TITAN Mux

MULTI-FUNCTION SOFTWARE STREAM PROCESSING

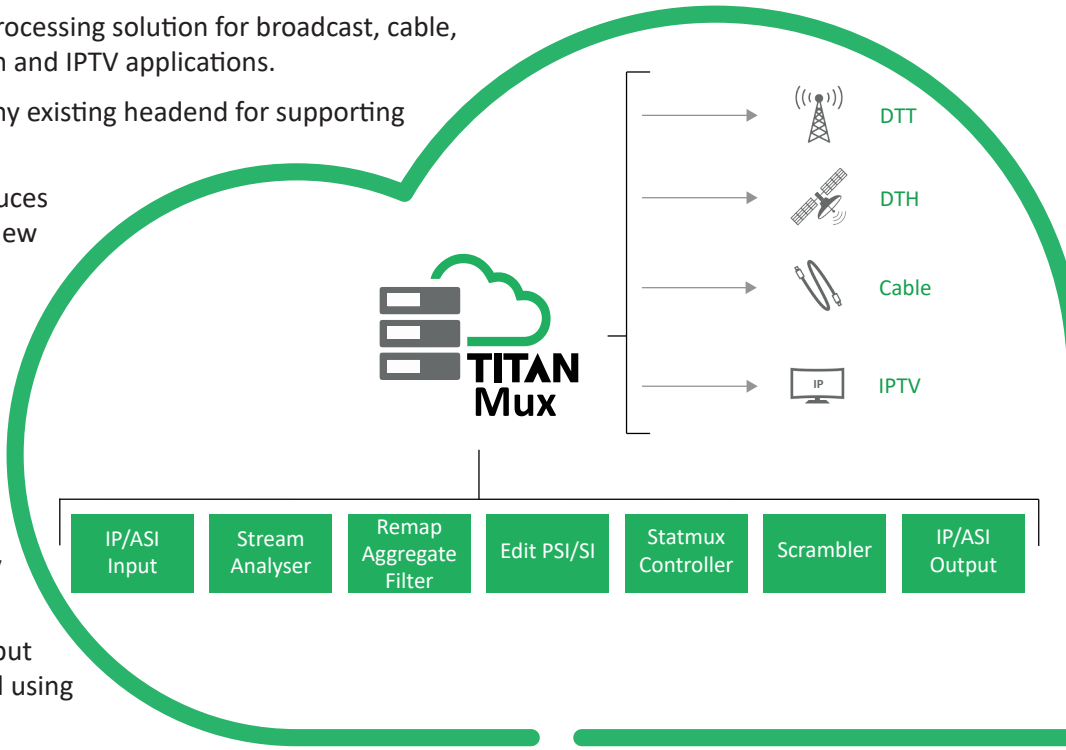
TITAN© Mux is a scalable stream processing solution for broadcast, cable, satellite, digital terrestrial television and IPTV applications.

It can be easily incorporated into any existing headend for supporting digital turnaround services.

The TITAN Mux scalable design reduces deployment time, enables adding new services on the fly and support any video, audio and data service.

TITAN Mux can be controlled by ATEME management system, and easily integrate with any NMS using REST API. TITAN Mux is a true hardware and OS agnostic solution running on any server, any form factor, bare-metal OS as well as any cloud environment.

It includes support for IP input-output and support for legacy ASI headend using PCIe ASI cards.



TITAN Mux eliminates operational headaches and ensures high scalability, flexibility and availability.

MANAGE PSI/SI TABLES

- Disabling
- Pass-through
- Internal Carouseling: Generates table body and passes through incoming descriptors
- Multicast Carouseling: Buffers incoming table, may restamp some fields and streams at configurable pace.

REMULTIPLEXING CAPABILITIES

- Service pass-through & remapping
- Service duplication
- Service generation from incoming components or data streams
- Component pass-through, remapping, filtering and duplication
- Smart service replacement

INPUT PROCESSING

- MPEG TS inputs: CBR, up to 200
- IP I/O's (1Gig-E or 10 Gig-E), ASI I/O's (optional PCI card)
- IP/TS/service/PID level monitoring
- Instantaneous bit-rate monitoring
- ETSI TR 101 290 instantaneous analysis
- Failover Active or Passive modes
- Automatic or manual switch back
- Redundancy on TS loss or on any ETR 101-290 P1 triggers.

TITAN Mux

VALUE-ADDED **BENEFITS**

Bandwidth Optimization
Less than 0,5% NULL Packets through advanced statistical multiplexing features

Single Frequency Network (SFN) Support
Software MIP insertion for DVB-T/T2 standards

Top-level Service
Guarantee high level of service continuity and redundancy options

Multiple Interfaces Compliance
DVB Simulcrypt: EIS / ECM-G / EMM-G
Data Injection: PSIG, PSIP, PMCP A76

Flexible Deployment
Runs on Bare-metal, Cloud environment, Container

Secure Transmission
Multiple encryption standards and scrambling algorithms:

DVB-CSA 1/2/3 | ATIS IDSA | SPAR | BISS-1 | BISS-E | BISS-CA

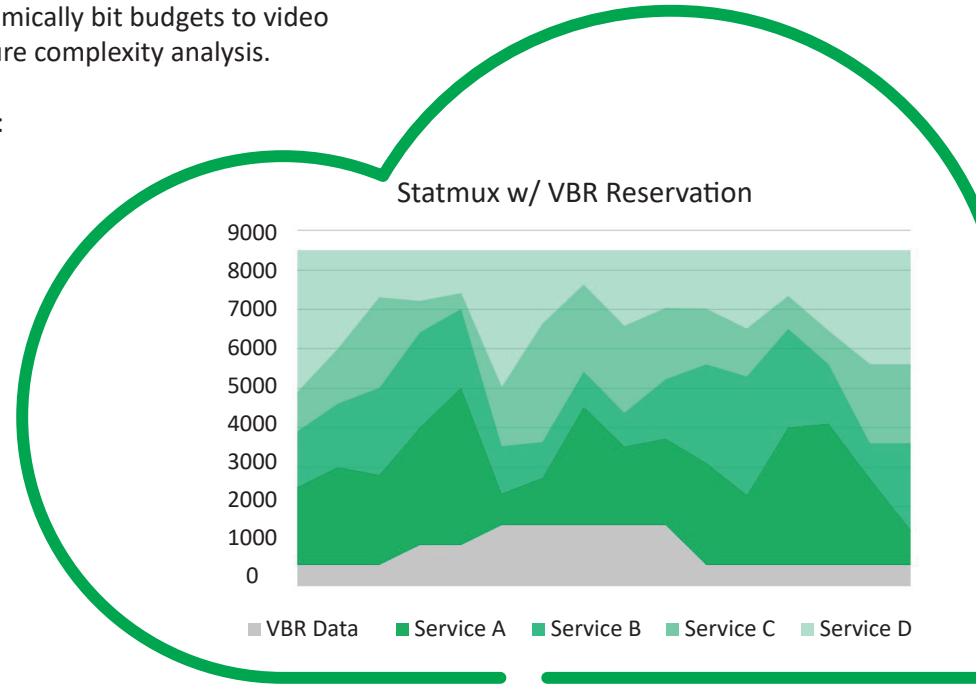
STATISTICAL MULTIPLEXING A.K.A STATMUX

Enhance video quality allocating dynamically bit budgets to video streams at every frame, depending on picture complexity analysis.

Goal: Enhance video quality allocating dynamically bit budgets to video streams at every frame, depending on picture complexity analysis.

Can be associated to the folowing features :

- Dynamic Statmux Pool : the bitrate of video streams will take all the available bandwidth in the MPTS, dynamically adjusted according to the bitrate of generated SI tables, audio streams,…
- VBR Reservation : Also called dynamic shaping. Titan MUX adapts the bandwidth reservation dynamically to ensure that all the external VBR data are evacuated within a specific delay (external SI (EIT), EMMs,…)

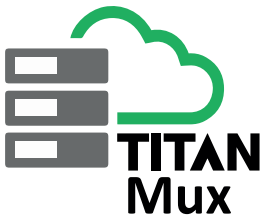


TITAN Mux

FEATURE-RICH FOR LINEAR HEADEND

INPUTS

- ASI (PCIe board)
- TS over IP up to 10 Gig-E (UDP, RTP / FEC)
- Monitoring: IP / TS / Service / PID level
- ETSI TR 101-290
- Redundancy auto/manual (active/passive)



OUTPUTS

- MPEG TS
- ASI
- TS over IP up to 10 Gig-E (UDP, RTP / FEC)
- Monitoring: IP / TS / Service / PID level
- Redundancy

PSI/SI

- ISO / DVB / ATSC
- 3 modes: Disabled, Pass-through, Carouseling
- Triveni interface
- Internal or multicast Carouseling
- Table content modification
- Table persistency in case of input loss signal
- Repetition period management
- Adding / Removing descriptor

REMUX

- TS / Service /component processing
- Service pass-through & remapping
- Service generation
- Component pass-through, remapping, filtering
- Service replacement
- EAS
- Regionalization
- Statistical multiplexing pool
  - Static: fixed bitrate
  - Dynamic: MPTS full bandwidth
- VBR Res for bandwidth usage optimization

SCRAMBLING

- DVB Simultcrypt compliant
- EIS, ECM-G, EMM-G interfaces
- DVB-CSA 1/2/3
- ATIS IDSA
- SPAR (Pandora)
- BISS-1, BISS-E, BISS-CA
- Certified NAGRA, Conax , NDS, Cisco, Irdeto …
- CAS Redundancy: Muxes synchronization for minimal glitch

Multiplexing Engine

For more information, visit our website at www.ateme.com