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Part 331: Virtual interface (FC-VI)

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FOREWORD

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International Standard ISO/IEC 14165-331 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

The list of all currently available parts of ISO/IEC 14165 series, under the general title *Information technology – Fibre channel,* can be found on the IEC web site.

This International Standard has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

INTRODUCTION

This International Standard defines an upper-layer protocol within the domain of Fibre Channel, that is designed to permit efficient peer-to-peer or client-server messaging between nodes, and to comply with the Virtual Interface (VI) Architecture. Vendors that wish to implement devices that connect to FC-VI may follow the requirements of this and other normatively referenced standards to manufacture an FC-VI compliant device.

INFORMATION TECHNOLOGY – FIBRE CHANNEL –

Part 331: Virtual interface (FC-VI)

1 Scope

This part of ISO/IEC 14165 defines the Fibre Channel mapping protocol for the Virtual Interface (VI) Architecture (FC-VI). FC-VI defines the Fibre Channel Information Units in accordance with the VI Architecture model. FC-VI additionally defines how Fibre Channel services are used to perform the services required by the VI Architecture model of its network transport.

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 documents (including any amendments) applies.

ISO/IEC 14165-122, *Information technology – Fibre channel – Arbitrated Loop-2 (FC-AL-2)*

ISO/IEC 14165-251, *Information technology – Fibre channel – Framing and Signalling Interface (FC-FS)* (To be published)

ISO/IEC 14165-414, *Information technology – Fibre channel – Generic services-4 (FC-GS-4)*

The following references for VI Architecture are the product of Intel, Microsoft and Compaq. The VI Architecture 1.0 specification is completely defined in these three documents. For the convenience of the reader they are added as supplementary documents.

Virtual Interface Architecture Specification, V1.0 (VI-ARCH)

Virtual Interface (VI) Architecture Developer's Guide, V1.0 (VI-DG)

Virtual Interface (VI) Architecture Developer's Guide Error Table Supplement, V1.0

IP Version 6 Addressing Architecture, RFC 2373, July 1998 (RFC2373)
(can be downloaded from the Internet)

3 Terms, definitions and abbreviations

3.1 FC-VI terms and definitions

3.1.1 completing a descriptor

a VI Provider completes a Descriptor by updating the status field and setting the Done bit

3.1.2 FC-VI connection
a VI Connection that is established and maintained between two FC-VI Ports

3.1.3 FC-VI connection point
the context used to listen for FC-VI Connection requests and responses within an FC-VI Port. It is bound to an IP address and a Discriminator

3.1.4 FC-VI connection setup
an FC-VI operation that consists of a Sequence of FC-VI Connection IUs that establish an FC-VI Connection

3.1.5 FC-VI disconnect
an FC-VI operation that consists of a Sequence of FC-VI Connection IUs that removes an FC-VI Connection or aborts a FC-VI Connection Setup

3.1.6 FC-VI endpoint
the context for a VI within an FC-VI Port. Each end of an FC-VI Connection is an FC-VI Endpoint

3.1.7 FC-VI message transfer
an FC-VI operation that consists of one or more FC-VI Message IUs to transfer a VI Message between FC-VI Ports

3.1.8 FC-VI port: a Fibre Channel Port that is capable of FC-VI operation and complies with this standard.

3.1.9 FC-VI provider
the hardware and software services that implement the transport dependent functions of a VI Provider over a Fibre Channel transport conforming to this standard

3.1.10 fully qualified message ID (FQMID)
the tuple of {FCVI_HANDLE, FCVI_MSG_ID, Exchange Context (F_CTL:23)} that uniquely identifies and routes each received FC-VI IU to the correct FC-VI Endpoint context within a FC-VI Port

3.1.11 host name
a symbolic name associated with a VI capable Node. The Host Name is represented as an ASCII character string to the VI Application

3.1.12 in-order fabric
a Fibre Channel configuration where the order of frame arrival at a receiving Port is identical to the transmission order at the originating Port. An Arbitrated Loop is one example of an In-Order Fabric

3.1.13 local
entity (Endpoint, Connectionpoint, Provider, etc.) at this end of a FC-VI Connection

3.1.14 out-of-order fabric
a Fibre Channel configuration where the order of frame arrival at a receiving Port may be different than the transmission order at the originating Port

3.1.15 remote
entity (Endpoint, Connectionpoint, Provider, etc.) at the other end of a FC-VI Connection