

PREPARATION AND MANAGEMENT OF TV PROGRAM METADATA (ELECTRONIC PROGRAM GUIDE)

TELETAG 2.0

TeleTAG system is designed to prepare and manage TV program metadata (Electronic Program Guide). The system consists of hardware and software that support metadata generation: creating or importing from external sources, editing, processing and metadata outputting in accordance with the requirements of each type of operators.

The system comprises central server and client's software. Central server consists of database, module that generates streams of Event Information Table (EIT), in accordance with ETSI EN 300 468 Standard, module that generates SI tables, in accordance with ETSI EN 300 468 Standard, STB software update module (DVB-SSU), in accordance with ETSI TS 102 006 Standard. The system can generate up to 500 Mbit/s data streams simultaneously. The client's software consists of system administrator tool and metadata editor tool, which performs intelligent editing and control over metadata integrity and validity.

The system supports for an automated import of metadata from external service providers, as well as an automated export of processed metadata in popular formats, which allows using the system both on traditional digital TV platforms (DVB-T, DVB-S, DVB-C) and on DVB-H and IPTV platforms.

TeleTAG system has the following key features:

- Imports and exports metadata delivered by external service providers in the XMLTV format;
- Metadata intelligent editing:
 - Control over the size (length) of text fields;
 - Spelling check;
 - Data validity check (time gaps, time overlap, event duplication);
 - Control over data integrity;
- Supports metadata in different languages simultaneously;
- User interface in English and in Russian;
- Generates Event Information Table (EIT) data and SI tables, in accordance with ETSI EN 300 468 Standard;
- Generates data stream to update software on STB;
- Supports interactive applications in accordance HBBTV 1.5 (ETSI TS 102 769) specification;
- Easy license upgrade for up to 500 Mbit/s of TS streams;
- Flexible system management to generate outputs in accordance with the technical requirements of the operator;
- Program interface (API) designed for quick integration with the systems of third parties (CAS, Middleware, etc).

BASIC MODULE

System topology	Client – Server, Remote management based on HTTP protocol
Output interfaces	RJ45, Ethernet 1000Base-TX (encapsulation TS ETSI TS 102 034) Up to 4 DVB-ASI (ETSI EN 50083-9)
Output container	MPEG-2 TS (ISO/IEC 13818-1) Event Information Table, PID 0x12 (ETSI EN 300 468)
Output tables	actual TS (present/following, event schedule) other TS (present/following, event schedule)
Output stream bitrate management	Supports for each transport stream (setup by system administrator)
Output performance	Standard server: up to 500 Mbit/s (setup by system administrator) High performance server: up to 1000 (upon request)
Import/Export of metadata	XMLTV (supports custom XML formats)
Redundancy	1+1 (automatic synchronization of data and configuration)
Server	Standard server: Rack mount server, 19" 1U High performance server: upon request
Server operating system	CentOS Linux Upon request: RedHat Linux

EPG GENERATION MODULE

Table specification	Event Information Table (EIT) (ETSI EN 300 486)
Output tables	Actual TS (present/following, event schedule) other TS (present/following, event schedule)
Import/Export of metadata	XMLTV (supports custom XML formats)

PSI/SI GENERATION MODULE

Output PSI/SI tables (ETSI EN 300 468)	SDT, BAT, NIT, TOT/TDT
Supported languages for SI tables	In accordance with ETSI EN 300 468 Other character encodings: upon request
Descriptors support	In accordance with ETSI EN 300 468, including private (generic) descriptors.
Output bitrate management	Supported (setup by system administrator)

STB FIRMWARE UPDATE (OTA) MODULE

Standards and specifications	DVB-SSU (ETSI TS 102 006), Simple profile Private STB vendor transport streams
Output bitrate management	Supported (setup by system administrator)

INTERACTIVE APP SUPPORT MODULE

Data specification	HBBTV 1.5 (ETSI TS 102 769)
AIT table generation	Supported
Number of Data carousel	Up to 500 (standard server)

METADATA MANAGEMENT SOFTWARE

Number of client connections	Up to 256
Metadata management	Text length control (setup by system administrator); Text spell check; Event timing control: <ul style="list-style-type: none">• time gaps;• event over-lap;• event duplication; Metadata integrity control (setup by system administrator) Data input based on metadata template; Value verification (ETSI EN 300 468); Data length control (ETSI EN 300 468);
Metadata access control	by login/password; data interlock;
Number of supported languages	Up to 32 (setup by system administrator)
User interface languages	Russian, English. Different UI languages upon request.
User interface customization	upon request