

APPROVED MINUTES OF THE 21st FAIS AD HOC MEETING

The twenty-first meeting of the T11.5 FAIS Ad Hoc group took place at the Radisson Hotel in St Paul, MN, on June 8, 2005.

The following people were present:

AAROHI	Parag Bhide	parag@aarohi.net
ASTUTE NETWORKS	Robert Johnson	robert@astutenetworks.com
BROCADE	Ed McClanahan	edmc@brocade.com
CISCO	Claudio DeSanti	cds@cisco.com
EMC	Anshul Chadda	chadda_anshul@emc.com
EMC	Greg Golubski	golubski_greg@emc.com
EMULEX	Ken Hirata	ken.hirata@emulex.com
HITACHI	Hidehisa Shitomi	hidehisa.shitomi@hds.com
INCIPIENT	Danny Arnon	danny.arnon@incipient.com
INTEL	Ramamurthy Krithivas	ramamurthy.krithivas@intel.com
MCDATA	Larry Hofer	larry.hofer@mcddata.com
NETWORK APPLIANCE	Tanjore Suresh	suresht@netapp.com
QLOGIC	Craig W. Carlson	craig.carlson@qlogic.com
QLOGIC	Tru Dam	tru.dam@qlogic.com
SOLUTION TECHNOLOGY	Robert Kembel	rwkembel_2004@adelphia.net
TROIKA NETWORKS	William Chow	wchow@troikanetworks.com
TRUE FOCUS	Horst Truedtedt	hotrues@attglobal.net
VERITAS	Roger Cummings	roger.cummings@veritas.com
VERITAS	Amitava Guha	amitava.guha@veritas.com

A total of 18 people from 15 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 April FAIS Ad Hoc meeting had been uploaded to www.t11.org by William Chow of Troika Networks as 05-276v0. Also, minutes for conference calls on 4/25/2005 and 5/2/2005 were uploaded as 05-312v0 and 05-324v0, respectively.

Claudio noted several changes to 05-276v0. Pursuant to these changes, Claudio moved to approve: 05-168v0, 05-252v1, 05-276v0, 05-312v0, 05-324v0. Ed seconded. All minutes were approved unanimously.

2.2 Approval of this agenda

Claudio had distributed a draft agenda for this meeting as 05-221v0 via the T11 Web site.

Changes were noted. Claudio moved to approve the agenda; Ed seconded. The agenda was approved unanimously.

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 9: Ed McClanahan will propose an approach for supporting failover in the event of CPP failure. (Opened 1/13/2004)

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

Partially completed (only chapter 2). Still open. Target: August.

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

Perhaps closed per 05-404.

AI 48: All providers will give feedback for statistics, per 05-113v0 and 05-116v0. (Opened 2/3/2005)

Closed.

AI 49: Ed McClanahan to incorporate 05-114v0 and 05-131v0 into the draft. (Opened 2/3/2005)

Open. Partially completed (131v0 already incorporated into 115v1). Target: 1st draft.

AI 51: Ed McClanahan and William Chow and Anshul Chadda will incorporate Port API proposal (05-101) into API proposal. (Opened 3/4/2005)

Closed per 05-008v6.

AI 52: William Chow and Anshul Chadda will propose modifications to enhance processing of front-end commands.(Opened 3/4/2005)

Deferred to phase 2.

AI 54: Maurilio Cometto to propose how Control event for XMAP would be supported. (Opened 3/14/2005)

Deferred to phase 2.

AI 55: Ed McClanahan will incorporate the latest object model diagram into the draft standard. (Opened 4/6/2005)

Open. Target: August.

AI 56: Anshul Chadda will publish a revision of the API proposal with just changes discussed per this (4/6/2005) meeting (i.e. w/o Port API proposal). (Opened 4/6/2005)

Closed per 05-008v5 and v6.

AI 57: Anshul Chadda and Ed McClanahan and William Chow will incorporate the Port API proposal into a subsequent revision of the API proposal (i.e. based on that from AI 56). (Opened 4/6/2005)

Closed per 05-008v6.

AI 58: William Chow and Anshul Chadda will separate Client handling of control-path I/Os from faulted data-path I/Os. (Opened 4/6/2005)

Deferred to phase 2.

AI 59: Ed McClanahan to make a proposal on how to make the conventions section consistent in the draft. (Opened 4/25/05)

Open.

AI 60: Anshul Chadda and Ed McClanahan to address the creation or not of the BIT in the combined API proposal.(Opened 4/25/05)

Open.

AI 61: Anshul Chadda will post a version of 05-008 with the changes from this meeting and resolves Port Services functional overlap in favor of FT/BI structures/functions. (Opened 5/2/2005)

Closed per 05-008v6.

AI 62: William Chow will post a version of 05-008 that resolves Port Services functional overlap in favor of FAIS_SCSI_Port structures/functions. (Opened 5/2/2005)

Closed per 05-008v6.

5. Old business

There was no old business at this meeting.

6. Scheduled FAIS business

6.1 Object Model Compromise (05-404v0)

Ed McClanahan (Brocade)

Ed summarized that BITLSet promoted to a Vdev, and Xmap used to support read/write separation.

Anshul said size is not desirable for BITLSet. Ed suggested that we can make it optional. William said this would make it unused; instead, he suggested an “unlimited” or “don’t care” value to ensure that it is set and used by all Clients/Providers.

Ed noted that LBA should be 64 bits. Also, for ContiguousColumnBlocks (in Striped Vdev). Larry noted that a Vdev needs a BlockSize.

Danny Arnon asked about empty BITLSets. Ed said that would be a supported exception case. William asked about how one would disable a BITL. Ed suggested using the policy weights to enable/disable (e.g. set read/write weights to zero). Larry suggested specifying how the weights are used. Ed suggested supporting platform-dependent policies that may have arbitrary weight values. Anshul was actioned to specify how policies and their corresponding weights are used.

Ed noted that the BITL is not a composite aggregation element of BITLSet; e.g., they can be created/existing independently.

Ed asked whether Regions need to be included in the object model. He noted that the model is currently SCSI-oriented, while the Region is platform-dependent.

Ed described FAIS_SCSIPortId_T and how it is inconsistent with 05-008. William asked whether this is already covered by FAIS_TPortId_T. Ed said yes, but he wants to make sure it is fully covered in 05-008v6.

Ed asked why FITL uses “action” but others (e.g. xmap) uses “permission”. Anshul noted that the FITL supports a special “action” to abort. William responded that abort is a one-time action and not a longstanding state like the other FITL “actions”. Ed said we should call these FITL permissions, and remove abort. Anshul said he can add a separate abort operation, and rename fais_FITL_Action.

Parag Bhide asked whether the FIT should contain FITLs, i.e. aggregation (open diamond). William asked whether the FIT represents a SCSI login session. EM said no, it is just a convenient container for the client to manage the I_T nexus. Ed said he is open to making FT->FIT and FIT->FITL relationships aggregations.

Anshul said the API proposal currently only allows sending a command to a BI. William asked for support sending a command to a BITL, since this requires Provider setup costs to enable access to a BITL and this enables the Client to reuse it. Otherwise, Client use of just a BI would require either implicitly setup/teardown of Provider-internal support for that BITL, or the Provider must intelligently track/predict usage of a BITL. William suggested that we can either over-

load the existing BI-specific “send command” function, or we can construct BITL- and BIT-specific variants. It was agreed that this was acceptable.

Ed moved to incorporate into the draft, Anshul seconded; no objections were noted, the motion was approved unanimously. Ed was actioned to incorporate 05-404 into the draft.

6.2 Get/Set Region Detail and Xmap Hint (05-405v0) Ed McClanahan (Brocade)

Ed summarized that he removed the CPorts from FAIS_RegionGetStatus_T, and that he added new functions for supporting platform-dependent attributes of a Region.

There is an open question about whether a struct member can use the typedef of the containing struct. Ed/William/Anshul were actioned to resolve this issue.

Larry asked how the Provider would interpret the Region detail. Claudio responded that the provider would parse provider-dependent tags and apply them as appropriate to internal details. Anshul asked about the constraints around the region. Larry noted that this is not currently covered well and his presentation will attempt to address this.

Ed discussed the addition of the “single entry” Xmap mode hint. Claudio asked to explicitly clarify that true=1 and false=0.

Claudio suggested incorporating just the Xmap hint table into 05-008. He suggested holding off on the Region detail support until Larry’s 05-388 presentation. Anshul was actioned to incorporate the Xmap hint table into 05-008.

6.3 Region Clarification (05-388v0)

Larry Hofer (McData)

William noted that the proposed Region definition is different from what he had suggested in 05-101. Claudio suggested defining it based on platform resources. William suggested that the only commonality among multiple platforms is the “activation” of FSPs. Ed suggested using the term “expose” instead of “activate”. Larry noted a new definition for inclusion into the definitions section of the draft.

Ed suggested that Region IDs may be unique across multiple Provider instances. Larry removed “instance” from the uniqueness rule.

William suggested putting the Region rules into chapter 5, since it contains the descriptive information for all entities.. Ed noted that the Client and Provider handle typedefs should be removed from chapter 5.

Larry suggested providing examples to clarify Region usage. William suggested putting these into an annex. Larry will consider whether to propose an annex.

Larry asked whether we can generalize a Region to be a collection of other things. William noted that a Region must currently support activation of FAIS_SCSI_Ports.

Ed was actioned to add a entry for “transport port” (using 1.4.2.11.2 text) and “Transport protocol” (editor’s discretion) in chapter 3 definitions.

Claudio asked whether we are ready to incorporate 05-405 into the draft. Tru Dam suggested generalizing the Region details to support a blob (i.e. “void *” and byte count; e.g., this allows passing of C structures and multiple character sets (for text strings). Ed moved to incorporate 05-405 (as modified) into the API proposal, Claudio seconded; the motion was approved unanimously. Anshul was actioned to incorporate 05-405 into 05-008.

6.4 Naming Conventions Updates (05-310v2) Ed McClanahan (Brocade)

Ed noted the changes to function arguments.

Ed moved to incorporate these changes into the draft, Claudio seconded; the motion was approved unanimously. Ed was actioned to incorporate 05-310 into the draft.

6.5 API Proposal (05-008v6) Anshul Chadda (EMC)

William asked about compiler/platform dependencies in using a C structure for LUN. Claudio moved to use a uint64; no objections were noted.

William said that using FT/BI do not support combo init/target mode for a single FSP. Ed said he would like to keep FT and BI separate to enable associating the front and back of an FSP to different regions. Ed suggested moving the SCSIPortName into TPort, and allow FT/BI/TPort to associate with a region.

William and Ed were actioned to propose an alternative that keeps FT/BI and supports combo mode FSPs.

7. Unscheduled FAIS business

There was no unscheduled business.

8. Review of FAIS action items

New action items were reviewed. The list was updated as follows:

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Open.
- AI 63: Anshul Chadda will update 05-008 to specify how BITLSet policies and their corresponding BITL-specific weights are used.
New.
- AI 64: Ed McClanahan will incorporate 05-404 into the draft standard.
New.
- AI 65: Ed McClanahan and William Chow and Anshul Chadda will resolve whether a struct member can use the typedef of the containing struct.
New.
- AI 66: Ed McClanahan will add entries for “transport port” (using 1.4.2.11.2 text) and “transport protocol” (editor’s discretion) in chapter 3 definitions.
New.
- AI 67: Anshul Chadda will incorporate 05-405 into 05-008.
New.
- AI 68: Ed McClanahan will incorporate 05-310 into the draft standard.
New.
- AI 69: William Chow and Ed McClanahan will propose modifications to 05-008 that supports FAIS_SCSI_Ports which can function as both initiator and target.
New.

9. Next meeting schedule

Claudio said he won’t be available in July. He suggested at least 2 conference calls. If, after the calls, we consider the API proposal satisfactory, then he would propose incorporating it into the

draft 2 weeks prior to the August meeting. This will allow us to vote on letter ballot for the draft in August. Due to scheduling conflicts, Claudio will attempt to schedule one conference call for the 2nd half of the last week of June (e.g. 6/30).

10. Adjournment

A motion to adjourn the meeting was passed unanimously.