

Draft Minutes

T11.3 FC-BB-6 ad hoc work group regular meeting

07 December 2011 - 9:00 AM to 5:30 PM EST

St Petersburg, FL

The FC-BB-6 ad hoc work group of the Fibre Channel Protocol (T11.3) Task Group held a regular meeting at St Petersburg, FL on 07 December 2011, hosted by FCIA and Chris Lyon. Attendance was 27 people from 20 organizations and is tabulated at the end of this document.

Minutes were taken by Bill Martin (Emulex) (bill.martin@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

Chairperson Claudio DeSanti (Cisco) opened the regular meeting Wednesday, 07 December 2011 at 9:06 AM EST. He thanked our hosts, FCIA and Chris Lyon, and led a round of introductions.

2 Meeting Policy

2.1 Attendance and Membership

Claudio DeSanti explained 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 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, it requires nonmembers to identify themselves as such. Nonmembers that expect they may participate in the activities of T11 regularly were encouraged to become members.

Two persons identified themselves as a member of an organization that is not a member of T11. They were encouraged to become members.

2.2 Patents

Claudio DeSanti 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 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-6 ad hoc work group regular meeting 07 December 2011 has been posted as T11/11-501v0.

Numerous changes were requested. The

Landon Noll (Cisco) moved and Erik Smith (EMC) seconded to accept T11/11-501v0 as modified (T11/11-501v1) as the agenda for this regular meeting. Approved by acclamation.

3.2 Review of Minutes

Minutes for the FC-BB-6 ad hoc work group regular meeting 05 October 2011 have been posted as T11/11-452v3.

Bill Martin (Emulex) moved and Louis Riccci (IBM) seconded to accept T11/11-452v3 as the minutes of the FC-BB-6 ad hoc work group meeting on 05 October 2011. Approved by acclamation.

4 Review of Old Action Items

111005-1 FC-BB-6 ad hoc work group chair to request T11.3 to request T11 to conduct a letter ballot to forward Fibre Channel – Backbone - 5 Amendment 1 (FC-BB-5 AM 1) (T11/11-403v2) to INCITS for further processing. (Completed)

5 Old Business

5.1 FC-BB-5 Amendment 1 Comments

Peterson (Brocade) (11-500v0)

Dave discussed the comment resolution which had been discussed at a separate adhoc meeting. Dave presented the document that resulted from the letter ballot comment resolution.

6 Scheduled Business

6.1 Multiple Fabric Names in a single VLAN

Smith (EMC), Martin (Emulex)

(11-480v0)

Erik Smith presented the issue which was discovered at a recent FCoE plugfest. There was significant discussion but general agreement that there was indeed a problem. The solution was discussed under the subsequent presentation.

**6.2 BB-6 modifications for Multiple FCFs on one VLAN Martin (Emulex), Smith (EMC)
(11-515v0)**

Bill Martin presented the proposal which highlighted several areas where FC-BB-6 could be modified to help solve the problem presented in 11-480v0. There was significant discussion and Bill will bring in a modified proposal for the next meeting.

6.3 High Availability Models of Operation in Fibre Channel Ayandeh (HP) (11-482v1)

Siamack Ayandeh presented these models. The presentation was modified following the FC-SW meeting earlier in the week. Siamack was given feedback, which he will use for future proposals.

6.4 Flexible FDF Connectivity -- Mechanisms Ayandeh (HP) (11-481v0)

Siamack Ayandeh presented the description of the mechanisms for Flexible FDF Connectivity (11-481v0). The group indicated that the group chose in the past not to go down this path for error recovery/redundancy. Siamack will continue with this proposal looking at load balancing.

6.5 Distributed FCF DeSanti (Cisco) (11-026v3)

Claudio reviewed the proposal which has been stable for some time.

Fred Knight (NetApp) moved Erik Smith (EMC) seconded to incorporate T11-026v3 in FC-BB-6.

In discussion of the motion, David Peterson mentioned that there was work that needed to be completed and he felt that it was too early to incorporate this proposal. Claudio deferred the motion to the end of the meeting to see if proposals presented at this meeting would clarify the work that Dave felt was necessary. This was acceptable to the mover and the seconder so that other proposals being presented could be considered before this motion was considered. At the end of the meeting the mover and seconder agreed to defer this motion to the next meeting.

6.6 Controlling Switch Redundancy Protocol DeSanti (Cisco) (11-224v2)

Claudio DeSanti presented the changes he made from the last meeting in Controlling Switch Redundancy Protocol (11-224v2). The group requested several changes, and Claudio agreed to prepare a new revision.

6.7 VA_Port Protocols DeSanti (Cisco) (11-225v2)

Claudio DeSanti incorporated comments made at the previous meeting. Claudio reviewed the modifications made to address those comments. The group generated requests for changes, and Claudio agreed to prepare a new revision.

**6.8 Observations on the Virtual Domain Model Johnson, Peterson (Brocade)
(11-494v0)**

Howard Johnson brought this presentation in for discussion and clarification. There were no aspects intended to be incorporated in the standard. Howard received much input.

6.9 Virtual Domain text

Peterson (Brocade) (11-217v2)

Dave presented an initial proposal for the textual changes necessary for Virtual Domains (11-217v2). He noted that this was a preliminary proposal and open for changes. Dave will continue work on this proposal and bring back at the next meeting.

6.10 Link Length Determination

Johnson (Brocade) (11-498v0)

Howard Johnson brought this presentation (11-498v0) in for discussion as a starting point for a protocol to provide link length information to FC-BB-6 devices. It was pointed out that IEEE 802.1as may be used for this purpose.

7 Unscheduled Business

7.1 Persistence - ENode membership check 11-503v0

Smith (EMC), White (Juniper)

This item was not discussed due to lack of time.

7.2 Discussion on the incorporation of 10-019v4 into FC-BB-6Thaler (Broadcom)

Annex A of T11/10-019v4 was not incorporated in FC-BB-6.

111206-1 FC-BB-6 editor to incorporate Annex A from 10-019v4 into the next version of FC-BB-6.

8 Deferred Business

8.1 Virtual Domain Split/Merge

Peterson (Brocade) (11-402v1)

Deferred at the request of the presenter.

8.2 Link Flapping

Peterson (Brocade) (11-400v1)

Deferred at the request of the presenter.

8.3 Manual and Auto Configuration

Peterson (Brocade) (11-401v1)

Deferred at the request of the presenter.

9 Project Schedule

Claudio DeSanti (Cisco) reviewed the project schedule:

| | |
|---------------------------|----------------------|
| Last New Technical Input: | <u>February 2012</u> |
| Letter Ballot: | <u>August 2012</u> |
| 1st Public Review: | <u>December 2012</u> |

10 Review of Action Items

111206-1 AI FC-BB-6 editor to incorporate Annex A from 10-019v4 into the next version of FC-BB-6.

11 Meeting Schedule

Request 8 hours at the T11 plenary week hosted by FCIA in New Orleans, LA 6-10 February 2012.

12 Adjournment

Lou Ricci (IBM) moved and Erik Smith (EMC) seconded to adjourn. Approved by acclamation.

The regular meeting was adjourned at 5:30 PM EST on 07 December 2011.

13 Status of Open Proposals

| Document Title | Number | Disposition | Author |
|--|------------|---|----------------------------------|
| Multiple Fabric Names in a single VLAN | T11/11-480 | Described problem. T11/11-516 will be carried to explore solution. Version available was T11/11-408v0 | Smith (EMC)/ Martin (Emulex0) |
| BB-6 modifications for Multiple FCFs on one VLAN | T11/11-515 | Carry for further development. Version available was T11/11-515v0 | Martin (Emulex), Smith (EMC) |
| High Availability Models of Operation in Fibre Channel | T11/11-482 | Feedback to be incorporated in future proposals. Version available was T11/11-482v1 | Ayandeh (HP) |
| Distributed FCF Specification | T11/11-026 | Motion to incorporate was deferred. Version available was T11/11-026v3 | DeSanti (Cisco) |
| Controlling Switch Redundancy Protocol | T11/11-224 | Carry for further development. Version available was T11/11-224v1 | DeSanti (Cisco) |
| VA_Port Protocols | T11/11-225 | Carry for further development. Version available was T11/11-225v2 | DeSanti (Cisco) |

| Document Title | Number | Disposition | Author |
|--|------------|---|------------------------------|
| Flexible FDF Connectivity | T11/11-481 | Carry for further development. Replaced T11/11-391. Version available was T11/11-481v0 | Ayandeh (HP) |
| Link Flapping | T11/11-400 | Carry for further development. Version available was T11/11-400v1 | Peterson (Brocade) |
| Manual Configuration and Automatic Configuration | T11/11-401 | Carry for further development. Version available was T11/11-401v1 | Peterson (Brocade) |
| Merge/Split | T11/11-402 | Carry for further development. Version available was T11/11-402v1 | Peterson (Brocade) |
| Observations on the Virtual Domain Model | T11/11-494 | Presented for discussion only. Version available was T11/11-494v0 | Johnson, Peterson (Brocade) |
| Virtual Domain text | T11/11-217 | Carry for further development. Version available was T11/11-217v2 | Peterson (Brocade) |
| Link Length Determination | T11/11-498 | Version available was T11/11-498v0 | Johnson (Brocade) |
| Persistence - ENode membership check | T11/11-503 | Version available was T11/11-503v0 | Smith (EMC), White (Juniper) |

14 Attendance

| Organization | Representative |
|-------------------------------|-------------------------|
| BROADCOM | Pat Thaler |
| BROCADE | David Peterson |
| BROCADE | Howard Johnson |
| BROCADE | John Crandall |
| BROCADE | Steven L. Wilson |
| CISCO | Joe Pelissier |
| CISCO SYSTEMS | Landon Noll |
| CISCO SYSTEMS, INC. | Claudio DeSanti |
| DELL | Gaurav Chawla |
| EMC | Erik Smith |
| EMULEX | William R. Martin |
| ENDL TEXAS | Ralph Weber |
| FISCHER INTERNATIONAL SYSTEMS | James Fortner |
| HEWLETT-PACKARD | Siamack Ayandeh |
| HEWLETT PACKARD CO. | Krishna Babu Puttagunta |
| HUAWEI SYMANTEC | Michael Ko |
| HUFFERD ENTERPRISES | John Hufferd |
| IBM | Louis Ricci |
| IBM | Roger Hathorn |
| INTEL CORPORATION | Prafulla Deuskar |
| JDSU | Jason Rusch |
| JUNIPER | Joseph White |
| LSI CORP. | John Lohmeyer |
| NETAPP | Frederick Knight |
| ORACLE | Michael Roy |
| QLOGIC CORP. | Craig W. Carlson |
| VMWARE | Neil MacLean |