility.

This is a revision rolling up 2 completed amendments and converting from 64 bit to 48 bit MAC addressing. No new functionality is being introduced other than gaining 802.1 compatibility

1. Proven similar technology via testing, modeling, simulation, etc.

See a)

### 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:

1. Balanced costs (infrastructure versus attached stations).

This is a revision rolling up 2 completed amendments and converting from 64 bit to 48 bit MAC addressing. At worst, there is no change to the economic feasibility as a result of the revision, and at best, by providing 802.1 compatibility, it improves it.

1. Known cost factors.

See a)

1. Consideration of installation costs.

See a)

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

See a)

1. Other areas, as appropriate.