

APPROVED MINUTES OF THE 14TH FAIS AD HOC MEETING

The fourteenth meeting of the T11.5 FAIS Ad Hoc group took place at the Keystone Lodge in Keystone, CO, on August 3-4, 2004.

The following people were present:

CISCO	Claudio DeSanti	cds@cisco.com
CISCO	Maurilio Cometto	maurilio@cisco.com
CISCO	Ronak Desai	rodesai@cisco.com
DOT HILL	Elizabeth Rodriguez	Elizabeth.Rodriguez@dothill.com
EMC	Jack Harwood	harwood_jack@emc.com
EMC	John Kemeny	kemeny_john@emc.com
EMC	Fred Oliveira	oliveira_fred@emc.com
EMULEX	Ken Hirata	ken.hirata@emulex.com
INCIPIENT	Brian Geisel	bgeisel@incipient.com
IVIVITY	Eddy Quicksall	eddyquicksall@ivivity.com
IVIVITY	Zulfiqar Qazilbash	zqazilbash@ivivity.com
MCDATA	Gib Cardwell	gib.cardwell@mcddata.com
MCDATA	Larry Hofer	larry.hofer@mcddata.com
TROIKA NETWORKS	William Chow	wchow@troikanetworks.com
VERITAS	Roger Cummings	roger.cummings@veritas.com

A total of 15 people from 9 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 July 13 FAIS Ad Hoc meeting had been uploaded to www.t11.org by William Chow of Troika Networks as 04-483v0.

The approval of the minutes was deferred.

2.2 Approval of this agenda

Claudio had distributed a draft agenda for this meeting as 04-495v0 via the T11 Web site, and he now asked for changes to that agenda.

The following modifications were offered:

- John Kemey has a proposed modification to the object model.
- Ronak Desai has an updated proposal for 2-step activation.

Claudio moved to approve the agenda; Roger Cummings seconded. Approved by acclamation.

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: Roger Cummings to provide requirements for statistics gathering in FAIS and present proposals (Opened 9/10/2003)
Tabled until object model finalized.
- AI 5: Ed McClanahan and William Chow will work on a draft of Chapter 5. (Opened 11/9/2003)
Open.
- AI 7: Tanjore Suresh will cross-reference names/types of capabilities against existing standards/prior work. (Opened 1/13/2004)
Open.
- AI 8: Roger Cummings/Fred Oliveira/Brian Geisel will each provide a list of capabilities that they must be able to query support for. (Opened 1/13/2004)
Open.
- AI 9: Ed McClanahan and John Kemeny will propose an approach for supporting failover in the event of CPP failure. (Opened 1/13/2004)
Open.
- AI 10: George Penokie will produce a UML conventions section for inclusion in the standard. (Opened 2/3/2004)
Open. A related section from SAM-4 is expected by next meeting.

AI 12: Elizabeth Rodriguez will propose support for journaling. (Opened 4/6/2004)

Open.

AI 13: Mike O'Donnell will update the glossary per any overlap with the terms defined in the requirements document. (Opened 5/8/2004)

Closed per 04-338v1.

AI 15: Ed McClanahan and Maurilio Cometo will collaborate on a new proposal for the execution model. (Opened 5/8/2004)

Open.

AI 19: Ed McClanahan will propose chapter 6 text for separate client and provider-specified object handles. (Opened 5/8/2004)

Open.

AI 20: Tanjore Suresh and Eddy Quicksall will propose chapter 6 text for iSCSI-specific port attributes. (Opened 5/8/2004)

Open.

AI 22: Ed McClanahan will propose a draft for chapter 1 and 2. (Opened 5/8/2004)

Open.

AI 23: Larry Hofer will propose a draft for chapter 3. (Opened 5/8/2004)

Open.

AI 24: Ed McClanahan will incorporate the operational model (04-340) to the draft specification as chapter 1. (Opened 5/8/2004)

Open.

AI 27: Ronak Desai will write up API requirements for Client takeover and handling of a faulted I/O. (Opened 7/13/2004)

Open.

AI 28: William Chow will propose modifications to the EMC- proposed API (04-402v1) for his object model modications and Client-initiated I/Os. (Opened 7/13/2004)

Open.

AI 29: Roger Cummings will propose object model modifications to support pass-thru of non-read/write I/Os. (Opened 7/13/2004)

Open. Tabled until object is finalized.

5. Old business

There was no old business at this meeting.

6. Scheduled FAIS business

6.1 FAIS Glossary (04-338v1)

Larry Hofer

Ronak indicated that "commit" will probably be replaced by download/activate. Larry Hofer will update once the related proposal by Ronak is agreed upon.

Brian Geisel suggested against describing the specific characteristics of a BITL_set. Larry agreed to a general description.

William Chow suggested that there isn't a definitive definition of a DPC, as the object model isn't finalized. He also indicated that "fastpath" is deprecated. Ronak indicated that he had replaced "fastpath" in his docs with "DPC".

William asked why "fast mirror resync" is (still) present. Claudio noted that it's tagged for removal, so it will be removed if it turns out to be unused.

Maurilio Cometo noted that "LBA remapping" shouldn't be limited to just concatenation since it occurs during striping and mirroring. Larry will broaden it.

Eddy Quicksall asked if the definition for "LU" is accurate. Roger confirmed that it is correct.

Maurilio noted that "point in time copy" and "snapshot" are similar. Elizabeth Rodriguez suggested against using "copy" in the name/definition. Larry will merge the two and make them general so that it includes the "split mirror" subcase.

William suggested removing "storage resource virtualization". Larry agreed.

Elizabeth asked what a "strip" was. Roger said the "stripe" definition is from the SNIA dictionary, which also defines "strip". Larry will add the latter and also note the external source of any borrowed terms.

William indicated that the "switch-based" term is inappropriate. Claudio suggested renaming as "FAIS platform". Larry will update.

Maurilio noted that an Xmap is also a Vdev. William suggested removing all examples in the definition. Larry will update.

Claudio suggested removing "virtual extent" and "volume creation".

6.2 FAIS Conventions Overview (04-509v0)

Larry Hofer

William asked whether the proposal was for incorporation into chapter 3. Claudio responded that a new document that merged the various sections would need to be created before it could be proposed as a draft chapter.

Larry was actioned to propose symbols (3.2) and keywords (3.3) sections for chapter 3. He will update 04-393 to incorporate these new sections and 04-338, and propose it as the draft for chapter 3.

6.3 Xmap Attribute Enhancements and Questions (04-524v0) Roger Cummings

Roger wants completion status (just success or fail), transfer direction, and byte count. William asked what this would be used for. Roger responded that he wanted to manage region-specific thresholds. William asked if this could be batched. Roger responded that he would not configure these regions such that the CPP would be saturated.

William asked if this could be handled via region-level statistics. Roger responded that this is acceptable as long as a notification is provided (i.e. polling is not acceptable). Ronak indicated that they have region-level statistics that might work here. Fred Oliveira noted that there must be a threshold and trigger defined if using a statistics-based model.

Roger indicated that he doesn't see how initiator-specific permissions are currently supported. William responded that this would be supported by FITL-based permissions. Roger isn't sure whether this suffices; he wants to see this supported in the object model. He does indicate that it is required for the DPC to handle responding with the Reservation Conflict. Maurilio indicated that they support this, as well as other error case. William suggested that this should be strictly limited as this is essentially offloading personality-specific behavior (i.e., such as error handling).

Roger moved that FAIS support the notification of I/O completion; Zulfiqar Qazilbash seconded. No objections noted; motion carried.

6.4 EMC Object Model Changes (not yet posted)

John Kemeny

Claudio asked what attributes are in the new Provider object. Fred suggested these include supported functionality, version, and related items. William said this implies that these can be created dynamically. John Kemeny agreed to drop this.

William asked whether the BI and FI are distinct objects. He said that this could be the same FAIS_SCSI_port.

William asked what the BIsset does, and why you can't use the BITLSet. Fred responded that this helps define "failure domains". William asked what are the operations allowed on a BIsset. John indicated that the Client could reset the BIsset; he indicated that this would reset the BIs associated with it.

6.5 2-step V2P Download (04-547v0)

Ronak Desai

Ronak indicated that he added support for Clients that may want immediate activation.

William suggested allowing the use of a NULL batch handle for an update to indicate immediate activation. Ronak agreed to update.

Gib Cardwell said the "do batch" argument doesn't seem to make sense if false. Ronak said this could be removed now that the batch handle can be NULL.

7. Unscheduled FAIS business

There was no unscheduled business.

8. Review of FAIS action items

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Open.

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Open. Tabled until object is finalized.

AI 30: Larry Hofer will merge the conventions and glossary sections into a single proposal.

New.

9. Next meeting schedule

The next meeting of the FAIS group will be at the T10 Plenary week in Nashua, NH on tues evening 9am-6pm (9/14).

Shorter time for Austin, perhaps just one day. William asked for this to be adjacent to the T11.5 meeting. Bob Snively indicated that this might be difficult but they will look into it.

10. Adjournment

A motion to adjourn the meeting (by Roger, seconded by Brian) was passed unanimously.