



**Society of Cable
Telecommunications
Engineers**

ENGINEERING COMMITTEE
Digital Video Subcommittee

AMERICAN NATIONAL STANDARD

ANSI/SCTE 30 2015

Digital Program Insertion Splicing API

NOTICE

The Society of Cable Telecommunications Engineers (SCTE) Standards are intended to serve the public interest by providing specifications, test methods and procedures that promote uniformity of product, interchangeability and ultimately the long term reliability of broadband communications facilities. These documents shall not in any way preclude any member or non-member of SCTE from manufacturing or selling products not conforming to such documents, nor shall the existence of such standards preclude their voluntary use by those other than SCTE members, whether used domestically or internationally.

SCTE assumes no obligations or liability whatsoever to any party who may adopt the Standards. Such adopting party assumes all risks associated with adoption of these Standards, and accepts full responsibility for any damage and/or claims arising from the adoption of such Standards.

Attention is called to the possibility that implementation of this standard may require the use of subject matter covered by patent rights. By publication of this standard, no position is taken with respect to the existence or validity of any patent rights in connection therewith. SCTE shall not be responsible for identifying patents for which a license may be required or for conducting inquiries into the legal validity or scope of those patents that are brought to its attention.

Patent holders who believe that they hold patents which are essential to the implementation of this standard have been requested to provide information about those patents and any related licensing terms and conditions. Any such declarations made before or after publication of this document are available on the SCTE web site at <http://www.scte.org>.

All Rights Reserved

© Society of Cable Telecommunications Engineers, Inc. 2015

140 Philips Road
Exton, PA 19341

Table of Contents

1. SCOPE	4
2. REFERENCES	4
2.1. <i>Normative references</i>	4
2.1.1. Normative reference list	4
2.1.2. Normative reference acquisition	5
2.2. <i>Informative references</i>	5
2.2.1. Informative document list	5
2.2.2. Informative reference acquisition	5
2.3. <i>Bibliography</i>	5
2.3.1. Bibliography document list	5
2.3.2. Bibliography acquisition	6
3. COMPLIANCE NOTATION	6
4. DEFINITIONS	6
5. ABBREVIATIONS.....	7
6. INTRODUCTION	8
6.1. <i>System Block Diagram</i>	8
6.2. <i>Arbitration Priorities</i>	11
6.3. <i>Abnormal Terminations</i>	13
6.4. <i>Splicing Requirements</i>	13
6.5. <i>Communication</i>	14
7. API SYNTAX	14
7.1. <i>Splicing_API_Message Syntax</i>	14
7.2. <i>Conventions and Requirements</i>	16
7.3. <i>Initialization</i>	17
7.3.1. Init_Request Message	17
7.3.2. Init_Response Message	18
7.4. <i>Embedded Cueing Messages</i>	19
7.4.1. Cue_Request Message	19
7.5. <i>Splice Messages</i>	20
7.5.1. Splice_Request Message	20
7.5.2. Splice_Response Message	22
7.5.3. SpliceComplete_Response Message	23
7.6. <i>Alive Messages</i>	24
7.6.1. Alive_Request Message	24
7.6.2. Alive_Response Message	25
7.7. <i>Extended Data Messages</i>	26
7.7.1. ExtendedData_Request Message	26
7.7.2. ExtendedData_Response Message	26
7.8. <i>Abort Messages</i>	27
7.9. <i>Abort_Request Message</i>	27
7.10. <i>Abort_Response Message</i>	28
7.11. <i>TearDownFeed_Request Message</i>	28
7.12. <i>TearDownFeed_Response Message</i>	28
7.13. <i>Requesting Configuration Settings</i>	28
7.13.1. GetConfig_Request Message	28
7.13.2. GetConfig_Response Message	28
7.14. <i>General_Response Message</i>	29
8. ADDITIONAL STRUCTURES	29
8.1. <i>Version</i>	29
8.2. <i>Hardware_Config</i>	30
8.3. <i>splice_elementary_stream()</i>	34
8.4. <i>time() Field Definition</i>	35
8.5. <i>splice_API_descriptor() Field Definition</i>	36
8.5.1. playback_descriptor() Field Definitions.....	36
8.5.2. muxpriority_descriptor() Field Definitions.....	38

8.5.3. missing_Primary_Channel_action_descriptor() Field Definitions.....	38
8.5.4. port_selection_descriptor() Field Definitions	39
8.5.5 asset_id_descriptor() Field Definitions	41
8.5.6 create_feed_descriptor() Field Definitions.....	42
8.5.7 source_info_descriptor() Field Definitions	44
9. TIME SYNCHRONIZATION	45
10. SYSTEM TIMING	47
10.1. <i>DPI Splice Signal Flow</i>	47
10.2. <i>DPI Splice Initiation Timeline</i>	49
APPENDIX A. RESULT CODES.....	51
APPENDIX B. EXAMPLE USE OF LOGICAL MULTIPLEX TYPE 0X0006 AND THE PORT_SELECTION_DESCRIPTOR()	54

LIST OF TABLES

TABLE 7-1 SPlicing_API_MESSAGE	15
TABLE 7-2 MESSAGEID VALUES	15
TABLE 7-3 INIT_REQUEST_DATA	18
TABLE 7-4 INIT_RESPONSE_DATA	18
TABLE 7-5 CUE_REQUEST_DATA.....	19
TABLE 7-6 SPICE_REQUEST_DATA.....	21
TABLE 7-7 SPICE_RESPONSE_DATA.....	23
TABLE 7-8 SPICECOMPLETE_RESPONSE_DATA.....	24
TABLE 7-9 ALIVE_REQUEST_DATA.....	25
TABLE 7-10 ALIVE_RESPONSE_DATA.....	25
TABLE 7-11 ALIVE_RESPONSE MESSAGE STATES	25
TABLE 7-12 EXTENDEDATA_REQUEST_DATA.....	26
TABLE 7-13 EXTENDEDATA_RESPONSE_DATA	27
TABLE 7-14 ABORT_REQUEST DATA	27
TABLE 7-15 ABORT_REQUEST DATA	28
TABLE 7-16 GETCONFIG_RESPONSE DATA	29
TABLE 8-1 VERSION().....	29
TABLE 8-2 HARDWARE_CONFIG()	30
TABLE 8-3 LOGICAL MULTIPLEX TYPE	31

LIST OF FIGURES

FIGURE 6-1 SINGLE SERVER / SINGLE SPlicer	9
FIGURE 6-2 MULTIPLE SERVERS / MULTIPLE SPlicERS.....	10
FIGURE 6-3 OVERRIDEPLAYING FLAG OPERATION	12
FIGURE 10-1 SINGLE EVENT SPICE	47
FIGURE 10-2 MULTIPLE EVENT SPICE.....	48
FIGURE 10-3 DPI SPICE INITIATION TIMELINE	50

Digital Program Insertion Splicing Application Program Interface

1. Scope

This Application Program Interface (API) creates a standardized method of communication between Servers and Splicers for the insertion of content into any MPEG-2 Output Multiplex in the Splicer. This API is flexible enough to support one or more Servers attached to one or more Splicers. Digital Program Insertion includes content such as spot advertisements of various lengths, program substitution, public service announcements or program material created by splicing portions of the program from a Server.

2. References

2.1. Normative references

The following standards contain provisions that, through reference in this 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 recommendation are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below, they are reminded that newer editions of those documents may not be compatible with the referenced version.

2.1.1. Normative reference list

[13818-1] ITU-T Rec. H.222.0 / ISO/IEC 13818-1 (2013), Information Technology ---- Generic Coding of Moving Pictures and Associated Audio Information: Systems

[13818-2] ITU-T Rec. H.262 / ISO/IEC 13818-2 (2012), Information Technology ---- Generic Coding of Moving Pictures and Associated Audio Information: Video

[SCTE 35] ANSI/SCTE 35 2014, Digital Program Insertion Cueing Message for Cable; also ITU-T Recommendation - J.181, June 2004.

[SCTE 128-1] SCTE 128-1 2013 AVC Video Systems and Transport Constraints for Cable Television

[SCTE 54] SCTE 54 2009 Digital Video Service Multiplex and Transport System Standard for Cable Television.