IEEE P802.11
Wireless LANs

Requirement to update MAC bridge standard 802.1D for 802.11 frames

Date: August 5, 1997

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Abstract

From Pat Thaler I received input regarding the need to update the MAC bridge standard to standardize the way 802.11 MAC frames are handled over bridges.
This document proposes a PAR to be submitted to NesCom and gives an example how 802.11 handled the subject.

Proposed PAR

1. Sponsor Date of Request: _____   2. Assigned Project Number: 802.11_   3. PAR Approval Date: _____

4. Project Title, Copyright Agreement, and Working Group for this Project

I will write/revise a Standards Publication with the following TITLE: Supplement to Information technology— Telecommunications and information exchange between systems—Local area networks— Media access control (MAC) bridges - Support by IEEE 802.11

I hereby acknowledge my appointment as Official Reporter (usually the W.G. Chair) to **the P802.11 Working Group for Wireless Local Area Networks**

In consideration of my appointment and the publication of the Standards Publication identifying me, at my option, as an Official Reporter, I agree to avoid knowingly incorporating in the Standards Publication any copyrighted or proprietary material of another without such other's consent and acknowledge that the Standards Publication shall constitute a "work made for hire" as defined by the Copyright Act, and, that as to any work not so defined, I agree to and do hereby transfer any right or interest I may have in the copyright to said Standards Publication to the IEEE

Signature of Official Reporter: _____ Date: _____

 Name of Working Group Chair: Vic Hayes
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5. Describe This Project:

  a.Update an existing PAR   Yes   X No
   (Indicate PAR Number/Approval Date.)
   Is this project in ballot now?   Yes   No
  b.   NEW STANDARD
      REVISION of an existing standard. (Indicate Standard Number and Year):
    X SUPPLEMENT to an existing standard (Indicate Standard Number and Year): 802.1D-1995
  c. X FULL USE (5-year life cycle)
      TRIAL USE (2-year life cycle)
  d.TARGET COMPLETION DATE for submittal to IEEE Standards Review Committee (REVCOM): 1999-07-31

6. Scope of Proposed Project: **To add a subclause under 2.5 Support of the Internal Sublayer Service by Specific MAC Procedures to cover bridge operatin with IEEE 802.11 MACs. This supplement to 802.1D will be developed by the 802.11 Working Group in cooperation with the 802.1 Working Group. Therefore, the project has an 802.11 number**.

7. Purpose of Proposed Project: **To provide the required 802.11 specific information to the 802.1D standard**.

8. Sponsor: LAN MAN Standards Committee

   Society/Committee: Computer Society/LMSC

9.

   (a.1) Are you aware of any patents relevant to this project?

                          Yes (Attach Expl.)
                          X No

   (a.2) Are you aware of any copyrights relevant to this project?

                          Yes (Attach Expl.)
                          X No

   (a.3) Are you aware of any trademarks relevant to this project?

                          Yes (Attach Expl.)
                          X No

   (b) Are you aware of any other standards or projects with a similar scope?

                          Yes (Attach Expl.)
                          X No

   (c) Is this standard intended to form the basis of an international project?

                          X Yes
                          No (Attach Expl.)
                          Do not know

   (d) Is this project intended to focus on health, safety or environmental issues?

                          Yes (Attach Expl.)
                          X No
                          Do not know

10. Proposed Coordination/Recommended Method of Coordination

  a.Mandatory Coordination
    SCC 10 (IEEE Dictionary) and IEEE Staff Editorial Review by Circulation of Drafts
    SCC 14 (Quantities, Units and Letter symbols) by Circulation of Drafts
  b.IEEE Coordination requested by Sponsor:
   COORDINATION
                           METHOD OF COORDINATION
   US TAG to JTC1/SC6____
                    X Circ./drfts   liais. memb.   com. memb.
   ETSI Project Broadband Radio Access Networks
                      Circ./drfts X liais. memb.   com. memb.

  c.Additional Coordination Requested by Others:
   Leave Blank -- to be completed by staff
   COORDINATION
                     METHOD OF COORDINATION
 _____
                 Circ./drfts   liais. memb.   com. memb.
 _____
                 Circ./drfts   liais. memb.   com. memb.
 _____
                 Circ./drfts   liais. memb.   com. memb.
 _____
                 Circ./drfts   liais. memb.   com. memb.
 _____
                 Circ./drfts   liais. memb.   com. memb.

11. Submitted By:

 Signature of Submitter:_____
                              Date: _____
 IEEE Member No: 05572953

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DO NOT WRITE BELOW THIS LINE

Signature IEEE Officer:_____ Date:_____

Title:_____

Revised:

Example for 802.12
IEEE Standards for Local and Metropolitan Area Networks:

Supplement to Local Area Network MAC (Media Access Control) Bridges: Technical and Editorial Corrections

Support for IEEE 802.12 Demand Priority

Revisions to IEEE Draft Std. 802.1D/D14 Edition

The purpose of this standard is to add the necessary material to IEEE Draft Std. 802.1D/D14 to cover bridge operation with IEEE 802.12 MACs.

Editing instructions for incorporating the revisions defined by this supplement into the indicated subclauses of the base standard (IEEE Std 802.1D/D14) are shown in ***bold italic*** type.

1.1 Scope

Page 51, line 19, insert the following between " 8802-5" and "and FDDI LANs"

   ", IEEE STD 802.12-1995"

1.2 References

Page 52, line 13: add the following reference:

IEEE Std 802.12-1995, Information technology -- Local and metropolitan area networks -- Part 12: Demand priority access method, physical layer and repeater specification.

2. Support of the MAC service

Page 68 : add a new subclause 2.5.6 as follows

2.5.6 Support by IEEE STD 802.12-1995 (Demand Priority)

The demand priority access method is specified in IEEE STD 802.12-1995. Clause 10 of that standard specifies frame formats, and clause 11 specifies the media access control protocol. Two formats of MAC frame are specified, one compatible with the ISO/IEC 8802-3 frame format, and one compatible with the ISO/IEC 8802-5 frame format (a given demand priority LAN operates using only one of these formats throughout).

Following receipt of an M_UNITDATA.request primitive the local MAC entity constructs and transmits the corresponding MAC frame as specified in IEEE STD 802.12-1995, 11.5.7 (FUNCTION Build_Frame) and 11.6.6 (MAC6_TRANSMIT_FRAME)..

On receipt of a MAC frame (see IEEE STD 802.12-1995, 11.6.5, MAC5_READ_FRAME), the local MAC entity generates an M_UNITDATA.indication primitive as specified in IEEE STD 802.12-1995, 11.5.6 (PROCEDURE Process_Received_MAC_Frame).

The frame_type parameter only takes the value user_data_frame and is not explicitly encoded in MAC frames.

The mac_action parameter only takes the value request_with_no_response and is not explicitly encoded in MAC frames.

The destination_address parameter is encoded in the Destination Address (DA) field of the MAC frame (IEEE STD 802.12-1995, 10.2.1 and 10.3.3).

The source_address parameter is encoded in the Source Address (SA) field of the MAC frame (IEEE STD 802.12-1995, 10.2.1 and 10.3.3).

The mac_service_user_data parameter is encoded in the Data field (ISO/IEC 8802-3 frame format, IEEE STD 802.12-1995, 10.2.3) or Information field (ISO/IEC 8802-5 frame format, IEEE STD 802.12-1995, 10.3.5) of the MAC frame.

For ISO/IEC 8802-3 frame format, the user_priority parameter is not encoded in the MAC frame, but corresponds to the IEEE STD 802.12-1995 priority value "normal" or "high": the value "normal" maps to user_priority 0; " the value "high" maps to user_priority 5.

For ISO/IEC 8802-5 frame format, the user_priority parameter is encoded in the YYY bits of the Frame Control field (IEEE STD 802.12-1995, 10.3.2.2).

The access_priority parameter in an M_UNITDATA.request primitive is mapped to the IEEE STD 802.12-1995 priority value "normal" or "High": access_priority values 0 through 4 map to "normal", access_priority values 5, 6, and 7 map to "high".

The frame_check_sequence parameter is encoded in the Frame Check Sequence (FCS) field of the MAC frame (IEEE STD 802.12-1995 10.2.4 and 10.3.6).

No special action, above that specified in IEEE STD 802.12-1995, is required for the support of the MAC Internal Sublayer Service by the demand priority access method.

3.7.3 Priority mapping

Item (a), page 76 : insert before " FDDI"

", demand priority (token ring frame format)"

Table 3-1, page 77 : insert two new entries, immediately before that for FDDI:

Outbound User Priority (IEEE STD 802.12-1995 Demand Priority, ISO/IEC 8802-3 frame format)	0	0-7
Outbound User Priority (IEEE STD 802.12-1995 Demand Priority, ISO/IEC 8802-5 frame format)	0	0-7

Table 3-2, page 77 : add two new entries at the end of the table:

Outbound Access Priority (IEEE STD 802.12-1995 Demand Priority, ISO/IEC 8802-3 frame format)	0	0-7
Outbound Access Priority (IEEE STD 802.12-1995 Demand Priority, ISO/IEC 8802-5 frame format)	4	0-7

6.4.2.1.3 Outputs

Item (b), page 163 : insert before "ISO 9314"

"; IEEE STD 802.12-1995"

Annex A PICS Proforma

A.5 Major capabilities and options

Section 1, item (1a), page 178 : add the following two items

1a.6   Demand priority (ISO/IEC 8802-3 format)

1a.7   Demand priority (ISO/IEC 8802-5 format)