

# Draft Minutes

## T11.3 Fabric Expansion Study Group

### 7 December 2004 - 9 AM to noon

### Indian Wells CA

Version 1: Removed spurious text from results of vote in 5.1  
Removed spurious links.

The Fabric Expansion Study Group of INCITS Technical Committee T11 Task Group T11.3 met at Indian Wells CA on 7 December 2004, hosted by Broadcom. Attendance was 24 people from 18 companies and is tabulated at the end of this document.

Minutes were taken by Bob Nixon (bob.nixon@emulex.com). Please report any corrections by email to the T11.3 reflector at T11\_3@mail.T11.org.

## 1 Opening remarks and introductions

Chairperson Dave Peterson opened the meeting Tuesday, 7 December 2004 at 9:13 AM. He thanked our host company, Broadcom, and led a round of introductions.

### 1.1 Patents

Dave Peterson indicated that among the rules and policies under which this working group operates is the ANSI patent policy. He directed persons wishing to make statements or ask questions relevant to this policy to do so at the T11.3 or T11 plenary meeting.

### 1.2 Antitrust

Dave Peterson indicated that among the rules and policies under which this working group operates is the INCITS Antitrust Guidelines. Any member of the meeting is responsible for objecting if he believes discussion in the meeting violates those guidelines.

## 2 Attendance and Membership

Dave Peterson stated that all persons present are considered members of this meeting and may vote on questions, limited to one vote per company present. 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).

## 3 Approval of Agenda

04-772v1

*It was moved by Dave Peterson and seconded by Bob Nixon to accept 04-772v1 with the changes noted above as the agenda for this meeting. Approved unanimously.*

## 4 Review of Minutes and Action Items

04-688v0

### 4.1 Approval of Minutes of Prior Meetings

*It was moved by Bob Nixon and seconded by Dave Peterson to accept 04-688v0 as the minutes of the Fabric Expansion ad hoc meeting on 4 October 2004. Approved unanimously.*

## 4.2 Review of Old Action Items

AI 1 Claudio DeSanti to publish a project proposal for a Fabric Routing standard.  
(Opened 4 October 2004) (CLOSED by 04-755v0)

## 5 Old Business

### 5.1 Fabric Routing Project Proposal

04-755v0

DeSanti/Cisco

Claudio presented a proposal for a project to develop a standard to formalize the fabric routing function being developed in this study group.

It was questioned why this is not included in FC-SW-x. The answer was that the function being defined is intended to be and remain independent of the operation of fabric switches.

It was agreed to change the name of the project to Inter-Fabric Routing (FC-IFR), and to add text expressing the goal that the operation and standards for interfabric routing be independent of the operation and standards for fabrics.

The intent that it remain independent of FC-SW-x was questioned, in that the management of an interfabric needs to be transparently integrated with the management of the fabrics it contains. The answer was that members of the group valued very highly the independence of the two functions, and felt it was necessary to assure common management despite the independence of the specifications.

It was questioned whether the routing extended header belonged in FC-FS-x.

It was agreed that although the routing extended header may be designed in FC-FR, it would in all likelihood be documented in FC-FS-x.

*It was moved by Claudio DeSanti and seconded by Bob Nixon to forward 04-755v1, reflecting 04-755v0 and the agreements at the Fabric Expansion meeting 7 December 2004, to T11.3 for further processing. Approved unanimously.*

**ACTION:** Claudio DeSanti to publish 04-755v1 reflecting 04-755v0 and the agreements at the Fabric Expansion meeting 7 December 2004.

**ACTION:** Fabric Expansion chairman to recommend to T11.3 to forward 04-755v1 to T11 for further processing.

## 6 New Business

### 6.1 Transport Fabric Model

04-662v1

Snively/Brocade

This presentation was deferred until after discussion and revision of 04-797 converges.

### 6.2 Transport Fabric Model - Discovery

04-797v0

Snively/Brocade



It specifies functional requirements for various components, including those introduced by 04-810v0.

It includes a good start on how to translate addresses within specific ELSs.

It specifies formats for the inter-fabric routing header and the encapsulation header.

Members expressed intention to specify how to provide integrity protection for headers That did not require recomputation of the FC frame CRC. Harry Paul stated that for any content of an encapsulation header, a proper value could be computed for its Parameter field so that the frame CRC is the same for both the encapsulated frame and for the frame with the encapsulation header prefixed.

**ACTION: Harry Paul to propose means to provide integrity protection for fabric routing related headers independent from that of the FC frame CRC.**

It specifies discovery methods similar to 04-797v0.

This proposal will be carried and updated as basis for the FC-IFR project document.

## **7 Review of Action Items**

### **7.1 Action Items**

- AI 2 Claudio DeSanti to publish 04-755v1 reflecting 04-755v0 and the agreements at the Fabric Expansion meeting 7 December 2004. (CLOSED by 04-755v1)
- AI 3 Fabric Expansion chairman to recommend to T11.3 to forward 04-755v1 to T11 for further processing.
- AI 4 Harry Paul to propose means to provide integrity protection for extended headers not requiring recomputation of the FC frame CRC.
- AI 5 next Action Item.

### **7.2 Open Issues**

- Issue 1 How would the presence of intervening switches between two fabric routers be determined in the presense of transparent bridges?
- Issue 2 How is ELS payload translation handled when both source and destination translation is done in the router at one end of the routing path?
- Issue 3 Some, but not all, proposed address proxying methods require an observer between the entry and exit routers to obtain information from the entry or exit routers to determine the local source and destination addresses of a routed frame. It is not yet clear whether this disadvantage outweighs other advantages of these methods.
- Issue 4 Next open issue

## **8 Meeting Schedule**

**Dave Peterson**

Request 4 hours at the T11 Plenary Week beginning 31 July 2004.

## 9 Adjournment

*It was moved by Dave Peterson and seconded by Vinod Bhat to adjourn. Approved unanimously.*

The meeting was adjourned at 11:59 AM on 7 December 2004.

## 10 Actions on Proposals at This Meeting

Document Title	Number	Disposition
Fabric Routing Unification	<u>04-645v0</u>	Carry. Expect revision.
Transport Fabric Model	<u>04-663v0</u>	Closed. Replaced by 04-797v0.
FC-FR Project Proposal	04-755v0	Closed by approval of 04-755v1
Transport Fabric Model - Discovery	04-797v0	Carry. Expect revision
Transport Fabric Discovery	04-662v0	Carry. Discussion was deferred
Fabric Routing FC_ID Translation	04-810v0	Closed, proposal is incorporated in 04-520v1.
FC-IFR specification	04-520v1	Carry for additional revision.

## 11 Attendance

Name	Organization Represented
Vinod Bhat	HEWLETT PACKARD
David Black	EMC
Craig Carlson	QLOGIC CORP.
Dan Chung	BROCADE
James Coomes	SEAGATE TECHNOLOGY
Roger Cummings	VERITAS SOFTWARE
Claudio DeSanti	CISCO SYSTEMS, INC.
Robert Dugan	IBM POUGHKEEPSIE
Matt Gaffney	STORAGETEK
Ken Hirata	EMULEX
Scott Kipp	MCDATA
John Lohmeyer	LSI LOGIC
Ed McGlaughlin	QLOGIC
Bob Nixon	EMULEX
Harry V. Paul	CNT CORPORATION
Joe Pelissier	MCDATA
George Penokie	IBM TIVOLI SYSTEMS
David Peterson	COMPUTER NETWORK TECHNOLOGY
Rich Ramos	XYRATEX
Koby Reshef	PACKETLIGHT NETWORKS
Robert Snively	BROCADE COMMUNICATIONS
Sashi Thiagarajan	CIENA CORPORATION
Horst Truestedt	TRUE FOCUS, INC
Ralph Weber	ENDL TEXAS