

Gravity Broadcast Systems

Newsroom Asset Management & Production

Gravity



Gravity. This is SSL.

Solid State Logic
S O U N D | | V I S I O N

Gravity

End-to-End Newsroom Asset Management.

News studios face continual pressure to bring news to air quickly, adapt to new standards, improve operational efficiency, deal with multiple input formats and produce output for web and mobile delivery as well as TV viewers.

Gravity's scalable end-to-end solutions address the needs of local stations, regional networks and national/international enterprise scale operations.

Designed to integrate with commonly used newsroom management systems, craft editors and playout automation, Gravity pulls together all the elements to provide a fully-integrated streamlined system.

Gravity is Modular; a set of software and hardware elements are combined to create complete systems that scale capacity and functionality to match client need.

Key Features

- Gravity's end to end system provides a complete coherent set of GUI's that simplify operator training and facilitate flexible and efficient working practices.
- Because Gravity is scalable and configurable it fits current requirements but is readily upscaled for more storage, more users or to accommodate additional formats.
- Gravity matches your business realities by enabling remote media production with encoders, storage and decoders located on wide area IP-based networks.
- Because Gravity runs on Windows™ OS using standard PC, Server and Network hardware, it is cost effective to install and easily maintained.
- Gravity is format and codec independent; it provides multiple live feed monitoring over IP, can support HD, SD and streaming media, encodes multiple formats & compression ratios simultaneously and allows editing of HD/SD, 4:3/16:9 all on the same timeline.

Gravity Modular Elements

- System wide content, workflow storage, monitoring and administration via Asset Manager and Media Manager software.
- Content browse, sub slip creation and metadata tagging tools via LAN based and Web based 'Asset Browser' software.
- 'Studio Monitor' application providing a single interface for monitoring multiple video streams.
- Comprehensive Import/Export, Encode, Decode & Transcode tools and 'System Scheduler' software.
- First cut proxy editing via the 'Package Production Tool' editor and integration of third party craft edit applications including Final Cut Pro.
- Mobile ingest and data browse tools accessed via the 3G network.
- Standard IT server and network hardware.



Gravity Systems

Fully scalable modular systems built on solid foundations.

Gravity Broadcast Systems are completely modular and infinitely scalable. SSL has defined three base systems which are easily customised and expanded to meet individual customer requirements.

Gravity News Studio

Gravity News Studio delivers an affordable fully digital solution to replace tape based or early part-digital solutions for small scale New Production teams.

- Ideally suited to small work groups
- Usually based around a single data storage server & Asset Manager
- Import from streaming content or file & edit within 2 seconds of ingest start
- Small teams typically access the system via the Asset Browser Web interface
- Edit all formats simultaneously on one timeline with PPT non linear editor
- Craft edit integration
- Redundancy options available
- Expandable to accommodate future growth

Gravity News Network

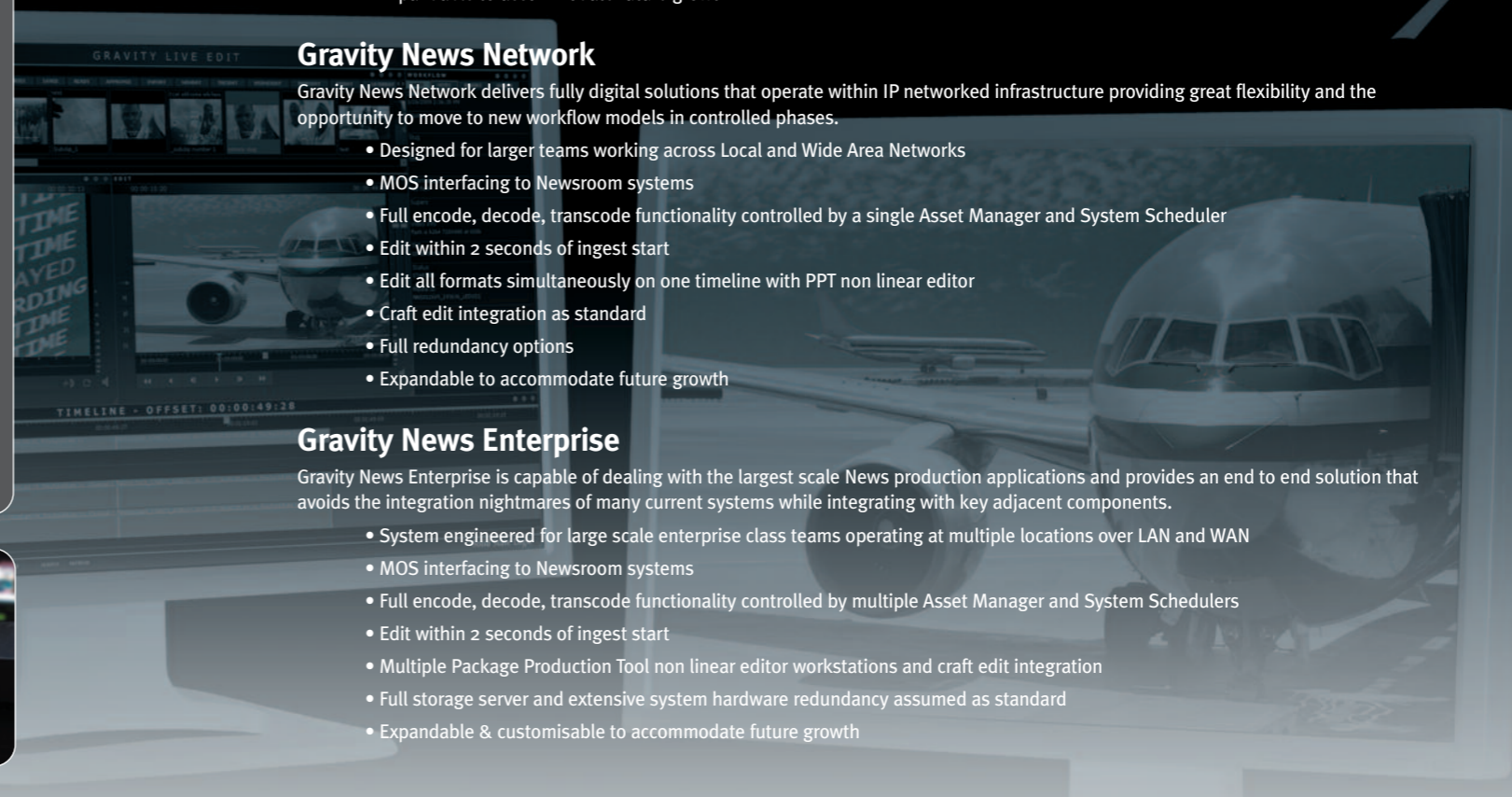
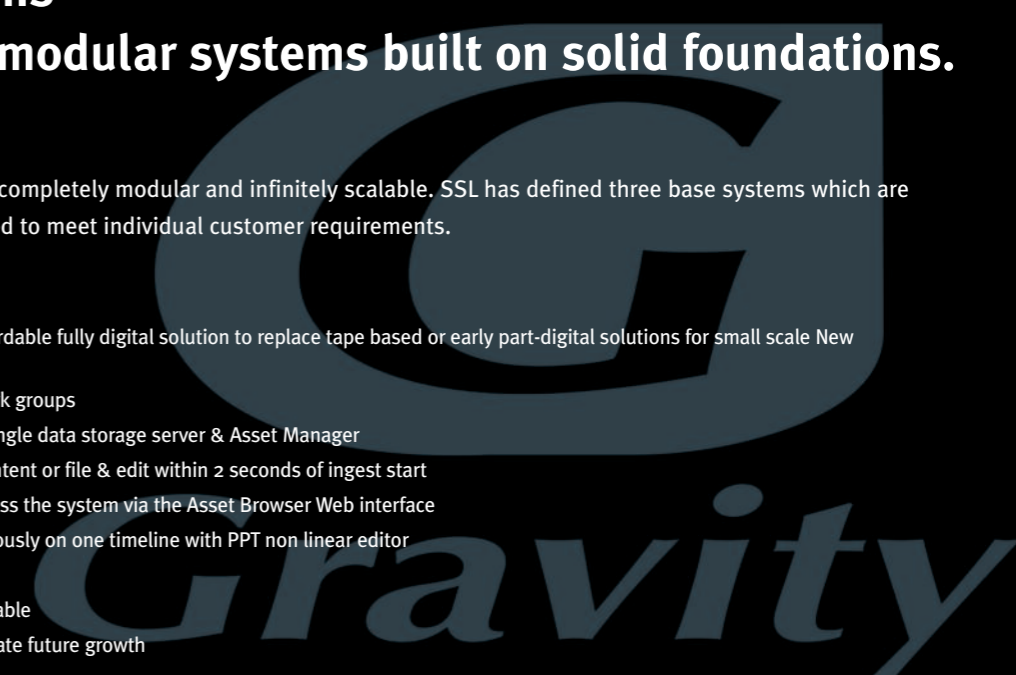
Gravity News Network delivers fully digital solutions that operate within IP networked infrastructure providing great flexibility and the opportunity to move to new workflow models in controlled phases.

- Designed for larger teams working across Local and Wide Area Networks
- MOS interfacing to Newsroom systems
- Full encode, decode, transcode functionality controlled by a single Asset Manager and System Scheduler
- Edit within 2 seconds of ingest start
- Edit all formats simultaneously on one timeline with PPT non linear editor
- Craft edit integration as standard
- Full redundancy options
- Expandable to accommodate future growth

Gravity News Enterprise

Gravity News Enterprise is capable of dealing with the largest scale News production applications and provides an end to end solution that avoids the integration nightmares of many current systems while integrating with key adjacent components.

- System engineered for large scale enterprise class teams operating at multiple locations over LAN and WAN
- MOS interfacing to Newsroom systems
- Full encode, decode, transcode functionality controlled by multiple Asset Manager and System Schedulers
- Edit within 2 seconds of ingest start
- Multiple Package Production Tool non linear editor workstations and craft edit integration
- Full storage server and extensive system hardware redundancy assumed as standard
- Expandable & customisable to accommodate future growth



Gravity System Elements

Gravity is modular; it is a collection of individual hardware and software elements. Encoders, Storage Servers, Decoders, Transcoders, Content Browsers, Management Software, Air Control, MOS integration can all be combined in various quantities and locations on a LAN, WAN or MAN to allow for the creation, transport, and custom management of media content.

Each base system will consist of a different combination and quantity of elements. SSL works with individual customers to identify the appropriate base system and to add additional system elements to create configurations tailored to exactly meet individual client need.

All of our hardware based system elements (Encoders, Decoders, Servers etc) use standard Windows-based IT hardware. In fact, all GRAVITY user interfaces will run on any modern Windows™ PC. All Gravity software is created and maintained by Solid State Logic. All of our software elements are developed entirely by Solid State Logic.

Asset Manager

The Gravity Asset Manager Software is the main interface used by system managers who control encode/decode/transcode operations and control team workflow. It provides an overview and control of the entire Gravity system. From this central operating interface area the Manager can monitor the flow of data throughout the system and access a comprehensive suite of content management tools including; the Scheduler, Media Manager and System Monitor as required. The Asset Manager also provides remote control of encoding, decoding, transcoding, sequencing and system monitoring.

The main Asset Manager GUI provides three main activity areas; A Content Browser section provides a simple interface with which to locate and store content on servers across the entire network. The Media Player provides powerful tools in a streamlined interface and enables viewing, marking and job assignment. A Workflow pane shows and enables editing of individual clip metadata. The Media Info pane is the hub of workflow control; from here individual encodes and stories can be assigned for further activity and ongoing workflow progress monitored.



Asset Browser

Asset Browser is a stripped down version of the Asset Manager software and is the main interface for the majority of Gravity system users. It provides an easy to use interface for team members to browse, search, retrieve, add timeline markers and edit metadata for content stored within the system. Asset Browser is available as a LAN-based interface where users with access via a high bandwidth LAN can access high resolution and/or low resolution proxy content. Asset Browser is also available as a web based interface where users with a standard high speed internet connection can access low resolution proxy content.



Gravity Mobile Applications

Gravity Mobile Record offers the ability to record and upload media via the 3G network. Gravity Mobile Browse is a browser application for handheld devices that enables journalists and media managers anywhere in the world to access the central Gravity content control system to view media or find a clip, approve material for use, add a time stamp and signature, add edit points such as 'Mark in' and 'Mark out' and assign media to other journalists or team members. When a news story breaks the journalist is often completely responsible for reporting, shooting, editing and uploading their story and Gravity Mobile Applications mean that the 3G network can be used to import and manipulate media with greater flexibility and at a substantially lower cost.



Package Production Tool

The Gravity Package Production Tool (PPT) is an intuitive video editor that has been designed for first cut editing in fast-paced environments and allows the user to edit HD/SD, 4:3/16:9 simultaneously on the same timeline. It offers a streamlined, customisable interface that is simple to operate but is packed with a comprehensive set of editing, browse, search and monitoring tools. Edit operations are carried out at proxy level and conformed, seamlessly, in the background upon completion of the edit or publish operation, leaving the editor or journalist to return to the next task or project. Format information is tracked per clip which provides the transcoder with the correct sizing information for aspect ratio conversion upon completion. The editing interface is available as a desktop application or as a web tool for remote access or as a plug-in for one of several Newsroom Computer Systems.



Systems Elements continued

Studio Monitor

Gravity Studio Monitor provides a fully configurable monitoring station that provides a clear visual overview of system activity. It allows the user to monitor video streams with associated audio level display from multiple devices (encoders & decoders) on a single screen. Individual feeds appear at native resolution but can be scaled and docked as required.



Scheduler

The Gravity Scheduler provides a streamlined graphical interface for controlling Encodes and Decodes. The Gravity Scheduler allows the user to set up a series of timed events on a clear graphical timeline. Individual event metadata is displayed in list format in a dedicated Media Info pane. Scheduler offers a choice of crash, single, one time encodes or regular multiple recurring events. Users can lock resources and visually display and modify router control from the Scheduler interface. The software allows for sorting and grouping of encoders for better monitoring or prioritisation.



Media Manager

The Gravity Media Manager offers users a centralised workstation from which the details of copying, deletion, and transcoding/rendering of material to multiple resolutions can be managed. The Gravity Transcoder can be used to render files at multiple resolutions, either as a single render box or in combination to create a render farm. This allows single file conversions to take place on multiple CPUs across the network or/and multiple file conversions across the network. This functionality can be dynamically configured by the user as requirements change for breaking events.



Encoding & Decoding

The Gravity system operates in a variety of popular compression formats. The Encoders are designed to produce high, medium and low resolution streams simultaneously. With Gravity technology, no transcoding is needed to create low resolution material after a capture. The low resolution proxy is made in real-time as the capture happens. However, our powerful transcoding engine is also available to convert files to any other supported format. Multiple Transcode engines are able to operate as part of a "Gravity Transcode Cluster". Our unique clustered approach to transcoding allows SSL to take advantage of all available CPU's on the entire system, radically decreasing the total time to transcode any clip/story. Data rates are customer selectable and are tuned to accommodate the desired balance between the number of simultaneous users, picture/sound quality and site bandwidth.

A complete list of currently supported formats is available online at www.solid-state-logic.com

Integration

Gravity is a SOA system designed to integrate with a broad range of third party systems and software. SSL has employed a number of standard core software technologies and open standard protocols such as SQL, XML, TCP/IP, Ethernet, .NET, DirectX, SDI, RAID, MPLS, Clustering, MOS, VDCP, NDCP and more, to bring to market a true next generation Asset Management and Editing solution. As a result, Gravity is able to integrate and interface with a variety of third party systems and equipment such as storage, trafficking and automation systems.

Gravity API

The Gravity Enterprise Edition offers a powerful open systems architecture through a web services Application Programming Interface (API). The Gravity API provides seamless integration with existing scheduling, automation systems and other database or 3rd party systems; this allows the Gravity Enterprise Media Asset Management system to become an integral part of the entire Enterprise News, Broadcast or Production system. The Gravity API provides a wide range of functions that make it possible for external, third-party systems to control components of the Gravity Enterprise platform.

MOS

The Gravity MOS server supports the MOS 2.8.2 protocol to provide media integration via industry standard protocol within the broadcast environment. The Gravity sub-system assumes the role of Media Object Server, exposing raw and finished media objects, plus metadata to MOS clients. Our MOS server supports MOS version 2.8.2 Profiles 0, 1 and 2 and supports a complete range of MOS commands and functionality. Updates to any data fields can be automatically reflected between the MediaWAN system and the NCS, if desired.

Craft Edit Platforms

Individual clips & stories can be exchanged directly with third party Craft editors from the Asset Manager or Package Production Tool with marker, metadata and un-rendered edit time line in tact. A wide range of PC applications are supported alongside seamless integration with Apple Final Cut Pro. Adding the renderless editing environment to Gravity for the Apple range of editors ensures that no matter what preference for editing hardware your editors may have, you need not suffer any incompatibility issues.



Hierarchical Storage Management (HSM)

Gravity supports and integrates with third party HSM solutions from Front Porch Digital and others as well as low cost storage systems for long term near-line and offline archives including Tape Library robots using LTO-4 technology or optical disk. SSL provides consultation with our customers to provide the most cost effective and highest performance HSM solution to fit their needs and requirements whether if it is for a 5 year archive, 30 year archive or beyond.

Additional Gravity Applications

Studio Recorder

Studio Recorder is a VTR replacement and the only hard-disc recorder that provides a true insert-record function. The system allows record, pause, rewind and re-record into a single file, ideal for studio recording where a single, complete recording is required with no need to re-assemble multiple files in Post Production. The unit can be used as a standalone VTR replacement or integrated with a Gravity system.

Key Features

- Eliminate the cost of tape
- Save time with improved workflow
- Create single files without the need for post production
- True insert-record functionality with Pre-roll preview and count down
- Flexible and upgradable
- SD & HD configurations available up to 4 channels
- Multiple codec support
- Supports RS-422 commands

LiveEdit

LiveEdit enables a broadcaster to manipulate pass-through channels on the fly, removing or adding informative and pre-prepared content within seconds or minutes of the transmission point. Where permitted, advertising material can be replaced with local content, or culturally unacceptable material can be edited.

The edit screen provides a 'record time' and a 'playout time', which requires the editor to monitor and maintain a 'zero time' where the amount of material taken out must be replaced. The dynamic playout capabilities of LiveEdit mean that editors need not keep such a close eye on zero time because material can be added or removed as little as a few seconds from broadcast if required.

The user can establish a fixed delay for the transmission, set by automation or maintain a completely dynamic timeline where the editor manually controls the transmission delay to stay ahead of the transmission point. With LiveEdit, users can maintain sufficient edit time while remaining as close to live as possible. The application is ideal for sports programming where advertising regulations can be maintained to their best effect.

LiveEdit enables "Retro loop ingest" in which a feed can be in pass-through with full confidence monitoring and record can be triggered after an event has passed through the encoder.

Key Features

- Manipulate pass-through channels on the fly
- Introduce transmission delays for content monitoring
- Dynamic manipulation of record, zero and playout times
- Automation integration capability
- Retro Loop Ingest; record after an event has passed through the encoder

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