

APPROVED MINUTES OF THE 19TH FAIS AD HOC MEETING

The nineteenth meeting of the T11.5 FAIS Ad Hoc group took place at the Laguna Cliffs Marriott in Dana Point, CA, on February 3, 2004.

The following people were present:

| | | |
|-----------------|----------------------|--------------------------------|
| AAROHI | Glenn Yu | glenny@aarohi.net |
| ASTUTE NETWORKS | Robert Johnson | robert@astutenetworks.com |
| BROCADE | Ed McClanahan | edmc@brocade.com |
| CISCO | Claudio DeSanti | cds@cisco.com |
| CISCO | Ronak Desai | rodesai@cisco.com |
| CNT | David Peterson | dap@cnt.com |
| CNT | Harry Paul | harry_paul@cnt.com |
| EMC | Anshul Chadda | chadda_anshul@emc.com |
| EMULEX | Bob Nixon | bob.nixon@emulex.com |
| EMULEX | Ken Hirata | ken.hirata@emulex.com |
| HITACHI | Hidehisa Shitomi | hidehisa.shitomi@hds.com |
| HEWLETT PACKARD | Vinod Bhat | vinod.bhat@hp.com |
| INCIPIENT | Brian Geisel | bgeisel@incipient.com |
| INTEL | Ramamurthy Krithivas | ramamurthy.krithivas@intel.com |
| MCDATA | Larry Hofer | larry.hofer@mcddata.com |
| SEAGATE | James Coomes | jim.coomes@seagate.com |
| TROIKA NETWORKS | William Chow | wchow@troikanetworks.com |
| TRUE FOCUS | Horst Truedtedt | hotrues@attglobal.net |
| VERITAS | Roger Cummings | roger.cummings@veritas.com |
| XIOTECH | Jeff Williams | jeff_williams@xiotech.com |

A total of 20 people from 17 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 December FAIS Ad Hoc meeting had been uploaded to www.t11.org by William Chow of Troika Networks as 05-003v0.

The minutes were approved.

2.2 Approval of this agenda

Claudio had distributed a draft agenda for this meeting as 05-063v0 via the T11 Web site.

The agenda was approved as 05-063v1.

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)
Closed. See document 05-113v0 and agenda item 6.6.
- AI 5: Ed McClanahan and William Chow will work on a draft of Chapter 5. (Opened 11/9/2003)
Closed. Overtaken by events.
- AI 7: Tanjore Suresh will cross-reference names/types of capabilities against existing standards/prior work. (Opened 1/13/2004)
Closed. Tanjore is no longer participating.
- 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)
Closed. Nobody is addressing this matter, overtaken by events.
- 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)
Closed. Agreed that journaling will not be covered in current FAIS project.
- 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: ??.
- AI 27: Ronak Desai will write up API requirements for Client takeover and handling of a faulted I/O. (Opened 7/13/2004)
Open. Need to add Anshul Chadda to action item. Target: ??.
- AI 29: Roger Cummings will propose object model modifications to support pass-thru of non-read/write I/Os. (Opened 7/13/2004)
Closed. See document 05-120v0. Will be discussed at the April meeting.
- AI 33: Eddy Quicksall and William Chow will propose an object to represent a port in the object model. (Opened 10/6/2004)
Closed. See document 05-101v0.
- AI 34: Roger Cummings will provide a list of SCSI documents to cite in the draft specification. (Opened 10/6/2004)
Closed. See document 05-114v0.
- AI 35: John Kemeny will make the source for the object model available. (Opened 10/6/2004)
Overtaken by events. Should be reassigned to Anshul Chadda and changed to "send model drawn in Frame application to editor".
- 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. Partially complete.
- AI 39: Larry Hofer will update the definitions in the Chapter 3 draft (04-393). (Opened 11/16/2004)
Closed. See document 04-393v3.
- AI 40: Ed McClanahan will incorporate the new Multipath Vdev (from 04-665v1) into the object model. (Opened 11/16/2004)
Open. Partially complete.
- AI 41: Larry Hofer and Anshul Chadda will incorporate 2-way handles into the proposed API (04-402). (Opened 12/8/2004)
Closed. See document 05-006v1.
- AI 42: Larry Hofer propose usage and specification for GetStatus methods (from the object model). (Opened 12/8/2004)
Closed. See document 05-006v1.
- AI 43: Ed Mclanahan to email comments on 05-006v0 before the next meeting.
Closed. See agenda item 6.2.
- AI 44: Roger Cummings to propose a separation of Reason & Action Codes, and an enumeration of Action Codes. (Opened 1/13/2005)
Open. Target: April meeting.
- AI 45: Larry to add reserved and vendor-specific classes with each base area in Table 10.
Closed.

5. Old business

There was no old business at this meeting.

6. Scheduled FAIS business

6.1 FAIS Draft Review (05-115v0)

Ed McClanahan (Brocade)

6.2 Resource and IDs Management (05-006v1)

Anshul Chadda (EMC)

Anshul reported that he had received additional feedback from Ed after publishing v1, and that the presentation needed additional discussion. Ronak felt that object handle is the wrong term, and that a handle for the whole event is needed. Anshul suggested we could hold off on doing that until clause 2 of the FAIS API proposal is completed and FAIS_Event is approved. Ed stated that he had no objection to i/os being objects themselves, and he thought this would be useful in a number of situations e.g. where it is desired to abort i/os for a LU one at a time. Larry thought we were going to have a handle with an event, and Anshul stated that the rules in the document might not be applicable for that usage.

Anshul noted that the other change in the 1. FAIS_OBJECT_C_HANDLE_T section was to remove the uniqueness requirement, as client functions should be opaque. Ed commented that a client cannot use a P_HANDLE for uniqueness and vice versa, and that this impacts his action item about one client "taking over" another's objects. Larry note that Ed had asked for the uniqueness to be removed, and Ed replied that he made that comment about the C_HANDLE only. Ronak felt that a single P_HANDLE and a single C_HANDLE should exist for each object at a time, but Ed stated that P_HANDLE uniqueness needed to be maintained. Brian asked if there was any reason to make it globally unique, and Anshul said he had no problems putting the requirement back as it was just two bullets. Ronak wanted to see Ed's proposal first, however. Anshul further noted that he had added a new last paragraph to section 1, and that the C_HANDLE need not be provided in subsequent callbacks.

No changes were proposed to section 2, and the only change discussed to FAIS_SCSI_PORT_ID was in item a) and involved an Editor note. Anshul then moved, and Larry seconded, that 05-006v1 be included in the new revision of the FAIS draft, and this was approved unanimously. Ed was assigned an action item to do this inclusion.

6.3 API Updates (05-008v0)

Larry Hofer (McDATA)

Larry reviewed the sections marked by change bars in 05-008v0 only. He noted that the FITL_Action section needed clarification, and Ed noted that FAIS_FITL only made sense if a structure was passed to the client. There was a long discussion about taking pointers out of data structures, and this was agreed with the proviso that this would not apply to something the size of a pointer or to a callback function. Larry noted that a request made in the previous conference call to replace a table with a reference to SAM-2 had not been done. He also noted that William had made a proposal at the same call to make the Task Management command event separate from the

SCSI command event. Larry reported that an enum for SCSI status had been removed and a reference to the SCSI documents included instead. Anshul was assigned an Action Item to include Task Management responses, but not separate events.

A major issue was raised with a proposal to return a CDB to the client as part of an XMap fault. It was contended that the only information available was a logical block address and a transfer type (read or write). Brian commented that there may not even be a CDB associated with the transfer as it could result from a read ahead caching function.

6.4 Definitions for missing events (05-091v0) Anshul Chadda (EMC)

6.5 Statistics API (05-116v0) Anshul Chadda (EMC)

Claudio noted an **action** for all providers to give feedback for statistics (05-113v0, 05-116v0).

6.6 FAIS Statistics proposal (05-113v0) Roger Cummings (Veritas)

Roger made this presentation on behalf of Amitava Guha. People were asked to compare this proposal and that reviewed in the previous agenda item, to prepare for a future discussion.

6.7 FAIS Port API Model (05-102v0) Ed McClanahan (Brocade)

Ed contended that region names are unique, opaque to the FAIS_Client, and comparable. It was suggested that FAIS SCSI ports could only be in 1 region, but Ed stated that he was not ready to accept this limitation. Region properties were believed to have to be discoverable by a client, but also that entire concept of regions was private to FAIS.

Anshul asked about uniqueness of SCSI port names for iSCSI. William said the the TPGT/ISID is included in the SCSI port names.

6.8 FAIS Port API Proposal (05-101v0) Ed McClanahan (Brocade)

There was agreement that two chassis are not forced to have separate provider instances. The concept of a chassis port was introduced, and Anshul contended that the main issue is how to obtain a unique iSCSI Name and apply it to a FAIS SCSI Port. Claudio thought that the API may have a call to the provider to give a name, and that the FAIS_Client then passed this down.

Ed noted that there does not exist a SCSI port name which is generated by the FAIS_Provider. Claudio said it would be desirable to support the option for the Provider to generate this. William said this can be added.

Ed said the properties of the region must be discoverable, which is supported by FAIS_REGION_T.

Ed said there needs to be an option to deactivate a specific transport port, instead of just all of them within a single region. William said he can add this.

Ronak said it would be nice to have a combo of create and activate. William noted this can be combined by the Provider.

Anshul asked about zoning. Ed said zoning is supported thru region separation.

Ed felt that it remained to be seen if the concept of a chassis was necessary, Ashul saw it as a way of expressing a limitation regarding transport ports, but William noted that transport ports can be virtual. A goal of the next meeting is to decide if the region concept was needed in the API set. Ed saw this as being tedious in FC because there is a 1-1 relationship, but contended that this is useful for iSCSI.

7. **Unscheduled FAIS business**

05-114v0 was reviewed and it was agreed to incorporate it in the draft. 04-393v3 was also reviewed and it was agreed to be incorporated with a few modifications. The modified document is 05-131v0. An action item was assigned to Ed for these.

8. **Review of FAIS action items**

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

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.

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Open. Need to add Anshul Chadda to action item. Target: ??.

AI 35: Anshul Chadda will send object model (drawn in FrameMaker) to editor. (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. Partially complete.

AI 40: Ed McClanahan will incorporate the new Multipath Vdev (from 04-665v1) into the object model. (Opened 11/16/2004)

Open. Partially complete.

AI 44: Roger Cummings to propose a separation of Reason & Action Codes, and an enumeration of Action Codes. (Opened 1/13/2005)

Open. Target: April meeting.

AI 46: Ed McClanahan will incorporate 05-006v1 into the next FAIS draft.

New.

AI 47: Anshul Chadda will include support for Task Management Function responses in the SCSI command data structure.

New.

AI 48: All providers will give feedback for statistics, per 05-113v0 and 05-116v0.

New.

AI 49: Ed McClanahan to incorporate 05-114v0 and 05-131v0 into the draft.

New.

9. Next meeting schedule

Claudio asked about scheduling the next meeting. He said skipping the T10 interim didn't seem to reduce effectiveness/productivity. There was consensus for meeting only on T11. Claudio suggested a concall for discussing additional events (05-091), and to close on 05-008. Roger suggested 2/28 and 3/14, 2 hours each. This was agreed. Claudio will host the calls.

Claudio will ask for 6 hours at the next T11 plenary.

10. Adjournment

A motion to adjourn the meeting was passed unanimously.