

SQUAD Series 100

Provides network-based processing for reception of real-time video signals and services in a variety of form factors, from cloud-based servers to commercial appliances. The SQUAD provides Security, Quality, Usability, Accessibility and Digital video services for content programmers, Internet service providers and broadcasters, supporting:

- Content aggregation of live linear and on-demand streams scaled for your service
- Secure, content provider-approved encryption of transport streams with SRT
- Stream monitoring, alarms, and reliability metrics
- Transcoding option per stream (up or down conversion)
- Redundant power and networking
- Simple Web-based and command-line interfaces

The SQUAD can be configured for use as a contribution service, an aggregation/distribution service, and a distribution-only service. Encryption is an integral part of all SQUAD services:

Transported content is delivered securely and reliably using SRT, enabling studio-approved encryption and low latency video transport services.

Content Use Cases

- Scales to manage single SPTS to large scale SPTS/MPTS
- Contribution encode and/or encrypt with transport to head-end
- Transport from contribution encoder to head-end
- Reception at head-end; Redistribution from head-end to CDN
- Transport from contribution encoder to cloud for live-to-VOD
- Reception in cloud; Redistribution from cloud to CDN
- Broadcast and multi-point transport from cloud to head-end

Retaining Content Quality

Appropriately sized and configured as a local appliances or cloud resources to manage content reception, transport and delivery cycles: encrypt, encode, forward error-correct, transport, error-correct, decode, and decrypt. Configuration management includes:

- SRT latency, encrypt/decrypt key storage and exchange
- Encoder input and output formats; Decoder output formats
- CPU and Network Load management based on number of inputs and outputs
- Stream management for blackouts, program substitution, ad insertion

Technical Specifications*

Inputs

ABR Streams:

- HLS, MPEG-DASH over HTTP/S
- 2-10 sec segments
- DRM (Widevine, PlayReady, FairPlay)
- Integrated Verimatrix Key management

CBR Streams:

- MPEG TS (7 MPEG packets/IP packet)
- HEVC, MPEG-4 AVC, MPEG-2
- 2-50Mbps (MPEG format dependent)

Outputs

ABR Streams:

- HLS or MPEG-DASH, HTTP/S
- De-segmented, decrypted CBR MPEG TS
- DRM (Widevine, PlayReady, FairPlay)
- Integrated Verimatrix Key management

CBR Stream (input):

- CBR MPEG TS
- MBR frame aligned with up to 7 profiles per Apple developer recommendation
- SPTS and/or MPTS

Networking

ABR:

- TCP/IP (unicast)
- HTTP and HTTPS support

CBR:

- TCP/IP or UDP/IP (Multicast) MPEG TS
- SRT (with FEC and AES 128/AES 256 Encryption)
- RTP, RTSP, RTMP

Transcoding

- MPEG-2 to MPEG-4 AVC
- MPEG-2 or MPEG-4 AVC to HEVC
- De-segmentation of HLS or MPEG DASH streams (ABR) to CBR MPEG TS output
- Frame aligned MBR with up to 7 profiles
- Segmented, packaged and/or encrypted HLS and/or MPEG DASH to origin server (push or pull)

Audio

- AC3, AC3+
- AAC: HD and LC
- MPEG-1, Layer 2, upon request
- 2 Audio/Channel standard
- Other formats upon request

Metadata Support

- Origination, pass-through, and modify
- ANSI SCTE 35 Digital Program Insertion
- EAS/EAN SCTE 18
- Closed Captioning/Subtitling/Timed Text: SCTE 20/21 (EIA 608/708); TTML; WEBVTT
- Time Code
- Other upon request and discussion

Platform

- Linux CentOS 7
- Single or multi processors
- Multi cores/processor
- Dependent on sizing requirements

Sizing

- 10 Streams
- 50 Streams
- 100 Streams
- 200 Streams

Note: Multiple stream formats out per input stream may have impact on total number of streams supported.

SRTALLIANCE
SECURE RELIABLE TRANSPORT

*Technical Specifications - subject to change without notice