ATSC Standard: A/331:2025-10 Amendment No. 1, "Common Data Service"

Doc. A/331:2025-10 Amend. No. 1
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Revision History

Version	Date
Amendment approved	11 February 2026

ATSC Standard; A/331:2025-07 Amendment No. 1, "Common Data Service"

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 a new Service Type (aka @serviceCategory) value, "Common Data Service."

This is a service intended solely for the carriage of files via ROUTE, and as such, permits no additional signaling or transport options. It is intended to be used to carry any data of relevance to multiple services, in a similar nature to the behavior of the ESG service. It is not intended to be displayed to the viewer, to carry the HELD necessary to launch an app, or to provide the functions of a linear service. This document does not cover the alerting aspects of NPP-083, which is pending further discussion.

This document also removes normative references to CTA-766.

In addition, this document adds references to the Code Point Registry, corrects a typo in an informative annex, and provides other minor editorial fixes.

This amendment is in response to New Project Proposals:

- NPP-083, "Common Data, including EA Service and Alerting Semantics"
- NPP-085, "Maintenance and Improvements to A/331 and its Schemas"

1.3 Rationale for Changes

The changes described in this document are being proposed because currently, there is no home for data being carried with relevance to multiple services, such as BA data, or to emergency alerts. This leads to inefficiencies in the case of the former, where multiple services may send the same repeated data, and unclear organization for the latter, as while the AEA indicates the file itself, it does not have a location for the signaling of the ROUTE streams to be held.

We have added urlType, regionIdentifier, and other values to the ATSC Code Point Registry, which necessitates a pointer to that registry in the table defining those values. Additional minor updates such as the fixing of a typo in informative Annex B are also included.

References to CTA-766 were found to be incorrect as that document points back to A/331. The normative references to this document have been removed, and those references that remain are informative only.

1.4 Compatibility Considerations

The changes described in this document are backward-compatible relative to the currently published version of the standard to which this Amendment pertains and any previously approved Amendments for that standard.

The addition of a new service type should not affect deployed receivers, which are expected to ignore it (per the standard). Alert data does not presently have a home, which means no loss of

capability for receivers by sending it using this method. In the case of BA data and other shared non-AEA related data, the ROUTE sessions utilized in the CDS service can be additionally signaled in the SLS for the other services to ensure compatibility with receivers that have not been updated.

Likewise, the addition of a new urlType or other values should not affect deployed receivers. The typo fix is in an informative section, and the editorial changes do not affect the meaning of the standard.

2. LIST OF CHANGES

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 Change Instructions

2.2 Normative References

Move the following reference from Normative References to Informative References.

[11] CTA: "U.S. and Canadian Region Rating Tables (RRT) and Content Advisory Descriptors for Transport of Content Advisory Information Using ATSC Program and System Information Protocol (PSIP)," Doc. CTA-766-D (ANSI), Consumer Technology Association, Arlington, VA, December 11, 2013.

2.3 Informative References

Insert the above reference to CTA-766 into the list of Informative References.

2.4 Acronyms and Abbreviations

2.5 Terms

In Section 3.4 Terms, add the following new term:

Common Data Service – Service consisting of one or more file components, each associated with one or more AEAs in the AEAT, app-based features, or services.

2.6 Change Instructions

In Section 5.3 "Service Types and Service Configurations", change as follows:

The types of ATSC 3.0 Services that are currently defined are:

1) Linear Audio/Video Service
2) Linear Audio-Only Service
3) App-Based Service
4) ESG Service
5) (Deprecated)
6) DRM Data Service
7) Data Service

8) Common Data Service

These Service Types correspond to the values of `SLT.Service@serviceCategory`. New Service Types may be defined in future versions of this Standard. Properties of the above Service Types are shown in Table 5.1 to provide guidance in selecting the proper Service Type.

Table 5.1 Service Type Properties

Service Type	Video (HEVC)	Audio (AC-4)	Captions (IMSC1)	Held/Apps (A/344)	Undefined Data
Reserved (0)	X	X	X	X	X
Linear A/V (1)	M	M	O	O	X
Linear audio only (2)	X	M	O	O	X
App-Based (3)	O	O	O	M	X
ESG (4)	X	X	X	X	X
Deprecated (5)	X	X	X	X	X
DRM (6)	X	X	X	X	O
Data (7)	O	O	O	O	O
Common Data (8)	X	X	X	O	X

M – mandatory, O – optional, X – forbidden

In Section 5.4 "Rules Regarding ROUTE or MMTP Usage" update as follows:

The rules regarding presence of ROUTE sessions and/or MMTP sessions for carrying the Components of an ATSC 3.0 Service shall be as follows:

a) For a broadcast delivery of a Linear Service without app-based feature, the Service's Components are carried by either (but not both):
   - One or more ROUTE sessions, or
   - One or more MMTP sessions.

b) For broadcast delivery of a Linear Service with app-based feature, the Service's Components are carried by:
   - One or more ROUTE sessions, and
   - Zero or more MMTP sessions.

   Use of both MMTP and ROUTE for streaming Components in the same Service shall be disallowed.

c) For broadcast delivery of an app-based Service, an ESG Service, a Common Data Service, or a DRM Data Service the Service's Components are carried by:
   - One or more ROUTE sessions.

d) For broadcast delivery of a Data Service the Service's Components are carried by:
   - One or more ROUTE sessions, or
   - One or more MMTP sessions.

Table 6.4 Code Values for `SLT.Service@serviceCategory`

serviceCategory	Service Type
0	ATSC Reserved
1	Linear A/V Service
2	Linear audio only Service
3	App-Based Service
4	ESG Service (program guide)
5	(Deprecated)
6	DRM Data Service
7	Data Service
8	Common Data Service
Other values	~~ATSC Reserved~~ Industry Reserved. See ATSC Code Point Registry [67].

In section 6.3.2, change the reference to Other values as follows:

Table 6.3 Code Values for `urlType`

urlType	Meaning
0	ATSC Reserved
1	URL of Signaling Server (providing access to the Service Layer Signaling, as specified in Section 6.9).
2	URL of ESG Server (providing access to the ESG data, as specified in A/332, Section 5.5.2 [5]).
3	URL of Service Usage Data Gathering Report server (for use in reporting Service usage, as specified in A/333 [6]).
4	URL of Dynamic Event WebSocket Server (providing access to the dynamic events via WebSocket protocol, as specified in A/337 [7]).
Other values	~~ATSC Reserved~~ Industry Reserved. See ATSC Code Point Registry [67].

In Section 6.5.2 "AEAT and AEA Semantics" update as follows:

`Media` – This element contains the Component parts of the multimedia resource, including the language (`@lang`), description (`@mediaDesc`) and location (`@url`) of the resource. It refers to an additional file with supplemental information related to the AEAtext; e.g., an image or audio file. Multiple instances may occur within an AEA message block. Note that AEA media is made accessible to a BA that is subscribed to AEATs (see A/344 [54] for subscribe AEAT API) using the AppContextIdList in the Extended FDT Instance (`EFDT.FDT-Instance@appContextIdList`), see Section 9.2.10 of A/344 [54]. This media shall be delivered either as app data in Linear A/V, Linear audio only, or App-Based services, or as data available to native processing and all services with a listed appContextId in Common Data Services. Messages of type "`cancel`" shall not contain the Media element.

`Media@url` – A required attribute that shall indicate the location of the rich media resource delivered via broadcast ROUTE. As a relative URL, the value of `Media@url` shall match the @Content-Location attribute of the corresponding resource delivered in the signed package with associated appContextId.

In Section 7, Service Layer Signaling, update as follows:

Table 7.1 SLS Table Requirements per Service Type for Broadcast Configuration

Table Service Type	S-TSID	USBD[1]	MPD	HELD App/no App	DWD App/no App	RSAT	APD
Linear A/V	M	O	M	M/na	O/na	O	O
Linear Audio	M	O	M	M/na	O/na	O	O
App Based	M	O	O	M/na	O/O	O	O
ESG	M	O	na	na/na	na/na	O	O
DRM Data	M	O	na	na/na	na/na	O	O
Data	M	O	O	O/O	O/O	O	O
Common Data	M	O	na	na/na	na/O	O	O

M = Mandatory, O = Optional, na = Not Applicable (and no defined semantics)

Table 7.2 SLS Table Requirements per Service Type for Broadband Configuration

Table Service Type	S-TSID[1]	USBD[1]	MPD	HELD App/no App	DWD App/no App	RSAT	APD
Linear A/V	O	O	M	M/na	O/na	O	O
Linear A	O	O	M	M/na	O/na	O	O
App Based	O	O	O	M/na	O/O	O	O
ESG	O	O	na	na/na	na/na	O	O
DRM Data	O	O	na	na/na	na/na	O	O
Data	O	O	O	M/na	O/O	O	O
Common Data	na	na	na	na/na	na	na	na

M = Mandatory, O = Optional, na = Not Applicable (and no defined semantics)

In Section 7.1.3 "User Service Description", Table 7.3 update as follows:

DeliveryMethod 0..N Container of transport-related information pertaining to the contents of the Service over broadcast and (optionally) broadband modes of access. This element is not applicable to and therefore shall be absent for ESG, DRM Data Services, and Common Data Services.

In Section 7.1.3, update text under "User Service Description", Table 7.3 as follows:

Name – This element shall contain the name of this ATSC 3.0 Service as given by one or more languages as defined by its lang attribute. Absence of this attribute shall imply that the Service name is unnecessary to be indicated in the USBD. For example, this Service is the ESG, DRM Data Service, or Common Data Services.

…

DeliveryMethod – A complex element whose subordinate elements and attributes contain transport related information pertaining to the contents of this ATSC 3.0 Service. This element shall contain information on the delivery mode (broadcast, broadband, or via both paths) for each of those Components. This element is not applicable to and therefore shall be absent for the ESG, DRM Data Services, and Common Data Services.

[1] A/331:2020 required this SLS table.

In Section 7.2.1, remove the sentence with the normative reference to CTA-766 as follows:

ContentAdvisoryRating – Specifies the content advisory rating, as defined in the ATSC 3.0 Service Announcement specification A/332 [5]. The syntax and semantics of this element shall be the same as the **ContentAdvisoryRatings** element specified in the Service fragment of the ATSC 3.0 Service Announcement specification A/332 [5]. The content rating information is usually assigned to content during production and distribution. Content might have a rating, or it might not have a rating (and if it has a rating, that rating might be "None", "NR", or "E", see CTA-766 [11]). This element is required except when the content in the service does not have a rating assigned, then it shall not be present. When the program in the service is rated "exempt", the element contents shall be empty. This element is authoritative over the Service Announcement (SA, ESG) rating. ~~For North America, the terms "not rated" and "exempt" shall be as defined in CTA-766 [11].~~

In Section 7.2.4 "DRM for MMTP" update as follows to add the reference number of the Code Point Registry and correct the column name of Table 7.38:

Table 7.36 Code Values for license_type

license_type	Meaning
0x00	ATSC Reserved
0x01	**license-1.0,** Direct license acquisition by ATSC3 receivers and the URI scheme is a valid endpoint for access.
0x02	**groupLicense-1.0,** Provides a path for a group-based license. The URI may need to be parsed specific to that DRM System by the ATSC3 Receiver to access any local group licenses.
0x03	**contentId-1.0,** Provides information for the DRM specific content identifier used to generate the KIDs. The URI should be parsed to extract relevant information using REST based notation.
0x04~0xFF	Industry Reserved. See ATSC Code Point Registry [67].

…

Table 7.38 Code Values for operation_mode

~~license_type~~operation_mode	Meaning
0	ATSC Reserved
1	Sample-based operation mode. The descriptor carries decryption information for the sample identified by the combination of MPU_sequence_number, movie_fragment_sequence_number and sample_number.
2	MPU-based operation mode. The descriptor carries decryption information for all samples of the MPU identified by MPU_sequence_number.
3~7	Industry Reserved. See ATSC Code Point Registry [67].

In Section 7.3.1, update the reference to the ABNF grammar and remove the sentence with the normative reference to CTA-766 as follows:

7.3.1 DASH Signaling of RRT-based Content Advisories

For RRT-based program ratings, the content advisory rating XML data as specified in the **ContentAdvisoryRatings** element defined in the ATSC Service Announcement specification A/332 [5] is represented in string format using the following ABNF [23] rules and found in ~~ContentAdvisoryRatings-20210420.abnf~~ContentRating-20211208.abnf. When the content in the service is rated "exempt" this shall be the null string. ~~For North America, "exempt" shall be as defined in CTA-766 [11].~~

In Annex B.1, update as follows:

The diagram in Figure B.1.1 illustrates the delivery of two S-TSID instances over ROUTE. One S-TSID provides access information for the LCT channels, belonging to ROUTE session #1, which carries the Components of Service_X. The second S-TSID provides access information for the LCT channel(s) belonging to ROUTE session #~~N~~M, which carries the Components of Service_Y.

…

The diagram in Figure B.1.2 illustrates the delivery of two MP tables over MMTP. One MP table provides access information for the MMTP packet flows, belonging to MMTP session #1, which carries the Components of Service_X. The second MP table provides access information for the MMTP packet flows belonging to MMTP session #~~N~~M, which carries the Components of Service_Y.

In Section 8.1.1.4, remove redundant text as follows:

8.1.1.4 ROUTE/DASH System Model

Figure 8.1 depicts the ROUTE/DASH System Model. Definitions of terms are given below the figure after a discussion of the distinctions of the ROUTE/DASH System Model as compared to MPEG-2 Systems [34]. Note that there is a single unified model for all types of traffic i.e. there is no required distinction between video, audio, data and system control. ~~Figure 8.1 depicts the ROUTE/DASH system model.~~ For locally-cached and system control Services, ROUTE is implemented as depicted by the left-hand section of Figure 8.1 with the object(s) terminating in a memory location visible to the appropriate application. In Figure 8.1, the appropriate memory location for media objects is the ROUTE Output Buffer, as shown below.

In Section A.3.2.2, remove the sentence with the normative reference to CTA-766 as follows:

`ContentRating` – Deprecated. **`Use MPD.Period.AdaptationSet.Rating`** element. This element shall provide content rating information associated with the content in the service and a `MediaInfo`. The content rating information is usually assigned to content during production and distribution. Content might have a rating, or it might not have a rating (and if it has a rating, that rating might be "None", "NR", or "E", see CTA-766 [11]). This element is required when `…MediaInfo@contentType=`"video" except when the content in the service does not have a rating assigned, then it shall not be present. This element is authoritative over the Service Announcement (SA, ESG) rating~~. For North America, the term "not rated" shall be as defined in CTA-766 [11].~~

In Section F.2, update description of @regionIdentifier as follows:

`@regionIdentifier` – An unsigned 8-bit integer that shall indicate the rating region associated with this **`RatingRegionTable`** element. Values of @regionIdentifier shall be as specified in the ATSC Code Point Registry [67]~~CTA-766 [11]~~. ~~Interpretation in a receiver of the regionIdentifier 0x01 RRT requires prior knowledge of CTA-766 [11], therefore transmission is unnecessary.~~ Transmission of the regionIdentifier 0x01 RRT is not necessary as ratings are described in CTA-766 [11].

– End of Document –