

SmartGate ATSC

Software-based ATSC 3.0 Gateway



Software-based & virtualized broadcast gateway to deliver any Linear & Non Real Time (NRT) contents received with ROUTE or MMTP protocols over ATSC 3.0 network.

Located at the broadcast playout center or studio side, the SmartGate gateway encapsulates multiple IP Streams coming from live HEVC encoders and Non-Real Time servers – EPG, Apps...- using ROUTE or MMTP protocols; Ensuring the ALP encapsulation, the BBFrame real time allocation, it outputs the resulting ATSC-compliant STL stream protocol over IP.

Mastering ATSC 3.0 Signaling

SmartGate is able to interface with an unlimited number of ATSC 3.0 signaling servers & packagers, and automatically manages ATSC 3.0 signaling from the different Low Layer Signaling (LLS), including automatic generation and delivery of the Service List Table (SLT), ensuring the exact description of the on-air services.

Managing All Types of Modulation

SmartGate supports all ATSC 3.0 modulation profiles - all modulation capabilities - from simple subframe and single PLP to multiple subframe and multiple PLPs, including the advanced management of Layer Division Multiplex (LDM) to ensure Single Frequency Network implementation. It gives broadcasters a wide spectrum of choice for signal coverage and robustness, simultaneously targeting multiple receivers' capabilities within one RF channel, offering a different business model for the network.

Virtualized & Scalable

By moving the legacy ATSScheduler hardware-based platform towards a new software based & virtualized application (SmartGate), ENENSYS enables broadcasters to install & manage their ATSC 3.0 core network infrastructure directly into a public or private cloud. This allows them to increase in scalability, enhance ATSC 3.0 core network speedy recovery time and save cost & space.

Secured & Innovative

ENENSYS has developed a patented technology ensuring a seamless 1+1 redundancy of 2 ATSC 3.0 SmartGate broadcast gateways, providing the capability to switch from the main unit to the backup unit without transmitter site disturbance (no desynchronization), even in SFN mode.

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Applications

- Linear & NRT content delivery
- Encapsulation of ROUTE & MMTP IP streams into ALP
- Network synchronization & SFN broadcasting
- Single and Multiple Sub-frame management
- Single and Multiple PLP management
- LMT generation and LLS tables insertion
- SLT management & delivery
- Generation of STL output packets over IP (STLTP)

Other benefits

- Central – Heart of the ATSC 3.0 network
- Interoperable -Validated with all major ATSC3.0 transmitter manufacturers
- Scalable – Virtualized appliance able to handle current & future broadcaster needs
- Secure – Avoid TV blackout during switch-over operation
- Validation of ATSC 3.0 transmission parameters
- Intuitive GUI – Easy to setup and to monitor

Technical specifications

INPUT

Control

1x Virtual Network Interface to access GUI and SNMP traps

ROUTE/MMTP streams

1x Virtual Network Interface for incoming
ROUTE/MMTP streams

OUTPUT

STLTP streams

Up to 6x Virtual Network Interface for RTP/UDP
output streams

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FEATURING

STLTP encapsulation

Encapsulation of ROUTE and MMTP streams over unicast or multicast STLTP streams
SMPTE 2022-1 FEC management to secure services distribution towards modulators

SFN Adaptation

Synchronization of ATSC 3.0 modulators for SFN broadcasting

ATSC 3.0 Encapsulation

IP encapsulation into ALP packets
ALP encapsulation into BB frames
IP Header compression

Synchronization

NTP/PTP based

Monitoring Supervision

Validation of ATSC 3.0 parameters
SNMP v3 support
Easy-to-use WEB GUI

Network configuration

Automatic configuration of ATSC 3.0 modulators and individual addressing

Physical Layer Pipe (PLP)

Multiple subframes management
Multiple PLP management

Signaling

LMT generation
Multiple LLS tables management
SLT management and delivery

Redundancy

Seamless redundancy in combination with ENENSYS IPGuardV2 switch

PHYSICAL

Hypervisor

ESXI 6.5/7.0

RAM

2GB

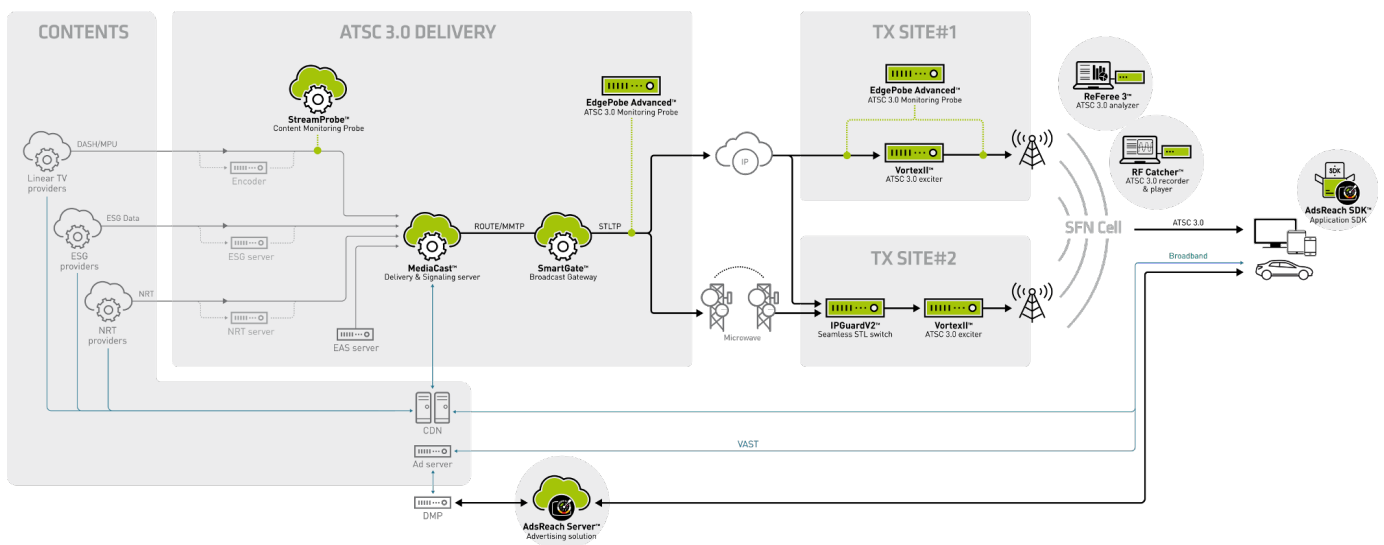
Processing

2 vCPU

HDD

16GB

ATSC 3.0 global architecture



SmartGate ATSC

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Ordering codes

SmartGate ATSC

Software-based gateway for ATSC3.0

Ordering options

SmartGate-ATSC-ACCESS

Encapsulation of ROUTE or MMT IP streams into STLTP / LMT tables generation and LLS tables delivery / STLTP output with FEC management

SmartGate-ATSC-ULTIMATE

SmartGate-ATSC-PERFORMANCE features / SLT aggregation and generation / Multiple subframe support / STLGuard to enable 1+1 SmartGate ATSC seamless redundancy with IPGuardV2 (not included) / Management of up to 6 STLTP outputs

SmartGate-ATSC-PERFORMANCE

SmartGate-ATSC-ACCESS features / SFN support / Multiple PLP support (Up to 8 PLP) / Multiple SLT (Service List Table) broadcasting