

Xenon™ Live Encoder



Advanced Mobile TV Live Encoder

What is Xenon Live Encoder?

Xenon™ Live Encoder is a professional software tool to encode live content such as TV, webcams and radio sources directly into mobile-ready live streams. Xenon Live Encoder supports high quality H.264 video encoding and a wealth of innovative features, such as creating live channels from file, live to VOD archive, multiple output profiles from a single input source, and dynamic overlay of images, text and other effects on the output video. Xenon Live Encoder is a key enabler to create advanced Mobile TV services, as a single solution for both mobile broadcast and unicast delivery.

Features

- Video output: H.264, MPEG-4, H.263
- Audio output: HE-AAC V.1/2, AAC-LC, AMR-WB, AMR-NB, QCELP, EVRC
- Compatible with all 3GPP and 3GPP2-compliant handsets
- Compatible with 3rd party servers Xenon, Real Helix, Darwin, and QuickTime
- Delivers supreme quality encoding with highly optimized encoding algorithms
- Encodes live content from all popular capture cards
- Encodes Windows Media and IPTV (MPEG-2 TS) live sources
- Simultaneously produces on-demand files for VOD services
- Output multi-track streams to be used for Dynamic Bit-rate Adaptation (DBA)
- Create live channels using VOD files only (no live source is needed)
- Create live program schedules using a mix of live and file input
- Easy to use with an intuitive graphical user interface
- Simple automation with a command line interface and XML-based encoding profiles
- Overlay graphics and text onto videos in real-time

Why Xenon Live Encoder?

Market-Leading Video and Audio Quality

Xenon Live Encoder produces superior output quality compared with other live encoders, a result of our research into state-of-the-art encoding algorithms. At Vidiator, we develop our own codecs and are therefore able to make improvements very quickly. Our encoders also support an unparalleled number of encoding profiles per input, meaning that fewer encoders are needed to deliver a mobile TV solution. Xenon Live Encoder supports all the latest codecs such as H.264 video and HE-AAC (V.1 and V.2) audio.

Handset Compatibility

Xenon Live Encoder is 100% interoperable with all standard audio and video codecs. Vidiator conducts extensive handset IOT and regularly tests Xenon within relevant industry groups such as IMTC, which guarantees that live streams produced by Xenon will work on all handsets in the market today.

Simulated Live Channels From VOD File

Xenon Live Encoder allows users and content providers to create their own simulated live channels using locally-stored VOD files, enabling service providers to deliver made-for-mobile channels even when content rights are not held for an actual live channel. Users can create a live channel with a time schedule mixing both live feeds and VOD files.

Multi-Track Encoding and Rate Adaptation

Xenon can produce multi-rate files (3GPP Release 6 compliant) that contain several tracks with different bit-rate and frame-rate combinations, to be used with Xenon Streamer's Dynamic Bit-rate Adaptation (DBA).

Dynamic Graphics and Text Overlays

With Xenon Live Encoder, you can easily add animated text and graphics as an overlay onto a live channel. For example, create a scrolling text ticker with the latest football scores, or display a company logo over the video.

Head-End Cost Reduction

Using IPTV or Windows Media IP input reduces costs incurred at the head-end and provides a more flexible input solution. Additionally, multiple Xenon Live Encoders are able to distribute live channels to Xenon Live Relay in order to reduce bandwidth costs between remote content providers and local installations (reducing the number of connections between live encoders and streaming servers).

Carrier-Grade Performance and Reliability

Xenon Live Encoder has proven itself in Tier 1 operators around the world, built on principles of performance, reliability, redundancy and modularity. Xenon Live Encoder is a core component in the end-to-end mobile TV chain, allowing you to focus on producing innovative mobile TV services.

Streaming Server Compatibility

Xenon Live Encoder is compatible with standard streaming servers such as Xenon Streamer, PVServer, Helix server, Darwin and QuickTime streaming servers.

Technical Specifications

OUTPUT

General

RTP unicast and multicast output
Unlimited output channels (based on hardware capabilities)
RTSP and SLSP (Vidiator proprietary between encoder and server)
Archive live streams to file (3GPP, MP4, K3G)

Video

H.264 (MPEG-4 AVC) Baseline Profile Level 1.3
MPEG-4 Simple Profile Levels 0, 0b, 1, 2, 3
H.263 Baseline Profile 0 Levels 10, 20, 30, 40, 45
H.263 Profile 3 Levels 10, 20, 30, 40, 45

Video coding mode

Constant Bit-rate (CBR) mode
Adjustable upper bit-rate limit

Resolution

SQCIF (128x96), QCIF (176x144), SIF (320x240), CIF (352x288),
4CIF (704x576), same as source size, or custom

Audio

AAC-LC
HE-AAC V.1 (AACPlus)
HE-AAC V.2 (Enhanced AACPlus)
AMR-NB
AMR-WB
QCELP
EVRC

INPUT

General

A 2-input (capture card or IP) license is included as standard
Additional inputs license can be purchased
No maximum live inputs (limited only by hardware only)
Unlimited file-based input

Capture Card

All capture cards that support a DirectShow filter
Osprey (440, 450e, 500, 500D, 560, 700e-HD, 2000)
Winnov (Videum 4000, Videum Quattro)
BlueFish444 SDI (SD Ingest Pro, SD Dual link Pro, HD Lust)
USB and Firewire (IEEE1394) based PC cameras
New capture cards are certified regularly

Windows Media IP Input

Windows Media over MMS

IPTV Input

Multicast with SPTS or MPTS (over MPEG-2 TS)
MPEG-1 Layer I, II, III audio (MP3)
AAC audio
MPEG-4 video
H.264 (MPEG-4 AVC) video
MPEG-2 video

File Format

3GPP, MP4, K3G

MANAGEMENT AND CONFIGURATION

Session and Profile

High Quality or High Performance modes
Push and pull mode
Multiple live encoding session support
Multiple live encoding from one source
Multi-track encoding for use with Dynamic Bit-rate Adaptation (DBA)
SDP file generation for each live session
XML-based encoding parameters can be saved to file

Monitoring

Monitor input sound levels
Video previews
Real-time output statistics
Comprehensive logging
SNMP support

ADVANCED FEATURES

Real-Time Overlays

Overlay graphics and dynamic text onto the live output

Simulated Live Broadcasts

Create simulated live broadcast channels using VOD files only
(no live source needed)

Service Scheduling

Comprehensive scheduling capabilities via playlists (e.g. create a live channel that repeats on a daily or weekly basis) with mixed live and VOD content within a single live channel

Add and remove content dynamically to the playlist schedule without needing to restart

AUTOMATION AND INTEGRATION

A comprehensive command line interface and API is provided which can be used to start and stop the encoder, obtain status, load profiles, and control the real-time editing features. Xenon Live Encoder can run in either Desktop Mode (with GUI) or Service Mode (without GUI).

SUPPORTED OPERATING SYSTEM

Windows Server 2003 Standard
Windows Server 2003 Enterprise
Windows XP

SUPPORTED HARDWARE

A full list of recommended hardware can be provided on request.

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