Scope

This document presents recommended practices regarding the TV 3.0 Transport Layer, defined in [1], (extended and adapted version of the ATSC 3.0 Transport Layer, defined in [3]). In addition, specific configurations for the Brazilian scenario are presented in Annex A (TBD), the TV 3.0 Link Layer (originating from the ATSC 3.0 system, defined in [2]) are presented in Annex B and the Studio-To-Transmitter Link (STL) (originating from the ATSC 3.0 system, defined in [7]) are presented in Annex C.

1 Terms and Definitions

For the purposes of this Document, the following terms and definitions apply.

ATSC 3.0

Digital Terrestrial Television System defined in the set of standards ATSC A/200 to ATSC A/360

TV 3.0

Digital Terrestrial Television System defined in the set of standards ABNT NBR 25601 to ABNT NBR

25609, also known as DTV+

2 Abbreviations

For the purposes of this Document, the following abbreviations apply.

ALP	ATSC Link-Layer Protocol
APD	Associated Procedure Description
BALD	Broadcaster Application Location Description
CTP	Common Tunneling Protocol
DASH	Dynamic Adaptive Streaming over HTTP
DWD	Distribution Window Description
IP	Internet Protocol
OTA	Over-The-Air
OTT	Over-The-Top
PRRD	Privacy Record Request Description
ROUTE	Real-time Object delivery over Unidirectional Transport
RSAT	Regional Service Availability Table

STL	Studio-to-Transmitter Link
S-TSID	Service-based Transport Session Instance Description
TS	Transport Stream

3 TV 3.0 Transport Layer Recommendations

Regarding the Real-time Object delivery over Unidirectional Transport (ROUTE)/ Dynamic Adaptive Streaming over HTTP (DASH) transport method, the directives established in standard [1] are followed and the practices presented in standard [5] and standard [6] are recommended. In the latter document, practices are recommended for ATSC3.0 signaling, delivery, synchronization, and error protection. The scope of this standard is specified in section 1 of [5].

Regarding Signaling and Scheduling of TV 3.0 Transport Layer, Section 5.3 of [6] is recommended with the following changes:

- Ensure the SLT has proper globally unique URN *globalServiceID* as indicated in Section 8.1 of [1],

e.g., urn:atsc:serviceid:usc32;

- Ensure SLT indicates the service category as in Table 1 of [1];

- If a Service based on Bootstrap Application is sent, BALD should also be present.

The SLS fragments for Broadcast and Broadband configurations, specified in Annex A of [1], to be transmitted via ROUTE to enable reception of ATSC 3.0 Services, depending on the type/nature of the Service. Other types of SLS fragments may be additionally transmitted, also presented in Annex A of [1].

The operational guidelines corresponding to the technologies used in the TV 3.0 Transport Layer are contained in the following Annexes:

- Annex A - Specific configurations for the Brazilian scenario (TBD);
- Annex B TV 3.0 Link Layer Recommendations; and
- Annex C TV 3.0 STL Recommendations.

3.1 Exclusion of MMT technology

MPEG Media Transport (MMT) technology is not used for TV 3.0 Over-The-Air (OTA) transmissions.

Annex A

TV 3.0 Link Layer Recommendations

Regarding the TV 3.0 Link Layer, structured through the ATSC Link-Layer Protocol (ALP) and Link Layer Signaling, the directives established in standard [2] are followed and the practices presented in standard [4] are recommended. The latter document addresses recommendations regarding Internet Protocol (IP) header compression, packet encapsulation, IP header decompression and functional interoperability tests.

A.1 Exclusion of MPEG-2 TS technology

MPEG-2 Transport Stream (TS) technology is not used for TV 3.0 Over-The-Air (OTA) and Over-The-Top (OTT) transmissions.

Annex B

TV 3.0 STL Recommendations

Regarding the TV 3.0 STL, structured through the Common Tunneling Protocol (CTP) packets, the directives established in standard [7] are followed.

Bibliography

[1] ABNT NBR 25602, TV 3.0 — Camada de Transporte
[2] ATSC A/330:2024-04, ATSC Standard: Link-Layer Protocol
[3] ATSC A/331:2024-04, ATSC Standard: Signaling, Delivery, Synchronization and Error Protection
[4] ATSC A/350:2024-04, ATSC Recommended Practice: Guide to the Link-Layer Protocol
[5] ATSC A/351:2024-04, ATSC Recommended Practice: Techniques for Signaling, Delivery, and Synchronization
[6] ATSC CIT-196r23:2022-04, ATSC Implementation Guide: Emissions Testing Process
[7] ATSC A/324:2024-04, ATSC Standard: Scheduler / Studio to Transmitter Link