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DATASHEET

MASTERPIECE X
Cloud-based, Broadcast-grade Master Control

Masterpiece X unlocks new workflows with a future-proofed solution that scales with an organization's day-to-day or even hour-to-hour requirements. Masterpiece X enables easy regionalization by driving multiple outputs from a single user interface, and helping to produce up to 16 different language feeds.

What is Masterpiece X?
- Cloud-native Master Control solution running on GV AMPP, Grass Valley's cloud-based, SaaS platform for broadcast
- Fully featured Master Control with mixing, branding, audio capabilities
- Deployable in the public cloud, private data center or in a hybrid model

GV AMPP is the technology that underpins a whole suite of cloud software offerings from Grass Valley. The use of GV AMPP for this new offering follows the "build once, integrate into many" philosophy.

Masterpiece X is ideal for broadcasters and content owners who are looking to leverage the flexibility of cloud and SaaS models to reach new markets. Other organizations, such as leagues (including eSports), may benefit from the additional flexibility provided by Masterpiece X to deliver their live content to a wider audience, leveraging the plethora of emerging distribution platforms.

Masterpiece X Key Benefits:
- *Increased monetization opportunities:* spin up additional channels, regionalize content, test new markets
- *Distributed operations:* take live control of your channels from anywhere, with just a browser and internet connection
- *Familiar Master Control workflow and control surface:* no need to retrain your Master Control operators

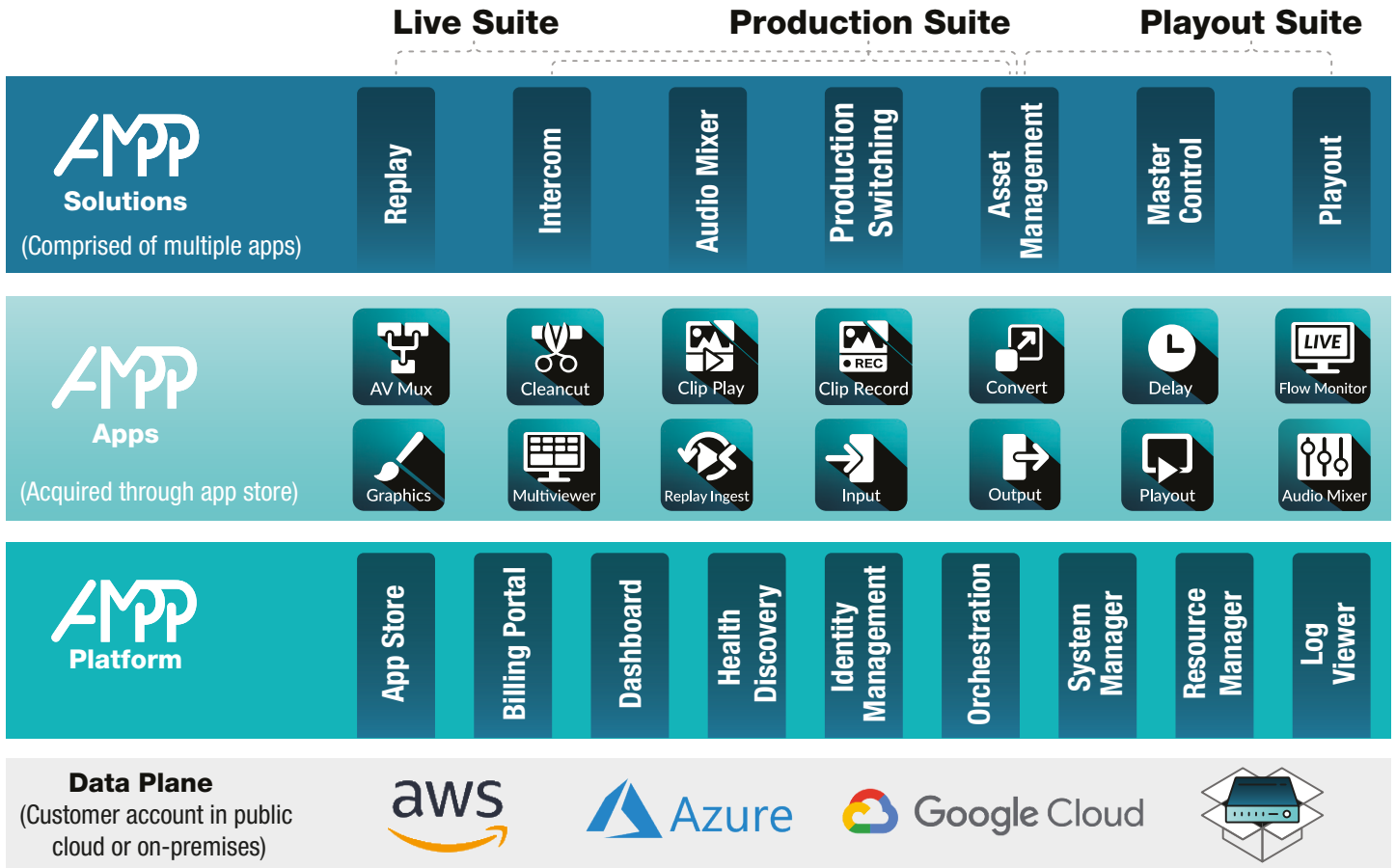### GV AMPP Overview: Agile Media Processing Platform

Masterpiece X is built using the Grass Valley Agile Media Processing Platform (GV AMPP). This is the first cloud-based SaaS platform for broadcasters to fully leverage the power of elastic compute. Built for the cloud from the start, GV AMPP is specifically designed to overcome broadcasters' long-time reliance on costly and inflexible hardware-based media processing systems. Using nothing more than a web browser on a laptop with internet connectivity,

this revolutionary platform empowers the user with unprecedented flexibility to quickly spin up or spin down applications as and when needed — and only pay for the services used. The true benefits of this platform is the modular nature of the functions it provides. Specific workflow functions run on the GV AMPP platform as modules, or solutions that are constructed from a wide range of microservices.

GV AMPP is the core enabling technology of the GV Media Universe, a concept that encapsulates the Grass Valley vision for the software and cloud-based future of media processing. Designed around a comprehensive ecosystem of cloud-based tools and services that are interconnected with a range of existing solutions, partner offerings and a community of marketplaces, GV Media Universe will revolutionize the way broadcasters think about making media.

Key Features

- Fully-featured, cloud-based master control switcher
- Scalable inputs/outputs with internal routing capabilities
- Full transition engine
- HTML5 branding graphics

- Built-in video/audio clip player with full control capabilities
- Highly visual, customizable HTML5-based UI allowing fully distributed operations
- Powerful audio control with mixing/processing/shuffling on a track-by-track basis
- Customizable multiviewer included

- Runs on GV AMPP, Grass Valley's cloud-based SaaS platform
- Deployable in public cloud, private cloud or hybrid configurations
- Multilingual capabilities, ideal for regionalization applications

Live Suite   **Production Suite**   **Playout Suite**

AMPP Solutions (Comprised of multiple apps)

| Replay | Intercom | Audio Mixer | Production Switching | Asset Management | Master Control | Playout |

AMPP Apps (Acquired through app store)

| AV Mux | Cleancut | Clip Play | Clip Record | Convert | Delay | Flow Monitor |
| Graphics | Multiviewer | Replay Ingest | Input | Output | Playout | Audio Mixer |

AMPP Platform

| App Store | Billing Portal | Dashboard | Health Discovery | Identity Management | Orchestration | System Manager | Resource Manager | Log Viewer |

Data Plane (Customer account in public cloud or on-premises)

aws   Azure   Google Cloud

The GV AMPP Software Stack: Grass Valley's Media Processing Platform for building Agile Media Solutions.

Specifications

Video Inputs:
- SMPTE ST 2110
- SMPTE ST 2022-6/-7
- NDI (including fill & key)
- SDI

Video Outputs:
- SMPTE ST 2110
- SMPTE ST 2022-6/-7
- NDI
- SDI

Codecs and Transport Wrappers:
- H.264, H.265
- SRT
- RIST
- Zixi (input only)
- WebRTC (output only)

Audio I/Os: SMPTE ST 2110, AES67, SDI embedded

SD, HD and UHD formats supported

NMOS IS-04/IS-05 support

Clip playback and audio-over (from clip or live audio source)

Transitions: U-fade, V-fade, X-fade

Audio support: control of individual channels for gain, shuffling

HTML5 graphics rendering for native graphics

6x Digital Video Effects per output

6 keys per output
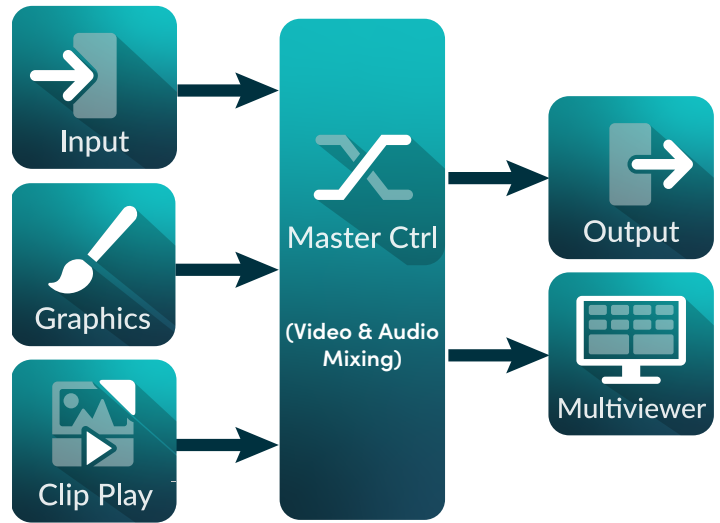
8 audio-only channels for music or commentary

Ordering

Please contact your Grass Valley sales representative for more details.

Masterpiece X Components

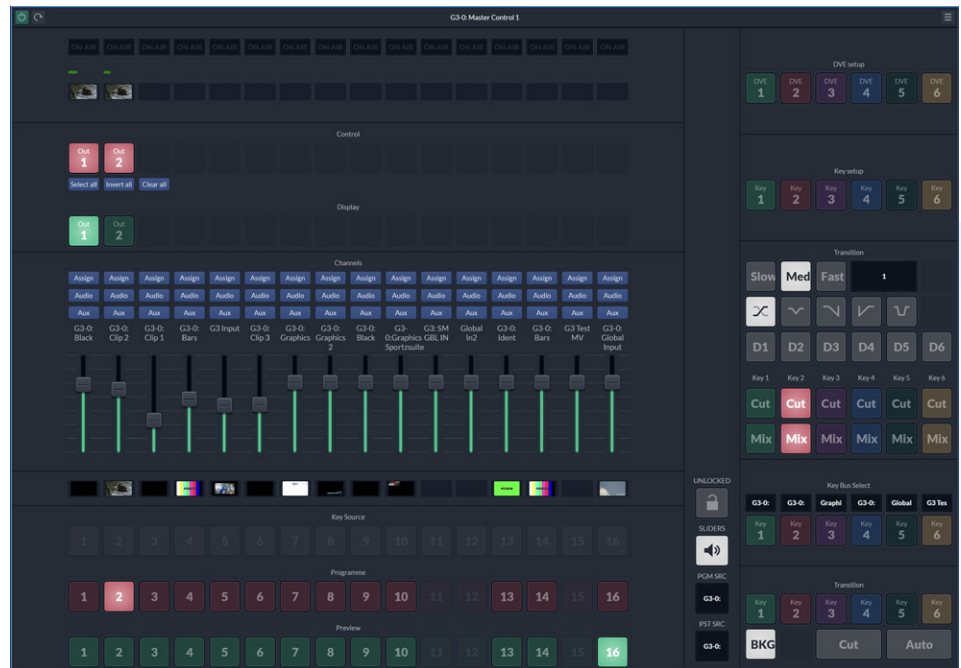A Masterpiece X solution consists of several components:

1. **I/O and Routing:** provides all the inputs and outputs of the system as well as internal routing of signals to the different system components.

2. **Master Control Switcher:** performs the traditional switching functions you would typically find in a hardware-based Master Control switcher, such as mixing and graphics keying.

3. **Master Control Audio Mixer:** performs basic audio mixing functionality for all signals of the production, such as audio level adjustment and auxiliary adjustments

4. **Clip Players:** plays back pre-rendered animations (lower third or full screen) for channel branding.

5. **HTML5 Renderer:** renders dynamic graphics (tickers, crawls) as a normal CG would do in a traditional workflow.

6. **Multiviewer:** provides a multiviewer to the operator, replicating the same monitoring experience as a traditional master control room.

Masterpiece X: Operational User Interfaces

Main Master Control Panel

This view looks very similar to a traditional master control panel where sources are organized in Preview and Program "buses." The difference with a traditional panel is that a thumbnail provides the operator with a quick preview of the source or graphic they may want to take to air, which reduces the reliance on multiviewers and ultimately the risk for errors. Other controls, such as transition types, keyers and individual audio gains, are also provided.
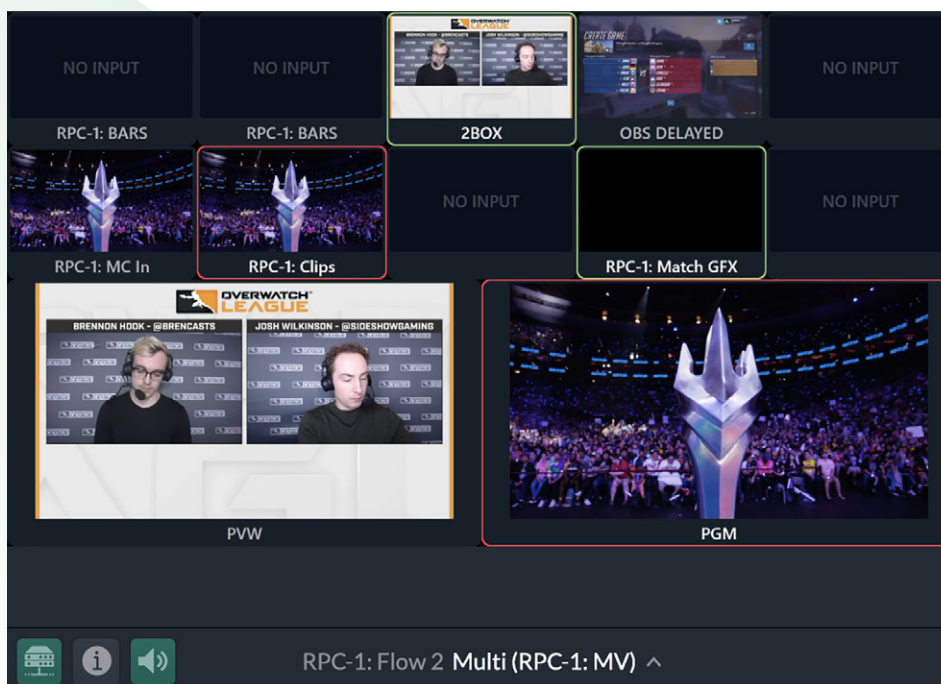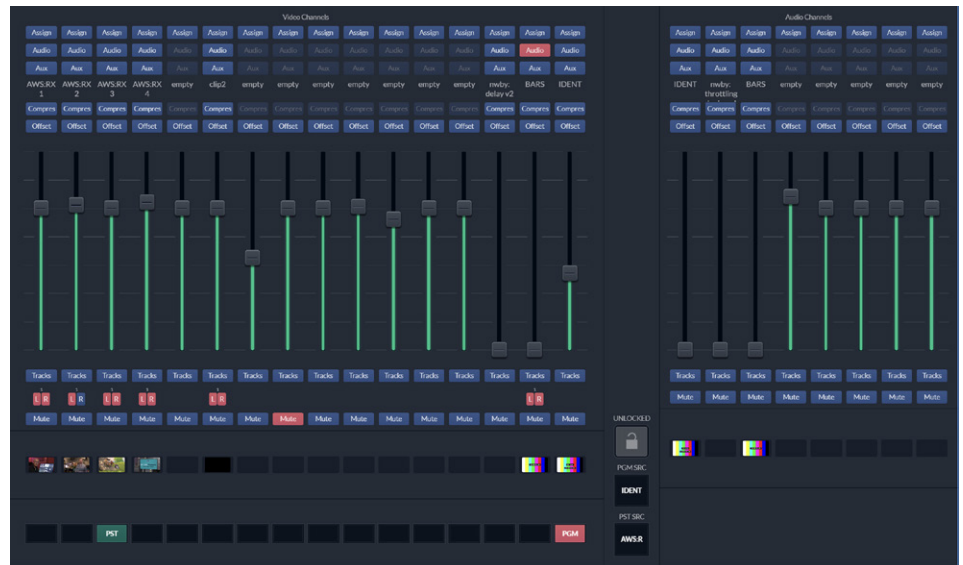
Masterpiece X: Operational User Interfaces

Audio Mixer Panel

This view allows an additional audio engineer to work on the same production without having to share the same user interface. Audio channels can be assigned and include a preview thumbnail. They can also be routed to auxiliary buses.

The audio panel is available in the Masterpiece X menu for audio-only operators and allows eight additional audio-only inputs, which may be useful for music, for example. The audio panel also provides an audio compressor and limiter functionality to enable all required workflows in broadcast environments.

The Aux Send option allows multiple additional Aux outputs to be created in the configuration menu. These additional Aux outputs will appear as a new source on the router panel, but with the ability to have a different audio mix. A common use case would be creating a mix minus feed to a remote contributor. Once created, the new Aux dialog on each input allows operators to adjust the level or completely remove that input's contribution to the specific Aux output.
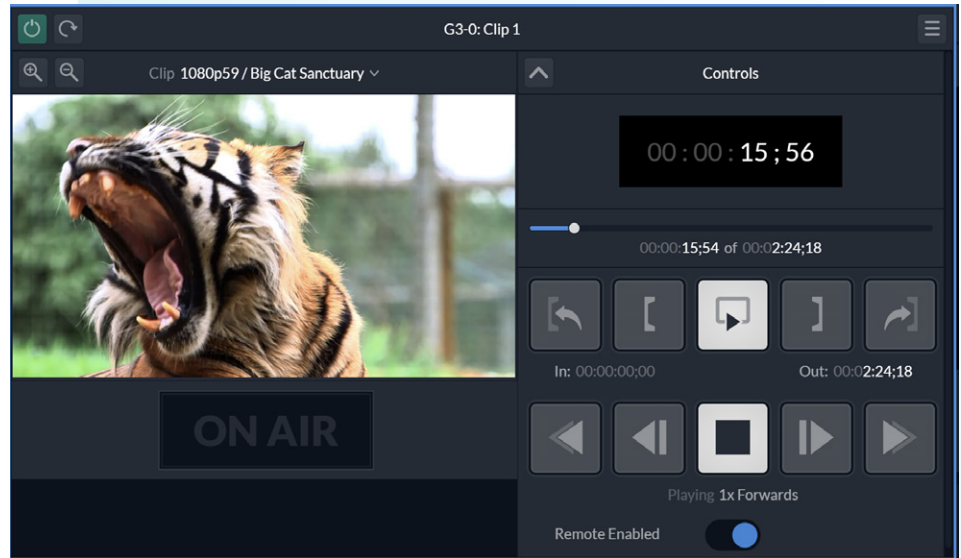

Multiviewer

Kaleido IP X is a fully customizable multiviewer that allows you to create different layouts with a single click. Sources can be switched in seconds and the multiviewer editor enables you to create layouts in minutes. Kaleido IP X also supports multiple formats.

Densité X — Clip Player HD

Densité X — Clip Player HD allows you to perform all the tasks of a video server. Easily load, play, stop and start, jog and shuttle, loop or trim clips. You can also change formats and run simple playback with a single click, making this tool an easy-to-use application for your production.

Learn more about Masterpiece X:

www.grassvalley.com Join the Conversation at GrassValleyLive on Facebook, Twitter, YouTube and Grass Valley on LinkedIn