

Draft Minutes

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

6 April 2011 - 9:00 AM to 5:30 PM EDT

Philadelphia PA

The FC-BB-6 ad hoc work group of the Fibre Channel Protocol (T11.3) Task Group held a regular meeting at Philadelphia PA on 6 April 2011, hosted by FCIA and Chris Lyon. Attendance was 2 Emeritus members and 28 people from 17 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

Chairperson Claudio DeSanti (Cisco) opened the regular meeting Wednesday, 6 April 2011 at 9:11 AM EDT. He thanked our hosts, FCIA and Chris Lyon, and led a round of introductions.

2 Meeting Policy

2.1 Attendance and Membership

The chair 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).

The chair 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.

No person identified himself as a member of an organization that is not a member of T11.

2.2 Patents

The chair 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

The chair 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 6 April 2011 has been posted as T11/11-130v0.

Since that posting, the following changes have been requested:

- Martin Skagen asked to present unscheduled business T11/11-164v0, "FDF Use Case & Behavior".
- Steve Wilson asked to present unscheduled business T11/11-162v0, "Distributed FCF Requirements for High Availability"
- Dave Peterson asked to present unscheduled business T11/11-165v0, "Distributed FCF".
- Erik Smith asked to present unscheduled business T11/11-064v1, "FIP Clear Virtual Link Reason Codes".
- Lou Ricci requested to withdraw his scheduled presentation of T11/11-129v0.
- Ralph Weber advised that his scheduled presentation of T11/11-073v0 should be deferred until late in the meeting. This was done without changing the agenda.

Lou Ricci (IBM) moved and Bill Martin (Emulex) seconded to accept T11/11-130v0 with the changes noted above 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 9 February 2011 have been posted as T11/11-040v1.

Lou Ricci (IBM) moved and Dave Peterson (Brocade) seconded to accept T11/11-040v1 as the minutes of the FC-BB-6 ad hoc work group meeting on 9 February 2011. Approved by acclamation.

4 Review of Old Action Items

There are no carried action items.

5 Old Business

5.1 FC-BB-6 What is in the box?

T11/11-073v0

Weber (ENDL)

(This presentation was deferred until the end of the meeting so that it could incorporate feedback based on the results of other presentations.)

The presentation was an eye accuity test, also intended to summarize the current details of distributed FCF behavior.

In consultation with those present, the chart was updated to reflect the most recent understandings.

6 Scheduled Business

6.1 Distributed FCF

T11/11-070v1

DeSanti (Cisco)

The presentation gave an overview of the detailed proposal in T11/11-026v1, focusing on several questions raised in earlier meetings:

- modeling and specifying the distributed switch in FC-SW-x.
- extending the distributed FC Switch concept into native Fibre Channel
- protocols for robustness

During the first few minutes of the presentation, issue was raised with the value of specifying distributed switches in native FC. There were strongly expressed opinions that the value would not justify the work.

The presenter offered the FCDF would be a more capable version of the N_Port Virtualizer, an existing product that has been found valuable. He offered that this possible value, and reminded the work group of its earlier requests that the design should be extensible to native FC.

Discussion of the continuing presentation clarified that the specification of a distributed switch was being proposed for FC-SW-x, so that the FC-BB-x specification would require only a mapping of the FC-SW-x specification and model onto an Ethernet carrier (i.e., onto FIP and FCoE).

The security community strongly recommended that the check value be represented as a type/length/value triplet (i.e., the length is flexible).

The presenter introduced the beginnings of a redundancy protocol, while observing that it needed a great deal of additional work.

7 Unscheduled Business

7.1 FDF Use Case & Behavior

T11/11-164v0

Skagen (Brocade)

The presentation summarized a set of customer responses to presentations of current directions of the distributed switch work in progress in FC-BB-6.

One reported customer requirement was the ability to replace a failing cFCF, or even a a failing cFCF pair, without disrupting ongoing traffic within the virtual domain. It was advised that there would be substantial value in continuing operation on failure, even though restoration may be disruptive, because recovery could be deferred until ongoing operations are brought to a safe condition.

Another reported requirement was a customer preference away from duplicate Fabrics for redundancy, versus relying instead on underlying layer 2 redundancy.

7.2 Distributed FCF Requirements for High Availability T11/11-162v0 Wilson (Brocade)

The presentation posed a number of characteristics of highly available configurations and invited discussion of their relevance to this project.

A new possibility was introduced of supporting more than two controlling FCFs in a redundancy cluster. A somewhat less radical approach would be for a secondary cFCF that took over primary function to determine a new secondary cFCF from among some set of available candidates. The advantages and challenges of that were discussed in little detail and many words.

It was posed that the the internal structure of distributed FCFs (i.e., their internal cFCFs, FDFs, and V_Links) should be visible for management purposes. There was no disagreement. It was suggested that the visibility be provided via the Fabric Configuration Server. Some members wanted to consider this further before agreeing.

7.3 Distributed FCF T11/11-164v0 Peterson (Brocade)

The presentation posed some gaps to be filled in the current working models/specifications.

It was agreed that the insistent Domain ID option needed to be carried to virtual domains as well.

There were several agreements on reiterations of very recent issue resolutions.

It was uncertain whether the current Fabric bringup protocol was sufficient to support assignment of virtual Domain IDs. It was agreed that any issues would be easily resolved.

A desire was expressed to allow some kind of load-sharing among the primary and secondary cFCFs. It was agreed to be worth study.

It was agreed that new SW_ILSs should be Type/Length/Value structured, so as to permit future extensibility.

The level of agreement during the afternoon session exceeded the capacity of the group to comprehend.

7.4 FIP Clear Virtual Link Reason Codes T11/11-064v1 Smith (EMC)

This is an update to a document that was very rushed by time constraints at its earlier presentation. It poses a need for access to information explaining the reason that a CVL (Clear Virtual Link) was sent. It then proposed such information could be carried by an optional descriptor in the CVL FIP payload.

The proposed limit of a single reason code per CVL was questioned, though it was not seen necessary yet to allow for multiple reason codes.

It was agreed that, when a CVL clears multiple links, they must all have been cleared for the same reason.

It was agreed to renumber Reason Code Explanations to assign zero to indicate an unknown or unspecified explanation.

Eric will revise the presentation and bring it to a later meeting for approval.

8 Review of Action Items

There were no action items carried from this meeting.

9 Meeting Schedule

Request 8 hours at the T11 plenary week hosted by FCIA in Coeur d'Alene ID, 6-10 June 2011.

10 Adjournment

Lou Ricci (IBM) moved and Sandy Wilson (Fujitsu) seconded to adjourn. Approved by acclamation.

The regular meeting was adjourned at 3:49 PM EDT on 6 April 2011.

11 Status of Open Proposals

Document Title	Number	Disposition	Author
FC-BB-6 FDF Requirements	T11/10-343	Deferred. Carry for further development. Most recent version presented was T11/10-343v0.	Hathorn (IBM)
Distributed FCF Specification	T11/11-026	Carry for further development. Version available was T11/11-026v1	DeSanti (Cisco)
FIP Clear Virtual Link Reason Codes	T11/11-064	Carry for further development. Version presented was T11/11-064v1.	Smith (EMC)
Distributed FCF Presentation	T11/11-070	Carry for further development. Version posted was T11/11-070v1	DeSanti (Cisco)
FC-BB-6 What is in the box?	T11/11-073	Close, tutorial. Version presented was T11/11-073v0. Expect a final revision to be posted.	Weber (ENDL)
Distributed FCF Requirements for High Availability	T11/11-162	Close, tutorial. Version presented was T11/11-162v0.	Wilsoin (Brocade)
FDF Use Case & Behavior	T11/11-164	Close, tutorial. Version presented was T11/11-164v0.	Skagen (Brocade)
Distributed FCF	T11/11-165	Close, tutorial. Version presented was T11/11-165v0.	Peterson (Brocade)

12 Attendance

Organization	Representative
BROADCOM	Pat Thaler
BROCADE	David Peterson
BROCADE	Steven L. Wilson
BROCADE	Martin Skagen
CISCO	Joe Pelissier
CISCO	Landon Noll
CISCO	Claudio DeSanti
DELL	Gaurav Chawla
EMC	David Black
EMC	Erik Smith
EMERITUS	Horst Truedstedt
EMERITUS	Robert Kembel
EMULEX	Bob Nixon
EMULEX	William R. Martin
ENDL TEXAS	Ralph Weber
FUJITSU AMERICA, INC.	Sandy Wilson
HUFFERD ENTERPRISES	John Hufferd
IBM	Chetan Yaliwal
IBM	Deepak Kumar
IBM	Louis Ricci
IBM	Roger Hathorn
INTEL CORPORATION	Prafulla Deuskar
JDSU	Jason Rusch
JUNIPER	Joseph White
MELLANOX TECHNOLOGIES	Diego Crupnicoff
NETAPP	Frederick Knight
ORACLE	Michael Roy
ORACLE	Roger Dickerson
QLOGIC	Ed McGlaughlin
QLOGIC	Craig W. Carlson