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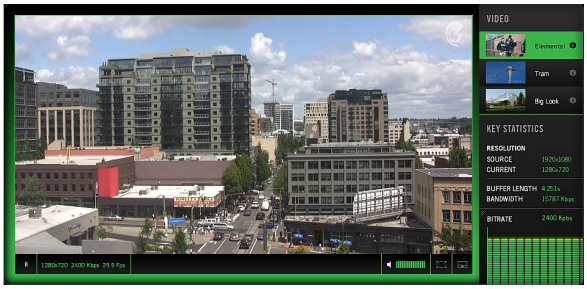
ELEMENTAL STATMUX

Dynamic Bandwidth Allocation

Elemental® Statmux is a software-based statistical multiplexer that optimizes content delivery for pay TV operators by reallocating bits in real time between video encoders and combining the outputs from multiple encoders into a single transport stream. The closed-loop statmux instantaneously adjusts the bitrate of each encoder in the statistical multiplex pool to make the best use of total available bandwidth and maximize network efficiency. Unlike other solutions, Elemental Statmux can perform simultaneous statistical multiplexing of MPEG-2, H.264 and HEVC outputs to enable a converged headend design for traditional broadcast delivery and multiscreen content delivery.



EXPERIENCE THE BENEFITS

Flexible Workflow Positioning

Elemental Statmux is available as either a standalone solution or as an add-on package with an Elemental® Live encoder. An integrated statmux eliminates network complexity, improves reliability and increases cost savings. Integrated and standalone options allow operators to optimize network traffic as best suited to their application while balancing redundancy and workflow requirements.

Bandwidth Savings

Content-aware control of Elemental encoders improves network bandwidth output by up to thirty percent, depending on content complexity and encoder / statmux settings. Additional internal network bandwidth savings can be realized using the Elemental Statmux add-on pack integrated with an Elemental Live encoder.

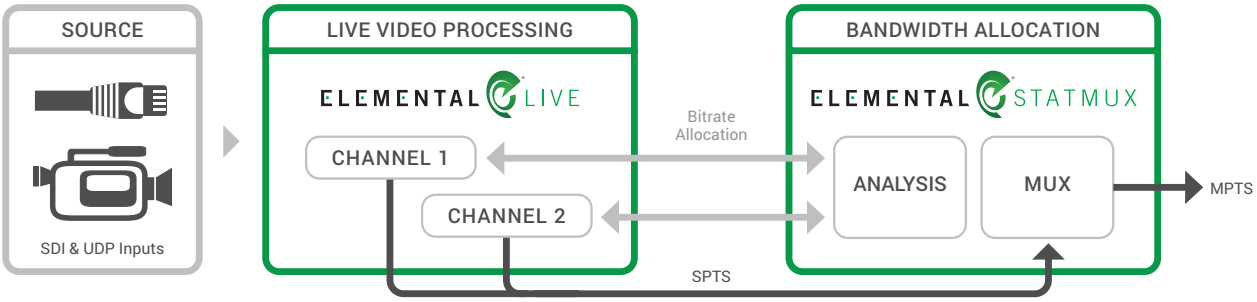
Software-Defined Approach

A software-based statistical multiplexer solution provides unprecedented flexibility. Elemental Statmux can be deployed as a software-only solution, on turnkey appliances or on virtual machines to fit any infrastructure. A simple software upgrade provides a seamless migration path from established standards such as MPEG-2 and H.264 to new codecs such as HEVC.

SOFTWARE-DEFINED VIDEO

- Maximize bandwidth savings with integrated or standalone statmux software
- Future-proof video operations with a migration path to new codecs
- Unify traditional broadcast and OTT workflows at the headend
- Perform control and management through an easy-to-use interface

ELEMENTAL STATMUX ARCHITECTURE



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WHY ELEMENTAL STATMUX

Comprehensive Redundancy
A full suite of redundancy is supported covering inputs and outputs, as well as the statmux itself. Multiple input streams per channel can be specified along with multiple output locations. In addition, output locations can be specified by two different Elemental encoding instances, enabling output protection either in a separate Elemental Statmux instance or within an Elemental encoder.

Video Quality
Real-time encoder control optimizes outputs for bitrate, resolution and number of channels. Quality settings are optionally tunable by channel, resulting in the highest priority channels always maintaining the highest quality.

Multi-Resolution Support
Create a single mux group containing UHD 4K channels along with HD and/or SD channels to thoroughly optimize bandwidth use without compromising quality.

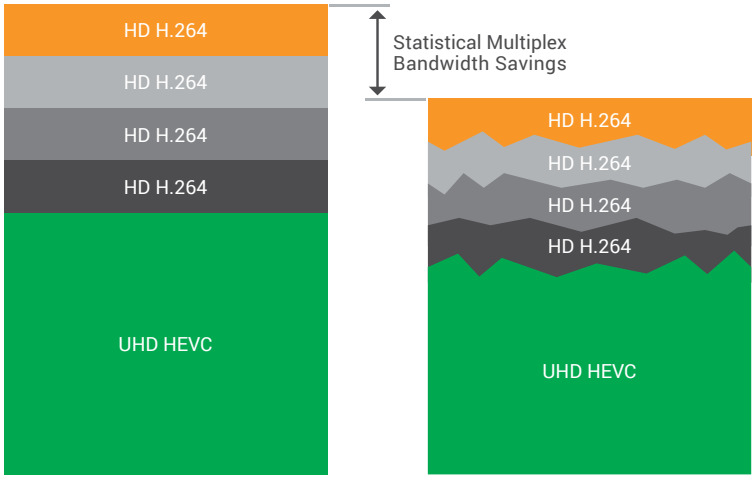
Density
An Elemental Live instance with an integrated statmux package supports a single statmux group. A standalone Elemental Statmux is capable of supporting up to eight mux outputs containing up to 100 channels each.

Input & Output Support
Support for SPTS or MPTS inputs and multiple inputs and outputs including MPEG-2, H.264 and HEVC. Transport streams also support SMPTE-2022 compatible Forward Error Correction (FEC).

Ease of Management
Use REST/XML APIs, SNMP or the web-based interface to simplify tasks such as system setup, workflow integration, channel processing, scheduling and prioritization. Control all Elemental products through a unified management interface with Elemental® Conductor.

Multi-System Management
An integrated Elemental Statmux can control multiple Elemental Live encoders within a single statistical multiplexed group and a standalone Elemental Statmux can control Elemental Live encoders in different statistical multiplexed groups.

Monitoring & Reporting
Monitor system resources, bandwidth usage per channel or multiplexer performance. Real-time reporting gives up-to-the-minute actionable details allowing fine tuning of multiplexed output while being able to monitor both video input and output for potential issues.



SPECIFICATIONS

Input / Output Containers
- MPEG2-TS SPTS
- MPEG2-TS MPTS
- MPEG2-TS SPTS (FEC enabled)
- MPEG2-TS MPTS (FEC enabled)

Input / Output Codecs
- MPEG-2
- AVC (H.264)
- HEVC (H.265)

Input / Output Resolutions
- SD
- HD
- UHD (4K)
- Combined resolutions

Redundancy
- Inputs
- Outputs
- Statmux instance

System Control
- Web-based user interface
- Elemental Conductor Live
- Notifications and alerts
- Splunk integration
- REST XML API
- SNMP Version 2c
- System resource & statistics monitoring

Hardware Configuration
- Hot-swappable power supplies
- Linux CentOS (Redhat option)
- 16 CPU cores
- 4x 1GigE ports, including vlan support
- 2x 10GigE ports, including vlan support

Other Features
- Reserve bits for downstream ad insertion
- PID mapping/remapping
- Optimize bandwidth by 25 to 30 percent

Specifications Subject To Change Without Notice

Rev 07-15

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