VDP extension to support NVO3 CSD

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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.*

a) Enhancement to managed objects for VDP will be included.

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) Network virtualization provides multi-tenancy support in a data-center network by isolating traffic and address space for tenants. Network virtualization is being widely deployed. NVO3 is being developed by the IETF to standardize network virtualization protocols . Use of an NVO3-based approach enables scalable deployment on large network infrastructures. RFC 7364 specifies the needs for a control plane protocol to populate an external Network Virtualization Edge (NVE) with the state needed to perform the Tenant System Interface (virtual station interface) to virtual network (VN) association functions. The proposed VDP extension was requested by the IETF NVO3 WG to fulfill this need. http://www.ieee802.org/1/files/public/docs2015/liaison-IETF-VDP-Requirement-for-NVo3-0515.pdf

  b) Multiple vendors and users have expressed their support for this extension to be used in IETF NVO3.

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 existing implementations of VDP. VDP carries layer 2 context between an end station and a bridge. The technology used by the current VDP protocol will be reused by project to add layer 3 context to the information carried. There isn't a significant difference in the technical feasibility of carrying layer 2 context versus layer 3 context
- b)Mechanisms similar to what is being proposed exist in VDP 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. It would be software upgrade for either.

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

c) There are no incremental installation costs relative to the existing costs associated with VDP.

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.