GV I/O

Live Ingest & Playout Using COTS Hardware with GV STRATUS

GV I/O is a high-performance, cost-effective, COTS (commercial off the shelf) ingest and playout platform tailored for fast-turn production workflows on a 1 RU server, with SMPTE ST 2110 support and up to four SD or HD channels or three UHD channels.

Simplicity — GV I/O from Grass Valley is designed with a streamlined workflow and seamless integration in mind. Built on a COTS ingest and playout platform with an evolving feature set, GV I/O offers integration with IT-based storage via Grass Valley’s AMS range of storage and can play back and record content over traditional SDI, SMPTE ST 2110 and web streams, all on COTS hardware.

Flexibility — Built for the future with limitless flexibility, GV I/O offers the agility to power your broadcast workflow. With flexibility through licensing, while offering industry leading codec versatility, GV I/O answers the call for today’s workflows, and will work with GV STRATUS or under third-party automation control using AMP or VDCP.

Scalability — GV I/O can scale to meet the workflow demands of newsroom productions regardless of the scope or complexity.

Reliable and Cost-efficient — With redundant power supplies, hot-swappable drives, flash-based storage and RAID-5, GV I/O is designed for on-demand reliability. CPU utilization is roughly 50% of other servers in the market, giving you valuable cost-efficiency in an easy to deploy solution.

<table>
<thead>
<tr>
<th>Functionality</th>
<th>K2 Summit 3G</th>
<th>GV I/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supported on COTS hardware</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Codecs offered as standard option</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Software deployable VM*</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Up/down/crossconversion</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>32 channels of audio</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Real-time proxy generation</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Direct read/write to/from SAN</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Growing file support</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3G 1080p</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>SMPTE ST 2110 UHD single raster support</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>IP with SMPTE ST 2110</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Recording of web streams</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Supports VDCP control</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Supports AMP control</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

* VM OVA (GVIO-SW-VM) — The GVIO-SW-VM software option is a packaged VM OVA that supports SD, 720p and 1080i with currently supported codecs as a 2 in/1 out configuration via SMPTE ST 2110 only. It has been validated on Cisco UCS C240 hardware. SDI, UHD and 1080p are not supported at this time.
KEY FEATURES

- Highest density UHD COTS platform in a 1 RU footprint:
  - SMPTE ST 2110 single raster UHD
  - NMOS support
  - AVC Class 300 support
- Access media immediately:
  - Fast turnaround editing
  - Full high-resolution quality and proxy workflow availability
  - Deliver media while recording to break stories faster
- Web-based management configuration tool:
  - Configure multiple systems from a single UI
  - Codec selection
  - Select proxy quality
- Four-channel configurations:
  - SD:
    - DV and D10 (IMX)
    - DV, DVCAM, DV25, DV50
  - HD: DCAM, XDCAM HD, XDCAM EX, XDCAM 422, DVCPRO HD, AVC-Intra, DNxHD
  - UHD:
    - XAVC-I Class 300, UHD, 2160p59.94 and 2160p50
    - Channels: 2 in and 1 out
- Network resiliency through low-bandwidth
- Import/export all formats as MXF OP1a, SMPTE ST 360 (GXF) or QuickTime
- Preservation of ANC data
- Full multichannel audio support — 16 audio tracks per video channel
  - 64-channel support in SMPTE ST 2110 as 32 pairs
- Import/output all formats as MXF OP1a, SMPTE ST 360 (GXF) or QuickTime
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- Full multichannel audio support — 16 audio tracks per video channel
  - 64-channel support in SMPTE ST 2110 as 32 pairs

www.grassvalley.com
Includes Rivermax license and silver 1 year support for I/O-SW and 10G or 25G SFP modules. Must use 25G SFP for UHD. Required for all GV I/O SMPTE ST 2110 IP servers. Requires GV ConnectX-5 NIC – Dual 25G/10G Mellanox IP interface card.

**GVIO-HW-CX5**

AJA Corvid 88 video card (PCI Express). Provides x4 SDI in/out.

**GVIO-HW-CX5-FK**

ConnectX-5 NIC – Dual 25G/10G Mellanox IP interface card. Required for upgrading from a GV I/O SDI to IP server (replaces AJA card). Includes Rivermax license and silver 1 year support.

**GVIO-HW-M264-FK**

Matrox M.264 3 codec card upgrade for UHD support. Replaces NVIDIA P2000 card.

**GVIO-HW-SFP-10G**

x2 10 GbE SFP modules required for Mellanox card.

**GVIO-HW-SFP-25G**

x2 25 GbE SFP modules required for Mellanox card.

**GVIO-HW-SSD-5-960R5**

Internal SSD storage (960 GB drives). Provides ~4 TB RAID-5 (~79 hours @ 100 Mb)

**GVIO-HW-SSD-5-1920R5**

Internal SSD storage (1.92 TB drives). Provides ~7.6 TB RAID-5 (~157 hours @ 100 Mb)

**GVIO-SW-UHD**

GV I/O software. Required for GVIO-HW-SV-02-UHD server.

**GVIO-SW-HD**

GV I/O software. Required for GVIO-HW-SV-01-HD server.

**GVIO-SW-IP**

GV I/O per channel IP license – for HD only (maximum 4 per server)

**GVIO-SW-SDI**

GV I/O per channel SDI license (maximum 4 per server)

**GVIO-SW-UHD**

GV I/O per channel UHD license (maximum 3 per server, maximum 2 in)

**GVIO-SW-SN-LAN**

SNFS connection required to add GV I/O to an older K2 SAN using Qlogic TOE card. SNFS 6 systems only. K2 Summit 10.1.2 or later software.

**GVIO-SW-SN-CH**

SNFS connection required to add GV I/O to a new K2 SAN (no TOE card). K2 Summit 10.1.2 or later software. Server 2016/SNFS 6 only