IEEE 802 CSD
“infrastructure”

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5C in LMSC OpsMan – pre 2012

12.5.1 Broad Market Potential

A standards project authorized by IEEE 802 LMSC shall have a broad market potential.

Specifically, it shall have the potential for:

a) Broad sets of applicability.

b) Multiple vendors and numerous users.

c) Balanced costs (LAN versus attached stations).

12.5.5 Economic Feasibility

For a project to be authorized, it shall be able to show economic feasibility (so far as can reasonably be estimated) for its intended applications. At a minimum, the proposed project shall show:

a) Known cost factors, reliable data.

b) Reasonable cost for performance.

c) Consideration of installation costs.

5C in LMSC OpsMan – post 2012

14.2.1 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.

14.2.5 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).

e) Other areas, as appropriate.

What is infrastructure?

“infrastructure versus attached stations”

- Infrastructure
  - IEEE Std 802 – undefined, but used in description of 802.11 DS
  - IEEE Std 802.1Q
    - Infrastructure Segment: A sequence of Provider Network Ports (PNPs) and the intervening Local Area Networks (LANs) and Bridge relay entities.
  - IEEE Std 802.11
    - infrastructure: An infrastructure comprises a distribution system (DS), one or more APs, zero or one portal, and zero or more mesh gates. It is also the logical location of distribution and integration service functions of an extended service set (ESS).
- Station
  - IEEE Std 802
    - station: An end station or bridge.
    - end station: A functional unit in an IEEE 802® network that acts as a source of, and/or destination for, link layer data traffic carried on the network.
  - IEEE Std 802.11
    - station (STA): A logical entity that is a singly addressable instance of a medium access control (MAC) and physical layer (PHY) interface to the wireless medium (WM).

802.1 interpretation

- 802.1Q defines “Infrastructure Segment” as effectively the network of bridges between Provider Backbone Bridge endpoints.
- Generally, 802.1 views infrastructure as the network, including bridges and routers
- The use of "end station" in Std 802 is often written as "attached end station" or "end stations attached" and even "attached station". It could be inferred that the phrase "attached station" from the 5C is equivalent to "end station" in Std 802.
- That is, this item in the 5C is interpreted as:
  - Network (including bridges) vs end stations

802.3 interpretation

- IEEE 802 Overview and Architecture defines both a bridge and a router (as a source and destination for link layer data traffic carried on the network) as a station. Since this criteria includes the text 'infrastructure versus attached stations', and since both a bridge and a router is a station, and therefore cannot be infrastructure, we do not believe the statement 'Infrastructure includes bridges and routers ...' is correct.
- That is, this item in the 5C is interpreted as:
  - cabling vs stations (bridges & end stations)

802.11 interpretation

- Infrastructure is defined in 802.11, so this item in the 5C is interpreted as:
  - APs/portals/mesh gates vs attached clients (end stations)

The problem

- A 5C requirement of the CSD asks for a comparison between an undefined term 'infrastructure', and an IEEE Std 802-2014 defined term 'station' prefixed by 'attached’.
- There is a confusion on the interpretation.
- Without a common understanding 802 WGs cannot effectively respond to the CSD

Solution?

- Potential solutions:
  - Delete parenthetical *(infrastructure versus attached stations)*
  - Replace *“infrastructure”* with *“LAN”*
  - …

- Options to discuss and recommend solution:
  - Create a special adhoc
  - Assign to Rules adhoc
  - Discuss via email list
  - Discuss now in EC