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between main & backup IP sources based on a set of configurable criteria in order to provide reliable IP transport and error-free streams.

Highlights

Secure your IP infrastructures

IPGuardV2 switches automatically between IP-based devices or IP networks by selecting the best streams based on configurable criteria.

Safe DTT SFN broadcasting

Used with ENENSYS' gateways and SFN adapter, IPGuardV2 prevents from facing DTV blackout or audio/video glitches when problems occur in your infrastructure in DVB-T/T2, ISDB-Tb, ATSC3.0...

Straightforward setup into existing networks

IPGuardV2 is the only IP transparent switch on the market that does not modify the IP streams, leading to a straightforward integration into existing network infrastructures.

100% service availability for great viewers experience

By checking continuously the broadcasted contents and by being highly reliable, the IPGuardV2 allows the operator to provide a great experience to their customers ensuring a high QoS.

Convenient for DTT, DTH, CATV & IPTV

Due to its high processing capability and the number of switching criteria available, IPGuardV2 can be setup in any IP infrastructures, securizing every distribution or contribution links.

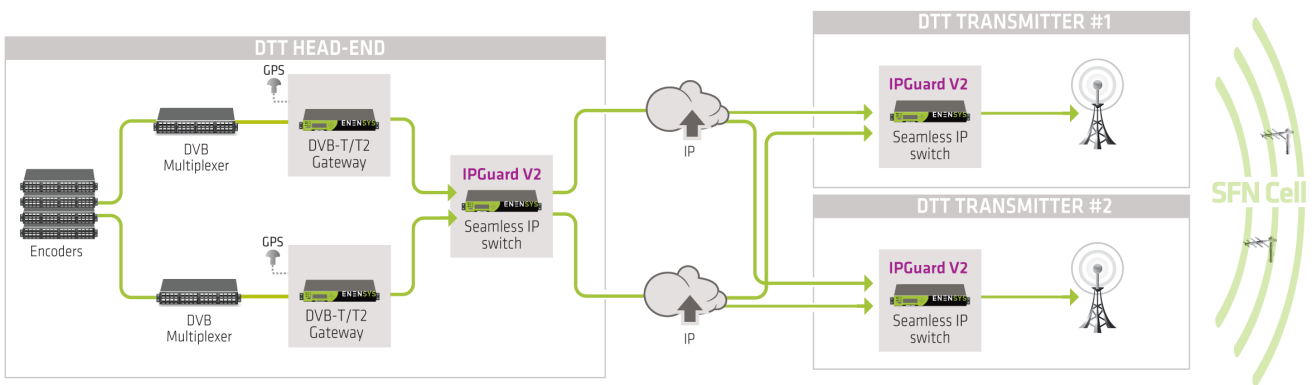
High density Design

Thanks to the innovate Enensys design, up to 6 IPGuardV2 hot-swap modules can be inserted in a chassis. Each module can process up to 66 IP streams, for a total of up to 396 redundancy switches in a 1U rack.

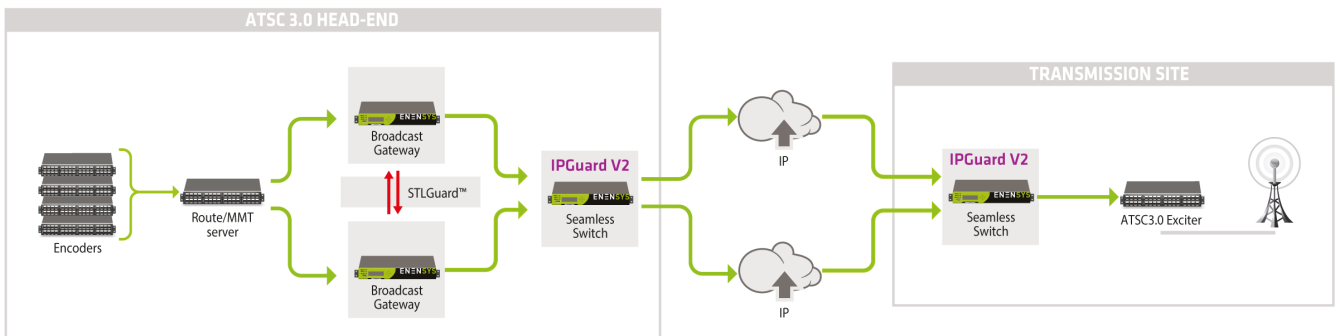
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DTT Service End-to-End Redundancy



ATSC 3.0 Service End-to-End Redundancy



Automatic IP redundancy - Typical Use-Cases

key_points_title

- Avoid DTT blackout (DVB-T/T2, ATSC3.0, ISDB-TB)
- Avoid audio & video glitches in case of equipment or network link failures
- Seamless switching between undefined identical RTP streams
- No change of network topology when inserted into existing network or in bypass mode
- High density & scalable solution with up to 66x switches in 1 module and 396x in 1U
- FEC modification & generation for TSolP



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- different propagation delays
- Seamless switching between between SFN adapters (DVB-T/T2, ISDB-TB, ATSC3.0)
- Seamless switch over between TS, T2-MI, BTS and RTP streams
- SMPTE2022-7 seamless protection switching
- Switch-over based on:
 - ETR290 1/2/3 and audio/video advanced criteria
 - STL criteria for ATSC3.0
 - IP dedicated criteria (RTP packet loss, stream jitter, presence of the stream, RJ45 error)

Technical features

- Avoid DTT blackout
- Avoid audio & video glitches in case of equipment or network link failures
- Seamless switching between undefined identical RTP streams
- Check the integrity of digital signals with an unmatched set of configurable switching criteria
- No change of network topology when inserted into existing network or in bypass mode
- High density & scalable solution with up to 66x switches in 1 module and 396x in 1U
- FEC modification & generation for TSolP
- Modification of IP characteristics of the streams to fit customer networks
- Synchronize different locations (head-end, transmission sites) with Peering feature

Technical specifications





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streams
2x optional SFP ports

of power outage

Featuring

UDP/IP stream management

Unicast/Multicast stream
RTP support
VLAN management

Seamless switch

Seamless switch-over between the same TS,T2-MI or
BTS carried over IP
Seamless switch-over between identical RTP streams
SMPTE2022-7 compliant
Alignment of delayed streams

Network transparent bridge

No MAC/IP addresses for data interfaces

Peering

Peer several IPGuardV2 so that they select the same
streams

FEC management

SMPTE 2022-1 (Pro MPEG CoP#3)
FEC input correction (TSolP)

IP switch

Up to 60 IP streams managed
Up to 6 TS/T2-MI over IP analyzed
Up to 6 BTS over IP analyzed
IP Bypass for service availability

Switching modes

Automatic switch
Priority input
Manual switch

Switching conditions

IP alarms (presence, bit rate,...)
ETR290, MIP, and T2-MI alarms
Advanced TS alarms
SMPTE2022-7
RTP packets loss
Network jitter

Network address translation

Modify IP characteristics of the incoming streams

Daisy chain mode

Serialization of several IPGuards to increase
processing capacities

Monitoring supervision

Real-time monitoring of incoming streams
Web-based GUI

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Formal

1 RU, width 19"

Front Panel

LCD Display and control

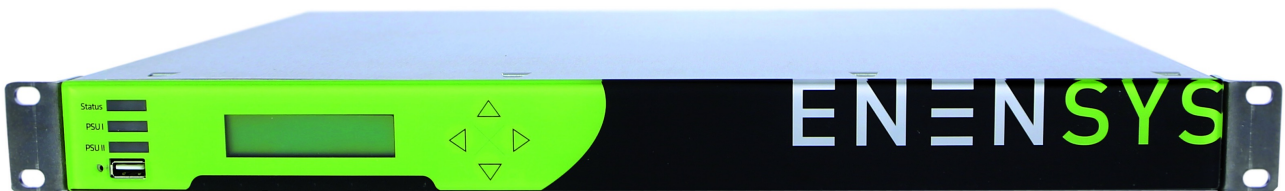
Power supply

100-240V 50-60Hz - 48V DC (option)

Power consumption

20W/module

Front



Back



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IPGuardV2-SeamlessTS

Seamless switching between TS/T2-MI streams

IPGuardV2-FEC

FEC generation on the outputs

IPGuardV2-Peering

Peering of several IPGuardV2 to synchronize selected input

IPGuardV2-1/2/6STL

STL Error Indicator and ATSC3.0 switching criteria for 1/2/6STL streams

IPGuardV2-SeamlessRTP

Seamless switching between identical RTP streams - SMPTE2022-7

IPGuardV2-DaisyChain

Share processing with another IPGuardV2

IPGuardV2-1/2/6TSoIP

ETR290 and advanced switching criteria for 1/2/6 MPEG2-TS

IPGuardV2-SeamlessSTL

Seamless switching between identical STL streams