The Advanced Television Systems Committee, Inc., is an international, non-profit organization developing voluntary standards and recommended practices for digital television. ATSC member organizations represent the broadcast, broadcast equipment, motion picture, consumer electronics, computer, cable, satellite, and semiconductor industries. ATSC also develops digital television implementation strategies and supports educational activities on ATSC standards. ATSC was formed in 1983 by the member organizations of the Joint Committee on Inter-society Coordination (JCIC): the Electronic Industries Association (EIA), the Institute of Electrical and Electronic Engineers (IEEE), the National Association of Broadcasters (NAB), the National Cable Telecommunications Association (NCTA), and the Society of Motion Picture and Television Engineers (SMPTE). For more information visit www.atsc.org.

Note: The user's attention is called to the possibility that compliance with this standard may require use of an invention covered by patent rights. By publication of this standard, no position is taken with respect to the validity of this claim or of any patent rights in connection therewith. One or more patent holders have, however, filed a statement regarding the terms on which such patent holder(s) may be willing to grant a license under these rights to individuals or entities desiring to obtain such a license. Details may be obtained from the ATSC Secretary and the patent holder.

Implementers with feedback, comments, or potential bug reports relating to this document may contact ATSC at https://www.atsc.org/feedback/.

Revision History

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ATSC Candidate Standard:  
A/360:2019 Amendment No. 3, cbcs

1. OVERVIEW

1.1 Definition
An Amendment is generated to document an enhancement, an addition or a deletion of functionality to previously agreed technical provisions in an existing ATSC document. Amendments shall be published as attachments to the original ATSC document. Distribution by ATSC of existing documents shall include any approved Amendments.

1.2 Scope
This document adds the CENC encryption mode ‘cbcs’ to the allowable content encryption methods.

1.3 Rationale for Changes
The current A/360 text references a no longer-current version of the CENC standard, and only allows use of two encryption modes: CTR (‘cenc’) and CBC (‘cbc1’). There is significant interest in allowing the use of CBCS (‘cbcs’) – which is a likely mode common to most services (ATSC and otherwise).

1.4 Compatibility Considerations
There are significant compatibility issues with this change. Of the existing receivers, some may and some may not be able to support CBCS (‘cbcs’), which has not been used to date in ATSC. For those receivers which are unable to decode CBCS, they will be unable to present any content encrypted using CBCS. Thus, this amendment adds a non-backwards compatible mode.

2. CHANGE INSTRUCTIONS
Change instructions are given below in italics. Unless otherwise noted, inserted text, tables, and drawings are shown in blue; deletions of existing text are shown in red-strikeout. The text “[ref]” indicates that a cross reference to a cited referenced document should be inserted.

2.1 Add ‘cbcs’ Mode

*Revise Sec. 5.7.2 as shown:*

5.7.2 CENC and EME Support
ATSC 3.0 service and content may be protected using common encryption and one or more DRM systems. Multiple licenses to a single service or content may be available through multiple DRM systems simultaneously.

A DRM-protected ATSC 3.0 service or content shall be encrypted according to the Common Encryption standard [2] using the AES-128 algorithm in either the CTR (‘cenc’), or the CBC (‘cbc1’), or the CBCS (‘cbcs’) mode.

– End of Document –