

DRAFT MINUTES OF THE 18TH FAIS AD HOC MEETING

The eighteenth meeting of the T11.5 FAIS Ad Hoc group took place at the Hyatt Grand Champion Resort in Indian Wells, CA, on December 8, 2004.

The following people were present:

| | | |
|-----------------|---------------------|---------------------------------|
| BROCADE | Ed McClanahan | edmc@brocade.com |
| CISCO | Claudio DeSanti | cds@cisco.com |
| DOT HILL | Elizabeth Rodriguez | Elizabeth.Rodriguez@dothill.com |
| EMC | Anshul Chadda | chadda_anshul@emc.com |
| EMULEX | Ken Hirata | ken.hirata@emulex.com |
| HDS | Eric Hibbard | eric.hibbard@hds.com |
| HDS | Hidehisa Shitomi | hidehisa.shitomi@hds.com |
| IVIVITY | Eddy Quicksall | eddyquicksall@ivivity.com |
| MCDATA | Gib Cardwell | gibc@mcddata.com |
| MCDATA | Larry Hofer | larry.hofer@mcddata.com |
| MCDATA | Joe Pelissier | joe.pelissier@mcddata.com |
| QLOGIC | Craig W. Carlson | craig.carlson@qlogic.com |
| TROIKA NETWORKS | William Chow | wchow@troikanetworks.com |
| VERITAS | Roger Cummings | roger.cummings@veritas.com |
| XYRATEX | Rich Ramos | rich_ramos@us.xyratex.com |

A total of 15 people from 12 organizations.

1. Opening remarks and introductions

The Chairman of FAIS, Claudio DeSanti of Cisco, called the meeting to order and welcomed the attenders, and led a round of introductions.

2. Administrivia

2.1 Approval of minutes

The minutes of the October FAIS Ad Hoc meeting had been uploaded to www.t11.org by William Chow of Troika Networks as 04-825v0.

The following changes were noted:

- Object model changes for new multipath vdev were approved but not reflected as an action item to the editor.

Roger Cummings moved to approve the minutes; Claudio seconded. The agenda was approved, pursuant to the aforementioned changes, in the absence of any objections.

2.2 Approval of this agenda

Claudio had distributed a draft agenda for this meeting as 04-745v0 via the T11 Web site, and he now asked for changes to that agenda.

Claudio moved to approve the agenda; Eric Hibbard seconded. The agenda was approved in the absence of any objections.

3. Call for Patents

Claudio stated that this Working Group operates under the INCITS procedures, which are available on the web at <http://www.incits.org/>. Amongst these procedures are the ANSI patent policies. He directed persons to forward any patent related issue to the T11.5 and T11 Plenary meetings.

4. Review of old FAIS action items

Old action items were reviewed. Their status was updated as follows:

- AI 4: Amitava Guha to provide requirements for statistics gathering in FAIS and present proposals (Opened 9/10/2003)
Open: Roger Cummings stated that they meeting with legal/SMI/SNIA issues in January. Target: Feb meeting.
- AI 5: Ed McClanahan and William Chow will work on a draft of Chapter 5. (Opened 11/9/2003)
Open. Target: Jan meeting.
- AI 7: Tanjore Suresh will cross-reference names/types of capabilities against existing standards/prior work. (Opened 1/13/2004)
Open. Target: the next meeting after completion of action item #8.
- AI 8: John Kemeny/Brian Geisel will each provide a list of capabilities that they must be able to query support for. (Opened 1/13/2004)
Open. Not present to update target date. Target: Dec meeting.
- AI 9: Ed McClanahan will propose an approach for supporting failover in the event of CPP failure. (Opened 1/13/2004)

- Open. EM said this is blocked behind 04-402 completion as he needs to understand the Provider state that must be managed during failover. Target: ??? meeting.**
- AI 12: Elizabeth Rodriguez will propose support for journaling. (Opened 4/6/2004)
Open. ER said this will not make a Feb cutoff.
- AI 20: Tanjore Suresh and Eddy Quicksall will propose chapter 6 text for iSCSI-specific port attributes. (Opened 5/8/2004)
Closed, to be superceded by AI 33. Target: Dec meeting.
- AI 22: Ed McClanahan will propose a draft for chapter 1 and 2. (Opened 5/8/2004)
Partially completed (only chapter 2). Still open. Target: Jan meeting.
- AI 27: Ronak Desai will write up API requirements for Client takeover and handling of a faulted I/O. (Opened 7/13/2004)
Open. Target: Jan meeting.
- AI 29: Roger Cummings will propose object model modifications to support pass-thru of non-read/write I/Os. (Opened 7/13/2004)
Open. Target: Feb meeting.
- AI 31: Claudio DeSanti will notify the membership (via the reflector) of the remaining schedule of the working group upon completion of the initial draft of the spec. (Opened 9/14/2004)
Closed, as it is overtaken by events.
- AI 33: Eddy Quicksall and William Chow will propose an object to represent a port in the object model. (Opened 10/6/2004)
Open. Target: Jan meeting.
- AI 34: Roger Cummings will provide a list of SCSI documents to cite in the draft specification. (Opened 10/6/2004)
Open.
- AI 35: John Kemeny will make the source for the object model available. (Opened 10/6/2004)
Open.
- AI 38: Ed McClanahan will incorporate the Xmap changes for single read/write Vdev (from 04-665v1) into the draft specification. (Opened 10/6/2004)
Open.
- AI 39: Larry Hofer will update the definitions in the Chapter 3 draft (04-393). (Opened 11/16/2004)
Open. Target: Feb meeting.
- AI 40: Ed McClanahan will incorporate the new Multipath Vdev (from 04-665v1) into the object model. (Opened 11/16/2004)
Open.

5. Old business

There was no old business at this meeting.

6. Scheduled FAIS business

6.1 FAIS IDs, Provider Handles, SCSI Port IDs and Their Usage (04-804v0) Anshul Chadda

Every FAIS object has a FAIS_ID_T. It is intended to be the same as the “ObjectID”; the consensus was that this will be subsequently referred to as “object ID”. William asked if typedefs should be capitalized; Ed McClanahan noted that 04-393 indicates that this ends in “_T”, implying that the preceding name is also capitalized. Eddy Quicksall noted that enums are currently lower case, so this should be changed to match.

William asked why there are rules on usage of the FAIS_ID, when this seems to be private to the Client and effectively opaque to the Provider. It was agreed that there are 2 handles in each direction, and each are respectively opaque to one another. Ed proposed: “provider handles” are specified by the provider and “client handles” are specified by the client. William suggested adding “object” to the name; Larry Hofer suggested “obj”. Ed suggested “ID” instead of “handle”; William responded that “handle” connotes opaqueness better. Anshul suggested fais_object_chandle (client) and fais_object_phandle (provider). There was consensus that this was acceptable.

Ed asked whether Provider-created objects can support a Client-specified handle. William noted that this would be useful but not mandatory. Ed said that it would be useful for the client-handle to be updated (e.g. object takeover by another client).

Anshul said his presentation’s “ProviderHandle” is for a client registration. Ed suggested that this could be called fais_client_<c|p>handle. Ed noted that one client can deregister another client; Anshul asked that this case requires both <c|p>handles to be specified. Ed noted that 04-147v1 and 04-322v0 and 04-335v1 describe the various aspects of the programming model; he noted that the last one describes the Client downcall for providing a context to dispatch upcalls.

William asked why a Client can register only once. Ed said that it would be useful for a Client to register multiple times so that it can support multiple contexts for upcalls. William said this is also useful in the Client takeover case, i.e. B registers with A’s fais_client_chandle.

Larry noted there is an action for Anshul to update his presentation per the new 2-way handles.

Gib Cardwell asked whether a deinit frees resources. Ed suggested that deinit does not destroy objects created by that client. William stated that this requires that a Provider may NOT reuse a client_phandle until the last reference.

Anshul said the SCSI PORT ID refers to a world-wide unique name for a FAIS_SCSI_Port. EM said that it should not be used to “uniquely identify” the FAIS_SCSI_Port and it should not be “in a SAN”. William suggested that it should say: the name uniquely identifies the FAIS_SCSI_Port to other SCSI Ports that may communicate with it. He said it needs to be used as port name in a VPD inquiry on that FAIS_SCSI_Port. There was general agreement that this was appropriate.

William noted that the name is problematic; it was generally agreed that the name can be deferred pending AI 33.

6.2 FAIS API Proposal (04-402v4)

Larry Hofer

Larry Hofer noted that he used “FAIS_SCSIPOINT_ID_T” just so he had a type to refer to. He said this is subject to change pending AI 33.

Anshul noted that the current structures do not have 2-way handles. Larry and Anshul will take an action to update the API proposal for the 2-way handles.

Ed suggested using macros for IN and OUT, instead of comments.

William noted that the object model has a BITL, but the API proposal doesn't support creating/destroying it. There was consensus that this should be added.

Claudio noted that the FLU is in the object model, but not covered in the proposal. He further noted that it seems optional. William said it is useful for locating the top of a mapping tree, particularly if that logical unit is not yet attached to any FITLs.

Larry accepted an action to propose the usage and specification for GetStatus methods.

7. Unscheduled FAIS business

Claudio asked if people were interested in closing their action items, or alternatively stop working on FAIS. There was consensus that we wanted to continue FAIS and actively work on their action items.

Larry noted that there needed to be consensus on the event handling section of the API proposal. Claudio suggested a conference call to discuss this. Anshul asked that the concall cover all of chapter 2.

8. Review of FAIS action items

New action items were not reviewed. The list was updated as follows:

- AI 4: Amitava Guha to provide requirements for statistics gathering in FAIS and present proposals (Opened 9/10/2003)
Open: Roger Cummings stated that they meeting with legal/SMI/SNIA issues in January. Target: Feb meeting.
- AI 5: Ed McClanahan and William Chow will work on a draft of Chapter 5. (Opened 11/9/2003)
Open. Target: Jan meeting.
- AI 7: Tanjore Suresh will cross-reference names/types of capabilities against existing standards/prior work. (Opened 1/13/2004)
Open. Target: the next meeting after completion of action item #8.

- AI 8: John Kemeny/Brian Geisel will each provide a list of capabilities that they must be able to query support for. (Opened 1/13/2004)
Open. Not present to update target date. Target: Dec meeting.
- AI 9: Ed McClanahan will propose an approach for supporting failover in the event of CPP failure. (Opened 1/13/2004)
Open. EM said this is blocked behind 04-402 completion as he needs to understand the Provider state that must be managed during failover. Target: ??? meeting.
- AI 12: Elizabeth Rodriguez will propose support for journaling. (Opened 4/6/2004)
Open. ER said this will not make a Feb cutoff.
- AI 20: Tanjore Suresh and Eddy Quicksall will propose chapter 6 text for iSCSI-specific port attributes. (Opened 5/8/2004)
Closed, to be superceded by AI 33. Target: Dec meeting.
- AI 22: Ed McClanahan will propose a draft for chapter 1 and 2. (Opened 5/8/2004)
Partially completed (only chapter 2). Still open. Target: Jan meeting.
- AI 27: Ronak Desai will write up API requirements for Client takeover and handling of a faulted I/O. (Opened 7/13/2004)
Open. Target: Jan meeting.
- AI 29: Roger Cummings will propose object model modifications to support pass-thru of non-read/write I/Os. (Opened 7/13/2004)
Open. Target: Feb meeting.
- AI 31: Claudio DeSanti will notify the membership (via the reflector) of the remaining schedule of the working group upon completion of the initial draft of the spec. (Opened 9/14/2004)
Closed, as it is overtaken by events.
- AI 33: Eddy Quicksall and William Chow will propose an object to represent a port in the object model. (Opened 10/6/2004)
Open. Target: Jan meeting.
- AI 34: Roger Cummings will provide a list of SCSI documents to cite in the draft specification. (Opened 10/6/2004)
Open.
- AI 35: John Kemeny will make the source for the object model available. (Opened 10/6/2004)
Open.
- AI 38: Ed McClanahan will incorporate the Xmap changes for single read/write Vdev (from 04-665v1) into the draft specification. (Opened 10/6/2004)
Open.
- AI 39: Larry Hofer will update the definitions in the Chapter 3 draft (04-393).
Open. Target: Feb meeting.
- AI 40: Ed McClanahan will incorporate the new Multipath Vdev into the object model. (Opened 11/16/2004)
Open.
- AI 41: Larry Hofer and Anshul Chadda will incorporate 2-way handles into the proposed API (04-402).
New.
- AI 42: Larry Hofer propose usage and specification for GetStatus methods (from the object model).
New.

9. Next meeting schedule

Claudio will arrange a 2-hour conference call, to be held before next plenary meeting. He will try to set this up for the week before T10 plenary.

Claudio suggested skipping the T10 plenary and meet only at the T11 plenary. He proposed 4 hours. He asked that people try to close their action items. Ed suggested increasing the time for this; CDS will ask for 6 hours.

10. Adjournment

A motion to adjourn the meeting was passed unanimously.