P802.1ACby Criteria for Standards Development (Five Criteria)

802.1 Interworking

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Broad Market Potential

a) Broad sets of applicability.

b) Multiple vendors and numerous users.

c) Balanced costs (LAN versus attached stations).

Vehicles are increasingly becoming networked systems. The ability to bridge to 802 networks will allow an in-vehicle 802 network to bridge to an in-vehicle MOST network; and the ability for the vehicle to bridge to the home or business network for infotainment; and for electrical and hybrid vehicles to interact with the Smart Grid. MOST to MOST bridging will also be used in some vehicles.

The MOST network is supported by a broad set of component and vehicle manufacturers.

Bridging of MOST to MOST or MOST to 802 networks will not change the existing balance of costs.

Compatibility

Conformance with the IEEE 802.1 Architecture, Management, and Interworking documents as follows: IEEE 802.1 Overview and Architecture, IEEE 802.1D, IEEE 802.1Q, and parts of IEEE 802.1F. Definition of managed objects that are compatible with systems management standards.

The Ethernet channel of MOST is fully compatible with 802.3 networks, and consequently is architecturally compatible with 802 O&A and 802.1 protocols.

Distinct Identity

a) Substantially different from other IEEE 802 LMSC standards.
b) One unique solution per problem (not two solutions to a problem).
c) Easy for the document reader to select the relevant specification.

No 802.1 standard currently specifies bridging to a MOST network.

The inclusion of MOST in the set of networks supported by 802.1Q will avoid development of a potentially incompatible bridging method in a different working group and sponsor.

The clear mapping of MOST to the 802.1 service interface will be included in the document in a similar way to existing 802 MAC specific subclauses.

Technical Feasibility

a) Demonstrated system feasibility.
b) Proven technology, reasonable testing.
c) Confidence in reliability.

Bridging of Ethernet frames is well understood and proven, even when the MAC protocol is not 802.3. 802.1AC bridging of MOST to other 802 networks will utilize the proven, reliable structure used for bridging between the 802 networks currently included in IEEE Std 802.1AC-2012. Testing demonstrates the ability to bridge between the MOST Ethernet channel and IEEE 802.3 Ethernet.

EconomicFeasibility

a) Known cost factors, reliable data.
b) Reasonable cost for performance.
c) Consideration of installation costs.

Bridging of different MAC technologies is well understood, with the only difference being the minor cost differential between different MAC types.

Cost/performance will be dependent on volume but similar to bridging to 802.3 at a similar speed.