

Project Proposal For A New INCITS Technical Report

SAN Management - Management Model

(SM-MM)

T11/02-691v2

1 Source of the Proposed Project

1.1 Title

SAN Management - Management Model

1.2 Date

December 5, 2002

1.3 Proposer(s)

INCITS TC T11, with a current membership of 65.

2 Process Description for Proposed Project

2.1 Project Type (Development or Revision)

Type DT (Development done within INCITS T11)

2.2 Type of Document

Technical Report

2.3 Definition of Concepts and Special Terms

None

2.4 Expected Relationship with Approved Reference Models, Frameworks, Architectures, etc.

All Fibre Channel standards are intended for use in closed systems.

2.5 Recommended INCITS Development Technical Committee (Existing or New)

It is recommended that this project be assigned to TC T11, in order to take advantage of the knowledge and experience with Storage Area Networks (SANs) that has been developed in that TC over the last 10 years, and the presence of all the major SAN equipment vendors in the committee.

2.6 Anticipated Frequency and Duration of Meetings

This project will make use of the regularly-scheduled bimonthly T11 plenary meetings. Informal Working Groups will be organized on an ad-hoc basis.

2.7 Target Date for Initial Public Review (Milestone 4)

August 2003

2.8 Estimated Useful Life of Standard or Technical Report

It is anticipated that this technical report will have a useful life of over 10 years.

3 Business Case for Developing the Proposed Standard or Technical Report

3.1 Description

The SAN Management - Management Model (SM-MM) project proposal recommends the development of a high-level enumeration of the various sources of information (e.g. an SNMP agent in a disk array, a name service in a network) and points of control (e.g. a CIM Provider in a switch, a SCSI Mode Page in a Tape) in a storage network which can be accessed and employed by a management application. Only items that are defined by existing industry standards will be included in the model. For each item, the Technical Report will list:

- a) the industry standards defining the item;
- b) a number of attributes provided that are appropriate to usage in a SAN, and their suggested usage;
- c) a number of control functions provided that are appropriate to usage in a SAN, and their suggested usage;
- d) one or more available publications describing the technology referenced in the standards which are suitable for implementers with little background in the technology;
- e) current and expected future industry developments related to the item.

This project will not introduce any new definitions, or develop any new technologies. It will merely produce a consistent definition of use of a number of existing technologies which is appropriate for the application of managing a storage network. If during the course of this work, enhancements or changes to current definitions to optimize usage in this application are discovered, they will be submitted as requests to the organization which produced the relevant standard, and not documented in the body of this Technical Report.

3.2 Existing Practice and the Need for a Technical Report

Management applications are presently required to obtain information from a variety of sources using a number of different interfaces and communication mechanisms in order to provide system administrators with the status of, and control over, the operation of a storage network that they require in order to fulfil their tasks. The communication with these sources is in some cases vendor-unique, and in other cases defined by industry standards produced by a variety of standards organizations other than INCITS. Few of the industry standards were created specifically with storage networks in mind, but were rather the outcome of network management efforts, some dating back a considerable number of years. Until recently, few of these technologies would have fallen within the scope of expertise required for an organization to compete successfully in the storage marketplace.

There is therefore need for a single storage-focused document which enumerates these technologies, provides an introduction to their features and uses, outlines their potential strengths and weaknesses, and provides the best current information on their expected evolution and development. The aim of such a document would be to present a unified view of storage management standards, which will significantly shorten the learning curve required for the adoption of these technologies. Also by promoting

greater uniformity across implementations the document will serve to reduce the occurrence of significant interoperability problems.

3.3 Implementation Impacts of the Proposed Technical Report

3.3.1 Development Costs

This technical report will be developed through the voluntary and cooperative efforts of T11 Technical Committee members. No significant development costs are anticipated.

3.3.2 Impact on Existing or Potential Markets

The proposed technical report will provide an upward growth path that complements and enhances existing supplier products and support schemes and protects backward compatibility wherever possible. The proposed Technical Report will result in expanded applications for existing and conceived products in both the channel and network markets. It is likely that isolated adverse effects would occur in any case through non-standard evolution or revolution.

3.3.3 Costs and Methods for Conformity Assessment

The committee will consider the results of testing provided to the committee through the voluntary efforts of the participants in T11. With this method all costs are borne by the organizations of the various participants and have for the most part been mainly an adjunct of their normal development costs.

3.3.4 Return on Investment

The return on investment for this development is expected to be high, due to the reduction in lead time necessary for the adoption of the technologies referenced in Technical Report, and by a greater consistency of implementation that the report promotes.

3.4 Legal Considerations

3.4.1 Patent Assertions

Calls will be made to identify assertions of patent rights in accordance with the relevant INCITS, ANSI and ISO/IEC policies and procedures. T11 is not aware of any patent assertions that may be made.

3.4.2 Dissemination of the Standard or Technical Report

Drafts of this document will be disseminated electronically. Dissemination of the final Technical Report will be restricted as the document becomes the property of INCITS, ANSI, or ISO/IEC.

4 Related Standards Activities

4.1 Existing Standards

- INCITS 348:2000 Fibre Channel 3rd Generation Generic Services (FC-GS-3)
- INCITS TR-30:2002, Fibre Channel - Methodologies for Interconnects Technical Report (FC-MI)
- DMTF DSP004 Common Information Model Specification, Version 2.2
- IETF RFC1157 Simple Network Management Protocol (SNMP) (Also STD0015)

4.2 Related Standards Activity

- INCITS Project 1356-D, Fibre Channel - Generic Service 4(FC-GS-4)
- INCITS Project 1568-D, Fibre Channel - HBA API (FC-HBA)

- INCITS Project nnnn-D, Fibre Channel - Switch API (FC-SWAPI)
- INCITS Project nnnn-D, FA MIB (MIB-FA)

The development of the SM-MM definitions will be guided, as appropriate, by standards and similar activities outside the suite of Fibre Channel standards that are produced by the organizations identified in 4.4 below, such as:

- IETF Fibre Channel Management MIB (<http://www.ietf.org/internet-drafts/draft-ietf-ips-fcmg-mt-mib-03.txt>)
- SNIA Storage Management Initiative (http://www.snia.org/tech_activities/SMI/)

4.3 Recommendations for Coordinating Liaison

None

4.4 Recommendations for Close Liaison

Distributed Management Task Force

Internet Engineering Task Force

Storage Networking Industry Association