TSprocessor

Video Transport Stream Processor

DESCRIPTION

UDcast's TSprocessor is a head-end infrastructure element enabling flexible manipulation of MPEG2 Transport Streams in digital and mobile TV networks.

The TSprocessor is a standalone appliance that takes as input one or more transport streams carried over multiple media (IP/Ethernet, ASI interface) or stored in files. It processes the incoming transport streams by encapsulating, decapsulating, bitrate adapting, multiplexing, and demultiplexing them, and outputs one or more transport streams over various media (IP/Ethernet, ASI interface) or stores them in files.

The TSprocessor is configured using a user-friendly and secure web interface. TSprocessor configurations can be saved, managed and restored, allowing taking into account frequently changing configurations, making it especially suitable for test and lab use. The TSprocessor comes in a fault-tolerant hardware including dual redundant hot-swappable hard disks and power supplies.

The TSprocessor enables the processing of all MPEG-2 transport stream compliant signals in DVB and ATSC standards, including mobile TV, satellite mobile TV, as well as SD and HD digital television.

An intuitive graphical user interface facilitates the building of numerous virtual appliances and configurations. The TSprocessor can easily be transformed into an advanced network adapter enabling IP backbones, flexible re-multiplexer in the broadcast head-end, content filter suitable for local television, a stream play-out and recorder or an errors generator necessary for equipment testing, and many other broadcasting solutions.

BENEFITS FOR BROADCASTERS AND LABORATORIES

> Customized configurations available immediately and eliminating need for R&D costs
> Single appliance replacing up to 17 stand-alone units (adapters, multiplexers, demultiplexers, recorders, ...)
> No need for physical intervention. Remote configuration via graphical user interface
> Flexible and reliable platform for service demonstrations, customer trials and equipment validation
> Interoperable with all standard TV head-end, distribution and receiving components

TSprocessor

MODULES

> Input modules

The input modules receive the incoming transport streams carried over various media:

- **ASI to TS** - Receives TS on ASI IN interface
- **IP to TS (UDP Decapsulator)** - Receives TS over Ethernet interface. Supports UDP, FEC and Authentication, including Pro-MPEG COP#3 Standard
- **File to TS** - Reads transport streams from files. 2 formats are supported: RAW and Timestamped RAW
- **Null TP generator** - Delivers NULL TS at a preconfigured bitrate
- **IP to MPE** (Multi Protocol Encapsulation) - Encapsulates a Multicast IP into a PID
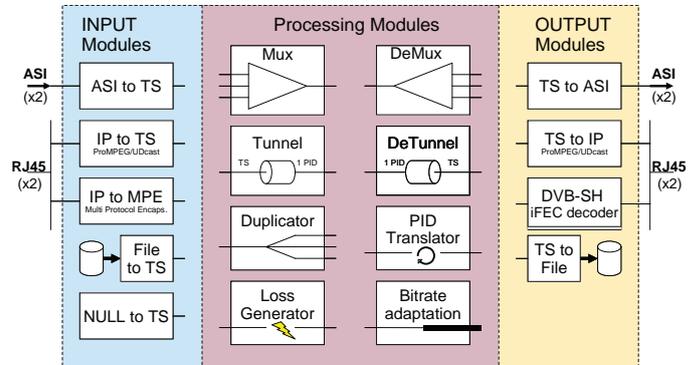
Processing modules

The processing modules modify and generate new raw transport streams:

- **Multiplexer** - Multiplexing of several transport streams into one
- **Demultiplexer** - Demultiplexing of TS using PID redirection table
- **Stream duplicator** - Duplicates N times an incoming Transport Streams
- **Private Section Encapsulator** - Encapsulates transport packets into private sections
- **Private Section Decapsulator** - Reverse function of the Private Section Encapsulator module
- **PID Translator** - Performs PID translation by replacing PIDs in MPEG2 headers
- **Bit Rate Adapter** - Inserts or deletes MPEG2 packets to deliver a configured bitrate
- **Configurable TP Loss Generator** – fully programmable per-PID packet loss generator
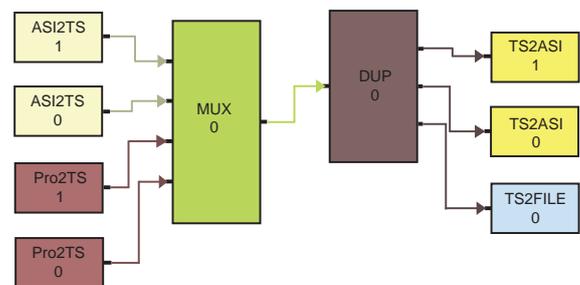
Output modules

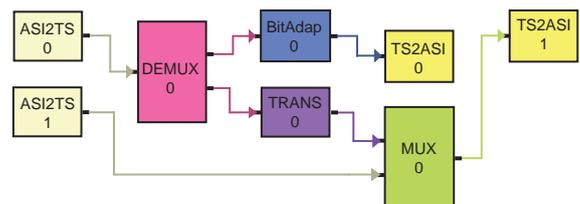The output modules send the processed transport streams to various media or files:

- **TS to ASI** - Delivers TS to the ASI interface
- **TS to IP** (UDP Encapsulator) - TS in UDP packets in unicast or multicast IP tunnel. Supports FEC and authentication, including Pro-MPEG COP #3
- **TS to File** - Saves a Transport Stream to a file. 2 formats are supported: RAW and Timestamped RAW.
- **DVB-SH IP Decapsulator** - Decodes the DVB-SH iFEC and outputs IP data.

Transport Stream Mux / Recorder

Local head-end re-multiplexer

SPECIFICATIONS

Administration features

- Secure web-based management
- Setup wizard with auto-configuration

Hardware specifications

- Casing: 19" x 1U x 705 mm
- Weight: 16.7 kg
- Power supply: Redundant dual power supply, 110/240 VAC
- Storage space: 36 GBytes (for data and system storage)

Network interfaces

- 2 ASI input interfaces (BNC 75 Ohms)
- 2 Ethernet interfaces: (10/100/1000 BaseT) for TS over IP input, output or management
- 2 ASI output interfaces (BNC 75 Ohms)
- I/O connectors: standard connectors for display, PS/2 keyboard, 2 serial slots

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