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**Information technology –
Fibre channel –**

**Part 241:
Backbone 2 (FC-BB-2)**

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II INFORMATION TECHNOLOGY - FIBRE CHANNEL-

PART 241: Backbone 2 (FC-BB-2)

FOREWORD

- 1) ISO (International Organization for Standardization) and IEC (International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.
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International Standard ISO/IEC 14165-241 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

References in square brackets [n] are either in 2.1, 2.2 or the bibliography.

INTRODUCTION

International Standard ISO/IEC 14165-241 consists of three distinct Fibre Channel mappings as specified in Clause 1.

Figure 1 illustrates the major components of the FC-BB-2 specification and its relationship to IETF draft-ietf-ips-fcovertcpip-12 (FCIP) and the ATM Forum / ITU-T standards. Table 1 shows the organization of this document. FC-BB-2_IP, FC-BB-2_ATM and FC-BB-2_SONET do not interoperate in any way and are independent specifications.

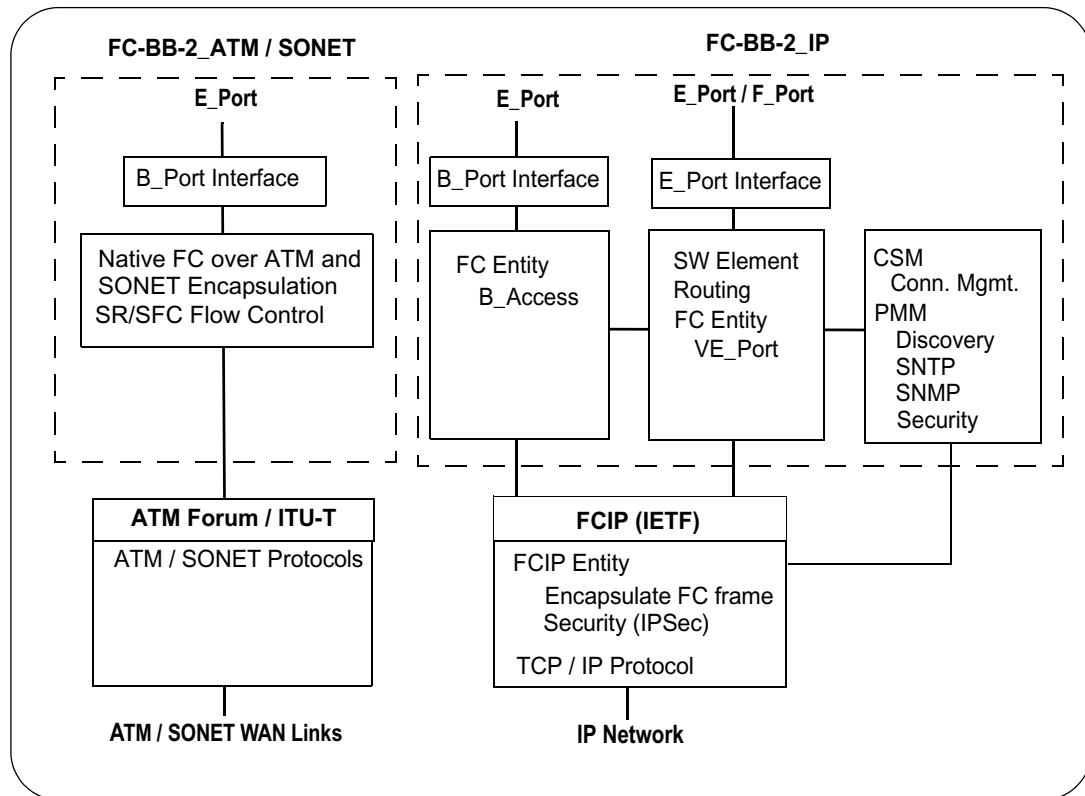


Figure 1 – Scope and components of FC-BB-2 specification

FC-BB-2 is divided into 16 clauses and 3 annexes as follows:

Clause 1 - Scope

Clause 2 - Normative references

Clause 3 - Definitions, abbreviations and conventions

Clause 4 - FC-BB-2 reference models and requirements

Clause 5 - Messages and formats for the ATM and SONET mappings

Clause 6 - Flow control protocols used in conjunction with ATM and SONET mappings

Clause 7 - FC-BB-2_ATM model structure

Clause 8 - Mapping and message encapsulation used with ATM mapping

Clause 9 - FC-BB-2_ATM service considerations

Clause 10 - FC-BB-2_SONET model structure

Clause 11 - Mapping and message encapsulation used with SONET mapping

Clause 12 - FC-BB-2_SONET service considerations

Clause 13 - FC-BB-2_IP model structure

Clause 14 - Mapping and message encapsulation used with TCP/IP mapping

Clause 15 - FC-BB-2_IP protocol procedures

Clause 16 - FC-BB-2_IP service considerations

Annex A (normative) - Encoded SOF and EOF ordered sets

Annex B (informative) - ATM traffic Management and signalling

Annex C (informative) - SR protocol parameter guidelines and state diagram

Table 1 – FC-BB-2 Organization

Specification Type	Applicable Clauses and Annexes
FC-BB-2_ATM, FC-BB-2_SONET, FC-BB-2_IP	1-4
FC-BB-2_ATM, FC-BB-2_SONET	5, 6
FC-BB-2_ATM	7, 8, 9 Annexes A, B, C
FC-BB-2_SONET	10, 11, 12 Annexes A, C
FC-BB-2_IP	13, 14, 15, 16 Annex A

INFORMATION TECHNOLOGY – FIBRE CHANNEL –

PART 241: Backbone 2 (FC-BB-2)

1 Scope

This part of ISO/IEC 14165 defines mappings for transporting Fibre Channel frames across ATM, SONET and TCP/IP backbone networks.

This part of ISO/IEC 14165 consists of three distinct Fibre Channel mappings resulting in the following three specifications:

- FC-BB-2_ATM (FC over ATM backbone network)
- FC-BB-2_SONET (FC over SONET backbone network)
- FC-BB-2_IP (FC over TCP/IP backbone network)

The backbone mappings support the attachment of fibre channel switches using the facilities of the underlying backbone network. Mappings of fibre channel to ATM and SONET are completely specified in this FC-BB-2 standard. With respect to TCP/IP, the FC-BB-2 and IETF Fibre Channel over TCP/IP specifications together describe how Fibre Channel frames are transported over a TCP/IP backbone. The FC-BB-2 standard describes the Fibre Channel characteristics associated with the encapsulation and transportation of Fibre Channel frames using Fibre Channel over TCP/IP. The IETF specifications provide details regarding the encapsulation and transportation of Fibre Channel frames over a TCP/IP backbone.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

2.1 Approved references

- [1] ISO/IEC 8802-2, *Information technology – Telecommunications and information exchange between systems – Local and metropolitan area networks – Specific requirements – Part 2: Logical link control*
- [2] ISO/IEC 14165-131, *Information technology – Fibre Channel – Part 131: Switch Fabric requirements (FC-SW-3)*
- [3] ISO/IEC 14165-241, *Information technology – Fibre Channel – Part 241: Backbone 2 (FC-BB-2) [the present publication]*
- [4] ISO/IEC 14165-251, *Information technology – Fibre Channel – Part 251: Framing and Signaling (FC-FS)*
- [5] ITU-T Recommendation X.25-1997, *Interface between Data Terminal Equipment (DTE) and Data Circuit-Terminating equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit, X.25-1997*

2.2 Other references

For information on the current status of the listed documents, or regarding availability, contact the relevant organization.

- [6] T11/Project 1570D/Rev. x.x, *Information Technology - Fibre Channel - Security Protocol (FC-SP)*
- [7] IETF draft-ietf-ips-fcovertcpip-12.txt, *Fibre Channel Over TCP/IP (FCIP)*, August 2002
- [8] IETF draft-ietf-ips-fcip-slp-04.txt, *Finding FCIP Entities Using SLP*, September 2002
- [9] IETF draft-ietf-ips-fcencapsulation-08.txt, *FC frame Encapsulation*, May 2002
- [10] IETF RFC 1619, *PPP over SONET/SDH*, May 1994.
- [11] IETF RFC 1662, *PPP in HDLC-like Framing*, July 1994.
- [12] IETF RFC 2030, *Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6 and OSI*, October 1996