KulaByte

BROADCAST QUALITY H.264 FOR LIVE INTERNET VIDEO

Haivision

Highest Quality Software-Based Internet HD Encoding and Transcoding The KulaByte™ Internet Encoder and the KulaByte Internet transcoder are ideal for streaming live events and OTT broadcast channels. 100% software-based, KulaByte combines High Profile H.264 encoding with advanced bandwidth controls to optimize both uplink and Internet delivery of high definition adaptive bitrate (ABR) video streams.

The Power of 100% Software As a software-based platform, KulaByte is equally powerful when deployed for source stream encoding or for highly flexible cloud-based transcoding built upon the very reliable Linux operating system. KulaByte encoding systems support up to four 1080p HD sources, either baseband or as IP streams to be transcoded. When deployed within the cloud, KulaByte stands alone with both Transport Stream and RTMP ingest, allowing existing workflows to immediately take advantage of cloud efficiencies. As a software platform unrestricted by proprietary hardware technology, an investment in KulaByte will extend for many years, assuring the best ROI in its class.

Technology Designed for Uplink Efficiency KulaByte provides the highest uplink bandwidth utilization and the highest quality streams for any given bitrate. KulaByte systems combine Constant Bit Rate (CBR) output with Dynamic Stream Shaping (DSS) to dynamically change the bitrate to compensate for fluctuations in uplink bandwidth availability. This assures the best Internet delivery of any source stream over any network condition.

Adaptive Bitrate (ABR), Dynamic Flash and Adaptive HLS Based on an advanced implementation of the highly efficient H.264 codec, KulaByte natively supports both Adobe's Dynamic Flash™ streaming protocol (RTMP) with the largest global penetration of playback devices, and Apple's Adaptive HTTP Live Streaming (HLS) protocol supported by iPhone™, iPad™, and Android phone and tablet devices, as well as set-top boxes such as the Roku™ streaming player.
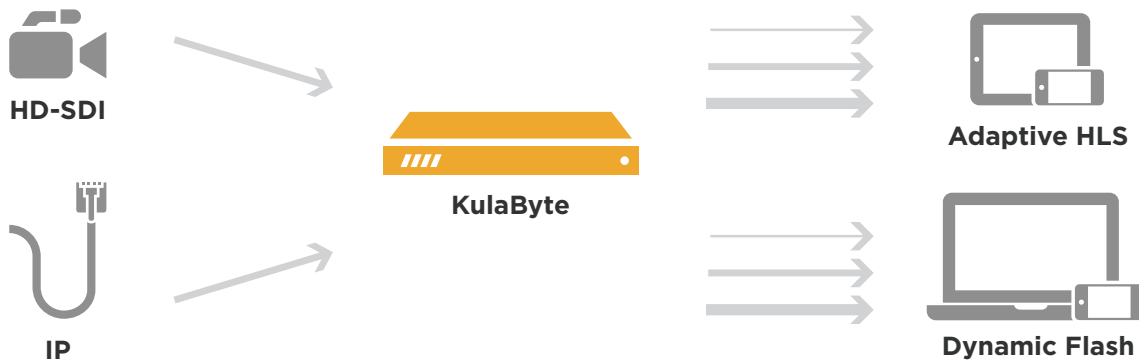
Product Features   Product Benefits

Product Features	Product Benefits
100% software-based	High ROI, scalable performance, cloud deployable
H.264 High Profile encoding	Best quality per bit transferred
Dynamic Stream Shaping (DSS)	Best use of restricted / variable uplink connections
RTMP or Transport Stream input	Transcoder accommodates existing IP-based workflows
ABR encoding	Encode up to 4 inputs per system and up to 8 outputs per input
Turnkey Internet encoding	Easy to deploy encoding solution in portable or server based configurations
GUI or API control	Operate complex workflows with browser Web UI or custom REST API integration
Linux-based platform	Higher performance & reliability. Take advantage of lower-cost cloud instances

advanced media technologies®

KULABYTE SYSTEMS
Video Input Resolutions
 up to 1080p30

Video Encoding
Compression Standard:
 H.264 (highly configurable codec)
Profiles:
 High, Main, Baseline
Bit Rates:
 up to 10 Mbps
Rate Control:
 CBR
Video Sampling:
 up to 4:2:2

Audio Encoding
Compression Standard:
 AAC-LC/HE
Bit Rates:
 up to 512 Kbps

[1] 720p ABR = 720p+480p+360p+270p+180p
[2] 1080p ABR = 1080p+720p+480p+360p+270p+180p
[3] SD ABR = 480p+360p+270p+180p

KULABYTE PILOT ENCODER HD SERVER
Video Input (1 input):
 Component Analog   Composite
 S-Video   SDI
Audio Input (2 Channel):
 Balanced and Unbalanced (Analog and AES/EBU)
 SDI Embedded
Stream Outputs:
 1 x 720p ABR [1]
Operating System:
 Windows Server 2008
Standard IP Interfaces:
 2 x RJ45 Ethernet   Unicast streaming
Weight (approx.):
 26 lbs.
Dimensions:
 1RU: 42.6H x 431W x 393.7D (mm)
Power (Internal Supply):
 100-240 VAC 250 W

KULABYTE PILOT TRANSCODER HD SERVER
Video Input (1 input):
 RTMP   MPEG Transport Stream
Stream Outputs:
 1 x 720p ABR [1]
Operating System:
 Linux
Standard IP Interfaces:
 2 x RJ45 Ethernet   Unicast streaming
Weight (approx.):
 26 lbs.
Dimensions:
 1RU: 42.6H x 431W x 393.7D (mm)
Power (Internal Supply):
 100-240 VAC 250 W

KULABYTE HD ENCODER SYSTEM
Video/Audio Inputs:
 up to 4 x HD-SDI
 Each input with 2-channel embedded audio
Stream Outputs:
 up to 4 x 720p ABR [1]
Operating System:
 Windows Server 2008
Standard IP Interfaces:
 4 x RJ45 Ethernet
 Unicast streaming
Physical Characteristics
 1 RU
Weight (approx.):
 57 lbs.
Dimensions:
 1RU: 42.5H x 431W x 772D (mm)
Power (Internal Redundant Supply):
 100-240 VAC 717 W

KULABYTE HD TRANSCODER SYSTEM
Video Inputs:
 up to 4 x RTMP and/or MPEG Transport Stream
Stream Outputs:
 up to 4 x 720p ABR [1] , 2 x 1080p ABR [2] or 10 x SD ABR[3]
Operating System:
 Linux
Standard IP Interfaces:
 4 x RJ45 Ethernet
 Unicast streaming
Physical Characteristics
 1 RU
Weight (approx.):
 57 lbs.
Dimensions:
 1RU: 42.5H x 431W x 772D (mm)
Power (Internal Redundant Supply):
 100-240 VAC 717 W

HD-SDI

IP

KulaByte

Adaptive HLS

Dynamic Flash

KulaByte Product Portfolio & Ordering Information **

Product	Part Number	Description
KulaByte Pilot Encoder System	S-KB-HD1-K4-PLT	Entry Level Baseband 1 Input SD/HD Encoding Server, HD-SDI/Component/Composite, 1 HD Cascade Stream Output
KulaByte Encoder Systems	S-KB-HDX-K12-1U	Enterpise Class SD/HD Encoding Server, HD-SDI, up to 4 HD Cascade Stream Outputs
KulaByte Pilot Transcoder System	S-KB-TR1-K4-PLT	Entry Level SD/HD Transcoding Server, RTMP / Transport Stream IP inputs, 1 HD Cascade Stream Output
KulaByte Transcoder System	S-KB-TRX-K12-1U	Enterprise Class SD/HD Transcoding Server, RTMP / Transport Stream IP inputs, up to 4 HD Cascade Stream Outputs
KulaByte Element Manager	FREE DOWNLOAD	Management system for multiple encoder/transcoder systems

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