



Education

SRM: Can You Get What You Want?

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➤ SRM: Can You Get What You Want?

Storage resource management tools are now maturing and becoming more of a “must have” capability. However, a broad range of products, each with many different options now confront the potential buyer. Therefore, using the Request for Information (RFI) and Request for Proposal (RFP) processes to differentiate the vendors and their offerings is highly recommended. This tutorial discusses the important things to look for in storage management applications and outlines ways to get them. It will also include an elucidation of the various standards at play including SMI-S.

Business Problem Assessment

- What problem (s) are you trying to solve?

- Weighting - What's most important? What's least important? What's in-between?

- Who will you have to sell the solution to?
 - ◆ CxO
 - ◆ Business Units
 - ◆ Others within IT

Basics to Look For

- Discovery
- Topology and grouping
- Event monitors and alert notification
- Reports
- Security (SAN and Administrative)
- “Drill down”
- Command Line Interface (CLI)
- Audit trail
- Repository

Desirable Features and Add-ons

- Performance monitors
- Configuration repositories
- Application awareness
- Policy-based automation
- Resource provisioning
- Chargeback
- Report generators and reporting tools
- Remote management
- Trend analysis

A Word About “Frameworks”

- What is a management application framework?
- Open or vendor lock-in strategy – you must be the judge
 - ◆ The promise of disparate storage management application integration, but at what cost?
- A requirement in virtualized environments?

Is the Management App Manageable?

Scalability

- ◆ Can you and your management application grow together?
- ◆ Will other management applications be required?

Interoperability

- ◆ With infrastructure that is both currently installed *and planned*?
- ◆ Is data exportable to other management applications?

Change manageability

- ◆ When will downtime be required?

RFP Platitudes

- Get as much decision-point data as possible at the beginning of a project (rather than at the end)
- Be aware of all project phases up front so that you can gather data for each phase *during* the RFP process
- You don't get what you don't ask for

While Writing the RFP...

Do

- ◆ Be detailed and specific
- ◆ Be as descriptive of the IT environment and the business need as is prudent in the RFP
- ◆ Know the relevant standards
- ◆ Put yourself in the vendor's shoes (Ask a confusing question, get a confusing answer)
- ◆ Give vendors a reasonable time to respond

Don't

- ◆ Create a “vendor bias” impression

Getting Started With Some Basic Questions

- RFI, RFP, or RFQ?
- SAN Management, or Storage Resource Management (SRM), or both?
- SAN, NAS, and DAS?
- Single “pane of glass” or multiple views?
- Integration with other management apps?
- Do you want to merely monitor?
 - ◆ Does the mere thought of automated management scare you?
- What’s the “agent philosophy” in your organization?

Important Questions to Ask

- Can we run a test environment?
- Can we get product documentation before we buy?
- Can we get a product road map?
- Is virtualization spoken here?
- Is FCoE spoken here?

Preparing for Negotiation

- Bundled in SAN solution or stand-alone?
- Whenever possible – get a line-item cost for everything
 - ◆ Basic modules and add-ons
 - ◆ Upgrades (even if you don't need them right now)
 - ◆ Maintenance and support
 - ◆ Training
 - ◆ Implementation services

Covering the People-to-People Issues

- How much help can the vendor provide during the internal selling process?
- What is the vendor's problem resolution process?
- Will the management application give you:
 - ◆ The ammunition you may need to defend yourself or your group if (when) challenged?
 - ◆ The data needed to effect (force) future change?

What is SMI-S and Why Should We Want It?

- Storage Management Initiative Specification
- Based on pre-existing open standard
 - ◆ DMTF Common Information Model (CIM)
 - ◆ Wealth of information available from SNIA and vendors
- Reduce management complexity
- Increase flexibility
- Mitigate risk of vendor “lock-in”
- Reduce cost

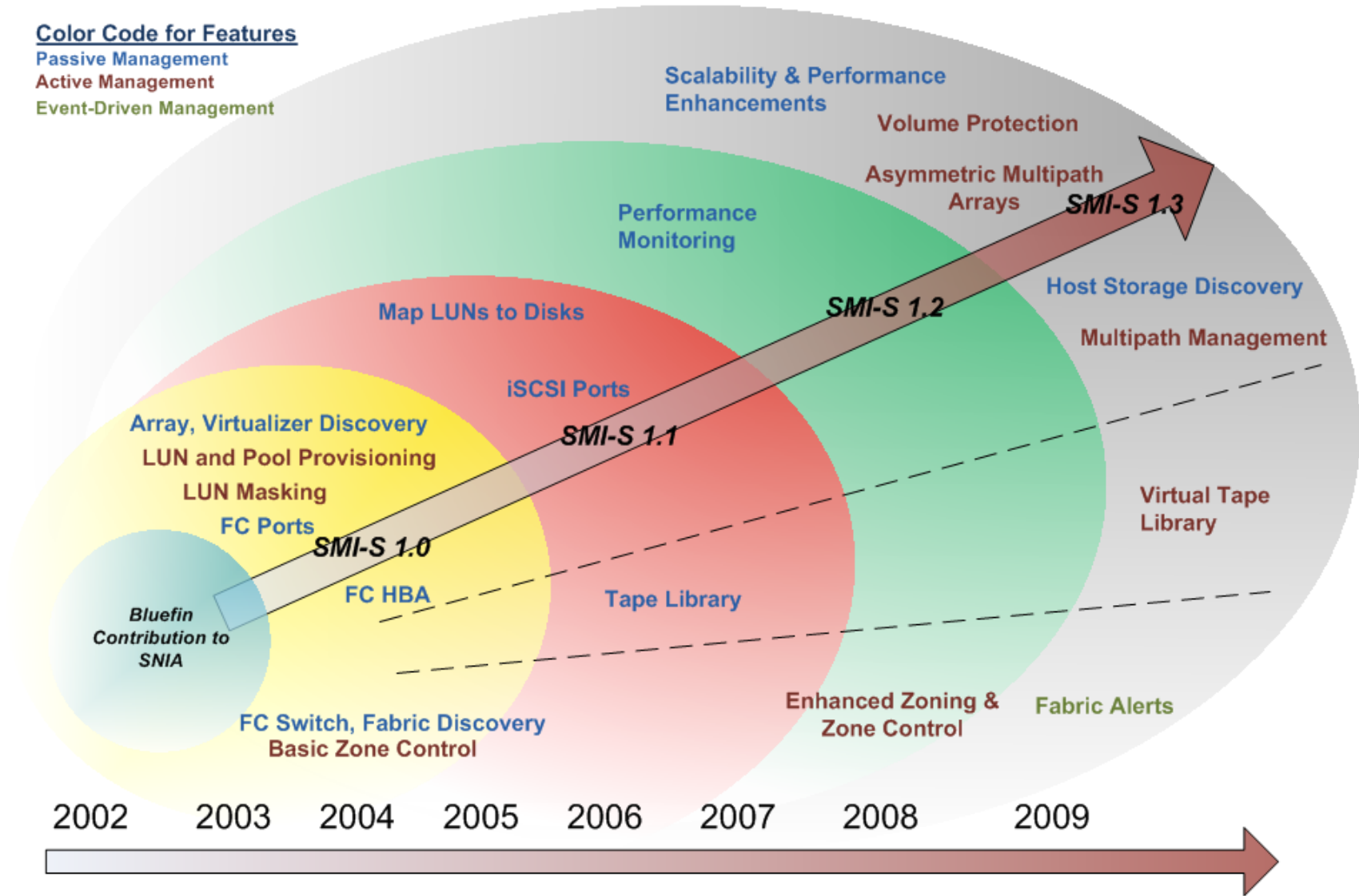
CTP Conformant Implementations

Color Code for Features

Passive Management

Active Management

Event-Driven Management



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- Additional Devices & Features in Standard
 - ◆ NAS appliances
 - › Monitoring, provisioning, performance monitoring
 - › Virtual file server provisioning
 - ◆ Storage Enclosure, Fan, Power Supply
 - ◆ iSCSI Controllers (and Software Initiators)
 - ◆ Fabric Scalability & Performance Enhancements
 - ◆ Virtual Tape Library
 - ◆ Host RAID Controllers
 - ◆ Local Array Snapshot and mirror copies
 - ◆ And many more...

➤ Enhancements being developed

- Remote Array Snapshot and mirror copies
- Thin Provisioning
- Mainframe ports
- FCoE
- Power Monitoring
- Partitioned Tape Libraries
- NAS remote copies

- Promoting ease of installation and configuration
 - ◆ Tutorials, white papers for developers
 - ◆ Adding standardization of the management environment
 - ◆ Ease of access to installation documentation
- Business Goals in Conformance Tests (CTP)
 - ◆ Starting this year, results will be reported as features from business perspective (e.g. LUN Creation)
 - ◆ Distinguishing Active, Passive, and Event-Driven feature support
- Comprehensive Alert Reporting

When You Specify SMI-S...

- Know how to interpret the responses
- Know what these words mean
 - ◆ Compatibility
 - ◆ Qualification
 - ◆ Conformance
 - ◆ Compliance
 - ◆ Certification
- Understand the relevant revision levels
- Become familiar with SNIA's Conformance Testing Process (CTP) for SMI-S
 - ◆ See http://www.snia.org/forums/smi/tech_programs/ctp/
 - ◆ Products (client or provider) that are **conformant** with an SMI-S Release will be listed on one of the CTP pages linked from this web page
 - ◆ Products that claim support, compatibility or compliance with an SMI-S Release may not be **conformant** with that release (not listed on any CTP page for that release)

- Please send any questions or comments on this presentation to SNIA: trackstoragemgmt@snia.org

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- SNIA Education Committee

**John Webster
Michael Walker**

Additional Reference Slides

Example CTP Product Entry

Tested Software: Acme SMI-S Provider v3.1.2

SMI-S Version: 1.3 / Test Version: 1.3.0.20 [Test description](#)

Tested Autonomous Profiles : Array, Server

Tested Component Profiles : Access Points, Block Server Performance, Block Services, Disk Drive Lite, Extent Composition, FC Initiator Ports, FC Target Ports, Location, Masking and Mapping, Multiple Computer System, Physical Package, Profile Registration, Software, iSCSI Target Ports

[View early adopter profiles for this company.](#)

Applicable Product Family: Acme Big'n

Products in Family: Big'n Model 100, Big'n Model 300, Big'n Model 500

- ◆ **Tested Software** is the name of the agent the provides the SMI-S support
- ◆ **SMI-S Version** identifies the SMI-S Release and CTP test version run
- ◆ **Tested Autonomous Profiles** identifies the “device” that **passed the SNIA Conformance Test**
- ◆ **Tested Component Profiles** identify the elements in the “device” that **passed the SNIA Conformance Test**
- ◆ **Applicable Product Family** identifies the hardware family supported
- ◆ **Products in Family** identifies the models (firmware) in the family supported

Example Test Description

SMI-S Version 1.3.0 / Test Release: 1.3.0.20

Description:

- ◆ Initial release for SMI-S 1.3.0.
- ◆ Array focused.

Available Autonomous Profiles:

Array , Server

Available Component Profiles:

Access Points, [Block Server Performance](#) , Block Services , Disk Drive Lite , Extent Composition , FC Initiator Ports , FC Target Ports , Location , Masking and Mapping , Multiple Computer System , Object Manager Adapter , Physical Package , Profile Registration , Software , iSCSI Target Ports

- ◆ First line identifies the SMI-S Release tested and the version of the CTP test run
- ◆ **Description** identifies the high level scope of the test
- ◆ **Available Autonomous Profiles** identify the SMI-S “devices” supported by the CTP test release
- ◆ **Available Component Profiles** identify the component profiles that are supported by the CTP test release
 - ◆ NOTE: Block Server Performance is needed for [performance monitoring of Arrays](#) and requires conformance with SMI-S 1.1.0 (or later releases)

Example “Early Adopter” entry

Tested Software: Acme SMI-S Provider v3.1.2

SMI-S Version: 1.3 / Test Version: 1.3.0.20

Tested Component Profiles : [Block Storage Views](#)

- **An “Early Adopter” entry** identifies profiles that were tested, but the test of the profile have not been finalized yet. It recognizes vendors that are conformant with the profile test as it stands in the Test Version
- **Tested Software** is the name of the agent the provides the SMI-S support
- **SMI-S Version** identifies the SMI-S Release and CTP test version run
- **Tested Component Profiles** identify the elements in the “device” that passed the **SNIA Conformance Test (in its early state)**
 - ◆ NOTE: Block Storage Views is needed for **Discovery of Array elements in a scalable environment** and requires conformance with SMI-S 1.2.0 (or later releases)