

Draft Minutes

T11.3 FC-BB-5 ad hoc work group interim meeting

25 September 2008 - 9 AM to 5 PM CDT

Plymouth MN

The FC-BB-5 ad hoc work group of the Fibre Channel Protocol (T11.3) Task Group held an interim meeting at Plymouth MN on 25 September 2008, hosted by Brocade. Attendance was 14 people from 7 organizations and is tabulated at the end of this document.

Minutes were taken by Bob Nixon (Emulex) (bob.nixon@emulex.com). Please report any corrections by email to the T11.3 reflector at T11_3@mail.T11.org.

1 Opening remarks

1.1 Introductions

Claudio DeSanti (Cisco) opened the interim meeting Wednesday, 25 September 2008 at 9:19 AM CDT. He thanked our host organization, Brocade, and led a round of introductions.

2 Meeting Policy

2.1 Attendance and Membership

Claudio DeSanti (Cisco) advised that attendance is recorded electronically at www.t11.org/att, and explained the procedure. Attendance at this meeting does not count toward attendance at the plenaries of T11 and its task groups (i.e., being here will not get you out or keep you out of membership jeopardy).

Claudio DeSanti (Cisco) stated that all persons present are considered members of this meeting and may vote on questions, limited to one vote per company present. He advised that although T11 does not limit participation in the activities of its work groups to representatives of T11 member organizations, T11 encourages organizations that are regularly represented at T11 work group activities to become members of T11.

2.2 Patents

Claudio DeSanti (Cisco) indicated that among the rules and policies under which this working group operates are the ANSI intellectual property policies as specified in pages 1-3 of http://www.incits.org/pat_slides.pdf. He displayed these pages without comment or explanation, and directed that questions about the policy should be referred to the questioner's legal counsel or the ANSI General Counsel.

2.3 Antitrust

Claudio DeSanti (Cisco) indicated that among the rules and policies under which this working group operates are the INCITS Antitrust Guidelines. Any member of the meeting is responsible for objecting if he believes discussion in the meeting violates those guidelines. As examples, there should never be discussion of the following topics at any INCITS or INCITS subgroup meeting:

- Any company's prices or pricing policies;

- Specific R&D, sales and marketing plans;
- Any company's confidential product, product development or production strategies;
- Whether certain suppliers or customers will be served;
- Prices paid to input sources; or
- Complaints about individual firms or other actions that might tend to hinder a competitor in any market.

If such discussion is not immediately terminated, it is the chairperson's responsibility to terminate the meeting. The INCITS Antitrust Guidelines are available at

<http://www.incits.org/inatrust.htm>

3 Administrivia

3.1 Approval of Agenda

An agenda for the FC-BB-5 ad hoc work group interim meeting 25 September 2008 has been posted as T11/08-546v0.

Bob Nixon (Emulex) moved and Landon Noll (Cisco) seconded to accept T11/08-546v0 as the agenda for this interim meeting. Approved unanimously.

3.2 Review of Minutes

Minutes for the FC-BB-5 ad hoc work group interim meeting 6 August 2008 have been posted as T11/08-508v0.

As this was an interim meeting, review and approval of minutes of the prior meeting was deferred until the next regular meeting.

4 Review of Old Action Items

The following action items were carried from the prior meeting. As this was an interim meeting, removal of closed items is deferred until the next regular meeting.

- 080508-1/A5 Dave Peterson to propose an introductory advisory that data structures in this standard are displayed in Fibre Channel (i.e., "big-endian") format, while specifications originating in the Ethernet community may display data structures in Ethernet (i.e., "little-endian") format.
(Completed)
- 080604-4 FC-BB-5 editor to incorporate the protocol described in T11/08-263v1 into FC-BB-5.
(Carry)
- 080604-7 FC-BB-5 editor to add a sentence qualifying figure 28 to the effect that a lossless Ethernet bridging element, if present, may be connected to multiple lossless Ethernet MACs.
(Completed)
- 080604-8 FC-BB-5 editor to add a requirement that the response to a FIP message use the same VLAN as the request.
(Completed)

- 080604-11 FC-BB-5 editor to add text recommending the use of independent VLAN learning if separate VLANs are used to isolate Virtual Fabrics.
(Completed)
- 080806-1 Bob Nixon to publish T11/08-250v3 reflecting T11/08-250v3 and the agreements at other work groups
(Completed)
- 080806-2 FC-BB-5 editor to incorporate the FC-BB-5 changes proposed in T11/08-250v3 into FC-BB-5.
(Carry)
- 080806-3 Joe Pelissier to revise T11/08-264v3 to reflect the agreements at the FC-BB-5 ad hoc work group regular meeting 6 August 2008.
(Completed by posting of revised T11/08-264v3)
- 080806-4 Joe Pelissier to provide source for T11/08-264v3 to FC-BB-5 editor.
(Completed by email)
- 080806-5 FC-BB-5 editor to incorporate T11/08-264v3 into FC-BB-5.
(Completed)
- 080806-6 Roger Hathorn to define a mapping from Ethernet physical link statistics to at minimum some of the counters in the Link Status Block.
(Carry)
- 080806-7 FC-BB-5 chair to schedule a full day meeting near Minneapolis MN on September 25.
(Completed)

5 Old Business

No old business was presented.

6 Scheduled Business

Note: SPMA is Source-Provided MAC Addresses. FPMA is Fabric-Provided MAC Addresses. Both are defined in FC-BB-5.

6.1 A Pith-y FCoE Threat Model T11/08-532v0 Noll (Cisco), Black (EMC)

The presenters explained that this version of the threat model was mostly complete in their opinion:

- The authors believe it has few remaining issues, and they have carefully identified them; and
- It may have some remaining inconsistencies, because this version was prepared quickly in order to solicit early conceptual agreement, not final approval.

It was agreed that the diagrams should add some empty ports.

It was agreed that, for FIP purposes, an ENode-to-FCF virtual link is identified by a pair of MAC addresses, but not an FCID.

It was contentious whether there was a way to control the risk of MAC address duplication if multiple Virtual Fabrics share a single VLAN using FPMA.

ACTION Dave Peterson to provide the necessary specification text to assure the uniqueness of MAC addresses if multiple Virtual Fabrics share a single VLAN using Fabric Provided MAC Addresses.

It was explained that, though the authors believe it is practical for multiple Virtual Fabrics to share a single VLAN using SPMA, this presentation presumed that for a first specification, even in this case only a single Virtual Fabric is carried by each VLAN.

It was agreed that the slides giving traffic validation rules needed to specify different enforcement entities and maybe different rules for FIP than for FCoE, since FCFs and VN_Ports, by architectural formality, do not participate in FIP.

6.2 Addressing the Threat Model T11/08-547v0 Pelissier (Cisco)

This presentation first offered corrections to two of the ACL schema in the ACL example now incorporated in an FC-BB-5 annex. Then it proceeded to express, in a form not dependent on ACL notation, the complete set of traffic filtering rules necessary to secure the assumptions made in the Threat Model presentation (T11/08-532).

It was observed that ideal protection requires discarding Ethernet frames of any type from any VN_Port source MAC address currently assigned that arrives at a bridge port that is not on the intended route from that source MAC address to the frame destination address. It was further observed this may not be practical for SPMA. It was recommended that the rules to implement this defense should be documented for FPMA separately from the commonly implementable rules, with a note describing the additional protection so gained.

It was understood that this is a work-in-progress presentation, and the formal distinctions between text intended to be normative and text intended to be informative have not yet been carefully observed.

6.3 FC-BB-5: Multiple Fabric support via FIP T11/08-450v2 Peterson (Brocade)

It was agreed that if a VLAN is administratively configured to support FCoE and to use FPMA, but is not administratively configured for an FC-MAP value, it shall presume the default FC-MAP value. There is no such thing as an FPMA FCF without an FC-MAP value.

It was agreed that the proposed option A for the Fabric descriptor TLV was preferred.

It was agreed that in FC-BB-5, FPMA Fabrics would be restricted to include at most one instance of the proposed Fabric descriptor TLV in a FIP Advertisement.

It was agreed to replace the Fabric Name descriptor with the selected Fabric Descriptor, rather than define a new descriptor type.

Dave Peterson (Brocade) moved and Joe Pelissier (Cisco) seconded to incorporate T11/08-450v3 into FC-BB-5, reflecting T11/08-450v2 and the agreements at the FC-BB-5 ad hoc work group interim meeting 25 September 2008. The motion passed unanimously.

ACTION Dave Peterson to publish T11/08-450v3 reflecting T11/08-450v2 and the agreements at the FC-BB-5 ad hoc work group interim meeting 25 September 2008.

ACTION FC-BB-5 editor to incorporate T11/08-450v3 into FC-BB-5.

6.4 FKA Optimization T11/08-544v0 DeSanti (Cisco)

The presenter updated his previously approved architectural diagrams to incorporate the optimized link keepalive detailed proposal (T11/08-434v0), introduced at the meeting of this work group on 6 August 2008, into the architecture.

The final point was to propose that the use of link keepalive should not be optional (i.e., the case of the keepalive period set to zero is not allowed).

6.5 Proposed FC-BB-5 Clause 7

T11/08-543v0

DeSanti (Cisco)

This is a proposed revision to FC-BB-5 to incorporate recently approved proposals concerning FCoE. It also includes some name changes that correct certain terminology for which definitions have changed or become more specific over time.

It was observed that a table of FCoE Frame Delimiter codes extracted for the current version of FC-BB-5 appeared to include codes for obsolete or unsupported classes of service.

It was agreed that the editor should check to be sure we included the frame delimiters that are appropriate to Class 2 and Class 3, and only those frame delimiters.

It was agreed that the Name_Identifier descriptor in the FIP Discovery Solicitation may have value zero (i.e., meaning a name is unspecified), in addition to its current specification as being set to a Node Name.

The editor will study this presentation and integrate it with his ongoing work in the same text.

6.6 FCoE VLAN Discovery

T11/08-545v0

DeSanti (Cisco)

The presentation proposed an optimization for an end device to discover which among potentially many VLANs support FCoE, without relying on listening for periodic FCF advertisements. It claims to resolve two issues:

- Some NICs can not promiscuously listen for a multicast address. Given only means now specified, they would have to listen for advertisements for many seconds on many VLANs, sequentially.
- Many FC applications (e.g., common OS file systems) in practice can not delay initialization long enough to reliably discover FCF-containing VLANs by listening for periodic advertisements.

The only alternative now available is to consistently configure all ENodes with a list of VLANs. This was recognized as poorly scalable.

It was requested to leave this proposal for additional review time. It will be brought back at the next regular meeting.

7 Unscheduled Business

8 Project Schedule

Milestone	Expected date
Last Technical Input	June 2008
T11 letter Ballot	October 2008
Forward to INCITS	TBD

9 Review of Action Items

- 080508-1/A5 Dave Peterson to propose an introductory advisory that data structures in this standard are displayed in Fibre Channel (i.e., "big-endian") format, while specifications originating in the Ethernet community may display data structures in Ethernet (i.e., "little-endian") format.
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(Carry)
- 080806-7 FC-BB-5 chair to schedule a full day meeting near Minneapolis MN on September 25.
(Completed)
- 080925-1 Dave Peterson to provide the necessary specification text to assure the uniqueness of MAC addresses if multiple Virtual Fabrics share a single VLAN using Fabric Provided MAC Addresses.
- 080925-2 Dave Peterson to publish T11/08-450v3 reflecting T11/08-450v2 and the agreements at the FC-BB-5 ad hoc work group interim meeting 25 September 2008.
- 080925-3 FC-BB-5 editor to incorporate T11/08-450v3 into FC-BB-5.

10 Meeting Schedule

10.1 Next Plenary Week

Six hours have been scheduled, beginning at 9:00 AM, at the T11 plenary week EMC in providence RI, 6-9 October 2008.

11 Adjournment

Landon Noll (Cisco) moved and Dave Peterson (Brocade) seconded to adjourn. Approved unanimously.

The interim meeting was adjourned at 4:48 PM CDT on 25 September 2008.

12 Status of Open Proposals

Document Title	Number	Disposition	Author
FCoE: MIB Module Proposal	T11/08-427	Carry. Additional review time needed. Version presented was T11/08-427v0. Additional review time needed.	Pelissier (Cisco)
FIP Keep Alive	T11/08-434	Carry. Version presented was T11/08-434v0. Expect discussion to continue with a revision.	Ghanwani (Brocade)
Multiple Fabric support via FIP	T11/08-450	Deferred. Version presented was T11/08-450v0. Expect discussion at next meeting.	Peterson (Brocade)
A Pith-y FCoE Threat Model	T11/08-532	Carry. Version presented was T11/08-532v0. Expect discussion to continue with a revision.	Noll (Cisco) Black (EMC)
Addressing the Threat Model	T11/08-547	Carry. Version presented was T11/08-547v0. Expect discussion to continue with a revision.	Pelissier (Cisco)
Multiple Fabric support via FIP	T11/08-450	Close. Version approved was T11/08-450v3.	Peterson (Brocade)
FKA Optimization	T11/08-544	Close. Version presented was T11/08-544v0. This material will be incorporated in a later proposal.	DeSanti (Cisco)
Proposed FC-BB-5 Clause 7	T11/08-543	Close. Version presented was T11/08-543v0. This material was presented as a preferred editorial approach, and will be integrated by the editor in later versions of FC-BB-5.	DeSanti (Cisco)
FCoE VLAN Discovery	T11/08-545	Carry. Version presented was T11/08-545v0. Review will continue at a later meeting.	DeSanti (Cisco)

13 Attendance

Organization	Representative
BROCADE	Anoop Ghanwani
BROCADE	David Peterson
CISCO	Joe Pelissier
CISCO	Fabrizio Corno
CISCO	Landon Noll
CISCO	Silvano Gai
CISCO	Claudio DeSanti
EMC	David Black
EMULEX	Bob Nixon
EMULEX	Tuan Nguyen
INTEL	Luke Chang
NETAPP	Frederick Knight
QLOGIC	Alan Spalding
QLOGIC	Craig W. Carlson