IEEE-SA Standards Board Project Authorization Request (PAR) (1999-Rev 1)

1. Sponsor Date of Request [xx/xx/99]

2. Assigned Project Number [P802.1?PAR revision4]

3. PAR Approval DATE [ ] {IEEE Staff to fill in box}
{Copyright release must be received with appropriate signatures
by postal mail or FAX (1-732-562-1571)}
[ ] PAR Signature Page Received {IEEE Staff to check Box}

4. Project Title and Working Group/Sponsor for this Project
Document type : {Place an X in only one option below}
[X] Standard for {Document stressing the verb "SHALL"}
[ ] Recommended Practice for {Document stressing the verb "SHOULD"}
[ ] Guide for {Documents in which good practices are suggested}

TITLE: [Supplement to ISO/IEC 15802-3 (802.1D): Information Technology - Telecommunications and information exchange between systems - Local & Metropolitan Area Networks - Common specifications - Part 3: Media Access Control (MAC) Bridges – Port based Network Access Control]

Name of Working Group(WG) : [P802.1]

Name of Official Reporter (usually the WG Chair) who MUST be an SA member as well as an IEEE/Affiliate Member: [William P. Lidinsky]
Title in WG: [WG Chair] IEEE/Affiliate Memb # [1069269SM]
Organization: [HEPNRC at Fermilab] Telephone: [630-840-8067]
Address: [M/S 368, PO Box 500, Kirk Rd. & Pine St.] FAX: [630-840-8463]
City/State/Zip: [Batavia/IL/60510] EMAIL: [lidinsky@hep.net]

Name of WG Chair (if different than Reporter): [ ]
IEEE/Affiliate Memb # [ ]{Required}
Company: [ ] Telephone: [ ]
Address: [ ] FAX: [ ]
City/State/Zip: [ ] EMAIL: [ ]

Name of Sponsoring Society and Committee: [IEEE Comp. Soc. / LMSC]
Name of Sponsoring Committee Chair: [Jim Carlo]
Organization: [Texas Instrument] Telephone: [214-340-8837]
Address: [9208 Heatherdale Dr.] FAX: [214-853-5274]
City/State/Zip: [Dallas/Texas/75243] EMAIL: [jcarlo@ti.com]

5. Describe this Project by answering each of four questions below:

5a. Update an existing PAR? {Yes/No} [NO]
If YES: Indicated PAR number/approval date [--]
If YES: Attach cover letter indicating changes/rationale for changes.
If YES: Is this project in ballot now? [--] {Yes/No}

5b. Choose one from the following:
b1 -[ ] New Standard
b2 -[ ] Revision of existing standard {number and year} [ ]
b3 -[XX] Amendment (Supplement) to existing standard {number and year}
[802.1D-1998]
b4 -[ ] Corrigenda to existing standard {number and year} [ ]

5c. Choose one from the following:
c1 -[XX] Full Use (5-year life cycle)
c2 -[ ] Trial Use (2-year cycle)

5d. Choose one from the following:
d1 -[XX] Individual Sponsor Ballot Process
d2 -[ ] Entity (not Individual) Sponsor Ballot Process

5e. Fill in Target Completion Date to IEEE RevCom [2001]

6. Scope of Proposed Project
{what is being done, including technical boundaries on the work}
[Specification of: (a) mechanisms to allow network access decisions, made using existing standard higher layer authentication and authorization protocols, to be enforced at individual bridge ports; (b) encoding of those protocols over 802 LANs where no suitable encoding is yet defined. The project will not define or require bridges to: (c) process or interpret authentication information; (d) modify user data frames to secure conversations; (e) filter user data frames based on layer 2 or higher layer addressing or protocol information. Extension of access control to 802.1Q VLANs, while not explicitly addressed, will not be precluded.] {This should be brief (less than 5 lines recommended)}

7. Purpose of Proposed Project:
{why it is being done, including intended users, and benefits to users}
[There is no standard mechanism that allows a network administrator to control bridge forwarding to and from a LAN segment based on the authenticated state of a port user. Simple network connectivity affords anonymous access to enterprise data and the global Internet. As 802 LANs are deployed in more accessible areas, there is an increasing need to authenticate and authorize basic network access. The proposed project will provide common interoperable solutions using standards based authentication and authorization infrastructures already supporting schemes such as dial up access. {This should be brief (less than 5 lines recommended)] {This should be brief (less than 5 lines recommended)}

8. Intellectual Property {Answer each of the questions below}
8a. Are you aware of any patents relevant to this project?
[No] {Yes, with detailed explanation below/ No}
[ ] {Explanation}

8b. Are you aware of any copyrights relevant to this project?
[No] {Yes, with detailed explanation below/ No}
[ ] {Explanation}

8c. Are you aware of any trademarks relevant to this project?
[No] {Yes, with explanation below/ No}
[ ] {Explanation}

8d. Are you aware of any registration of objects or numbers relevant to this project?
[No] {Yes, with explanation below/ No}

9. Are you aware of other standards or projects with a similar scope?
[No] {Yes, with explanation below/ No}
[ ] {Explanation}

10. International Harmonization
Is this standard planned for adoption by another international organization?
[Yes] {Yes/No/?? if you don’t know at this time}
If Yes: Which International Organization [ISO/IEC JTC1]
If Yes: Include coordination in question 13 below
If No: Explanation [ ]

11. Is this project intended to focus on health, safety or environmental issues?
[No] {Yes/No/?? if you don’t know at this time}
If Yes: Explanation? [ ]

12. Proposed Coordination/Recommended Method of Coordination

12a. Mandatory Coordination
SCC 10 (IEEE Dictionary) by DR
IEEE Staff Editorial Review by DR
SCC 14 (Quantities, Units and Letter symbols) by DR

12b. Coordination requested by Sponsor and Method:
[ISO/IEC JTC1] by [DR/LI] {circulation of DRafts/LIaison memb/COmmon memb}
[IETF] by [DR] {circulation of DRafts/LIaison memb/COmmon memb}
[ ] by [ ] {circulation of DRafts/LIaison memb/COmmon memb}
[ ] by [ ] {circulation of DRafts/LIaison memb/COmmon memb}
{Choose DR or LI or CO for each coordination request}

12c. Coordination Requested by Others:
[ ] {added by staff}

Additional Explanation Notes: {Item Number and Explanation}
[see attachment : “5 CRITERIA FOR P802.1? MAC BRIDGES :
PORT BASED NETWORK ACCESS CONTROL PAR”
{If necessary, these can be continued on additional pages}

5 CRITERIA FOR 802.1? MAC BRIDGES : PORT BASED NETWORK ACCESS CONTROL PAR

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1. Broad Market Potential
   + Broad set(s) of applicability
   + Multiple vendors and numerous users
   + Balanced costs (LAN versus attached stations)

There is widespread use of mobile computing devices, many equipped with LAN connectivity. This standard should facilitate the provision of direct LAN access in semi-public places. Many organizations have started to do this while others are investigating the opportunity, subject to satisfactory resolution of the concerns highlighted in the Scope and Purpose sections of this proposed project. 'Radius' AAA servers (authentication, authorization, and accounting) are already widely deployed in support of RAS (remote access servers) supporting millions of users with solutions from many vendors. This project allows network administrators to use this existing AAA infrastructure to support LAN connectivity with bridges from multiple vendors, retaining the same database and control information that has been built up for mobile workers, and thus circumventing a major practical obstacle to deploying new forms of network access.
The proposed standard will not significantly alter the existing balance of costs between a switched LAN infrastructure and attached end stations. The full benefits of the proposed mechanism are not realizable with shared media access.

2. Compatibility with IEEE standards
   + Conformance with bridging 802.1D
   + Conformance with VLANs 802.1Q

The proposed standard will conform to the 802.1 Architecture, Management and Interworking standards, in particular it will:

- Conform to IEEE Std. 802 Overview and Architecture and the anticipated revision of that standard, now nearing completion.

- Revise IEEE Std. 802.1D, but include a defined level of compatibility with 802.1D-1998.

- Be compatible with 802.1Q, including any approved supplements to 802.1Q that exist on completion.

- Provide a definition of managed objects compatible with system management standards.

3. Distinct Identity
   + Substantially different from other specs / solutions
   + Unique solution for problem (not two alternatives / problem)
   + Easy for document reader to select relevant spec

The proposed standard is an enhancement to IEEE Std. 802.1D. It differs from the existing 802.1D-1998 standard by providing the benefits described above. No other 802.1 standard or proposed standard does so. No comparable standard or work exists elsewhere.
The proposed standard defines additional mechanisms within the 802.1D MAC Bridge. Progressing the proposed standard as a supplement to 802.1D-1998 should ensure that the document reader finds the new specification naturally.

4. Technical Feasibility
   + Demonstrated feasibility; reports – working models
   + Proven technology, reasonable testing
   + Confidence in reliability

The infrastructure used to support this proposed standard is already in widespread deployment, supporting millions of users.

5. Economic Feasibility
   + Cost factors known, reliable data
   + Reasonable cost for performance expected
   + Total installation costs considered

Equipment costs are not expected to differ significantly from those for bridges that are being deployed today. Deployment costs should not be significantly different either, and the solution can be deployed piecemeal.