

Project Proposal For A New INCITS Technical Report
SAN Management - Attribute & Method Dictionary
(SM-AMD)

T11/02-692v2

1 Source of the Proposed Project

1.1 Title

SAN Management - Attribute & Method Dictionary

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)

December 2003

2.8 Estimated Useful Life of Standard or Technical Report

It is anticipated that this standard 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 - Attribute & Method Dictionary (SM-AMD) project proposal recommends the development of a Technical Report to cross-reference the attributes and methods defined by a number of existing industry standards and other definitions, including;

- a) Fibre Channel Generic Services;
- b) FC-HBA & FC-SWAPI;
- c) MIB-FA;
- d) Fibre Channel Management MIB;
- e) Entity MIB and other appropriate MIBs;
- f) Common Information Model (CIM) and the Storage Management Initiative Spec. (SMIS);
- g) Other definitions found to be in common usage in the industry

This project will not introduce any new definitions. If during the course of this work, enhancements or changes to current definitions to optimize usage are discovered, or corrections are found to be needed, they will be submitted as requests to the organization which produced the relevant definition, 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 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 information produced by these sources is defined by a number of industry standards produced by a variety of standards organizations of which INCITS is one. Because each of these standards were developed separately, and each organization used a different approach a different terminology, it is extremely difficult to consolidate this information. Applications are forced to consume considerable processing power trying to ensure the consistency of the information, and reconciling apparent conflicts. Not only is such a process inefficient, it is extremely difficult to ensure its robustness across many different configurations and vendor's equipments.

An example of an apparent conflict is where an attribute called "number of connected devices" in two standards produces two different values, with one being the number of physically-connected devices, and the other only being that subset that are logged in and actively communicating.

There is therefore need for a single document which cross-references the information available from different types, and which highlights where specific attributes are consistent, or are defined differently. The aim of such a document would be to promote greater uniformity in implementations to reduce the occurrence of significant interoperability problems, and to act as a guide for further standardization work.

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 RFC 2737 Entity MIB (Version 2) (<http://www.ietf.org/rfc/rfc2737.txt?number=2737>)
- IETF Fibre Channel Management MIB (<http://www.ietf.org/internet-drafts/draft-ietf-ips-fcmgmt-mib-03.txt>)
- IETF RFC 2863 The Interfaces Group MIB (<http://www.ietf.org/rfc/rfc2863.txt?number=2863>)
- 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