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American National Standard

for Information Technology – Fibre Channel – Switch Fabric - 7 (FC-SW-7)

INCITS 547-2020

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American National Standard
for Information Technology –

Fibre Channel – Switch Fabric - 7 (FC-SW-7)

Secretariat

Information Technology Industry Council

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American National Standards Institute, Inc.

Abstract

This standard describes the requirements for an interconnecting Fabric consisting of multiple Fibre Channel Fabric Switch elements.

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Foreword (This foreword is not part of American National Standard INCITS 547-2020.)

This standard describes the requirements for an interconnecting Fabric consisting of multiple Fibre Channel Fabric Switch elements.

This standard was developed by Technical Committee T11 of Accredited Standards Committee INCITS during 2015-2019. The standards approval process started in 2019. This document includes annexes that are informative and are not considered part of the standard.

Requests for interpretation, suggestions for improvements or addenda, or defect reports are welcome. They should be sent to the INCITS Secretariat, Information Technology Industry Council, 700 K Street NW, Suite 600, Washington, DC 20001.

This standard was processed and approved for submittal to ANSI by the International Committee for Information Technology Standards (INCITS). Committee approval of the standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, INCITS had the following members:

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Introduction

FC-SW-7 is one of the Fibre Channel family of standards. This family includes INCITS FC-FS-6 and INCITS FC-PI-7/FC-PI-7P. INCITS FC-GS-8, is a document related to Generic Fabric Services and is closely tied to FC-SW-7. INCITS FC-BB-6 describes how Fabrics are extended over transports complementary to Fibre Channel. INCITS FC-MI-3 and INCITS FC-DA-2 describe interoperability profiles that assists in the interoperability of Switches. INCITS 332-1999, FC-AL-2, specifies the arbitrated loop topology. INCITS FC-SP-2 describes the Security requirements and protocols associated with Fibre Channel networks. INCITS FC-IFR describes the requirements and protocols associated with Inter-Fabric Routing.

FC-SW-7 describes how Switches communicate and interact with one another to form a Fabric of Switches. Included are Fabric initialization and configuration, routing, Server communication, event distribution and repository exchanges (e.g., Zoning information).

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American National Standard
for Information Technology --

Fibre Channel --
Switch Fabric - 7 (FC-SW-7)

1 Scope

This American National Standard for FC-SW-7 describes the operation and interaction of Fibre Channel Switches.

This standard includes:

a) E_Port operation and Fabric Configuration;

b) Path selection (FSPF);

c) Bridge port (B_Port) operation;

d) Distributed Server interaction and communication;

e) Exchange of information between Switches to support Zoning;

f) Distribution of Event Notifications between Switches;

g) Virtual Fabrics Switch Support;

h) Enhanced Commit Service;

i) Virtual Channels;

j) Inter-Fabric Routing;

k) Distributed Switch; and

l) Leaf Switch.

2 Normative references

2.1 Overview

The following standards contain provisions that, through reference in the text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below.

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