VSNONE TV

PRODUCT INFORMATION

ALL-IN-ONE
for TV Management

VIDEOSERVER
PLAYOUT AUTOMATION
CG

A FULLY INTEGRATED CHANNEL-IN-A-BOX (now available in 4K)

A MCR Playout designed to automate the broadcasting, used by +500 TV channels

The main purpose of Channel-In-A-Box technology is reduction of the many parts of traditional playout system and master control (graphics, servers and switches, routing, audio, channel branding) into a single integrated software application that operates on generic IT-based hardware. According to proponents, this integration simplifies installation and maintaining, besides, it is cheaper to buy and operate it.

Fully integrated **VSNONE TV** Servers have on-board automation control, media storage and media DB, graphics engine, file/line/VTR ingest, clip playout, Time Shift, DVB IP/ASI TS Encoding Tools, DVB Subtitling & Closed Captioning. 4k High Frame Rate is now also available on some concrete playout configurations.
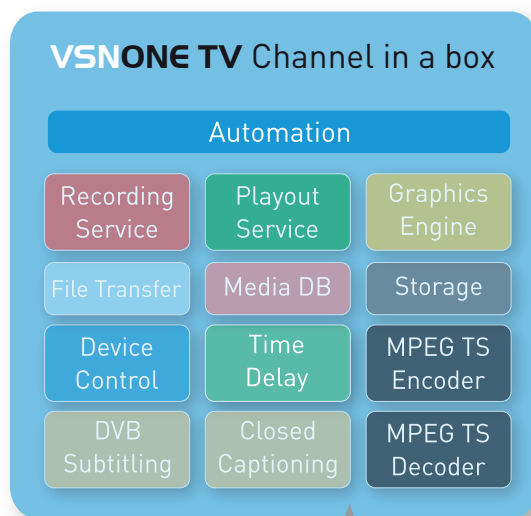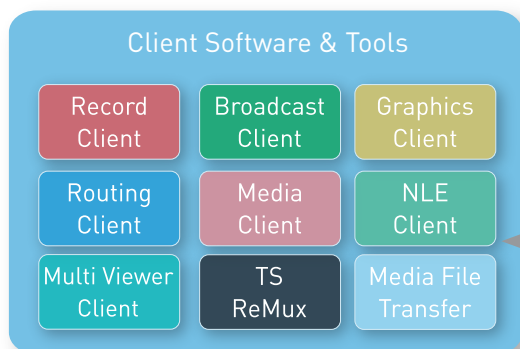
Multi-Channel Ingest and Batch Capture

VSNONE TV supports real-time multi-channel ingest to a wide range of codecs and file containers.

For ingest from tape, tape players are connected to the servers through RS-422/IEEE1394* server ports. Batch capture mode is used when working with a VTR according to record-lists events.

* optional feature

Multi-Channel Playout with Automated Source Switching

"External" Switching Mode

During the playout process, the servers carry out frame-accurate routing in accordance with the events in the playlists, controlling the external routers through RS-422/232/Ethernet interfaces using Harris/Leitch, Evertz, Network, Snell, Miranda and other protocols*. This is an "external" program switching mode.

Using of "external" program switching mode is a classic and popular way of broadcast system creating, but it requires installing of additional hardware modules DSK/LOGO and separate graphic servers.

The reason is that when the router switches an "external" line directly to the broadcast, additional modules are the only way to overlay line's signal with graphics and logos.

External switching Mode Concept Diagram
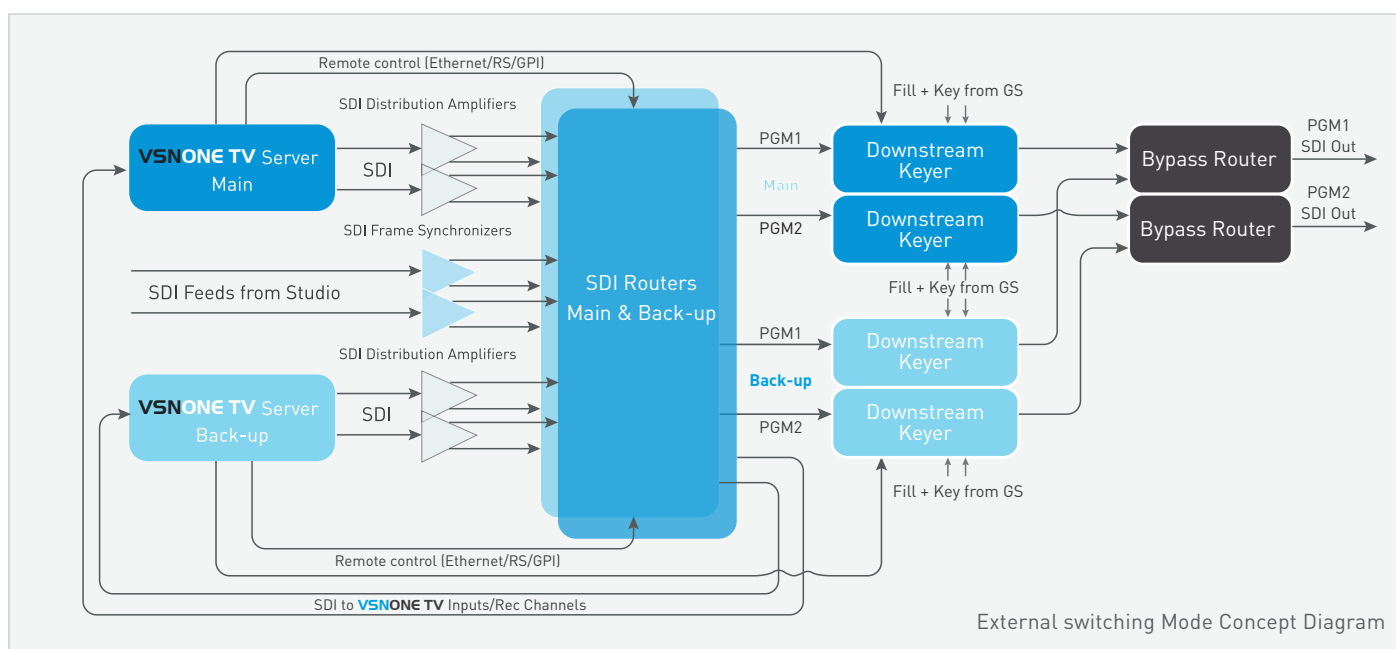
"Internal" Switching Mode

As long as the "Channel-in-a-Box" technology's popularity grows, servers begin to carry out more and more functions, what simplifies the scheme of broadcast system creating. VSNONE TV server is now not only a source, it is capable to implement internal clean switching of the "not-in-sync" input signals with those ones that are generated during files playback, according to the play-lists.

This server also creates graphic design of several channels.

The main advantage of this approach is essential money saving, since there are no requirements about genlock of all external sources with REF: only one server implements the frame synchronizing function by jointless "clean" switching of the input signals with playback files. This scheme requires no sync generators, DSK/LOGO modules or extra graphic design servers.

* optional feature

Internal switching Mode Concept Diagram
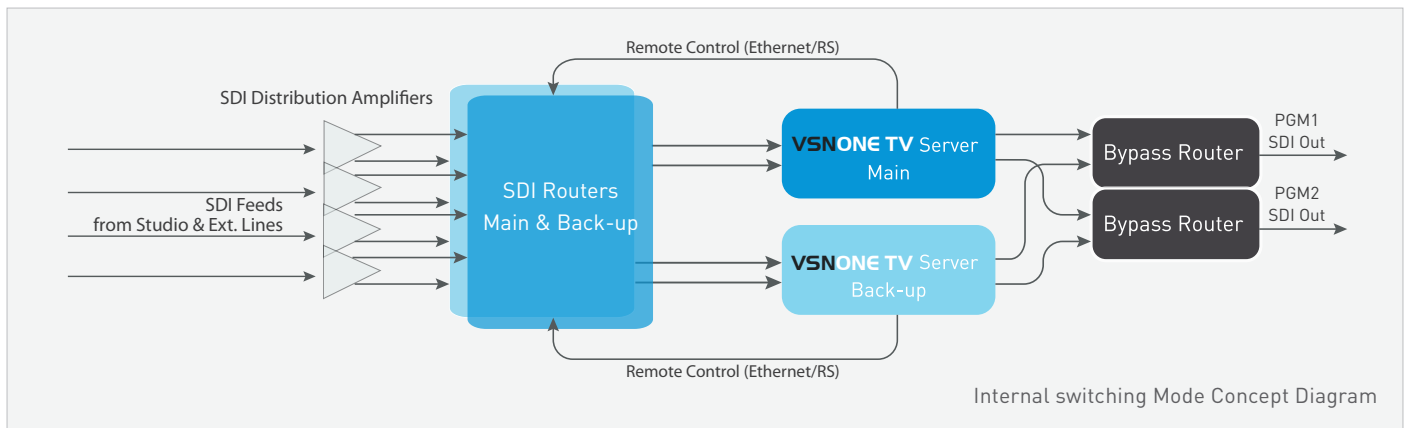
The main and backup servers & routers work simultaneously and synchronously, graphics is also backed up. Routing switchers implement only preliminary switching to server inputs and switching to server rec-channels (automatically or manually).

Automated Local Insertions

The **VSNONE TV** servers allow to pass signals from its inputs directly to the outputs and perform "internal" program switching. For instance, after playing back an ad-block the server can be configured to automatically switch the output from file content to the input's AV signal.

This function allows performing local insertions into the AV signal from a central station. The **VSNONE TV** media-server may trigger ad-block playback in manual mode as well as fully automatically by means of decoding DTMF cue tones, GPI in VBI commands and by video sample matching.

Graphics and Channel Branding

Being a part of broadcasting or live-production studio, the **VSNONE TV** server may be used as a multi-functional graphics design & playout station, which will tie graphics into the propagating video and format multi-layered compositions consisting of captions, scrolling text, video effects, on-screen graphics, logos, animated banners, live video fragments, Chroma Key, and 2D effects.

Each output (program) channel of **VSNONE TV** contains up to eight simultaneously functioning virtual channels for graphics output. Each channel contains its own playlist, with playing back graphic events. Each event may contain a multi-layered combination (without limitation on the number of layers) of text/graphic events.
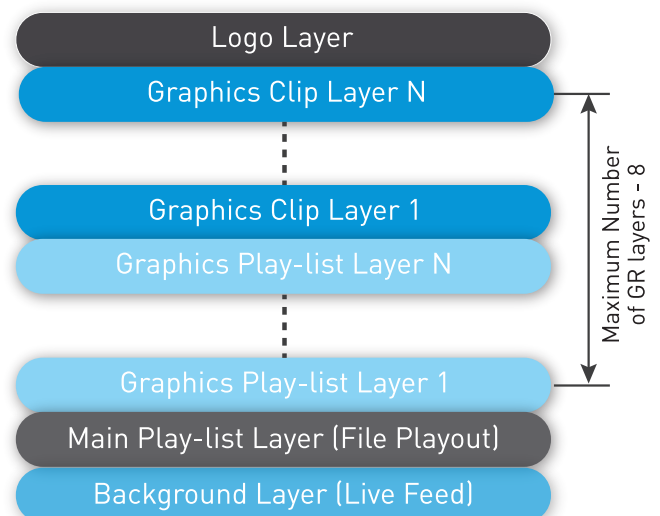
Dynamic Graphics Compositions

Dynamic compositions technology is designed for Branding, Promo, TV News, Weather Forecasts, Economic information, Music Channels, etc. In addition to text and animation, compositions may contain 2D effects, elements of PIP, video, and live sources from server inputs, and audio track mixes.

Functions for the automatic parameterization of text objects contained in compositions have been implemented in **VSNONE TV** server line.

A flash video shows an example of the composition using PIP and simple captions. Animation may be played in the form of a file chain or from avi/mov files from alpha-channel.

Logos, clock, captions, scrolling and crawling text

Logos, captions, scrolling and crawling text are played back on dynamic backgrounds. Number of these objects is unlimited; upon generation of the format, they may be combined free-form with any other graphic objects. In addition to text, images may be used as moving objects. The content of scrolling text may change dynamically due to the reading of RSS information. Clock visualizes current time in the form of digital and analogue clocks (full or partial screen) of any design with sound. Collages may be created from digital and analogue clocks with animated backgrounds for several time zones, as well as direct and reverse counters.

RSS, visualization of sensor indications

VSNONE TV servers allow using different options for visualization based on the dynamic reading of information from RSS resources or text files: SMS chats, weather and currency exchange panels etc. Visualization of various sensor indications (temperature, humidity, pressure, background radiation, etc.) is implemented through the technology of periodic reading of measurement results from text files at the required intervals. The limitations on sensor type and model are therefore removed.

A flash video shows an example of the composition that shows the weather. Recording has been made from the **VSNONE TV** server output.

Automated playout of graphic events

VSNONE TV servers permit the full automation of graphics playout. Associating graphic events with time markers in events in the main playlist is implemented through the secondary events and special marker technology.

VSNONE TV for Live Production

VSNONE TV servers move to a brand new level of functionality for venue production with the Air Manager—a software control tool designed to control all of the server channels. Created using feedback from our clients, **VSNONE TV** is a server with ingest & playout application with capabilities that go far beyond other available products.

Onboard media preparation tools allow the operator to define and organize content while recording is still underway. And with configurable shortcut keys, live asset and metadata updates, and built-in tool for instant navigation to key points in long pieces of media, the**VSNONE TV** allows you to get your material on-air in record time.

One **VSNONE TV** server may contain up to 8 SD-HD SDI inputs, to which signals from cameras and simple sources are sent (signals may be asynchronous). Using live inputs as part of a design is an everyday task. **VSNONE TV** lets you apply live input sources to any object and animate the result in real-time, without the use of external scaler equipment.

The integrated real-time chroma keyer completes a very cost-effective set of tools for creating eye-catching virtual studio productions. Using the color-picker, you can simply select the color to be keyed before fine-tuning its parameters. Multiple chroma keyers can be used within a single scene. Preliminary creation of compositions with the use of Chroma Key, Live Sources, and Captions can be switched by the director using Hot Keys. The incorporated Hot Keys technology allows an additional keyboard to be connected either to the server or the client station, which may be convenient for changes in sources and compositions.

Timeshift and live censorship

VSNONE TV offers an option for Time Delay from one second to several days after a specific time period. Time-zone differences can easily be unified at transmission while short delays of only a few seconds allow live censorship screening in live broadcasts. Delay time is quickly set with single frame precision through a Graphic User Interface or external Control Panel.

Live censorship refers to the practice of delaying broadcast of live feeds prevention obscene language, bloopers or other undesirable content to be aired.

By pressing one button, content censors have the ability to remove offensive images or sounds before that content reaches the transmission system. **VSNONE TV** provides a variety of features to seamlessly eliminate the possibility of costly content violations including a rough editor that can be registered projects as new content without rendering hi-res.

KEY FEATURES & BENEFITS

- Simultaneous and independent functioning of several recording channels (1...4 HD ch. or 1...8 for SD); recording to local or networked storage, AVID storage support

- Automated recording to files of media materials according to the record-lists from AV/SDI/ASI/IPTV/WEB sources

- Automated/Manual file ingest from network or local sources, P2, SxS card support. Material is accessible for viewing, editing, and playback 2 seconds after the beginning of the record or import

- The creation of several recording profiles and instantaneous profile interchange

- Layout, editing, import, and export of record-lists for recording channels

- Live streaming for preview, automatic creation low resolution proxy-copies of materials during recording & file import

- External Routers control, automated line source change in accordance with the record-list events

- VTR device control using RS-422/IEEE1394 server ports, batch capture mode is used when working with a VTR according to record-lists*

- Simultaneous and independent 1...4 HD ch. playout (or 1...8 for SD), execution of playlists as a sequence of events

- Generation of graphic layers, manual & automated graphics playout use "secondary events" technology

POWERFUL, AFFORDABLE, ROBUST

- Playback of file media materials with various compression & file containers, various resolution and frame speeds (for example, NTSC, PAL, 720p, 1080i, 1080p), and on-fly up/down/cross-conversion with a change to the fps parameters

- DVB/IPTV* in parallel with the generation of HD/SD SDI, with regulation of flow speeds and resolution

- 4k High Frame Rate is now also available on some concrete playout configurations

- External Router control for source switching, in accordance with playlist events*

- Layout and editing of playlists using the built-in editors, import of playlists from Excel and traffic systems

- Editing and trimming of clips directly within the playout process; real-time editing of playlist events while they are being executed; trimming of clips in a playlist events, directly within the event implementation process

- Time Shift recording and playout after a given amount of time, with automatic tie-in to the program of inter-program and ad blocks being generated, besides, the tie-in of graphics and logos*

- Export of media files from server to network work stations, NLE, and to the archives

- Application of server backup schemes N+N for playout channels with automated on-line synchronization of playlists from all channels, including all graphic layers

- Automatic copying of content into the backup server's storage

* optional feature

TECHNICAL SPECIFICATIONS

VSNONE TV TECHNICAL SPECIFICATIONS	
SYSTEM CONFIGURATION (depends on model)	8 to 24 core Intel® Xeon® Processor E5 v3 series 16 to 32 GB RAM SSD or Dual mirrored SATA boot drives 1000Base-T Ethernet ports Internal or External Media Storage
VIDEO FORMATS (depends on model)	SD: 625i, 25 f/s, or 525i, 29.97 f/s HD: 1080i, 25 or 29.97 f/s, 720p, 50 or 59.94 f/s, 1080p, 50 or 59.94 f/s UHD: 2160p, 25, 29,97, 50 or 59.94 f/s;
INPUTS/OUTPUTS (depends on model)	SD: SDI, AES/SDI Embedded Audio, MPTS/SPTS over ASI/IP, Unicast/Multicast via RTP/RTSP, FEC (option) HD: HD SDI, AES/SDI Embedded Audio, MPTS/SPTS over ASI/IP, Unicast/Multicast via RTP/RTSP, FEC (option)
RESOLUTION	504x480, 720x480, 504x576, 720x576,1280x720, 1440x1080, 1920x1080, 3840x2160
AUDIO	4 AES/EBU pairs and 8 pairs embedded per video I/O channel
FILE CONTAINERS	AVI, MOV, MXF OP1A/D10, DV/DIF, FLV, VOB, MPG, BMP, TGA,PNG, PSD
SD/HD ENCODING/DECODING	DVCAM, DVCPRO25, DVCPRO50, DVCPROHD100, HDV, IMX (30,40, 50), XDCAM EX (SP, HQ), XDCAM HD (LP, SP, HQ), XDCAM HD 422, DNxHD (36, 145, 220), AVCHD, MPEG2 GOP, Apple ProRes (decoding)
GENLOCK REFERENCE (depends on model)	SD: Bi-level sync input, HD: Tri-level sync input
TIMECODE	LTC in and SUPPORT NTP client over Ethernet
GPI I/O	8 inputs, 8 outputs*
REMOTE SERIAL INTERFACE	Up to 16 RS-232/422/483 ports for switchers or VTR control* PROTOCOLS: Sony 9-pin, Harris/Leitch, Evertz, Nevion and others*
DIMENSIONS (depends on model)	1...2RU, Weight (24,41...25,62 kg)
POWER & VOLTAGE	Power Supply Dual hot-swappable; AC 115 to 120 V, 200 to 240 V, auto select

* optional feature

VSNONE TV   4 Inputs + 4 Outputs HD/SD SDI Channels
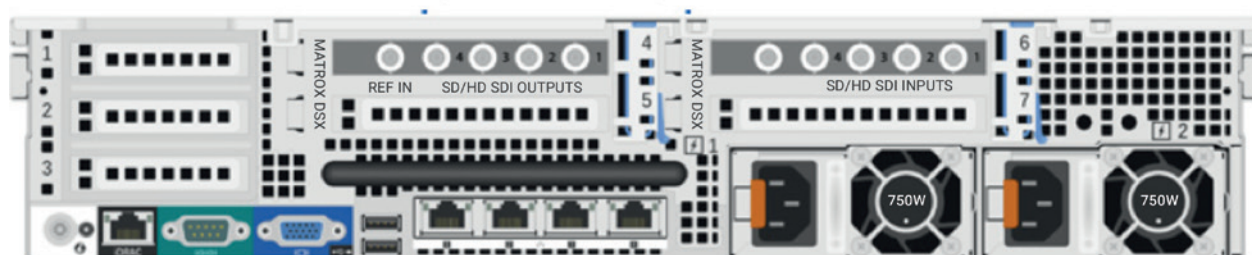
WRAPPERS & CODECS

CODECS	WRAPPERS							
	AVI	MOV	MXF OP1A	MP4	DV/DIFF	MPEG2 PS	GXF	MPEG TS
DV25	X	X	X		X		X	
DVCPRO25	X	X	X		X		X	
DVCPRO50	X	X	X		X		X	
DVCPROHD100	X	X	X		X		X	
HDV	X	X	X	X				
IMX (30/40/50)	X	X		X				
XDCAM EX (SP/HQ)	X	X	X	X			X	
XDCAM HD (LP/SP/HQ/422)	X	X	X	X			X	
MPEG2	X	X	X	X		X	X	X
AVCHD	X	X		X				
H264	X	X		X				X
AVCI (50/100)	X	X						
DNXHD	X	X						
PRORES (HQ/SD/LT/PX)	X	X						
HEVC*	X	X		X				X
XAVC-S 420**				X				
XAVC-I/L 420/422**			X					

System available also in the Cloud in the modality of Software as a Service (SaaS):

- Ability to have a decentralized and fully autonomous continuity system in the Cloud

- Possible deployment both in private or public Cloud

- Capacity of media movement, live content ingest and playout via IP

- Signal sending to one or more destinations simultaneously

* only available on UHD or IP HD configurations
** only for UHD configurations

Please contact our sales team if you require more information about our products: sales@vsn-tv.com

VSN
INNOVATION & MEDIA SOLUTIONS

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