IEEE 802.5

May 10th to 12th, 1999
Copenhagen, DK
Hosted by Olicom

Minutes of meeting 'ii'

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Revision History		
r0	12 May 99	End of recording

Attendees

Full Time:

Neil Jarvis
John Messenger
Simon Harrison
Andy Fierman
Ivar Jeppesen

Part Time:

Bo Thomsen
Christian Thrysøe

Daily Notes

Monday, 10 May 1999

Introductions

After an exciting taxi ride out to Olicom's offices, Niels Jørgensen (Olicom's Chief Technical Officer and Exec VP) introduced the meeting. He said he was pleased to see such a large representation from Madge Networks, but was disappointed not to see any of our American colleagues. Niels wished us well for the meeting, and hoped that we would continue to show that Token Ring was still alive.

802.5v/d1.0 Comment Resolution

1000 Mbit/s trade up has been removed. This answers the question raised in straw poll 802.5/99/03-06. See straw poll 05-01 for final closure.

We have finally made progress in the debate about the initial values for CxBTX and SPV/PPV(MAX_TX) values at different media rates. CxBTX is used by the MAC to abort over-length cut-through frames. Remember, the MAC can only count the data portion of the frame (specifically the bytes making up FC through INFO) as it is transmitted byte-by-byte, so CxBTX is initialised to account for the other parts of the frame that are either generated by the PHY or by other MAC actions (e.g. TX_SFS, TX_FCS and TX_EFS). When the counter CxBTX exceeds SPV/PPV(MAX_TX), the frame is aborted. The following table shows the how the initial value for CxBTX is calculated for various media rates, and what the corresponding MAX_TX shall be to guarantee a maximum size frame can be transported between different media rates (16/100/1000 Mbit/s only). Note that all values are expressed in octets.

Media Rates	**Field Sizes (in octets)**						**Initial value**	**SPV(MAX_TX)/**
(Mbit/s)	**SSD**	**AC**	**FCS**	**ET**	**ESD**	**IFG**	**for CxBTX**	**PPV(MAX_TX)**
4	1	1	4	1	1	1	**9**	**4550**
16	1	1	4	1	1	5	**13**	**18200**
100	1	1	4	1	1	12	**20**	**18207**
1000 PSC-X	2	1	4	1	2/3	5	**15/16**	**18211**$^{\phi}$
1000 PSC-T	2	1	4	1	4	12	**24**	**18211**

ϕ We pick 24 as the initial value for CxBTX for 1000 PSC-X, to make the number constant for both 1000Mbit/s PHYs. This has the effect of making the IFG for PSC-X larger than it need be, but it simplifies the rest of the implementation.

This table needs to be reviewed by gigabit PHY experts to make sure the final gigabit values are correct and/or sensible.

Tuesday, 11 May 1999

802.5v/d1.0 Comment Resolution

All Karl's comments were closed, with commenter's approval. SimonH will send Ken the current set of comment responses tonight, and see if we can get closure on all the outstanding comments.

802.5 Link Aggregation

Christian stated that he would not have time to write the 802.5 link aggregation standard. He will continue to review the 802.3ad work, and report back to 802.5. The current 802.3ad standard (draft 1.1) will form a good basis for the 802.5 work. Frame formats and the flush protocol will need to be defined for 802.5.

One point of discussion is whether to use LLC or MAC frames for the control protocol. The initial feeling was to use LLC frames. This allows the implementation of the link aggregation protocol at higher layers in the stack. If it was implemented in MAC, a larger service interface would be required to allow every MAC to know about which other MACs are available to be aggregated. The point was

made that MAC frames could still be used, as long as the frames were passed via MGMT_DATAUNIT service primitives. How do frames get routed to this primitive? A new Vector Class could be chosen, but this would be a problem for legacy product, e.g. a PC with legacy adapters, and the link aggregation implemented on the CPU; the legacy MAC would discard the MAC frames (invalid vector class), and the link aggregation layer would not receive the frames.

These arguments lead us (for the moment) to say that LLC must be used for the control protocol.

In summary, 802.5 will adopt the control protocol as defined by 802.3ad for link aggregation. The control protocol shall be sent as a high priority (6) LLC frames. The flush protocol, shall either be sent as an LLC frame with priority 0, or at the lowest priority of the conversations to be flushed. The priority must be low to ensure that the flush frame does not overtake the conversations to be flushed. The destination MAC address shall be the one chosen by 802.3 (which will be one of the reserved 802.1 group addresses). The frame will use the SNAP encoded version of the Ethernet type to be defined for the control protocol. The control protocol frames must not be sent source routed, and the standard already states that the frames must not be 802.1q tagged.

802.5 link aggregation shall only be used on full duplex (DTR) links. This will require an additional MGMT_EVENT.indication to be added to signal to management that the link successfully opened full duplex. (Is this within the scope of our link aggregation PAR?)

[All this could be standardised in a couple of pages…]

802.5 Enhanced Source Route Operation

The PAR has been approved, and we are still waiting for input.

802.1 Virtual Local Area Networks: Source Routing Operation

The PAR has been approved, and we are still waiting for input.

Wednesday, 12 May 1999

802.5v/d1.0 Comment Resolution

The committee's solutions for Ken's comments have been sent to him for approval. These are the last outstanding comments, and Simon (with the help of Andy and Neil) is now free to start the production of d1.1.

Meeting closed

After thanking Olicom for their generous hospitality, the meeting closed with no further business.

Meeting Motions

Straw Poll or Vote?	Straw Poll	**Number:**	05-01
Moved by:	Simon Harrison	**Date:**	12 May
Seconded by:	Ivar Jeppesen	**Status:**	**PASS**

Move that:

Gigabit trade-up placeholders be removed from 802.5v. High media rate trade-up will only support 4/16 to 100 Mbit/s.

Yes: 5 **No:** 0 **Abstain:** 0

Straw Poll or Vote?	Straw Poll	**Number:**	05-02
Moved by:	Simon Harrison	**Date:**	12 May
Seconded by:	Andrew Fierman	**Status:**	**PASS**

Move that:

The editor for 802.5v is instructed to produce draft 1.1 based upon d1.0 and the resolution of comments against that draft. D1.1 will be published for a 30 day working group recirculation ballot, started 26th May and closing 25th June. Comments shall be against d1.0 to d1.1 changes only. Comment resolution will take place during the July plenary meeting in Montreal.

The editor is further instructed to send a copy of d1.1 to Bob Grow for review as an observer.

Note: This straw poll has been pre-approved by vote 03-13.

Yes: 5 **No:** 0 **Abstain:** 0

Straw Poll or Vote?	Straw Poll	**Number:**	05-03
Moved by:	John Messenger	**Date:**	12 May
Seconded by:	Simon Harrison	**Status:**	**PASS**

Move that:

Bob Love ask for a ballot poll for LMSC balloting to be formed, ready for 802.5v LMSC ballot after the July Montreal meeting.

Yes: 5 **No:** 0 **Abstain:** 0

Straw Poll or Vote?	Straw Poll	**Number:**	05-04
Moved by:	Neil Jarvis	**Date:**	12 May
Seconded by:	Andrew Fierman	**Status:**	**PASS**

Move that:

802.5w be forwarded for LMSC ballot.

Yes: 4 **No:** 0 **Abstain:** 1

Straw Poll or Vote?	Straw Poll	**Number:**	05-05
Moved by:	John Messenger	**Date:**	12 May
Seconded by:	Simon Harrison	**Status:**	**PASS**

Move that:

Olicom be thanked for their generous hospitality in hosting the interim meeting in Copenhagen. We accept their apology for the weather…

Yes: 4 **No:** 0 **Abstain:** 1