SMI Program Report
September 2009

The SNIA Storage Management Initiative (SMI, www.snia.org/smi/) exists to unify the storage industry on an extensible, interoperable, open, and highly functional interface for storage management. The SMI brings together the resources of the SNIA to deliver this interface, called the *SMI Specification* or *SMI-S.*

Feedback or comments regarding this report may be directed to Tom Mancuso, Senior Program Manager, at tom.mancuso@snia.org.

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2009 Storage Developers Conference: SMI-S Demo Recap

Recognizing that the complex SMI-S specification was a barrier to implementation, the SMI-S demonstration at the 2009 Storage Developers Conference focused on teaching software developers how to navigate and easily implement the specification. Using a "CliffNotes" theme, or "Rick'sNotes (named for Rick Bauer, who served as the primary spokesperson), the presentation focused on key considerations, shortcuts, resources, and tools necessary to get started.

Following the presentation, Brocade, EMC and Olocity showcased their products containing SMI-S and the tools utilized for development:

- **EMC** demonstrated Ionix Storage Configuration Advisor and showed how to improve SAN service levels and operational efficiency by automating the processes of change tracking, configuration management and path validation in near real-time.

- **Brocade** demonstrated SMI-S FCoE, with a focus on how the technologies SMI-S and FCoE work together.

- **Olocity** showcased StorageIM and demonstrated how storage management products can be developed by utilizing both open source and standards.

Approximately 30 software developers attended the demo, which reignited interest in SMI-S.

Vendors implementing SMI-S will have another opportunity to exchange techniques and ideas at the Management Developer's Conference in November; they can again extol the benefits of incorporating SMI-S into their enterprise-bound products.

Initiative Updates

SMI Technical Steering Group (TSG)

In June, the TSG produced the "Full Scope" draft of SMI-S 1.5. This included all items to be in the 1.5 release. However, many items will need more work before they can be considered complete. The plan is to produce the complete "Implementation Draft" in October and make it available for review by SNIA membership by the end of November.

In addition to completion of work items scoped for SMI-S 1.5, the release includes a number of items that resulted from "content reviews" of existing material in the standard. This is part of the "specification tightening" aspect of the "customer driven SMI-S" initiative.

Testing on SMI-S 1.4 is progressing quite nicely, and a number of Errata have been written against the Final Draft of SMI-S 1.4. A SNIA Technical Position will be created from the Final Draft plus Errata later this year.

Planning is proceeding for SMI-S 1.6, but this effort is just entering the "scoping phase." An initial draft of this release is planned for next year.

Conformance Testing Program (CTP)

The Conformance Testing Program (CTP) has been working on a number of items both new and old since the last update to this report.

The 1.4 SMI-Provider test will be initially released in the fall of 2009. A number of vendors have been testing Array, Host Hardware RAID Controller, and Storage Virtualizer. The 1.4 test has a number of changes, the most dramatic of which is the separation of the test into three levels: PASSIVE, ACTIVE and EVENT DRIVEN.

- PASSIVE testing is a read-only test and offers an entry point for providers to prove their implementation of SMI to the most basic level.

- ACTIVE testing is a read-write test for the providers and adds provisioning testing onto the PASSIVE level.

- EVENT DRIVEN testing is the highest level of testing and the most complex. EVENT DRIVEN testing will exercise the use of Indications to a greater degree and add additional model validation after an ACTIVE event has been executed on the provider.

The 1.3 SMI-Provider test has been undergoing continuing maintenance. Upgrades to the test have been provided—or are planned—for Array, HBA, HDR, and Storage Media Library testing. The Conformance Committee is currently waiting to close a few more issues for 1.3 and expects to provide a bulk release for 1.3 sometime this fall.

Lastly, the 1.2 version of the test has been undergoing continuing maintenance to address areas such as Storage Media Library, Fabric, and Switch. The Conformance Committee expects to maintain this test for the foreseeable future due to its popularity.

Please contact James Rigger, Manager, Conformance Testing Programs at (719) 884-8901 or james.rigger@snia.org if you have questions about the Conformance Testing Program or are interested in CTP testing of your company's products.

For additional information on CTP, see http://www.snia.org/ctp/.

SMI-Lab Program

August Plugfest

The August plugfest helped to finalize the content for the first official release of CTP for SMI-S 1.4 (including new Early Adopter profiles). CTP 1.4 includes new features requested by SM-S stakeholders, including a vendor choice for the level of testing (passive, active, or event-driven) and reporting on functionality testing with user-friendly terms. The plugfest helped to verify that much of this new functionality was operational in CTP.

Upcoming Plugfests

The October 19 - 23, 2009 plugfest, "ReplicationFest," will focus on intense testing of CTP for SMI-S 1.4. This plugfest will help extend the content of the first official 1.4 CTP release and prepare for a second 1.4 release.

The plugfest schedule for 2010 has been announced:

- February 22 – 26

- June 7 – 11

- August 16 – 20

- November 15 - 19

The SMI Implementation Committee oversees the SMI's interoperability lab (SMI-Lab) at the SNIA Technology Center in Colorado Springs, CO. The Technology Center enables SMI-Lab participants to remotely access other participating vendors' equipment to perform interoperability testing. Face-to-face plugfests are also held at the SNIA Technology Center and offer SMI-S vendors the ability to directly interact with each other in a vendor-neutral setting.

See http://www.snia.org/forums/smi/tech_programs/lab_program/ for more information about plugfests and SMI-Lab.

SMI Marketing

Management Developers Conference (MDC)

The SMI-S Marketing team has agreed to participate in the Management Developers Conference (MDC) in November 2009, with dedicated SMI-S sessions as well as Showcase events. MDC is the industry's only developer conference dedicated to Standards Based Systems and Network Management Technologies. If your company is interested in participating in the Showcase with an SMI-S implementation, please contact either Troy Biegger or Tom Mancuso for more information (see below).

SMI Marketing Committee Weekly Meetings

Thursdays at 9:00 AM Pacific Time

Meetings are open to staff from all SMI member companies. If you have comments or questions about SMI's marketing effort or would like more information, please contact Troy Biegger, Interim Marketing Chair at smimarketing-chair@snia.org or Tom Mancuso, Sr. Program Manager, SMI, at tom.mancuso@snia.org.

Key Milestones

SNIA Members may access detailed SMI-S production schedules for each version by visiting SMI-S Central at: http://www.snia.org/members/smis/.

SMI-S Spec	SMI-S 1.5 Implementation Draft Completed Q4 2009	> SMI-S 1.5 Final Draft Completed Q2 2010	> SMI-S 1.6 Initial Draft Completed TBD
SMI CTP	CTP's First Official SMI-S 1.4 Provider Test Released Q4 2009	> CTP for SMI-S 1.4 Final Provider Test Released Q1 2010	> CTP for SMI-S 1.5 Provider Test "First Official Release" Q3 2010
SMI-Lab	Plugfest #5 "ReplicationFest" 10/19/09 to 10/23/09	> SMI-Lab #10 Program Begins 12/01/09	>

Calendar of Upcoming SMI-Related Events

Dates	Location	Event
October 12-15, 2009	Phoenix, AZ	Storage Networking World Fall 2009 http://www.snia.org/about/calendar/event_detail
October 19-23, 2009	Colorado Springs, CO	Plugfest #5 "ReplicationFest" http://www.snia.org/forums/smi/tech_programs/lab_program/
November 16-19, 2009	Santa Clara, CA	Management Developers Conference http://www.mandevcon.com/
December 1, 2009		SMI and SMI-Lab Membership Renewals Due http://www.snia.org/forums/smi/about/member/fees/

List of Vendors Conformant to SMI-S

Many vendors have passed SNIA-CTP SMI-Provider and SMI-Client conformance tests for SMI-S v1.0.2 to 1.3.0. Over the life of CTP, 27 different companies have successfully run CTP against 52 different software products (clients and agents) covering over 500 device products.

For more information on the statistics for CTP, see: http://www.snia.org/forums/smi/tech_programs/ctp/ctp_statistics.

To learn more about SNIA-CTP and vendor's products that have passed SNIA-CTP, please visit: http://www.snia.org/forums/smi/tech_programs/ctp/.

Vendors with Products Conforming to SMI-S 1.3

EMC Corporation	Hitachi Data Systems
Hewlett-Packard Company	Hitachi Limited

Vendors with Products Conforming to SMI-S 1.2

Brocade Communication Systems, Inc.	Hitachi Data Systems
Compellent	Hitachi Limited
EMC Corporation	IBM
Hewlett-Packard Company	NetApp

Vendors with Products Conforming to SMI-S 1.1

3PAR	Hitachi Limited
ADIC	IBM
Brocade Communication Systems, Inc.	LSI Corporation, Engenio Storage Group
Cisco Systems	McDATA Corporation
DataDirect Networks	NEC Corporation
EMC Corporation	NetApp
Emulex	Pillar Data Systems
Fujitsu Limited	QLogic
Hewlett-Packard Company	Quantum
Hitachi Data Systems	Xyratex

SMI-related Groups and Committees

The groups and individuals listed below provide guidance and direction within SMI; they are on a careful path, managing the components and infrastructure of the SMI Program.

Some key web links to SMI information are:

Conformance Testing Program	http://www.snia.org/ctp/
SMI-S Developers Group	http://groups.google.com/group/smi-s-developers-group
SMI Specification	http://www.snia.org/tech_activities/standards/curr_standards/smi/
SMI-Lab Program	http://www.snia.org/forums/smi/tech_programs/lab_program/
SMI-S Central	http://www.snia.org/members/smis/

SMI Governing Board

The SMI Governing Board is comprised of an elected set of volunteer governing members and a contingent of (non-voting) representatives from SMI-related groups and SNIA staff. The SMI Governing Board establishes the strategic direction of the initiative, establishes SMI policies and procedures, and oversees SMI's various committees and taskforces.

Chair: Paul von Behren, smiboard-chair@snia.org

Treasurer: Don Deel, EMC

Secretary: Mike Walker, IBM (Retired)

Steve Quinn, HDS

Doug Voigt, HP

Conformance Testing Program (CTP)

CTP provides conformance test standards for the SNIA SMI Specification and assists in developing programs to support launch of SMI-S certification for companies developing products conformant to SMI-S.

Chair: Steve Quinn, HDS, smiconformance-chair@snia.org

Program Manager: James Rigger, SNIA, james.rigger@snia.org

Website: http://www.snia.org/ctp

SMI-Lab Program (SMI-Lab)

The SMI-Lab program is an industry-wide collaborative program that helps companies accelerate the development and implementation of SMI-S based Client and Provider products from SNIA member companies.

Chair: Paul von Behren, smiimplement-chair@snia.org

Website: http://www.snia.org/forums/smi/tech_programs/lab_program

Plugfest Registration Link: https://www.snia.org/apps/SMI_Lab_Plugfest_Registration/register.php

SMI Technical Steering Group (TSG)

The Storage Management Initiative (SMI) Technical Steering Group (TSG) is a sub-group of the SNIA Technical Council (TC). Its primary purpose is to provide a single storage management focus by guiding and managing the SNIA technical efforts for the creation, maintenance, and evolution of a SNIA Storage Management Initiative Specification (SMI-S). This standard will allow storage management systems to reliably and securely identify, monitor, and control physical and logical resources, enabling multi-vendor management interoperability.

Chair: Duane Baldwin, IBM, tsg_smi-chair@snia.org

Website: www.snia.org/apps/org/workgroup/techcouncil/tsg_smi/

Technical Work Groups

The Technical Work Groups (TWGs) function under the direction of the SMI TSG.

Technical Work Group	Title	Contact	Company	Email
Disk Resource Management TWG	Chair	Scott Baker	Olocity	snia-drm-chair@snia.org
Fibre Channel TWG	Chair	John Crandall	Brocade	snia-snmwg-fc-chair@snia.org
File Systems Management TWG	Co-Chairs	Gary Steffens Mike Thompson	Pillar Data EMC	fsmtwg-chair@snia.org
Host TWG	Chair	Duane Baldwin	IBM	hosttwg-chair@snia.org
Management Application TWG	Co-Chairs	Duane Baldwin Kurt Krems	IBM Olocity	maptwg-chair@snia.org
Management Protocol TWG	Chair	Paul von Behren	Individual	protocoltwg-chair@snia.org
SMI-S Core TWG	Co-Chairs	John Crandall Paul von Behren	Brocade Individual	smiscoretwg-chair@snia.org
Storage Media Library TWG	Chair	Dr. Krishna Harathi	IBM	snia-sml-chair@snia.org