Qbg extension for NVO3 PAR and CSD

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PAR (1)

- **2.1 Title:** Standard for Local and metropolitan area networks---EVB Station and Bridge Amendment: Clarification and Extension to Support Network Virtualization Overlays (NVO3)

PAR (2)

- **5.2.b. Scope of the project:** This standard specifies the filter info format types for IPv4 and IPv6 address association and the indication of migration caused events within VDP (VSI Discovery and Configuration Protocol) defined in IEEE Std 802.1Qbg. This standard also specifies ECP (Edge Control Protocol) using a Unicast MAC or a non-reserved well known multicast address as destination address. Clarification for state transition from Associate to Pre-Associate is included.
- **5.3 Is the completion of this standard dependent upon the completion of another standard**: No

PAR (3)

- **5.5 Need for the Project:** This amendment extends VDP protocol to make it qualified as the control plane protocol between the virtualized end device and the external network virtualization edge in network virtualization overlays (NVO3) context.
- **5.6 Stakeholders for the Standard:** Developers, providers, and users of networking equipment and services, including networking IC developers, switch and NIC vendors, networking service providers, and end users.

PAR (4)

- **Intellectual Property**
- **6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?:** No
- **6.1.b. Is the Sponsor aware of possible registration activity related to this project?:** No
- **7.1 Are there other standards or projects with a similar scope?:** No
- **7.2 Joint Development**

  Is it the intent to develop this document jointly with another organization?: No

Project process requirements

- ***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.*

c) There is no change to current LLDP MIB

Project process requirements

- ***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.*
- Not applicable – this is not a wireless project.

5C requirements

- ***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) The proposed revision would apply to data centers deploying network virtualization overlays where network virtualization edge is not co-located with end device.

b) Some vendors and users have expressed their support for this extensions to be used in NVO3 context.

5C requirements

- ***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.*

a) Yes.

5C requirements

- ***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 802 standard or approved project that provides the same functionality for end stations or bridges.

5C requirements

- ***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) There are some existing implementations of the IEEE 802.1Qbg. This proposal represents an extension of it

b) Mechanisms similar to what is being proposed exist in IEEE 802.1Qbg and have been shown to be reasonably testable.

5C requirements

- ***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.*

a) The proposed amendment will have no significant impact on the cost of bridges or end stations. Both are software upgrade.

b) The cost factors are well known from implementations of IEEE 802.1Qbg. The proposed amendment is basically a software upgrade

c) There are no incremental installation costs relative to the existing costs associated with IEEE 802.1Qbg

d) There should be no significant impact on operation. By extending the association with IP addresses, it may reduce the operational cost for L3 traffic.

e) No other areas have been identified.