eb-2022-00843

Document Date:  11/1/22
To: INCITS Members
Reply To: Rachel Porter
Subject: Public Review and Comments Register for the Approval of:

INCITS 496-2012/AM 2-202x: Information Technology - Fibre Channel - Security Protocols - 2/Amendment 2 (FC-SP-2/AM 2)

Due Date: The public review is from November 18, 2022 to January 17, 2023.

Action:
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700 K Street NW - Suite 600
Washington DC  20001
Email: comments@standards.incits.org (preferred)

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Release Notes for version 1.01

- Letter Ballot comment resolution

Release Notes for version 1.00

- Letter Ballot version
Abstract

This amendment updates INCITS 496-2012 (FC-SP-2 and Amendment 1), to update normative references, deprecate TLS 1.0 and TLS 1.1, and add additional encryption algorithms.
Approval of an American National Standard requires review by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made towards their resolution.

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<td>Table 75 – Encryption Algorithms Transform_IDs (Transform Type 1)</td>
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</table>
Foreword  (This foreword is not part of American National Standard
INCITS 496-2012/AM2-2022.)

This amendment updates INCITS 496-2012 (FC-SP-2 and Amendment 1), to update
normative references, deprecate TLS 1.0 and TLS 1.1, and add additional encryption
algorithms.

This amendment was developed by the INCITS Fibre Channel Technical Committee
during 2022. The amendment approval process started in 2022.

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 amendment 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:
Introduction

This standard is one of the Fibre Channel family of standards. This standard describes the protocols used to implement security in a Fibre Channel Fabric. This standard includes the definition of protocols to authenticate Fibre Channel entities, protocols to set up session keys, protocols to negotiate the parameters required to ensure frame-by-frame integrity and confidentiality, and protocols to establish and distribute policies across a Fibre Channel Fabric.
American National Standard
for Information Technology —

Fibre Channel —
Security Protocols - 2 / Amendment 2 (FC-SP-2/AM2)

1 Scope

This amendment updates INCITS 496-2012, FC-SP-2 and Amendment 1, to:

a) update normative references;

b) deprecate TLS 1.0 and TLS 1.1; and

c) add additional encryption algorithms.
2 Updates

2.1 Subclause 2.3

Add:

INCITS 562-202x, Fibre Channel - Framing and Signaling - 6 (FC-FS-6)

2.2 Subclause 2.4

Update the subclause with the following changes:

RFC 8017, PKCS #1: RSA Cryptography Specifications Version 2.2, November 2016
RFC 8996, Deprecating TLS 1.0 and TLS 1.1, March 2021

The following documents are available from http://grouper.ieee.org/groups/1363/passwdPK/contributions.html#Wu: srp.stanford.edu/doc.html

The following documents are available from http://www.rsasecurity.com/:

2.3 Subclause 6.3.2.3

Replace table 75 with the following:

**Table 75 – Encryption Algorithms Transform IDs (Transform Type 1)**

<table>
<thead>
<tr>
<th>Transform_ID</th>
<th>Encryption Algorithm</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ENCR_3DES</td>
<td>RFC 2451</td>
</tr>
<tr>
<td>11</td>
<td>ENCR_NULL</td>
<td>RFC 2410</td>
</tr>
<tr>
<td>12</td>
<td>ENCR_AES_CBC</td>
<td>RFC 3602</td>
</tr>
<tr>
<td>13</td>
<td>ENCR_AES_CTR</td>
<td>RFC 3686</td>
</tr>
<tr>
<td>20\textsuperscript{b}</td>
<td>ENCR_AES_GCM\textsuperscript{c} (with a 16 bytes ICV)</td>
<td>RFC 4106\textsuperscript{d}</td>
</tr>
<tr>
<td>21\textsuperscript{e}</td>
<td>ENCR_NULL_AUTH_AES_GMAC\textsuperscript{c}</td>
<td>RFC 4543\textsuperscript{d}</td>
</tr>
<tr>
<td>1024 .. 2047</td>
<td>FC specific</td>
<td></td>
</tr>
<tr>
<td>1046</td>
<td>ENCR_AES_GCM\textsuperscript{c} with end-to-end encryption protection</td>
<td>RFC 4106\textsuperscript{d} FC-FS-6</td>
</tr>
<tr>
<td>1047</td>
<td>ENCR_AES_AUTH_AES_GMAC\textsuperscript{c} with end-to-end encryption protection</td>
<td>RFC 4543\textsuperscript{d} FC-FS-6</td>
</tr>
<tr>
<td>2048 .. 65535</td>
<td>Vendor Specific</td>
<td></td>
</tr>
<tr>
<td>all others</td>
<td>Reserved to IANA</td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{a} These values are a subset of those specified by IANA in the "IKEv2 Parameters" registry (see http://www.iana.org/assignments/ikev2-parameters).

\textsuperscript{b} ENCR_AES_GCM with a 8 or 12 bytes ICV shall not be used.

\textsuperscript{c} ENCR_AES_GCM and ENCR_NULL_AUTH_AES_GMAC may be used with a 128 bit key, a 192 bit key or a 256 bit key. If ENCR_AES_GCM or ENCR_NULL_AUTH_AES_GMAC is implemented, support for the 128 bit key is mandatory, support for the 192 bit and 256 bit key is optional. The key size is specified by using the Key Length Transform Attribute (see 6.3.2.5).

\textsuperscript{d} This standard requires a variation in the content of the Additional Authentication Data (AAD) field from that specified in the RFC. The AAD field specified by the RFC shall be prefixed by the modified Fibre Channel Frame_Header (see FC-FS-3) to construct the AAD field required by this standard.

\textsuperscript{e} ENCR_NULL_AUTH_AES_GMAC is used only for authentication, but is documented as an encryption algorithm so that it can use an initialization value.
2.4 Subclause B.3.2.1

Replace

KMIP servers conformant to this Authentication Suite shall support TLSv1.0 (see RFC 2246) to establish and maintain channel confidentiality and integrity, and may support TLS v1.1 (see RFC 4346) and TLSv1.2 (see RFC 5246)

with

As specified in RFC 8996, the use of TLSv1.0 and TLSv1.1 is deprecated.

KMIP servers conformant to this Authentication Suite shall support TLSv1.2 (see RFC 5246) to establish and maintain channel confidentiality and integrity, and may support TLS v1.3 (see RFC 8446).