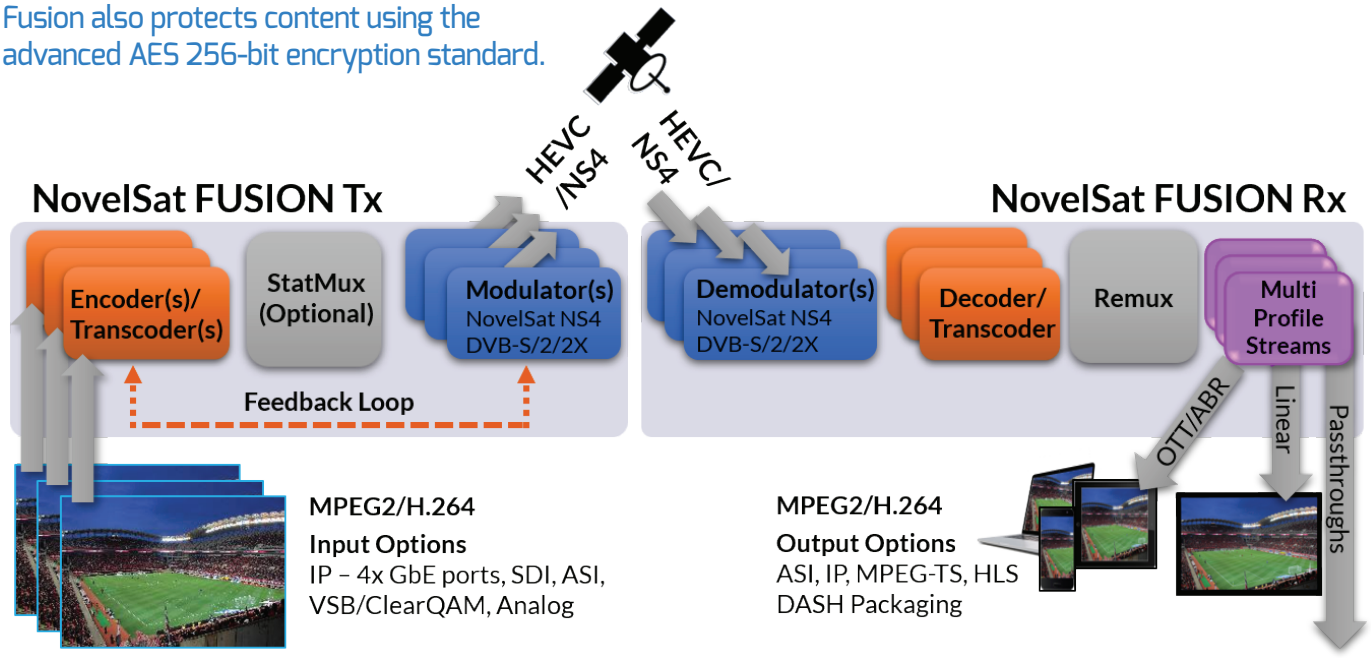
NovelSat FUSION

NovelSat
Making Space in Space

Unparalleled Broadcast Transmission Efficiency

NovelSat FUSION is an integrated Satellite Transmission / Transcoding / TransRating Solution. It enables broadcasters to squeeze even more SD, HD and UHD channels into less satellite bandwidth without costly network expansions. On top of transmission efficiency and flexibility, NovelSat Fusion also protects content using the advanced AES 256-bit encryption standard.

NovelSat Fusion
Powered by Gigolo



MPEG2/H.264

Input Options
IP – 4x GbE ports, SDI, ASI, VSB/ClearQAM, Analog

MPEG2/H.264

Output Options
ASI, IP, MPEG-TS, HLS DASH Packaging

"We have relied on NovelSat for satellite efficiency technology for years. Now, we are even more confident that our content is well protected with the AES 256-bit encryption solution co-developed by NovelSat and ourselves. We are confident this will become a leading solution in the broadcast market."

Oscar Teran, EBU Senior Manager Technology & Solutions, EMS

Optimized All-in-One Integration

NovelSat Fusion is the most flexible, efficient family of encoding, transmission and streaming solutions for TV broadcast over satellite and delivery to terrestrial networks.

FUSION is a scalable solution that receives multiple video streams in different formats and encodes them into HEVC and transmits via satellite using any transmission standard (DVB-S2/2X) including NovelSat NS4, the world's most efficient satellite waveform.

On the Receive side, the FUSION IRD Transcoder converts the data into multiple output channels in any video format (MPEG-2, MPEG-4 (H264-AVC) and HEVC (H265) to support OTT, ABR and linear TV streams.

Up to 80% Savings in Bandwidth Costs

By combining both NovelSat NS4 modulation and HEVC encoding in the same server, Fusion delivers up to 320% higher capacity (70% bandwidth savings) compared with DVB-S2/MPEG-4 solutions in current networks.

Network Element Flexibility

NovelSat FUSION is a highly scalable solution, with a selection of server capacities. In existing and new networks, the FUSION solution comprises an Encoder/Modulator, a Transcoding/Transrating IRD with optional Statistical Multiplexer (StatMux), or both units together It supports all satellite and terrestrial transmission standards, as well as a wide range of codecs. Using PCIe-based cards and software-based modules allows for easy scalability. It can support up to 32 HD programs per RF carrier, with up to 3 RF carriers per device. The transcoder on the receiver can also scale to deliver Adaptive Bit Rate multi-profile streams in addition to the normal linear-live streams for broadcast redistribution.

FUSION supports Multichannel Transcoding – software-based multi-stream decoding and transcoding from HEVC/MPEG4/MPEG2 to all network standards, supported by a variety of input and output interfaces, including SDI, ASI, IP, CVBS.

Key Features

Video Encoder/Transcoding TX Side

- Supports mix of uncompressed or compressed inputs
- Inputs: ATSC/ClearQAM, ASI, HD-SDI , TSoIP, RTP, RTSP, HLS and RTMP
- SD, HD and UHD formats
- MPEG-2/H.264/HEVC up to 422 10bit
- Standard Mux or Statistical Mux option
- Motion-compensated high quality format conversion

Video Decoder/Transcoding RX Side

- Transcode and/or Passthrough and/or Decode each incoming program
- DASH Streaming
- Apple HTTP Dynamic Streaming with TS and frag MP4 modes
- Microsoft Smooth Streaming
- Synchronized MPEG-2 TSoIP outputs
- MPEG-2/H.264/HEVC up to 422 10bit
- SD, HD and UHD formats
- Multi-resolution, multi-frame rate support
- Multi-channel audio support
- MCTF de-interlacing for highest video quality with interlaced inputs
- Decode outputs: SDI
- ASI output option for passthrough or transcode
- Optional SRT output

Satellite Transmission

- NovelSat NS4 – World's most bandwidth-efficient satellite waveform
- DVB-S2X, DVB-S/S2, DVB-DSNG, DVB-CID standard compliant 32APSK, 64APSK, 128APSK
- DRM with 256-bit AES encryption (Optional)
- Network Management System (Optional)

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