

Draft Meeting Minutes
Prepared 17 February 1998
Joint Technical and Marketing Task
T11 Fibre Channel Standards Community
Fibre Channel Association (FCA)
Fibre Channel Loop Community (FCLC)

Meeting Held During The FCA Annual Summit
21 - 22 January 1998; Irvine Marriott, Irvine, CA.

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Electronic Document Availability:

Draft documents, proposals, and presentations for the Joint Technical and Marketing Task may be obtained at the following ftp site:

[ftp.dpt.com/t11/admin/fca_fclc/](ftp:dpt.com/t11/admin/fca_fclc/)

Additionally, these same files may be obtained at the URL: <http://www.fibrechannel.com>

**Joint Technical and Marketing Task; 21-22 January 1998:
T11, Fibre Channel Association (FCA), Fibre Channel Loop Community (FCLC)
Irvine Marriott, Irvine, CA.**

Meeting Summary:

A Joint Technical and Marketing Task meeting was held during the FCA Annual Summit, at the Irvine Marriott, Irvine, CA., 21-22 January 1998. The Joint Technical and Marketing Task represents a coordinated, or joint, activity between the T11 Fibre Channel Standards Community, Fibre Channel Association (FCA), and Fibre Channel Loop Community (FCLC). The relevant sessions during the FCA Annual Summit were titled: "Meeting the Customer's Needs; Aligning the needs of the market with standards processes to create standards based products that meet customer needs." There were two sessions, with the following times: 7:45-8:30 Wednesday evening, January 21, 1998; and 8:30-10:30 Thursday morning, January 22, 1998. Before the meeting the following text was made available to introduce the two sessions.

Objective:

End users are now purchasing the first wave of products from Fibre Channel manufacturers. It is now incumbent upon us as a community to align the needs of the market with the standards processes so that we are prepared to design and deliver our next product families based on standards that meet the end customer solution profile.

In the last six months, the ANSI / NCITS T11 leadership has requested industry provide market needs rational from industry for use in the standards development process. The FCA, working jointly with T11 and FCLC, began this process through the recent Joint T11 / FCA / FCLC Meetings. Significant expansion of this technical / market assessment role is anticipated during 1998, to develop the necessary synergy among Fibre Channel contributors, as well as other industry organizations, such as VIA, IETF and volume based standards corporations such as Microsoft, Intel, and Oracle.

Summit Activities:

Wednesday evening we'll devote the time to exchange information on changes in the vertical and horizontal markets and applications. Thursday morning we'll spend more time detailing recommendations priorities, timing and measurements of success and how to conclude each individual project.

Post-Summit Activities:

During the next few months a formal survey of technical and marketing people from Fibre Channel community companies will take place that will supplement this kickoff discussion. The step after the survey will be to inventory the standards processes taking place in the next 24 months. After the inventory, a capabilities matrix will be developed and at the 1999 FCA Annual Summit a technology roadmap will be unveiled.

FCA-Japan and FCA-Europe:

We will also receive reports from FCA-Japan and FCA-Europe on their assessment of requirements. As many of you know it is very difficult and expensive for companies outside of the US to participate in ANSI and other industry bodies even though they are welcome. The FCA will be one point of reporting, by which their needs are included in with our recommendations and influence.

Results:

This is an opportunity for us to understand what's being developed in the standards bodies, what isn't, what needs to be, and how we will make the right work happen with our human and financial resources. There are many companies and organizations (Microsoft, Oracle, Veritas, etc.) outside of ANSI that we need to influence as a community in order to create the full promise of Fibre Channel. One of the original charters which is at the heart of the Fibre Channel Association is to encourage the advancement of the technology and to create a robust industry.

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Please note, T11 is an official standards development committee under the National Committee for Information Technology Standardization (NCITS) and American National Standards Institute (ANSI) organizations. Please also note, the FCA and FCLC are non-profit, technology marketing and public relations based trade associations established by member companies to expedite Fibre Channel deployment into a broad class of industry applications.

Topics covered in the 21-22 January, Joint Technical and Marketing Task meeting included...

<u>-Aligning Market Needs and Standards Processes</u>	Michael Hoard	Boeing Defense & Space
<u>- Market Needs, FCA-Japan:</u>	Yuichi Arai	Hucom Inc.
<u>- Meeting the Customer Needs in 1998, FCA-Europe</u>	Paul Talbut	Hardware Planning Services Ltd.
<u>- Small Group Discussion</u>	Michael Hoard	Moderator

Meeting Details:

<u>-Aligning Market Needs and Standard Processes</u>	Michael Hoard	Boeing Defense & Space
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Michael Hoard, Boeing Defense and Space, presented an introduction of the “market needs” session, held at the end of the Wednesday night diner meeting. Michael’s presentation is available at ftp.dpt.com/t11/admin/fca_fclc/9801jt01.pdf. Michael Hoard described progress to date regarding the dialog between T11, FCA, and FCLC, in terms of the goals, objectives, and net results of the effort. Additionally, he described the process to solicit information from industry which will result in the development of a Fibre Channel capabilities matrix and a Fibre Channel technology road map. Michael stated that the capabilities road map shall act as an inventory of all existing and near term anticipated Fibre Channel products, including hardware, software driver support, test equipment, etc.

Michael described the formation of a new Joint Task Group, who will work to develop the survey, synthesize the data, and generate the final documentation. Michael called on new people to join the group, and participate in the process. So far there are eight people signed up to form the initial group. Michael concluded by reminding the group of further work on this subject during the Thursday morning meetings.

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- Market Needs, FCA-Japan: Yuichi Arai Hucom Inc.

Yuichi Arai, Hucom Inc., presented a report on market needs relative to FCA-Japan. Yuichi Arai is the Technical Committee Chair within FCA-Japan. Arai san's presentation was given during the Thursday morning meetings. Arai san's presentation is available at ftp:dpt.com/t11/admin/fca_fclc/9801jt02.pdf.

Arai san stated that Fibre Channel is for the most part positioned to address the needs of mass storage, and said that in the area of networking Fibre Channel is faced with serious competition from Gigabit Ethernet. He said that most people want to use Fibre Channel as a high speed, hard ware based data channel. He said the market is very good for Fibre Channel in the area of high performance servers and storage area networks. He recommended that Fibre Channel develop a seamless connection with Gigabit Ethernet and ATM solutions. He recommended promoting mutual existence with these technologies, and not try to compete head on.

Arai san stated that he was very excited about the Joint FCA / FCLC Technical and Marketing meetings, and expressed interest in participating in the Fibre Channel survey and road map activity. He stated that for many years, FCA-Japan has wanted to contribute more actively in the standards development process, and this effort represents a very good way to develop more detailed and involved dialog between Japan and US contributors.

- Meeting the Customer Needs Paul Talbut Hardware Planning Services
in 1998, FCA-Eurpoe Ltd.

Paul Talbut, Hardware Planning Services Ltd., presented a report on market needs relative to the newly formed FCA-Europe organization. Please note, FCA-Europe just recently organized as an affiliate of the US based FCA. Paul Talbut is the Chairman of the Board of Directors for FCA-Europe. Paul's presentation is available at ftp:dpt.com/t11/admin/fca_fclc/9801jt03.pdf.

Paul stated that the ongoing market developments for Fibre Channel are very positive. He stated that Europe is perhaps 2 to 3 years behind the US; however, he sees very strong growth potential in Europe as full systems are deployed by US contributors and the technology becomes pervasive. Paul stated that he is very interested in gaining information on "proof points" for Fibre Channel, which may act as a base line to communicate the level of success in the field. Specifically, Paul stated a need to develop measurable "proof" of Fibre Channel meeting enterprise level needs.

Paul stated that there are still some areas within the Fibre Channel offering which require further maturation, such as Tape. He stated that the Fibre Channel community as a whole must take a leadership role to rapidly make decisions such as whether Tape and Mass Storage will be Class 2 or Class 3, and define the architecture for Tape Libraries interconnected to Mass Storage and Host Computing Systems.

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Paul stated that the Fibre Channel community must also address the market timing and technical aspects of the introduction of 2 and 4 Gigabit/sec solutions. Paul asked the questions: a) whether these devices will allow for speed matching, b) how will they provide for scalability, c) will this be at the device level or at the fabric level. Paul stated that all of these questions need to be addressed in the Fibre Channel road map.

Paul stated that the road map must indicate all of the device level and software level elements required to develop full system level solutions, and when (market timing) these elements will be available as a full functional solution. Paul stated that even today, the road map needs to show what is available right now, and what system may be configured using existing technology. Paul stated that the end message should be, “if you are serious about mass storage, you need to use Fibre Channel.”

Paul recommended that T11 finish the standard to the level where existing standards documents are provided with corresponding technical reference information, such that developers and users have a comprehensive description of how all of the standards elements fit together. He further recommended that the T11 standards process promote stability in future enhancements, which builds upon existing solutions.

- Small Group Discussion

Michael Hoard

Moderator

Michael Hoard, Boeing Defense and Space, acted as moderator for the small group discussion. The room was divided into six sub-groups, each of which were asked the following two questions, responses were provided by a sub-group spokesperson:

- a) What are the high priority changes in vertical and horizontal markets requiring significant attention and resources.
- b) What principle message should be conveyed by the Fibre Channel road map.
(examples: stability, faster / better / cheaper, robust long life with upgrades)

Group 1 Response: The group agree that end users need “proof points” to show the benefits of Fibre Channel. One example may be the Broadcast Video market. The group agree that Tape needs work, especially at the enterprise level. Right now Tape is being discussed in terms of Class 2, Class 3, bridges from Fibre Channel to Tape, and direct Fibre Channel attach to Tape. The group recommended that a well thought out strategy is needed to address the migration of the Enterprise Tape Library Systems. In terms of the message, the group recommended that “long life” and “assurance of compatibility” were key factors. The group stated a need to ensure the road map addresses the “total system, across multiple platforms.” The group stated the need to address stability at 1 Gbaud, and show a detailed time line for Fibre Channel standards. Finally, the group agreed that the message should be, “if you are serious about data storage, use Fibre Channel.”

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Group 2 Response: The group stated the need to develop standards profiles in key vertical markets, and recommended that Fibre Channel contributors not compete in the standards development arena. They recommended that competition should be left to providing compelling value to customers, not positioning in standards bodies. The group stated that the standards development activities must concentrate on interoperability, and making sure the necessary technical details are documented accordingly. The group recommended that interoperability be addressed in a broader forum than just the University of New Hampshire.

Group 3 Response: The group stated the need to address what is not in the standard. They recommended that further work is needed to develop application profiles, where a list is generated of all the elements required to build an application. The group recommended that compliance test suites be generated, including test plans, and conformance criteria. The group recommended that the Fibre Channel road map recognize other standards, such as ATM and Gigabit Ethernet, and show how Fibre Channel will coexist with these technologies. The group stated that the message should show the evolution or trend, and that the long term should eliminate choices (ie. physical plant media, cables, connectors). The group stated the need to eliminate the large number (20 to 30 different permutations) of physical plant choices, so that there would only be 2 or 3 predominant choices remaining. A comment from the floor stated that form factors drive variety. The group spokesperson then stated that special applications will always meet their own needs, but this recommendation is in terms of the broad majority of the to-be-fielded Fibre Channel systems. The group stated the message should highlight Fibre Channel offers ease of deployment, less complexity than other alternatives, and the testing is simplified.

Group 4 Response: The group agreed that the road map is critical, and that Fibre Channel right now is still in its infancy and needs to get beyond the first deployment. The group stated that we have focused on the vertical markets such as storage and video; however, going forward we need to develop new champions in medical and imaging markets. The group stated the message should describe the solution first, and talk about the technology later.

Group 5 Response: The group stated the need to address interoperability. The group stated that the market has no forgiveness for failing to deliver interoperable solutions, and there are no second chances to fix problems after the fact. The group stated that the issue is not one Host Bus Adapter vs another, but needs to be comprehensively concluded by the entire Fibre Channel community. The group also stated that the Fibre Channel road map should address speed increases, and stated that we should first deliver a fully interoperable 1 Gbaud solution first before shipping 2 or 4 Gbaud. The group stated that the message should be "Fibre Channel provides connectivity."

Group 6 Response: The group stated the need to address a new initiative in T11 which would develop an "Operating System Attach" profile. This effort would address system calls and a mapping at the application / OS level. The group stated that the IP profile does not provide adequate performance. The group stated that this needs to be done before other competing proprietary technologies have a chance to gain momentum. The group stated that a candidate profile or mapping project should include Intel's Virtual Interface Architecture (VIA), which is

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targeted for the cluster computing market. Specifically, the group stated the need to eliminate the proliferation of a large number of Ad Hoc VIA mappings, which would result in multiple non-interoperable variants.

This concluded the meeting.

1998 Joint FCA / FCLC Meetings:

The Joint FCA / FCLC Meetings are scheduled immediately following the T11 plenary, from 6:00 - 8:00 PM, on the following dates...

12 February 1998	San Diego, CA. (T11 Plenary Week)
23 April 1998	Palm Springs, CA. (T11 Plenary Week)
11 June 1998	St Petersburg Beach, FL. (T11 Plenary Week)
13 August 1998	Portsmouth, UK. (T11 Plenary Week)
8 October 1998	Ft. Lauderdale, FL. (T11 Plenary Week)
17 December 1998	Tucson, AZ. (T11 Plenary Week)

Attendance:

Richio Aikawa	Emulex
Jerry Alston	QLogic
Yuichi Arai	Hucom
Dave Baldwin	Emulex
Charles Bazaar	Jaycor Networks
Steve Beevers	Brocade
Bruce Bergman	Brocade
Teri Blackledge	Emulex
Margaret Block	Sonic Solutions
Jeanette Busse	Tektronix
AJ Casamento	Brocade
Brenda Christensen	Brocade
Joe Colgate	Arcxel Technologies
Steve Collins	HPS
Peter Dougherty	McDATA
Michael Dreitlein	Hewlett Packard
Joe Edens	Serano Systems
Mark Edwards	QLogic
Anne Ferris	The Ferris Group
Pete Fiocco	Emulex

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Mike Fitzpatrick	Fujitsu
Larry Fortmuller	QLogic
Michael Foster	Unisys
Marty Francis	Symbios
Rick Franz	QLogic
Marc Friedmann	Prisa
Edward Frymoyer	EMF Associates
Sari Gallagher	Brocade
Linda Hardman	McDATA
Norman Harris	Adaptec
Dale Head	Amdahl
Ken Hendrickson	Ancor
Vic Herring	Brocade
Michael Hoard	Boeing Defense and Space
Mimi Howard	Storage Concepts
John Ives	Serano Systems
Tony Jones	HPS
Skip Jones	QLogic
Mike Kane	Emulex
Scott Karstetter	IBM
Monika King	McDATA
Tom Kirchner	Brocade
Jay Kramer	Unisys
Tom Lassen	EMC
Edwin Lee	EMF Associates
Jerry Leitherer	GENROCO
Eric Leppanen	QLogic
Lance Leventhal	Emulative Systems
Mary Lindstrom	Vixel
Andrew Linnell	Digital Equipment Corp
Ashi Majid	Integrated Circuit
Kumar Malavalli	Brocade
Michael Marks	Sonic Solutions
Zabrina Martin	The Hamilton Group
Mary Miller	Ancor
Elizabeth Narmore	Transoft Tech
Al Neves	Integrated Circuit

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Charlie Nogales	Emulex
Heather O'Hara	The Ferris Group
Saruhan Ozten	Transoft
William Palmer	Transoft
Harry Paul	General Signal Networks
Ron Quagliara	Emulex
Linda Reed	McDATA
David Reilly	ECCS
Lisa Richard	Brocade
Daniel Roig	Adaptec
Jack Rubinson	Brocade
Mary Russell	The Hamilton Group
Mark Sausville	Brocade
Greg Scherer	Emulex
Madeline Schnapp	Infotrend Corp
Junichi Shimada	NTT
Charles Smith	Brocade
Jeff Stai	Brocade
Paul Talbut	HPS
Dennis Talluto	EDS
Bill Terry	Unisys
Neil Unger	General Signal Networks
Bruce Van Dyke	Brocade
Bob Weisickle	Hewlett Packard
Fred Weniger	Vitesse
Bob Whitson	Hewlett Packard
Carl Zeitler	Compaq