BRIEF MINUTES OF 802.1 - MAUI, JULY 1995

Prepared by:

Tony Jeffree

04 August 1995

1. Opening Plenary Agenda

Voters & Voting - Keen
Documents - Keen
Details for this meeting - Lidinsky
- Tue: Maui#2 & suite 750
- Wed: Maui#2 (Tech Plenary - AM) & suite 750
- Thu: Maui#2 & suite 750 (AM)
  Maui#2 (PM)

Ongoing responsibilities
- Overview & Arch (OATS)
- Functional Requirements (FRTS)
- VLAN?
- 802.1D
- Multimedia (MUTS)

Minutes Approval - Bridge
Exec Committee Report - Lidinsky
Internetworking - Seaman
Multimedia - Cooper & Seaman
ISO responses - Lidinsky
ORRG - Chambers
Tech Plenary items - Lidinsky
- VLAN?

Functional Requirements - Backes
VLAN - Lidisky (4:00PM to 4:30PM)
ASHRAE - Lidinsky

2. Opening Plenary actions/motions/other stuff

2.1 Approval of the Minutes of the March 95 meeting

Proposed: Hart

Seconded: Jeffree

Unanimous Approval

2.2 PARs

Mick Seaman to ensure that Exec members are in posession of the appropriate copies of 802.1 proposed PARs.

2.3 CMIP/GDMO

Tony Jeffree to talk to Thompson/Thaler re GDMO/CMIP in preparation for Tues PM.

2.4 Bridge activity slides (provided by Alan Chambers)

(* = items in need of recommendations/resolutions within 802.1)

REMOTE MAC BRIDGING

P802.1G/D13

- LMSC Sponsor Ballot

* - DIS 15802-5 Ballot (11/95)

P802.6i (DQDB MAN encapsulation)

Will be folded in for publication

* - NP and PDAM Ballots,

DAM Ballot authorised

BRIDGING STUFF

P802.1j/D4 ballot just closed

* - Resolve any comments, aim to send to LMSC Sponsor Ballot

* - NP and PDAM Ballots (9/95)

P802.1H approved, publication 9/95

* - NP and PDTR Ballots (9/95)

P802.6k (DQDB support in .1D)

* - NP and PDAM Ballots (9/95)

EXPECT:

P802.12x (100BASE-VG support in .1D)

SC6 STUFF

ISO/IEC 15802-1 to publication (MAC Service definition)

*DTR 11802-2 Ballot, 2nd edition (standard Group MAC addresses)

*SC6N9543 Liaison re 16-bit MAC addrs

ISO/IEC 15802-2 published (.1B + .1k)

100BASE-T --> NP and PDAM

100BASE-VG --> NP and PDAM

10742/DAM1, ICS proformas

[will we need these {ICS} for .1j/.1G?]

New ballot rules: - Paralell progression of NP and CD, etc.

- Sudden-death DIS

3. 802.1 Meeting Agenda

TUESDAY

Traffic class/dynamic m'cast T1.7, T1.8, 802.1P (Jeffree)	9:00 to 12:00
Overview & Arch	1:15 to 3:00
VLAN requirements (Hart)	3:15 to 5:15

WEDNESDAY (Tech Plenary)

MM/Arch/VLAN report	8:30 to 9:30

WEDNESDAY (802.1 business)

802.1D revision/reaffirmation T1.9 (Seaman)	10:30 to 12:00
Multimedia - QOS T1.9 (Brand, Tobagi)	1:30 to 3:00
ITU/T MM apps over LANS. T1.9 (BOAL)	3:30 to 4:30
CMIP/GDMO issue	4:30 to 5:15

THURSDAY

802.6i (Chambers)	9:00 to 9:30
802.1i/D4 (Chambers)	9:30 to 10:00
Traffic class/dynamic m'cast Enhanced services (T1.5) Registration protocols (T1.4) (Jeffree)	10:15 to 12:00
802.1 Closing plenary Business Wrapup Liaison positions Progression of/position on: Multimedia VLAN Documents	1:30 to 5:00

4. Closing plenary agenda

802.1 AGENDA

Thursday 13 July 1995

Voters & Voting - Keen
Documents - Keen
    Have all appropriate documents been given to Hal}
Minutes - Jeffree
PAR Extensions - Lidinsky
    802.1d, 802.1j extended 6/97
Agenda items requested for Exec Thursday night - Lidinsky
    ME: 802.1p PAR; Sponsor ballot for 802.1j;
        802.1E and 802.1D reaffirmation
    MI: CMIP/SNMP/GDMO
    DT: Arch & Overview; IETF Multicast mapping
    II: vLANs; Comments on Operating Rules
Functional Requirements - Lidinsky
    No work at this meeting
Overview & architecture - Chambers
Internetworking - Seaman
Multimedia - Seaman
vLANs - Jeffree, Seaman
IETF IPv9 Multicast Address Mapping - Lidinsky
Interim meeting - Lidinsky
    When, where, what will be discussed.

5. Closing plenary actions, motions etc

5.1

In recognition of the fact that CMIP and 802.1B have so far failed to make significant penetration into the LAN management marketplace, 802.1 proposes that the current 802 policy regarding 802 management standardisation should be modified as follows:

* Management sections of 802 standards should, as a minimum, contain a complete generic definition of the required management functionality, operations, parameters, notifications... etc., which is independent of consideration of the management protocol(s) to be used to manipulate them. (Examples : .1D, .3, .12);
* 802.X working groups may additionally choose to include in management sections of 802 standards, specific definitions, encodings, etc. as required in order to realise that generic management functionality by using any appropriate, well-defined management protocol. Obvious candidates here are 802.1B/CMIP and SNMP.

It is the intent of 802.1 to reflect the above in changes to the management section of the 802 standard (overview/architecture) during its current revision cycle.

Moved: Jeffree

Seconded: Chin

FOR 11 AGAINST 0 ABSTAIN 1

---

802 Executive Committee endorses and approves the approach outlined in the above 802.1 motion.

Moved: Lidinsky

Seconded: _____

FOR_____ AGAINST_____ ABSTAIN_____

5.2

With reference to the attached Email correspondence between Kathy Doty and Tony Jeffree, the 802 Executive Committee requests that the 802.1 Chair take the necessary actions to request the formation of a balloting group to conduct a reaffirmation ballot for Std 802.1E, based on the published text of 15802-4:1994 (=802.1E+802.1m) in accordance with the provisions of subclause 10.1 of the IEEE Standards Operations Manual, 1995 edition.

Moved: Lidinsky

Seconded: _____

FOR_____ AGAINST_____ ABSTAIN_____

802.1 requests that the 802 Executive pass the above motion.

Moved: Jeffree

Seconded: Keen

FOR 11 AGAINST 0 ABSTAIN 0

<<Attached Email message>>

Date: Tue, 27 Jun 1995 15:32:05 +0200

To: 100271.522@compuserve.com

From: kdoty@stdsbbs.ieee.org (Kathy Doty)

Subject: 802.1E Reaffirmation

Cc: lidinsky@hep.net, k.dittmann@ieee.org, l.gargiulo@ieee.org,

r.tennis@ieee.org, c.buonfiglio@ieee.org

Dear Tony,

I am responding to an email sent to Linda Gargiulo dated May 30, 1995. First of all I must apologize for the delayed response. The IEEE Standards Board Series of meetings were in June and I needed to wait until Kristin came back to discuss this before I could respond to you question.

>>>Std. 802.1E was effectively revised during the recent publication of the ISO

>>>version of the standard (ISO/IEC 15802-4:1994, I believe - Kristin

>>>Dittmann can

>>>confirm the publication date). This revision incorporated new material

>>>that had

>>>been developed in IEEE Project 802 as a supplement; in the event, it was

>>>decided

>>>that as supplement and the ISO version, which combined both the original

>>>802.1E

>>>text and the supplementary material, would be published at the same

>>>time, that

>>>there was no point in publishing the supplement on its own. The ISO text

>>>therefore constitutes a recent, agreed, revision of the 802 standard.

>>>

>>>I would therefore propose that IEEE re-affirms the standard based on the

>>>recently published ISO text.

>>>

>>>Please let me know what formal process (if any) I need to be involved in in

>>>order to make this happen!

The first thing you would need to do is contact Rosemary Tennis (r.tennis@ieee.org) and ask her to start the formation of a balloting group for the reaffirmation of 802.1E. Since 802.1m (supplement to 802.1E) balloting group was established over 2 years ago, I beleive that you need to form a "fresh group" One of the purposes of sending out an invitaiton to ballot is to reduce the number of non-responders, come ballot time, and also to make sure the ballot is sent out to a balanced group.

After the balloting group is formed and approved by the chair/sponsor... Bill Lidinsky and Don Loughry, 802.1E would be ready to go to ballot.

At this point, all I would need is a cover letter from the Chair of 802.1E addressed to the ballot body. The letter should tell them this is a reaffirmation ballot, and that they have a responsibility to respond. Then Carol Buonfiglio would be able to send the cover letter out with the published 15802-4:1994 Standard.

There is new text in the 1995 Standards Operations Manual addressing reaffirmation ballot. Do you have a copy of the latest version? If not let me know and I will send you one.

I hope is have addressed all of your questions.

Please let me know if you need anything else.

Sincerely,

Kathy Doty

IEEE Staff Engineer/Liaison to LMSC

5.3

Given that 802.1 is currently developing a revision of Std 802.1D under an active 802 PAR, and expect that the work involved in this revision will complete by March 1997, the 802 Executive Committee requests that the 802.1 Chair write to the IEEE Standards Board requesting that they grant an extension to the life of Std 802.1D until March 1997, in accordance with the provisions of subclause 10.2.1 of the IEEE Standards Operations Manual, 1995 edition.

Moved: Lidinsky

Seconded: _____

FOR_____ AGAINST_____ ABSTAIN_____

802.1 requests that the 802 Executive pass the above motion.

Moved: Jeffree

Seconded: Keen

FOR 12 AGAINST 0 ABSTAIN 0

5.4

P802.1 instructs the editor for the revision of Overview and Architecture, Mr Alan Chambers, to produce a revised draft based on P802/D20, in accordance with the instructions in P802.1-95/007. The resulting text is to be issued for ballot as determined by 802.0.

Moved: Slager

Seconded: Jeffree

FOR 11 AGAINST 0 ABSTAIN 1

5.5

802.1 resolves to hold a premeeting of the 802.1 Interworking Task Group on the Monday morning prior to the Project 802 meeting, November 1995 in Montreal.

The purpose of the meeting will be to discuss "Virtual LANs"; it will start at 9:00a.m.

Moved:	Jeffree	
Seconded:	Hart	
FOR 10	AGAINST 0	ABSTAIN 3

5.6

802.1 resolve that an interim meeting of 802.1 be held Wednesday October 11th through Friday October 13th 1995, and is pleased to accept the offer of Rising Star Research to host this meeting in Denver.

Moved:	Hart	
Seconded:	Jeffree	
FOR 9	AGAINST 0	ABSTAIN 2

5.7

802.1 instructs the Editor of P802.1p, A.A. Jeffree, "Supplement to Media Access Control (MAC) Bridges: Traffic Class Expediting and Dynamic Multicast Filtering" to prepare a draft of P802.1p taking into account the input and comments received at the July 1995 meeting of Project 802. This draft is to be made available to the 802.1 Secretariat for electronic distribution at least 2 weeks prior to the next meeting of the 802.1 Interworking Task Group.

Moved:	Hart	
Seconded:	Keen	
FOR 11	AGAINST 0	ABSTAIN 0

5.8

802.1 resolves that:

Since:

1. There is widespread interest in standardising the set of interworking techniques known as Virtual LANs

2. The perceived benefits of such techniques include:

    a) easier adds, moves and changes of end stations, especially in "large scale" environments

    b) group/multicast traffic management and containment, in order to facilitate large scale bridged/switched networks

    c) 'security' and traffic containment and management of unicast flows

    d) traffic management, monitoring, control and accounting

    e) pragmatic network re configuration

3. A number of these techniques are:

    a) made possible by layer 2 LAN interworking devices, i.e., MAC Bridges

    b) intimately related to ANSI/IEEE Std 802.1D and revisions to that standard which are being actively pursued - P802.1d, P802.1p - by the Interworking Task Group

4. At present, there is no agreed, technically complete definition of "Virtual LANs"

Therefore, 802.1:

5. Believes that it is essential that work on standardizing "Virtual LANs" be carried on within the Interworking Task Group and proposes to hold an interim meeting and following meetings to expedite this work, specifically to:

6. prepare a working definition and definition of requirements for "Virtual LANs"

7. define a program of work for "Virtual LANs" standardization

8. address the criteria for new work and prepare a PAR for the work* (or a number of PARs as appropriate)

* current target WG completion end Nov '95 802 meeting

and:

8. invites technical contributions at the interim and following meetings.

Moved:	Yondav	
Seconded:	Slager	
FOR 11	AGAINST 0	ABSTAIN 1

5.9

802.1 instructs the editor for P802.1d to prepare a further revision of P802.1d taking into account the comments received at the July 1995 meeting of Project 802. The revision is to be prepared for circulation by the 802.1 Secretariat by Sept 20th

Moved:	Hart	
Seconded:	Yondav	
FOR 13	AGAINST 0	ABSTAIN 0

5.10

IPv6 Multicast to Ethernet

Multicast Address Mapping

Members of the IETF have informally asked 802 to review this proposal. Some communication might be appropriate.

Present Ipv4 Mapping

Replace the low-order 23 bitst of the ethernet address 01-00-5e-00-00-00 with the low-order 23 bits of the Ipv4 multicast address

Proposed Ipv6 Mapping

Replace the low-order 32 bits of the ethernet address 33-33-00-00-00-00 with the low-order 32 bits of the Ipv6 multicast address

Comments:

1) 33-33 prefix has both Group (multicast) and Locally Administered bits set.
2) Would need 256 OUIs to do this with Universally Administered addresses
3) Possible collision with some other locally administered addresses that use the 33-33 prefix
4) Probability is low and under the control (presumably) of a local administrator
5) This mapping would apply to 802.3, ethernet and FDDI, but not to 802.5 because many host adapters have insufficient multicast address filtering to handle multicast addresses properly
6) IPng folk propose that on token rings, Ipv6 multicast addresses would all map to the address already allocated to IP -- i.e., 03-00-00-20-00-00

Following a preliminary examination of this proposal 802.1 would like to express support, and looks forward to a formal proposal.

Moved:	Seaman	
Seconded:	Hart	
FOR 10	AGAINST 0	ABSTAIN 3

5.11

P802.1 recommends that the US response to the ISO/IEC JTC1 ballot of DTR 11802-2 should be approval with comments as recommended by the November 1994 meeting of P802.

Moved:	Keen	
Seconded:	Chambers	
FOR 12	AGAINST 0	ABSTAIN 1

<Comments are documented under item 11 below>

5.12

P802.1 recommends that the US response to each of the four bridge-related NP ballots in ISO/IEC JTC1 (for 802.1H, 802.1j, 802.6i, 802.6k) should be YES to Questions 1-4 and NO to Questions 5-7.

Moved:	Chambers	
Seconded:	Hart	
FOR 13	AGAINST 0	ABSTAIN 0

5.13

P802.1 recommends that the US response to the following ballots in ISO/IEC JTC1/SC6 on bridge-related topics should be as indicated:

PDTR 11802-5 (.1H)	YES
10038/PDAM 1 (.6k)	YES
10038/PDAM 2 (.1j)	YWC*
15802-5/PDAM 1 (.6I)	YWC#

* Comments: P802.1-95/009

Comments: P802.1-95/010

Moved:	Chambers	
Seconded:	Yondav	
FOR 11	AGAINST 0	ABSTAIN 2

5.14

P802.1 instructs the editor for P802.1j, Mr Alan Chambers, to produce a revised draft in accordance with the instructions in P802.1-95/008. The resulting draft is to be circulated to P802.1 for confirmation ballot, the text is to be submitted for LMSC for Sponsor Ballot.

Moved:	Hart	
Seconded:	Keen	
FOR 11	AGAINST 0	ABSTAIN 1

5.15 Instructions to the Editor for the revision of Overview and Architecture (P802.1-95/007)

12 July 1995

1. In 1.2, replace the definition of 802 LAN with a more readily accessible description; retain the present more technical definition, but move to an appropriate place in section 4.
2. Also in 1.2, introduce bridges / switches as key concepts.
3. Also in 1.2, add an indication of typical performance expectations (speed, latency).
4. Add a statement about the internationalization intended for most IEEE 802 work items.
5. In 1.3, update the list of applications and devices supported, in accordance with the discussions at the July 1995 meeting of P802.1.
6. Modify the introductory text in section 2, to have a less strictly normative sense (more appropriate to the overview role).
7. Modify the text on LAN/MAN management to reflect the revised 802 position agreed at the July 1995 meeting.
8. In 4.2.2.1, add a note on the interpretation of the words "object" and "agent" in the management context.
9. In 3, delete from "or IEEE 802y compatible" (page 8 line 44) to end of sentence.
10. Delete second paragraph of 4.2.2.2.
11. Delete last paragraph of 4.2.3.
12. Add a mention of LLC addresses, with references to TR 11802-1 and 8802-2, at the end of 4.2.4.
13. In 4.2.6, add text on isochronous operation (to be supplied by Mr John Boal).

5.16 Instructions to the Editor for P802.1j, and Ballot Summary (P802.1-95/008)

12 July 1995

1.Summary of Voting on P802.1j/D4 Working Group Ballot

Returned: 13 Voting Members out of 21 = 62%

Also 5 Voting Liaisons and one Contributing Member

Total 19, including 3 abstentions

Approval: 14 VM, CM and VL out of 16 = 88% (before comment resolution)

16 out of 16 = 100% (after resolution of accompanying comments)

2.Disposition of Comments on P802.1j/D4 Ballot

Comments were received accompanying the disapproval votes from Hal Keen and Dave Carlson, and accompanying approval votes from Alan Chambers, Paul Cowell, Rosemary Slager and Robin Tasker.

2.1 Comments from Hal Keen

Items 1, 3, 4, 6, 7, 8, 10, 14 and 15: Accepted as proposed.

Item 2: Accepted with modification. The attributes are not misplaced, see the comment on the first one, but they do need to be introduced by the keywords "GROUP ELEMENTS" (and there is a comma missing between the attributes).

Item 5: Superseded. The Entry Index attribute was deleted at an earlier stage, but that decision appears to have been flawed since the mapping of the Read Filtering Database Entry Range operation (ISO/IEC 10038, 6.7.5.4) requires the attribute, or an equivalent. The attribute is to be reinstated, and the allocation for the arc should therefore remain.

Item 9: Not accepted. There is something amiss in the grammar of the proposed replacement, and not in the existing text (although it does read a little awkwardly).

Item 11: Concern accepted, but a more radical rewording is proposed in order to describe the correspondence in question more accurately.

Item 12: There is in fact a subtle distinction between the use of "Not required", in the Read operations, and "Not used", in the Set operations: no change proposed.

Item 13: Superseded by reinstatement of the Entry Index attribute (see item 5), which will be described in 7.8.4, thus making the references to 7.8.5 correct.

2..2 Comments from Dave Carlson

(These comments all concerned editorial consistency of capitalization, spacing and punctuation. The need for such consistency is fully accepted, but some of the specific changes proposed need a different detailed disposition in order to achieve the required consistency.)

Item 1: Pagination will be corrected (word-processor artefact)

Items 2, 3: Capitalization of titles in the References clause will follow that of the actual documents, where a broadly lower-case policy is modified by a number of specific exceptions (including "Data Link Layer" for ISO/IEC 10742, item 3).

Item 4: ISO and IEEE publications use periods at the ends of references, so no change.

Item 5; Accepted.

Item 6: Accepted with modification: "Data Link Subsytem" also needs capitals, for consistency with ISO/IEC 10742.

Item 7: Accepted.

Item 8: Accepted, plus capitalization of "Data Link", per OSI layer-name usage.

Item 9: Accepted.

Items 10, 11, 12 (ARC column):Not accepted, the existing capitalization is that used in ISO/IEC 10742.

Item 12 (PURPOSE column):Same as item 6.

2.3 Comments from Alan Chambers, Paul Cowell and Robin Tasker

Accepted: the references will be updated, in particular replacing IEEE Std 802.1B by ISO/IEC 15802-2.

2.4 Comment from Rosemary Slager

Accepted: the usual IEEE 802 Foreword and full Participants Lists will be provided, but perhaps not in the next draft.

3.Instructions to Editor for Revision of P802.1j/D4

1. Reinstate the Entry Index attribute: provide suitable additions in table 7-21; 7.8 (page 46 lines 31-32); new 7.8.4 and renumber existing subclause as 7.8.5; 7.9 (page 50 lines 3-4). (HDK.5)
2. Update references, particularly to take account of ISO/IEC 10038 and ISO/IEC 15802-2, both in the References clause and in citations in the text. (DEC.2, AMC, PJC, RST)
3. Change order of subclauses 1.2, 1.3, 1.4 to match order in ISO/IEC 10038. (HDK.8)
4. Introduction, page 7 line 9: delete text from "documentation of" to end of line. (HDK.7)
5. Page 9 line 48, "wich" -> "which". (HDK.15)
6. Page 10 line 3, "documentation is" -> "documentation are". (HDK.10)
7. Page 10 lines 20-21, replace sentence by: "Tables 7-1 through 7-4 specify how the management operations (defined in clause 6) correspond to LMMS service primitives (defined in ISO/IEC 15802-2) and managed object classes (defined in 7.3 through 7.9)." (HDK.11)
8. Page 13 lines 5 and 6, "Datalink" -> "Data Link". (DEC..5)
9. Page 24 lines 28-29, correct capitalization and spacing in "Data Link Subsystem". (DEC.6, 7)
10. Page 25 line 15, "link" -> "Data Link". (DEC.8)
11. Page 26 figure 7-1, "DATALINK" -> DATA LINK". (DEC.9)
12. Page 34 line 44, "acSetPortState" -> "acForcePortState". (HDK.1)
13. Page 45 line 28, insert "GROUP ELEMENTS" before "aNumberOfDynamicEntries" and comma after. (HDK.2)
14. Page 47 line 16, insert additional reference "6.7.5.3.2 (2), ". (HDK.3)
15. Page 49 lines 22-31, delete "Arc" from each Object Identifier definition, for consistency with the preferred convention as per annex C. (HDK.4)
16. Page 51, delete the instructions to insert the copyright-release footnote for annex A (already present in ISO/IEC 10038). (HDK.14)
17. Page 52 line 17, "shosw" -> "shows". (HDK.15)
18. Page 53 line 12, "(o)" -> "(0)". (HDK.15)
19. Page 54 line 2, "Datalink" -> "Data Link ". (DEC.12)

5.17 Proposed comments on ISO/IEC 10038/PDAM 2 (P802.1-95/009)

12 July 1995

Comment item 1 is minor technical; other items are editorial corrections.

1. In order to map the Read Filtering Database Entry Range operation (ISO/IEC 10038, 6.7.5.4), an Entry Index attribute needs to be defined. Suitable additions are needed in table 7-21; 7.8 (page 46 lines 31-32); new 7.8.4 with existing subclause renumbered as 7.8.5; 7.9 (page 50 lines 3-4).
2. Update references, particularly to take account of ISO/IEC 10038 and ISO/IEC 15802-2, both in the References clause and in citations in the text
3. Change order of subclauses 1.2, 1.3, 1.4 to match order in ISO/IEC 10038
4. Introduction, page 7 line 9: delete text from "documentation of" to end of line.
5. Page 9 line 48, "wich" -> "which"
6. Page 10 line 3, "documentation is" -> "documentation are"
7. Page 10 lines 20-21, replace sentence by: "Tables 7-1 through 7-4 specify how the management operations (defined in clause 6) correspond to LMMS service primitives (defined in ISO/IEC 15802-2) and managed object classes (defined in 7.3 through 7.9).
8. Page 13 lines 5 and 6, "Datalink" -> "Data Link"
9. Page 24 lines 28-29, correct capitalization and spacing in "Data Link Subsystem".
10. Page 25 line 15, "link" -> "Data Link".
11. Page 26 figure 7-1, "DATALINK" -> DATA LINK".
12. Page 34 line 44, "acSetPortState" -> "acForcePortState".
13. Page 45 line 28, insert "GROUP ELEMENTS" before "aNumberOfDynamicEntries" and comma after.
14. Page 47 line 16, insert additional reference "6.7.5.3.2 (2), ".
15. Page 49 lines 22-31, delete "Arc" from each Object Identifier definition, for consistency with the preferred convention as per annex C.
16. Page 51, delete the instructions to insert the copyright-release footnote for annex A (already present in ISO/IEC 10038).

17. Page 52 line 17, "shosw" -> "shows".

18. Page 53 line 12, "(o)" -> "(0)"

19. Page 54 line 12, "Datalink" -> "Data Link ".

5.18 Proposed comments on ISO/IEC 15802-5/PDAM 1 (P802.1-95/010)

12 July 1995

1. The text proposed would be more appropriate as a normative annex than as a new subclause of 2.
2. The description of the protocol identifiers used in the encapsulation needs to be aligned with the definitions in IEEE Std 802-1990. The protocol identifier is the full five octets, in each case, not just the two octets following the OUI.

5.19 Summary of actions required to be carried out following the maui meeting

5.19.1 Actions on Bill Lidinsky

1. Ensure that the 802.1p PAR documentation is provided to Don Loughry in the correct format for forwarding to the Standards Board (by end July)
2. Take the actions outlined in Kathy Doty's Email (see 5.2), by end July, namely:
    * Contact Rosemary Tennis to ask her to form a new balloting group for 802.1E;
    * Write a cover letter to go out with the ballot document (15802-4:1994), identifying the ballot as a reaffirmation & emphasizing the responsibility to respond (see item 5.2 above). Forward the letter to Kathy Doty.
3. Write to the IEEE Standards Board (by end July) requesting that the life of 802.1D be extended until March 1997 pending revision under the 802.1d PAR (see item 5.3 above).

5.19.2 Actions on Alan Chambers

1. Revise Overview & Architecture & issue it for ballot among 802.1 plus liaisons, prior to November meeting.

2. Communicate 802 recommendations on US ballot responses & comments to the appropriate US representatives (Dave Carlson etc), by end July. (see items 5.11, 5.12, 5.13).
3. Produce revised draft of P802.1j & circulate for confirmation ballot/sponsor ballot, by ??.

5.19.3 Actions on Tony Jeffree

1. Respond to the upcoming Overview & Architecture ballot in line with the 802.1 resolution on CMIS/CMIP
2. Reply to Kathy Doty's Email message (see 5.2) regarding 802.1E re-affirmation, indicating that Bill Lidinsky will be formally requesting the formation of a balloting group, by end July.
3. Prepare and circulate a first draft of P802.1p, by September 25th. (see item 5.7).

5.19.4 Actions on Mick Seaman

1. Announce details of the Denver Interim Meeting via the 802.1 exploder, by end of August. (see item 5.6)
2. Announce details of the 802.1 Pre-Meeting (Monday morning at the November 802 plenary meeting) via the 802.1 exploder, by end of September. (see item 5.5)
3. Prepare and circulate via the exploder a further draft of P802.1d, by 20th Sept. (see item 5.9)

6. Worldwide arena for Multimedia Standards - Wayne Zakowski

[Editor's Note: This material was originally presented to me as a diagram, showing the interrelationships between the various fora involved in MM standards. I have attempted to retain the same information content in a form that is EMAIL-able.

The diagram showed the ITU-SG15 as central to worldwide MM standards, and indicated the existence of formal relationships/liaisons between ITU-SG15 and ITU-SG2/12, and between ITU-SG2/12 and the MMCF. It also showed informal/desired relationships/liaison between ITU-SG15 and all the other organisations listed below. The bulleted items indicate the areas of relevant activity.]

ITU-SG15

System Application Architecture For Teleconferencing

* QOS parameters
* Reservation
* Synchronization

ITU-SG2/12

* QOS Framework & performance objectives.

MMCF

* QOS Profiles
* QOS parameters
* (Technology independent)

IETF

* Reservation
* Synchronization
* Network Mgmt

IEEE 802

* Bridging
* Level 1 & 2 of transport
* Legacy LAN QOS

WINSOCK Forum

* QOS parameters (for virtual transport)

ATM Forum

* QOS parameters (for ATM)

7. VLAN ad hoc meeting slides (provided by Karl Shimada)

VLAN ISSUES/SCOPE

- What is/is not a VLAN
- What are the real-world problems to be addressed - Goals/non-goals
  - simplify adds/moves/changes
  - spans multiple technologies
  - security
  - mobility
  - workgroup/broadcast domain
  - individuals in multiple workgroups
  - shared resources in multiple VLANs
  - works with existing desktops
  - interoperable with existing desktops
  - interoperable with existing interworking devices
  - compatibility with existing & de-facto standards
- Symmetry & transitivity
- How to set up a VLAN / VLAN Creation
  - End station participation
  - join, leave, merge, partition
- VLAN Framework
  - user (end station)
  - network
  - NM
- Mobility/security
- Switch to switch communications - trunk
  - Spanning Tree/Source Routing
  - Distribution of VLAN Information/Topology
  - Frame Tagging
- Target net topologies
- VLAN identification
- Service interfaces
- Management model/architecture/reachability
- Addressing
- Auto-configuration
- Liaisons to/from
  - ATM Forum/LAN emulation
  - IETF

* VLAN operation over routed infrastructures

BENEFITS OF VLANs

* Easier adds, moves, changes
* Groupcast management
* Security
* Traffic management
* Efficient use of Network hardware & resources
* Groupings of stations for administrative purposes

8. Some VLAN Requirements & Considerations - Yang & Rijsinghani, Maui, 11 July 1995

Some proposed VLAN requirements for discussions at 802.1.

1. It support logical grouping of stations that can communicate as if they were on the same LAN, even though they are physically spread out on different LANs or segments within the physical boundary of a Bridged LAN. Note: Communications on a given LAN is a broader term to cover unicast and multicast (or broadcast domain) services.
2. It allows networked devices (e.g., stations, bridges and switches) to be logically connected (some what) independent of their physical connectivity & constraints.
3. It supports all 802 LAN technologies. Note: Should have liaison to ATM Forum for LAN Emul.
4. Inter-VLANs communications should be provided by layer 3 or higher.
5. Standard 802 LANs provide ease of moves, adds and changes. VLAN shall maintain the same level of moves, adds and changes while allowing additional logical grouping. There shall be a defined set of rules and guidelines for end systems to join, leave, be added, and be removed from a VLAN.
6. VLAN shall provide traffic firewall between different instances (and type?) of VLANs.
7. Once created, VLANs shall be auto configurable and operate without dependence on network management interventions.
8. VLAN shall adopt automatically to topology changes (e.g., spanning tree changes).
9. Topology changes in a VLAN should not affect connectivity in other VLANs.
10. There shall be a method to ensure coherency of VLAN configuration data base.
11. IS to IS links shall support point-to-point link as well as a shared LAN connection. For a shared LAN connection, there may be multiple end systems on one shared LAN.
12. For native LAN communication services, VLAN shall be transparent to end systems (e.g., PCs, workstations, servers), once it is correctly set up.
13. There may be support of enhanced LAN services such as multicast grouping, priority service class, etc.
14. VLAN shall interoperate with existing standard compliance sections.

15. Backward compatibility mode with existing 802.1D bridges.
16. There shall be a network management method to create and delete VLAN, add, change and remove end systems and Intermediate Systems (ISs), and management of VLANs.
17. Network management shall have reachability to all VLANs for management functions.
18. Management observability, accounting, and monitoring.
19. VLAN configuration protocol, performance enhancement and scalability, robustness & availability. (for further study).

9. Notes on 802.1 Meeting Session on Overview and Architecture (Alan Chambers)

Wednesday 11 July 1995

The meeting considered the first draft revision of IEEE Std 802-1990, P802/D20, which was introduced by the editor, Alan Chambers.

The meeting agreed (without dissent) on a number of revisions to the input text: these are documented in the Instructions to Editor, P802.1-95/007.

10. Notes on 802.1 Meeting Session on P802.1j, Managed Objects for MAC Bridges (Alan Chambers)

Thursday 12 July 1995, 09:00

The meeting considered the comments received on the ballot of P802.1j/D4, which had just closed successfully.

The editor, Alan Chambers. summarized the ballot responses received and proposed how to resolve the comments. With one exception, all the comments were in effect editorial (a few, from Hal Keen, were editorial but with technical impact, in that they involved mis-spellings of identifiers formally defined elsewhere, etc).

The one technical issue, highlighted by Hal Keen's comment item 5, was the need to reinstate the Entry Index attribute (deleted at a previous stage) in order to permit the Read Filtering Database Entry Range operation (802.1D, 6.7.5.4) to be mapped in the GDMO. Some alternative suggestions were made for identifying multiple filtering database entries. However, it was agreed that it was important to preserve the simple model implied by 6.7.5.4, in order to maximize freedom in FDB implementations and preserve simplicity in supporting FDB management, by avoiding imposing a particular structure for the FDB information returned. It was noted, as accepted during the development of 802.1D and 802.1G, that changes to the FDB during a sequence of Read Range operations could cause the results returned to have omissions or duplications, but this was at most a minor problem.

The meeting agreed to the changes recorded in the Instructions to Editor, P802.1-95/008 (which also contains a summary of voting and disposition of comments).

11. Proposed US comment on DTR 11802-2 second edition. (Alan Chambers)

Rationale

The intent in assigning an OUI to JTC 1, to be administered by SC 6, was to give SC 6 full rights to assign MAC addresses constructed from that OUI. In particular, SC 6 should be able to assign group MAC addresses for use by its own standards, as and when the need arises.

The US proposes that the list of organizations that may submit requests for standard group MAC addresses be extended to include technical committees and subcommittees of ISO and IEC (including of course SC 6 itself).

Proposed Text

(1) In 5.5.2, change lines 3 and 4 to read:

"SC6. Submissions can be made by members of the SC (that is, members as defined by the ISO/IEC directives -- currently P-, L-, O- and S-members), and by technical committees and subcommittees of ISO and IEC (including SC itself). A request for a reserved..."

(2) In annex A, change the start of the first paragraph to read:

"A request for assignment from an organization other than a Liaison Organization or a technical committee or subcommittee needs to be made ..."

12. Notes of the discussions on Traffic Class Expediting/Multicast Filtering (Tony Jeffree)

Two papers were presented at the meeting. The first (circulated via the exploder in late June and presented in paper form at the meeting) outlines the changes required to section 3 of the current 802.1D standard in order to introduce the concepts of traffic classes, multiple queues and dynamic multicast filters. The second, attached to these minutes, discusses some proposals for the description of filtering services in bridged LANs.

Points emerging from the two sessions included the following:

1. The proposed changes to section 3 appeared generally to be well received, and appeared to be a good starting point for developing the text of 802.1p.
2. Some discussion took place around the representation of information in the filtering database, and whether the structures proposed in the "Section 3" paper could be simplified. The Editor was instructed to look at possible simplifications.
3. Discussion of the Services document concluded that the more general material, describing the intent of providing filtering services, was probably candidate material for section 2 of 802.1D during the current revision of the text. The remainder, given that it isintroducing new mechanisms/ideas, will need more extensive work as part of the development of 802.1p.
4. It was very clear from the discussion of the Services document that the proposed filtering services are an underpinning mechanism for the support of the vLAN techniques discussed in other sessions at the meeting.
5. It would be desirable to include an annex in the standard which discusses performance issues relative to the number of traffic classes/queues and the technologies employed.

The following is the text of the "services" document discussed at the meeting:

Filtering Services in Bridged Local Area Networks

Tony Jeffree

17 July 1995

Preamble

This document discusses the services that are required in Bridged LANs in order to address the requirements of traffic class expediting/dynamic multicast filtering in bridges. The intention is that it will act as a starting point for developing a set of additions/changes to the current description of the MAC service; at present, this is documented partly in section 2 of 802.1D and partly in the MAC service definition (DIS 15802-1).

The services described are services in the most general sense; i.e., they are descriptions of the functionality that the MAC service user may need to make use of in order to control and access filtering capabilities in LANs. The description makes no assumptions in terms of how those services might be realised; clearly, there are at least the following possibilities:

- development of specific 802.1 standard protocols to support the service;
- use of existing protocols and mechanisms, defined in 802 standards and elsewhere;
- management functionality, either locally defined or implemented via remote management protocols;
- other means, proprietary or otherwise.

This document is best read in conjunction with the proposed changes to 802.1D section 3 to support traffic expediting/multicast filtering.

Purpose(s) of filtering service provision

[Note: This is essentially what is said in the proposed replacement text for section 3.9 (Filtering Database) of 802.1D, as circulated to the 802.1 exploder in mid June ‘95 and at the Maui meeting in July ‘95.]

Filtering services are provided in Bridged LANs for the following purposes:

(1) Administrative.

Filtering services provide for administrative control over the use of particular source and destination addresses in designated parts of the network. Such control allows network administrators to limit the extent of operation of network layer and other protocols that make use of individual and group MAC addresses by establishing administrative boundaries across which specific MAC addresses may not be forwarded.

(2) Traffic Reduction.

Filtering services increase the overall throughput of the network. They achieve this end by:

a) limiting frames destined for specific MAC addresses to parts of the network which, to a high probability, lie along a path between the source MAC address and the destination MAC address;

b) reducing the extent of group addressed traffic to those parts of the network which contain end stations that are recipients of that traffic.

(3) Traffic Prioritization.

Filtering services provide a means whereby time-critical classes of traffic can be identified in order that their passage through the network may be expedited.

Goal(s) of filtering service provision

The filtering services provided in Bridged LANs offer a set of capabilities that protocol designers and system developers can use in order to:

a) allow end systems to dynamically indicate to the MAC service provider which destination MAC addresses they wish to receive;

b) allow server systems to dynamically indicate to the MAC service provider which MAC address(es) they will be using in order to provide their services to end systems, and to associate a user_priority with such addresses;

c) allow network managers to exercise administrative control over the user_prioroty and extent of propogation of specific MAC addresses.

Users of Filtering Services

The filtering services provided in Bridged LANs are available to the following users:

a) Network management, for the purposes of applying administrative control. Interactions between administrators of the network and the filtering service provider may be achieved by local means or by means of explicit management mechanisms;

b) End stations and servers. Interactions between end stations/servers and the filtering service provider may be implicit (as is the case with the existing 802.1D filtering services), or explicit, by use of the service primitives defined below.

c) Application & protocol designers, who are responsible for defining how particular applications and devices will make use of the available filtering services.

Basis of Service

All filtering services in Bridged LANs rely on the establishment of filtering rules, and subsequently carrying out filtering decisions, that are based on the value(s) contained in the Source or Destination MAC Address fields in MAC frames propagated in the Bridged LAN.

Service Configuration

Each port may be in one of the following states:

(1) Forward All. This is the default state of all ports in existing bridges; i.e., filtering/forwarding decisions are applied as currently defined in 802.1D.

(2) Forward All except 'REGISTER_TO_SEND' without "REGISTER_TO_RECEIVE'. This is the default state of new bridges implementing all service primitives as shown above. In addition to the addresses explicitly registered, the Forwarding Process will also forward those group MAC addresses for which the Filtering Database has no explicit filtering information.

(3) Forward 'REGISTER_TO_RECEIVE_ONLY'. This is the state of new bridges implementing all service primitives. May be configured statically by network managers, or dynamically by MAC service users. [Note that this state may have application to the unicast address case as well - the Bridge might not know where the station is, but it is not on this port. This cuts down on unknown destination forwarding across a link.]

Service Primitives

The following service primitives define particular types of interaction between MAC service users (server systems and end stations) and the MAC service provider accross the MAC service boundary. As these interactions are not defined between peer entities, they are described simply in terms of service requests sent from the MAC service user to the MAC service provider.

Recipient (end system) registration/de-registration

Intent: Allows potential recipients to control the set of MAC Addresses that they receive. Indirectly, the use of this service may affect the contents of Dynamic Group Recipient entries in the Filtering Database of the bridge(s) that serve the receipients (see proposed changes to 802.1D section 3), and the Port states as described above.

ES_REGISTER_FOR_RECEIVE (MAC_ADDRESS)

Indicates to the MAC service provider that the end system wishes to receive packets containing the MAC_ADDRESS value as the destination address.

ES_DEREGISTER_FOR_RECEIVE (MAC_ADDRESS)

Indicates to the MAC service provider that the end system wishes to receive packets containing the MAC_ADDRESS value as the destination address.

ES_ENABLE_RECEIVE_DEFAULTS

Indicates to the service provider that the end system wishes to receive group MAC Addresses that do not appear in either staic filtering entries or dynamic group entries in the Filtering Database. This sets the associated Port to state (2) as described above.

ES_DISABLE_RECEIVE_DEFAULTS

Indicates to the service provider that the end system should receive only those MAC Addresses that it has explicitly registerd to receive. This sets the associated Port to state (3) as described above.

Server registration/deregistration

Intent: Allows servers to announce that particular MAC Addresses require registration on the part of potential recipients. The use of this service may result in the propagation of the address/priority information across the spanning tree, affecting the contents of group entries in the Filtering Database.

SERVER_REGISTER_TO_SEND (MAC_ADDRESS, USER_PRIORITY)

Identifies to the MAC service provider a MAC address for which potential recipients are required to register their intent to receive, and indicates the USER_PRIORITY which should be used for frames destined to that address.

SERVER_DEREGISTER_TO_SEND (MAC_ADDRESS)

Identifies to the MAC service provider a MAC address for which registration by potential recipients is no longer required.

Static registration/deregistration

Intent: These services allow administration of static entries in the Filtering Database.

DESIGNER_ALLOCATE _TO_ALWAYS_REGISTER (MAC_ADDRESS, PORT_MAP, USER_PRIORITY)

Indicates to the service provider that a given MAC_ADDRESS is one for which registration for reception is always required. This may result in the creation or modification of a static filtering entry in the filtering database.

DESIGNER_DEALLOCATE _TO_ALWAYS_REGISTER (MAC_ADDRESS)

Indicates to the service provider that a given MAC_ADDRESS is no longer one for which registration for reception is always required. This may result in the modification of a static filtering entry in the filtering database.

MANAGER_ALLOCATE_REGISTERED_RECIPIENT (MAC_ADDRESS, PORT_SET)

Indicates to the service provider that, for a given MAC_ADDRESS, there are potential recipients reachable via the set of Ports. This may result in the creation or modification of a static group recipient entry in the filtering database.

MANAGER_DEALLOCATE_REGISTERED_RECIPIENT (MAC_ADDRESS)

Indicates to the service provider that, for a given MAC_ADDRESS, there are no potential recipients. This may result in the removal of a static group recipient entry from the filtering database.

Default Port state configuration

Intent: This service allows administration of the default Port state (as defined above) that will apply on (re)-initialisation of a Bridge.

MANAGER_DEFINE_DEFAULT_PORT_STATE (PORT, STATE)

Indicates to the service provider the default state of the specified Port, i.e., the state (as defined above) that the Port should adopt.

Associated Protocol (optional)

In the case of dynamic allocation of group MAC Addresses, there may be a requirement for a Server to Client protocol exchange, described by the service primitive:

Please_Register_For (MAC_ADDRESS)

13. List of documents distributed at the meeting (provided by R. Slager)

VLAN Ad Hoc Meeting (distributed by Karl Shimada, Rising Star)

IEEE 802 Virtual LANs (VLANs), Proposed Definition and Requirements from John Hart/Floyd Backes (distributed by John Hart)

"Some VLAN Requirements & Considerations", by Henry Yang & Anil Rijsinghani, DEC (distributed by Henry Yang - see above)

Tutorial, sponsored by 802.1 (one hand-out)

"1995 - The Year of the Virtual LAN" presented by mmcnealis (CISCO) & "ATM LAN-Emulation" - Keith McCloghrie (CISCO)

"Issues Underlying Supporting Multimedia Applications in IEEE 802.1 by Fouad A. Tobagi -Stanford University and Starlight Networks

"Multi-Media Communications Quality of Service" - handed out by Richard Brand