GV EDGE
INTEGRATED PLAYOUT SYSTEM

BUSINESS CASE

- **Unified solution combining playlist management and media asset management, with graphics layout and branding**
- **All components are designed to seamlessly work together for worry free deployment and low total cost of ownership**
- **Optimized IT architecture and Infrastructure with modular scalability for multi-channel high-resiliency playout**
- **Sophisticated graphics management and presentation for automated and complex on-screen presentations**
- **Software licensing of features and capabilities for specific use case requirements and to reduce system obsolescence**

Grass Valley® offers a completely integrated file-based playout solution based on an optimized IT architecture and infrastructure, as well as software tools to enable media asset management, playlist management, and sophisticated graphics looks. An experienced professional services team implements this flexible platform based on customer defined requirements. This combination creates the foundation for a powerful and unique channel enrichment solution.

GV Edge™ provides a complete playout solution. All the software and hardware components are designed to seamlessly work together with the benefits of streamlined and efficient operations. Every aspect—the playout nodes, graphics, asset management and playout control—is purpose-built for broadcast playout to create a tightly integrated and cohesive system.

GV Edge uniquely fits the needs of broadcasters that require a high level of automated playout such as thematic channels like music, cartoons, or movies. It is also highly beneficial when the requirements include additional functionality with complex multi-layered graphics, multi-track audio, other media, and metadata. Some of the usual applications include multichannel playout facilities, separate disaster recovery installations, lower cost secondary channels, and remote channel implementations.

GV Edge features a file-based implementation using standard IP networking for the ingest, transfer, and efficient management of media files as well as secondary media such as subtitles, voiceovers, multiple language tracks, and complex 2D/3D graphics branding. The solution uses centralized asset management, and a distributed playout architecture that can make use of existing infrastructures, and blend into existing workflows.

K2 Edge provides integrated media, secondary media, and graphics playout for **GV Edge**

K2 Edge™ is a robust, software-centric, Linux-based playout system with a purpose-built, high-availability architecture for mission-critical, 24/7 playout applications.

Integrated, multichannel, automated playout is the next evolution for media playout. While traditional playout solutions take advantage of IT-based technologies to control separate components, it is only when all of the applications—asset management, channel design, media playout, and automation—are designed to work together from the ground up, that further workflow efficiencies can be realized.

While there are benefits for some facilities who have invested in traditional playout automation to continue with that approach, it is too expensive and unnecessarily complex for many emerging playout facilities.

A truly integrated playout node is not just about adding a PC to an existing automation system for clip playout. It requires a more unified approach, especially in the area of on-air channel design with the management of all on-screen elements. A fully integrated system offers tremendous benefits, the least of which being lower initial capital cost. The total cost of ownership includes streamlining the playout workflow for each tool—server, graphics, master control, and the playout system itself. TCO is reduced through a seamlessly integrated system with components designed to work together. K2 Edge playout nodes are an essential component of an integrated playout solution where all the needed functions—media playout, channel graphics, asset management, and automation—are included in one tightly integrated system.

KEY FEATURES

- **Integrated content playout and sophisticated channel branding**
- **Input source switching**
- **Integration with channel control, content prep, and traffic system**
- **Up to eight configurable SDI inputs and outputs**
- **SD and HD compatible**
- **Multichannel audio support**
- **Integrated clips/live inputs, text, animations, voiceovers, tickers, crawls, logos, 2D and 3D effects, DVEs, WSS/AFD/VI, teletext, subtitles, and much more**
- **Channel Composer easy to use, free-form channel design/program software**
- **Video bypass function**
- **High reliability, 24/7 playout**
- **Redundant HDD and PSU**

The K2 Edge playout nodes provide high density functionality for not only video and audio, but also secondary media and metadata. To support the proliferation of formats, K2 Edge has multi-codec support with a flexible SDI I/O. All video outputs are routed through a GPU to enable high performance graphics and effects processing. K2 Edge playout nodes are able to natively host the Cobalt integrated playlist management application, and so is not continuously dependent on a separate PC or network connection.

K2 Edge incorporates very sophisticated, multi-threaded software. A dedicated and embedded operating system was optimized to deliver intelligent resource allocation, management of assignable tasks, incorporation of multi-core processing/ multi-threading, and precise control of the target platform for continuous predictability. This gives the developer 100% control of software performance, and support for real-time operations in a modular and flexible programming environment. Only by customizing the operating environment and wrapping a software layer around the system, can an integrated playout solution guarantee the performance, reliability, and capabilities that will really satisfy the diverse needs of media playout facilities. K2 Edge fulfills these seemingly apparent requirements by incorporating a high degree of broadcast experience and specialized knowledge to achieve it.

K2 Edge playout nodes are fully integrated and built from the ground up, not some cut-down version from a legacy high-end playout system. K2 Edge delivers immediate benefits, both on-air and on the bottom line.

Asset Management and Playlist Management

K2 Edge playout nodes include tight integration with the K2 TX/MAM™ asset management application with its centralized database and the Cobalt playlist management application. Through the web-based GUI of K2 TX/MAM, all the assets including video clips, audio clips, captioning, metadata, and graphic elements on the discrete K2 Edge playout nodes can be controlled. Cobalt™ playlist management includes processes running natively on each K2 Edge that manages all on-air events, and for increased reliability, runs completely independently from the database and application PC.

Delivering the On-Air Look

With the use of Channel Composer's innovative approach to creating and enhancing the on-air look of a channel, K2 Edge outputs both templated graphics and data streams that are defined and then referenced together as "live" integrated elements in the on-air playlist. K2 Edge provides all the processing needed to support multiple layers of complex 2D and 3D graphics along with digital video effects for real-time on-air presentation.

K2 EDGE

SPECIFICATIONS

Platform

- Linux OS real-time 2.6 kernel
- Ethernet (4) 10/100/1G, 10/100 for IP Manager
- USB (2)
- LTC 1 input and 1 output
- PC i/f VGA, keyboard, RS-232 port

Size: (WxHxD) 440 x 44 x 620 mm (7.3 x 1.7 x 24.4 in.) (excl. connectors and panels)

Weight: max. 15 kg (33 lbs.)

PSU: redundant, dual AC, max. 500 VA

Video I/O

- 8 configurable as inputs or outputs: 75Ω BNC
- SD SDI: SMPTE 259M, ITU-R601
- 525/625 line component, 10-bit
- HD-SDI: SMPTE 292M, 10-bit, 1080p
- SMPTE 424M
- Bypass dedicated fail over input and output

K2 TX/MAM provides complete media asset management for GV Edge

An integrated playout system requires media asset management for optimized playout. The K2 TX/MAM workflow tool not only includes the management of the primary media files, but also allows secondary media such as subtitles, voiceovers, and branding to be managed efficiently. The various content types are all managed prior to transmission time. A single centralized asset database provides content linking and scalability for multiple channels. The tight integration with the K2 Edge playout nodes reduces complexity in the playout infrastructure, resulting in a simple, flexible, and reliable transmission chain.

Each GV Edge system includes Grass Valley K2 TX/MAM media asset management. This is implemented on a redundant server pair which hosts the asset database. Using the web-based GUI, users can manage the movement of different media file types from multiple storage locations to the various playout channels. K2 TX/MAM also makes it easy to integrate missing asset lists as well as enriched playlists on K2 Edge playout nodes to prevent errors and enhance the quality of channel presentations. All these capabilities reduce the amount of labor and manual intervention required in the costly and critical stages of playout preparation.

K2 TX/MAM is a broadcast-specific media asset management tool specially tuned to the needs of transmission environments. Whether file-based playout for multiple channels, or a single channel with multiple language tracks, a common issue is balancing between manual changes and operator involvement. K2 TX/MAM is designed to reduce the complexity with efficient automated processes and early feedback mechanisms, resulting in increased control as well as efficient operation and reporting.

KEY FEATURES

- **Centralized asset management**
- **Creation of assets and asset types**
- **Automated asset jobs**
- **Automated file ingest**
- **Trim, soft part segmentation**
- **Low-res proxy quality control**
- **Secondary essence management**
- **Closed-caption/subtitle integration**
- **Customizable metadata**
- **User management**
- **FTP interface to optional storage solution**
- **Playout system dashboard**

Efficient Asset Coordination

Traditional playout systems combine disparate single-function devices such as servers, character generators, logo inserters, sub-titlers, storage, converters, and presentation mixers. A large part of the complexity of conventional media management systems is the "glue" functionality that needs to be provided for multi-vendor interfacing. Simplifying this underlying infrastructure, while improving manageable on-air functionality, is the solution to cost-efficient media management.

Taking a different approach, a crucial element for many playout installations is file-based distribution utilizing a central database system. Most channel-in-a-box device implementations cannot support this requirement. All the various multi-stream content, graphics, editing, and audio elements must also be ready at the right time and in the right order. This is often a primary limitation of using a number of channel-in-a-box units in a multichannel deployment, they simply do not have the required sophistication to provide this unified workflow.

Tight integration with K2 Edge and its wide range of capabilities permits K2 TX/MAM to help deliver a superior and simplified infrastructure. K2 TX/MAM also provides for more sophisticated channels with respect to branding and graphics effects when used together with Grass Valley Channel Composer™. Using this powerful channel layout application, users can manage more sophisticated on-air functionality than simple channel in a box devices, yet at a lower cost than conventional multi-vendor solutions.

K2 TX/MAM comes with options such as external file conversion (if applicable), loudness analysis, automated third-party quality checking, and integration support for DIVArchive.

Optimizing Management Tasks

As part of the playout process, K2 TX/MAM associates primary media files with the asset metadata and secondary media. This file linking triggers several secondary tasks. These can include:

- Manual and automated quality checking
- Assigning graphics elements
- Metadata aggregating
- Subtitle exporting and importing
- Browsing of content
- Segmenting
- Transcode exporting and importing
- Reporting of media states
- Archiving

K2 TX/MAM is designed as an application which is easily configured to match specific requirements which makes it easy to plan a fast and predictable deployment.

K2 TX/MAM

Maximizing Productivity

A compelling aspect of using K2 TX/MAM for playout is that it provides the means to manage all content elements prior to actual transmission. This makes the entire process more reliable and less prone to errors later on.

There are a number of operational parameters that users set up and work with in K2 TX/MAM. Rights and roles can be defined for each individual user. Different jobs can be established to process various tasks such as locating missing assets. Feedback traffic lights show operational status depending on what needs to be checked.

Users work with K2 TX/MAM to create precise channel definitions, and to define sections of content that could be used for a movie, a clip, a promo, or other media content. Users manage not only the primary media files, but also a variety of secondary media such as subtitles, voiceovers, and graphics. Users define the metadata to be included, and they import metadata from external sources to be synchronized with the K2 TX/MAM system database. This single centralized database provides not only content linking, but scalability across multiple channels.

K2 TX/MAM is used to create new assets in various ways including manually, XML asset import, schedule from playlist, and watch folders. Users process ingested content through watch folders, generate proxy files for review, and quality checking. They can assign which secondary media is to be used with which asset.

System Monitoring

An additional module to K2 TX/MAM is TX/Dashboard—a web-based GUI used for system monitoring. This tool provides process control across all hardware devices including the ability to start and stop software processes—including a reboot—with the appropriate user rights. Traffic light health indication and message notifications can be displayed. System health checks can be performed and system logs can be generated. With this functionality, the TX/Dashboard can be used as a first level of on-site support.

SPECIFICATIONS

Dimensions: 424x44x795 mm / 16.7x1.7x31.2 in.

Weight: 17.69 kg (39 lbs.)

Power requirements: Dual hot-swappable 502W power supplies

Environmental characteristics: 10˚C to 35˚C / 50˚F to 95˚F

Relative humidity: 10% to 80%

Connectivity: USB (2), Serial COM, VGA, Gigabit Ethernet (4)

Storage: Four 2.5-in. 146 GB SAS drives

Certifications: EMC Class A, CE, NRTL, EU RoHS

COBALT

Cobalt provides comprehensive playlist management for **GV Edge**

A full-featured playout management application must be part of any integrated playout system. Cobalt imports instructions from other systems such as traffic management and builds playlists which are implemented in the K2 Edge playout nodes. Cobalt provides visibility of all events and secondary events, and manages the timing of them. For graphics integration, Cobalt can link events with graphic templates by rules, as well as adding, deleting, and replacing graphic templates. Cobalt can also automatically enable sync of main and backup channels.

Each Grass Valley GV Edge includes the Grass Valley Cobalt playlist management software. Cobalt ensures cost-efficient playout, offering a matching solution ranging from simple single channel to advanced multichannel mainstream playout implementations.

A unique capability of Cobalt is the flexibility to configure the playout system for multichannel, high-resiliency playout as well as very basic playout due to its modular architecture. For multichannel, high-resiliency systems, Cobalt supports redundancy without a single point of failure. For the most cost-effective simple playout requirements, Cobalt handles playlist management, aggregates data from the playlist and central TX/ MAM database for secondary events, and manages playout—all on a single platform. The choice is up to users based on requirements and budget.

KEY FEATURES

- **Multichannel playout control**
- **Redundant and distributed architecture**
- **Modular and scalable implementation**
- **Native integration with K2 Edge playout servers**
- **Native integration with K2 TX/MAM**
- **Powerful interactive control capabilities**
- **Manual or automatic schedule import**
- **Rules based linking of events to graphics packages**
- **Addition, deletion, and replacement of graphics packages**
- **Visibility of secondary events and timing**
- **Changing of references and timing**
- **Automatic synchronization of main and backup channels**

Asset Management

The manner in which assets are acquired, ingested, and managed is key to an efficient playout workflow. As TX/MAM handles asset registration, Cobalt takes care of distribution to the K2 Edge playout nodes. Cobalt is designed to meet the requirements for simple linear playout—with very few secondary events—as well as advanced playout solutions requiring a variety of secondary events including display, scheduling, and logging. The flexible way that Cobalt handles assets and its metadata allows users to automate functionality normally preserved for post-production. This will result in a cost reduction while still applying a sophisticated graphic functionality that easily distinguishes one channel from the next.

Playout Control

The Playout Control module (POC) permits operators to efficiently monitor the system in real time and to control multiple channels with a low operator intervention requirement. The application presents a practical horizontal multichannel timeline overview alongside a detailed playlist view on a channel-by-channel basis. Within POC, operators can import schedules in different formats, as well as prepare and verify off-line schedules quickly before activating them on their respective channels.

Standard XML as-run files can be used as input for, or as feedback to other systems. Logging occurs in real time on the K2 Edge playout nodes and can be exported as a file if needed.

SPECIFICATIONS

PC System Requirements

Memory: 2 GB or better

Graphics card: 128 MB or better

Hard disk: 250 GB or better

Network: 1 Gb Ethernet or better

Operating system: Windows XP, Windows Vista, Windows 7

Monitor: WXGA (1280x800) or better (depending on the number of channels in the vertical POC-view)

COBALT

Advanced Functionality

The efficient integration with K2 Edge playout nodes provides maximum usage of a variety of features. Subtitles, widescreen signaling, and teletext are just a few examples of the powerful features which are easily integrated in playout workflows. Extensive experience in implementing interactive playout services like SMS messaging, jukebox, or voting applications is reflected in Cobalt by implementing this advanced functionality in a simple and reliable workflow.

Open Architecture

Cobalt is based on a client-server architecture. The client software runs on standard of-the-shelf Windows client PCs and is never mission-critical to the on-air playout. Separate Cobalt processes run on the TX/MAM servers, and the K2 Edge playout nodes to guarantee system resiliency. The Cobalt Manager launches all these Cobalt components.

The K2 Edge playout nodes—running Linux—are purpose made as robust, real-time broadcast servers incorporating and optimizing the latest IT-technology.

Third-Party Integration

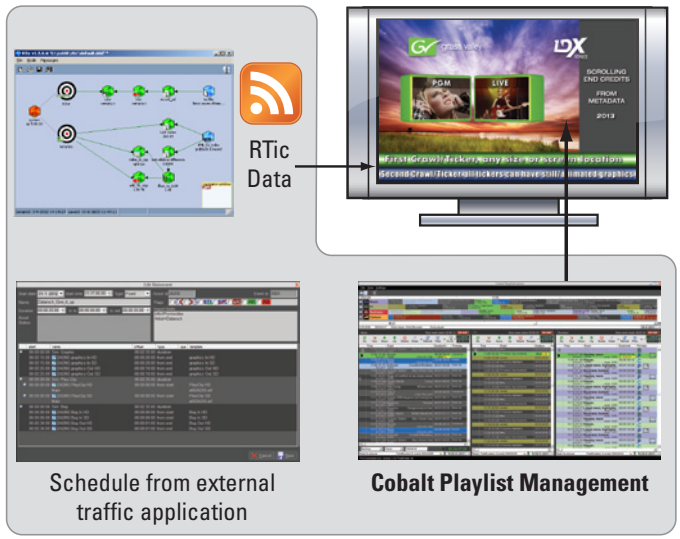
Many playout solutions require integration in an existing environment with scheduling, traffic, workflow, and storage systems. Besides standard XML interfaces Grass Valley offers integration with third-party systems. Successful integrations include (but are not limited to): Aveco, Diva, HP, DMS, ProConsultant, Provys, RCS Selector, and SGT.

RTic

RTic provides data source collection and formatting of on-air graphics displays for **GV Edge**

RTic™ can receive data from a broad variety of sources, including XML, databases, or Excel files, which are formatted and sent directly to air using Channel Composer designs. The RTic application can even be put under Cobalt playlist management. On-air graphics, animations, clips, and text can all be manipulated in real time.

RTic has often made dedicated software development and interfacing unnecessary. Implementations include a rich business ticker playing both stock numbers, pictures, and SMS services where incoming messages trigger not only text but also animations.



Channel Composer provides advanced graphics management for **GV Edge**

An integrated playout system must include advanced graphics management and delivery. The level of sophistication for what is presented on-air should be the equivalent of much higher-end dedicated solutions. The Grass Valley Channel Composer is an innovative approach to creating the on-air look of a channel, incorporating unparalleled integration with playout and media asset management.

Channel Composer offers off-line channel branding design for Mac and Windows, allowing creative artists to build the actual channel, pushing back the channel creation and creativity one step further away from the technical infrastructure. With a clear and reliable workflow into the playlist management and media asset management environment, Channel Composer offers unmatched channel-to-air timelines and functionality.

The integration with the playout environment and media asset management system offers the availability to integrate metadata from assets and schedules directly into the design. No additional steps need to be taken to add dynamic data into the design. Now/Next presentations, Menus, Clip titles and Tickers are all easily filled with the appropriate data. Even the more technical challenges like aspect ratios and dynamic text widths are automatically dealt with.

Channel Composer is able to import all K2 Edge-supported media formats of static and animated graphic file types, in both 2D and 3D. These graphic elements can then be used in the interface to create specific layouts that are then saved as templates for use by the K2 TX/MAM asset management system to be included at time of playout. Layouts can also include complex DVE capabilities such a picture-in-picture and squeeze back.

KEY FEATURES

- **2D/3D – SD/HD**
- **Unlimited layering**
- **Blending modes and effects**
- **Prefab objects library**
- **Timeline editing**
- **Import 2D and 3D objects**
- **Easy to use keyframe animations**
- **Multiple live feeds**
- **Multiple clip playback**
- **Data integration with K2 TX/MAM and Cobalt**
- **Offline design**
- **Integrated channel design**
- **Channel Packages**
- **Template and Format design**
- **WYSIWYG interface**
- **Windows and Mac compatible**
- **Preview (on PC workstation)**
- **Strongest branding functionality in today's market**
- **Cost saving on post-production**

Creativity

Channel Composer offers personalized, pre-built libraries including analog and digital clocks, tickers, and a constantly expanding function set. The possibility to use multiple live feeds and clips at high quality with multiple DVEs, is a unique feature of Channel Composer, using the K2 Edge playout nodes that offers exciting and new possibilities in design.

Frame-accurate timeline editing allows simple and complex scenes to be designed, using a variety of effects including mirroring and blending of 2D and 3D objects. The 3D objects can be imported from a variety of popular 3D design packages allowing ultimate creativity.

Advanced graphics systems, especially 3D systems, have a tendency to become complex in their operation. The intuitive user interface of Channel Composer is designed so that basic functionality remains simple for designing and operation. When more sophisticated capabilities are required, it can offer advanced functionality for the experienced user.

Graphics Workflow

Having a capable graphics system is not the only factor in a strong branding presence on broadcast channels. Integration with playout and media asset management is key to on-air graphics usability.

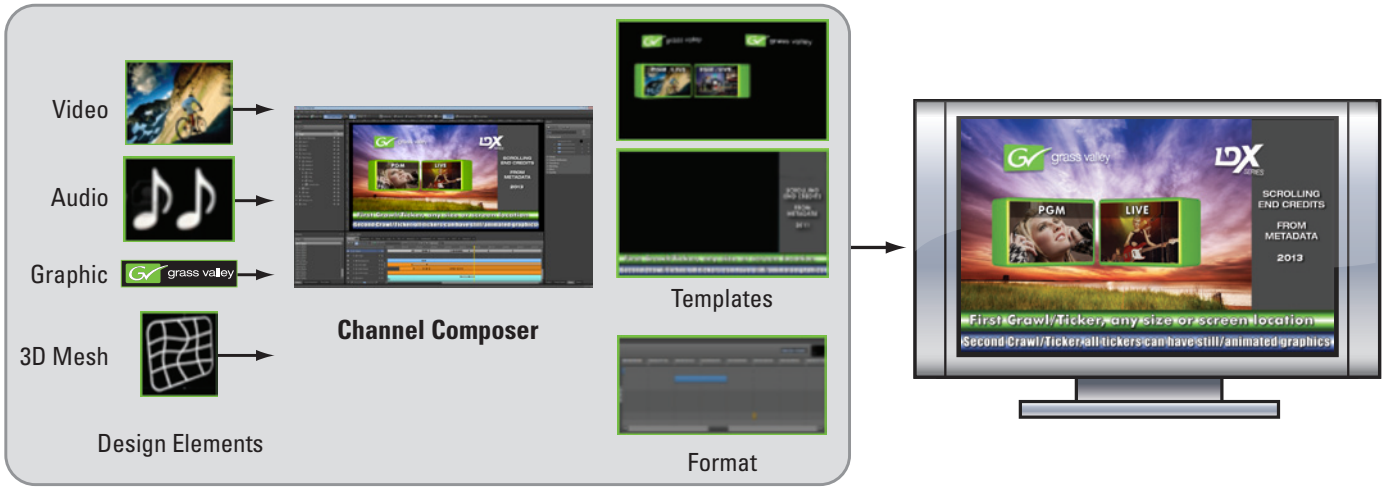
A very well defined workflow from the graphics creation to the moment the design is taken live to air is fundamental in a channel branding experience. Channel Composer is integrated with the K2 TX/MAM application where graphic elements, graphics templates, and data streams are defined and then referenced together as "live" integrated elements in the on-air playlist. Channel Composer and its integration with Cobalt playlist management and K2 TX/MAM asset management provides users with cost reductions in branding and an increase in functionality for the same effort.

Channel Composer runs on Windows and Mac operating systems permitting off-line preparation for channel and graphics design away from the playout environment. With this implementation, Channel Composer is a powerful creation and editing tool for on-air graphics such as branding, promo production, games, and live shows.

Version and quality control in a dynamic multichannel environment is a challenge. Channel Composer offers native functionality to label a version of a design and offers a wel-defined workflow all the way until the moment the new design is taken live to air. The channel package is managed and distributed as if it were one of the assets in the management system and contains all non-dynamic elements in a design. Optionally, a Quality Control stage can be implemented before taking new and rebranded channels live.

Channel Composer is also used to export the complete channel design as a single package (Channel Pack) to the central database and manage the activation date for a specific channel. These packages include fixed graphical elements such as backgrounds and placeholders so that the graphics workflow is included by design.

CHANNEL COMPOSER



SPECIFICATIONS

System Requirements – Mac

- 64-bit multi-core Intel processor
- Mac OS X v10.6 (Snow Leopard) or later

Memory: 4 GB of RAM

Video card: 512 MB of VRAM or more

- Recommended: ATI Radeon HD5670 or better, Nvidia Geforce GT320 or better
- NOT recommended: Nvidia Quadro cards

OpenGL 2.1 and the following OpenGL extensions:

- EXT_framebuffer_multisample
- EXT_framebuffer_blit
- ARB_texture_rectangle
- APPLE_flush_buffer_range

System Requirements – Windows

- 64-bit multi-core processor Intel/AMD
- 64-bit edition of Windows Vista or Windows 7

Memory: 4 GB of RAM

Video card: 512 MB of VRAM or more

- Recommended: Nvidia Geforce GTS250 or better
- NOT recommended: Nvidia Quadro cards

OpenGL 2.1 and the following OpenGL extensions:

- EXT_framebuffer_multisample
- EXT_framebuffer_blit
- ARB_texture_rectangle
- ARB_map_buffer_range

GLOBAL SERVICES

The benefit of GV Edge is achieved through the design and implementation of the solution based on customer requirements. The ability to tailor the solution to meet specific workflow demands, configure system components to fulfill channel branding needs, and integrate the system with existing business solutions sets GV Edge apart from its competitors. Global Services provides the expertise and experience to help clients define their requirements and set expectations before deploying successful systems.

Professional Services

The key to achieving desired functionality and performance is in understanding customer requirements. The ability to identify asset and data workflows; specify technical standards, requirements, or constraints; define interfaces, reports, or applets; and recognize the need for customization is a necessity for designing solutions that will meet customer expectations. Professional Services gains an understanding of business goals and the related technical details to create the Statement of Work that defines how the GV Edge will be implemented.

We provide the project management to capture and plan project specifications, resources, schedule, and budget. Our team works alongside your team to manage the end-to-end project, including hardware and software configuration and deliver automation, channel branding inclusive of graphics, tickers and DVEs, reports and data interfaces.

Technical Commissioning

Grass Valley helps protect customer investment by providing the initial setup of each GV Edge. Our engineers provide the experience, product knowledge, and skills necessary to validate technical solutions. Our goal is to optimize and ensure GV Edge performance.

Training

Operational and technical training are the foundation for optimizing customer use of GV Edge. Our trainers are experienced in broadcast and in the operational and technical nuances of K2 Edge, TX/MAM, Cobalt, and Channel Composer. On-site training is available to get users up to speed and maximize the performance of the integrated playout solution.

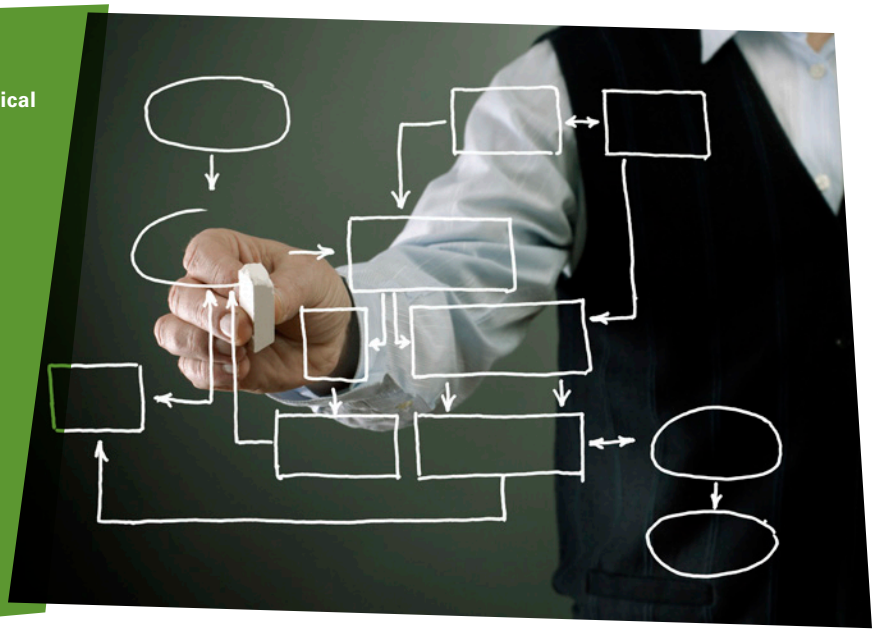
In addition, Grass Valley University provides additional online and training center courses to enhance technical knowledge specific to GV Edge. This level of training is geared towards "super users" with the intent to troubleshoot unexpected issues.

Support Agreements

Ensuring uptime, mitigating risk, and gaining financial predictability are the reasons support agreements exist. With playout being the revenue generation technology in the broadcast operation, unexpected outages can have a severe impact. The Elite Support Agreement is designed for critical environments where uptime is demanded and rapid problem resolution is a must. This agreement provides 24x7 technical phone support, call center prioritization, service level commitments, defined fault resolution processes, free software updates and upgrades, and advance parts exchange. With a Elite Support Agreement, GV Edge customers achieve both operational efficiency and financial predictability.

GLOBAL SERVICES PROVIDES:

- **Unequalled depth of industry knowledge, and technical expertise**
- **Over 50 years of worldwide experience**
- **Complete set of services:**
  - **— Strategic advice**
  - **— System architecture**
  - **— Workflow analysis and design**
  - **— Project management**
  - **— Integration and implementation**
  - **— Performance optimization**
  - **— Technical and operational training**
  - **— Educational services**
- **Address today's challenges and prepare for tomorrow's opportunities**



ORDERING INFORMATION

K2-TXMAM-SVR-L2

K2 TX/MAM Server. Provides fully redundant MAM. Includes 2 each 1 RU server platforms (main and backup), Linux Server OS, database, licenses for up to 3 K2 Edge playout channels, TX/MAM software, and four Channel Composer licenses. Supports systems with up to and including 100 playout channels (requires additional playout licenses)

K2-TXMAM-SVR-L1

K2 TX/MAM Server. Provides fully redundant MAM. Includes 2 each 1 RU server platforms (main and backup), Linux Server OS, database, licenses for up to 3 K2 Edge playout channels, TX/MAM software, and two Channel Composer licenses. Supports systems with up to and including 30 playout channels (requires additional playout licenses)

K2-TXMAM-SVR-L0

K2 TX/MAM Server software. Provides MAM for integrated playout system. Includes database, licenses for one K2 Edge playout channel, TX/MAM software, and a single Channel Composer license. Supports a single playout channel (requires additional playout licenses) This is software only and requires installation on the exact server hardware as specified.

K2-EDGE-SDX

K2 EDGE SD Playout Node – 1 RU platform, support for standard definition output, 8 I/O, record channel, animated graphics, text, bugs, tickers, voiceover, 16 channels of audio. Includes dual hot-swappable power supplies and Cobalt automation engine.

K2-EDGE-SDX-BACKUP

K2 EDGE SD Playout Node/Backup Channel – 1 RU platform, support for standard definition output, 8 I/O, record channel, animated graphics, text, bugs, tickers, voiceover, 16 channels of audio. Includes dual hot-swappable power supplies and Cobalt automation engine.

K2-EDGE-HDX

K2 EDGE HD Playout Node – 1 RU platform, support for standard definition output, 8 I/O, record channel, animated graphics, text, bugs, tickers, voiceover, 16 channels of audio, 2D SqueezeBack, Simulcast, 5 TB storage. Includes dual hot-swappable power supplies and Cobalt automation engine.

K2-EDGE-HDX-BACKUP

K2 EDGE HD Playout Node/Backup Channel – 1 RU platform, support for standard definition output, 8 I/O, record channel, animated graphics, text, bugs, tickers, voiceover, 16 channels of audio, 2D SqueezeBack, Simulcast, 5 TB storage. Includes dual hot-swappable power supplies and Cobalt automation engine.

OPTIONS

K2-EDGE-SWLX-SD2D

K2 EDGE SD 2D SqueezeBack (single PIP) – ordered per channel

K2-EDGE-SWLX-HD3D

K2 EDGE SD/HD 3D Advanced Graphics (multi PIP) – ordered per channel

K2-EDGE-SWLX-CMP

Channel Composer Software License for Windows 7 or MAC OS

K2-EDGE-SWLX-MULTI

Multi-language support, VBI, Q-Tones – ordered per channel

K2-EDGE-SWLX-NMON

Adds the ability to monitor the K2 Edge channel output over a network using low-resolution proxy – ordered per channel

K2-EDGE-SWLX-PVW

Adds second channel output for previewing clips

K2-TXMAM-SWLX-CL30

K2 TX/MAM playout control license pack. Adds 30 more licenses to existing licenses

K2-TXMAM-SWLX-CL05

K2 TX/MAM playout control license pack. Adds 5 more licenses to existing licenses

K2-TXMAM-SWLX-CL01

K2 TX/MAM playout control single license. Adds 1 more license to existing licenses

K2-EDGE-SWLX-RTIC

Adds support for real-time information collection from sources such as RSS, text, XML, DB and displays the data in real time on the K2 Edge output. The workflow design tool provides selecting, parsing, and changing of data before it is displayed live on screen

K2-TXMAM-SWLX-LDN2

K2 TX/MAM Loudness control provides internal file analysis and database registration. Analysis done is based on "loudness ebu r128" standard. (31+ primary channels)

K2-TXMAM-SWLX-LDN1

K2 TX/MAM Loudness control provides internal file analysis and database registration. Analysis done is based on "loudness ebu r128" standard. (2-30 primary channels)

K2-TXMAM-SWLX-LDN0

K2 TX/MAM Loudness control provides internal file analysis and database registration. Analysis done is based on "loudness ebu r128" standard. (1 primary channel)

K2-TXMAM-DIVX-REST

Stored files in DIVA archive will be restored under K2 TX/MAM management

K2-TXMAM-FEXCX

File exchange integration with third-party tools. An example would be for file transcoding jobs when a certain codec is not supported on K2 Edge (per instance)

K2-TXMAM-DUBX

Workflow integration with third-party tools (per instance)

K2-TXMAM-ASRUNX

As-run log export integration with third-party tools (per instance)

K2-TXMAM-QCX

Quality Control integration with a third-party auto QC tool where K2 TX/MAM shows status and results of the QC job that is sent out from the third-party tool (per instance)

K2-TXMAM-TRANSX

Transcoding integration with a third-party tool (per instance)

K2-TXMAM-ASSIMPX

Import module that will create assets in the K2 TX/MAM database and populate associated metadata fields. The Asset file that is imported comes as an export from the Traffic system.

K2-TXMAM-AUDIOMAPX

Remapping of Audio Tracks from Tags – ordered per channel

GV Edge

Animated Graphics
Unlimited (e.g., Grass Valley and LDX logos with tilt)

Clips
Maximum 4 (e.g., sunset video)

Live Inputs
Maximum 4 (e.g., PGM/LIVE x2 with 3D squeeze)

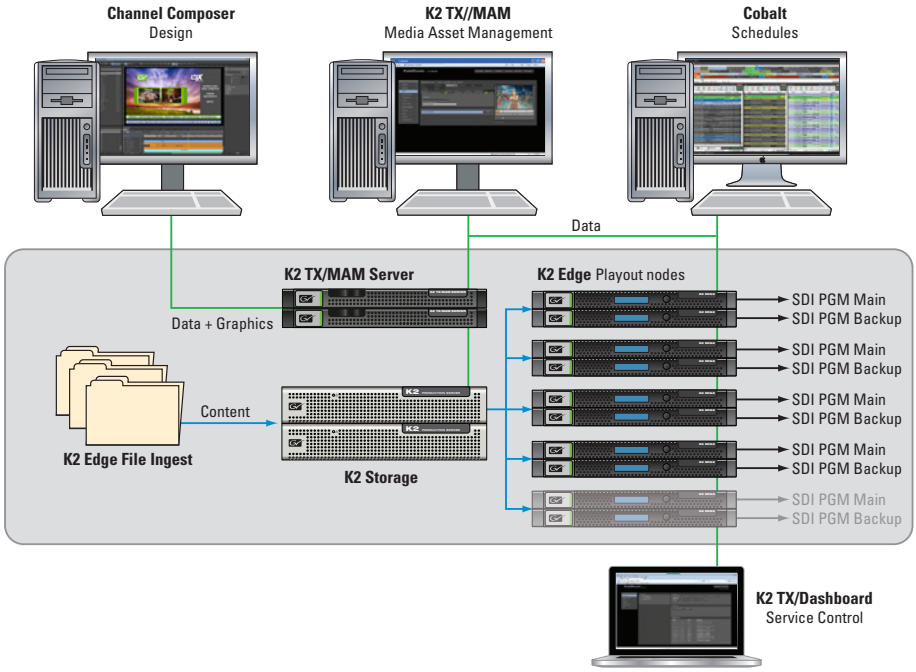
2D DVE
Unlimited (e.g., squeeze of sunset video)

Static Graphics
Unlimited (e.g., backgrounds for text crawls)

Crawls and Tickers
Unlimited (e.g., 2 text crawls)

3D DVE
Unlimited (e.g., squeeze of 2 PGM/LIVE and tilt of Grass Valley and LDX logos)

Text
Unlimited (e.g., 3 text blocks)



MAXIMIZE AND OPTIMIZE YOUR INVESTMENT

With program production and distribution becoming ever more complex and affecting business issues on a daily basis, you need a trusted partner that understands those complexities and how to convert them into opportunities. Grass Valley's team of experienced engineers and system integrators can help you turn your challenges into opportunities in the most efficient and cost-effective way possible, from system design all the way through to commissioning. Grass Valley Professional Services helps you to:

Define: We consult with you to help define your business and technology requirements and then design the right solutions to meet them.
Deploy: Our professional service organization, backed by proven project management methodologies, can take you from design through deployment, commissioning, and training.
Support: We offer a complete portfolio of support services to keep your systems running, and help manage your long-term maintenance needs.

For information about Grass Valley, please visit **www.grassvalley.com**.

Join the Conversation at **GrassValleyLive** on Facebook, Twitter, and YouTube.

SDP-5090D-2