BBright Visionary Technologies

Multi-TS

HEVC - AVC - MPEG-2 High Density Multichannel Compressed Playout

Multi-TS is an easy to use and cost effective compressed video playout server for professional broadcast or streaming applications such as for satellite, terrestrial, cable networks, or telco/IPTV operators and playout facilities.

Multi-TS supports H.265 / H.264 / MPEG-2 TS files, either for PIP, SD, HD, full-HD or UHD channels. Video and audio PID's can be selected and remapped for multiple SPTS over UDP or RTP multicast streaming.

Secured by HDD drives in RAID configuration, redundant power supplies and carrier-grade built quality, the Multi-TS can be used in any field or head-end situations for 24 -7 linear playout with an optional integrated scheduler and playout event automation.

BBright's advanced technology and field proven know-how enable the Multi-TS server to deliver uncompromised compressed playout reliability for multiple and mixed resolution linear channels with a scalable license scheme.

Multiple SPTS Multicast Scalable by Licence
Redundant TSoIP Low Jitter Outputs

Advanced TS and GOP Processing
Integrated Scheduler and Playout Automation

FEATURES

Video (by channel)

- PIP, SD, HD, full-HD, Ultra HD (3840 x 2160) and 4K
- Frame rates : 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 fps
- Max. combined TS playout: 500 Mbps / CBR streaming
- Bit rate adaptation (null-packet stuffing)
- PCR, Continuity Counter correction, PTS/DTS processing
- GOP cleaning for HEVC and AVC .ts files
- PID re-mapping: 1x Video - 10x Audio - 5x Subtitles
- Un-processed TS (raw) playback mode also available
- Looping playlist mode / master + slave channel(s) playout
- Playout event scheduler with integrated automation [option]

File Ingest and Support

- SPTS and MPTS ingest through GbE port (FTP / NAS) or USB
- Video Codec:
  - **HEVC / H.265**, HDR10-PQ and HLG (in SEI) compatibility
  - **MPEG-4 AVC / H.264**
  - **MPEG-2**
- Container: **.ts**

Audio

- Audio Codec support:
  - AAC, HE-AAC (v1 & v2), AAC-LC / MPEG-1 Layer II
  - Dolby™ AC-3, E-AC-3, AC-4 (pass-through)

Outputs

- Multiple SPTS Multicast over IP in UDP or RTP / MPTS in raw
- Stream duplications on a secondary Multicast address
- FEC CoP 3 and VLAN support

CHASSIS

- 1RU chassis with up to 6 front loading 2.5in HDD slots
- Carrier-grade built quality and reliability for broadcast
- Redundant power supplies (hot swappable), 100-240 VAC, 50-60Hz, 400W max. [200W typical usage]
- Two USB 3.0 and two USB 2.0 interfaces
- Two IP-bonded GbE ports for control/ingest
- Two independent GbE ports for TSoIP streaming
- Front-to-rear airflow
- Dimensions, W: 437 mm, D: 520 mm, H: 43 mm (1RU)
- Weight, 10kg

CONTROL and AUTOMATION

- Intuitive Web-based G.U.I. with **channel's playout thumbnails**
  - Manual playlist or playout event scheduler management
  - Channel renaming and reordering
  - Alarms and logs, software and channel license update
- REST API control and SNMP v2c supervision
- **1 + 1** Main and Back-up server's **content redundancy**
- Playout control by text-based, xml, json traffic import [option]
- UID, RESET and POWER front buttons with five status LED's

FRONT PANEL LAYOUT (standard version: 3 TB)

Multi-TS / Playout solution

INTERNAL ARCHITECTURE

Transport Stream file ingest on the data/content HDD's is typically performed via FTP transfer/NAS connection, or alternatively via an USB attached device. Multiple channel playout, file ingest and also content redundancy between Main and Back-up servers can all run in parallel.

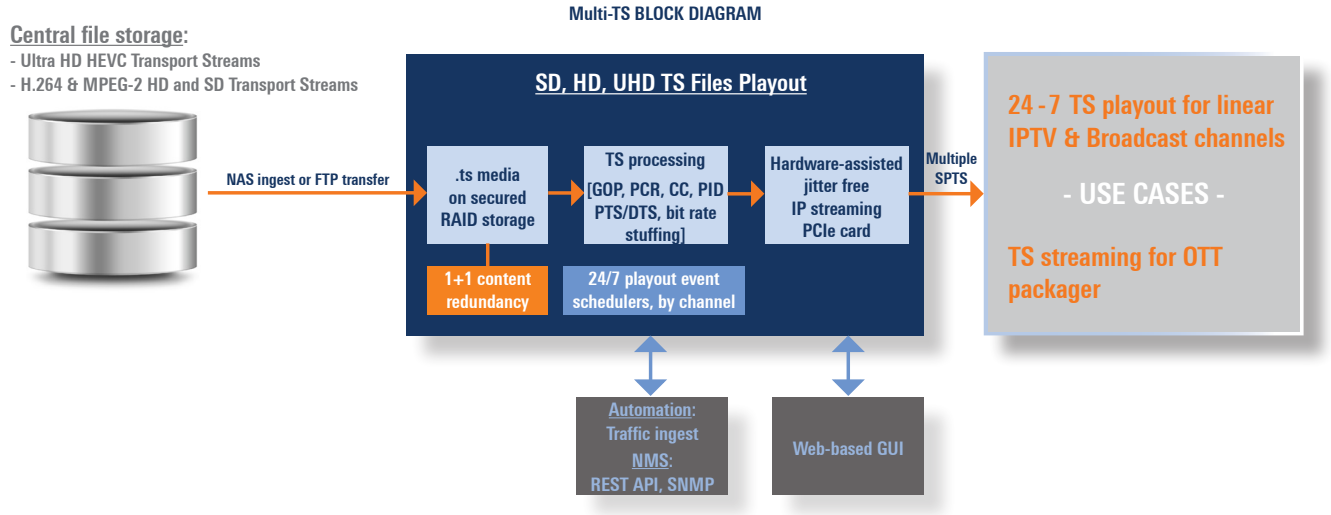
TS files can be played simply un-modified (RAW mode) or with bit rate stuffing, PID re-mapping and PCR, Continuity Counter, PTS / DTS processing. HEVC and AVC TS GOP cleaning ensure seamless transitions at playlist playback loop.

Channel's thumbnails/proxy, audio bar graphs and HDR flags provide immediate playout monitoring to the operator.

The scheduler option allows, by channel, a 24 - 7 playout event programmation, either by the web-based GUI or by importing channel specific traffic files (text-based, json, or xml formats). A looping playlist can also autofill the playout scheduler for a given period of time. One or several slave playout channel(s) can play in synchronization with a master channel.

A specific Gbit Ethernet output card, with dual interfaces, is dedicated for low-jitter TSoIP streaming and avoids bursty packet transmission to the downstream equipment.

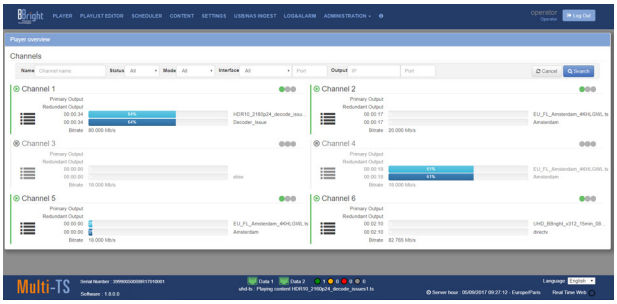
Multi-TS BLOCK DIAGRAM



CHANNEL CAPABILITY (standard version: 3 TB)

Channel type / TS bit rate	4 Mbps	8 Mbps	13Mbps	40Mbps
SD channels	either **20x**	or **15x**	-	-
HD channels	either **20x**	or **15x**	-	-
UHD channels	-	-	**5x**	**2x**

WEB G.U.I. SCREENSHOT



HARDWARE CONFIGURATION and OPTIONS

System and Storage Versions

- Factory pre-installed appliance configuration:
  - LINUX based
  - Two 1 TB enterprise grade HDD for operating system, firmware and licenses; [1+1] RAID 1 configuration
  - Standard version: four 1 TB enterprise grade HDD for content ingest and playout; [n+1] RAID 5 configuration
  - Extended storage; eight 1 TB enterprise grade HDD for content ingest and playout; [n+1] hardware RAID 5 configuration
- **Individual SPTS output licenses set by video resolution:** for PIP, SD, HD / Full-HD, or UHD channels
- **Optional scheduler** : individual playout schedules, by channel

ORDERING INFORMATION and AVAILABILITY

- Part number: **Multi-TS (3 TB or 7 TB storage)**
- Part number: **Scheduler (option)**

Multiple channel TS playout is available for shipment

Please contact sales for ordering details relative to product configuration or other requested options

August 2018, rev. 0.82. Product specifications are subject to changes without notice and are not contractual

BBright Visionary Technologies
BBright, 1 Square René Cassin - 35700 Rennes - FRANCE
+33 (0) 2 99 12 17 65 / sales@bbright.com