Selenio™ Network Processor Multiviewer Application Note

How Selenio™ Network Processor's enhanced Multiviewer can solve today's problems with an eye on the future.

The Challenge:

In today's broadcast workflows, services are delivered in more resolutions, frame rates and formats than ever before. A mix of UHD and HD formats are common today — and a requirement for tomorrow. Add in Standard Dynamic Range (SDR) and High Dynamic Range (HDR) color space information and you have a perfect storm of display issues for commonly required operations like multiviewing. While SD, HD and UHD signals have been mixed on layouts for years, the advent of SDR and HDR brings a new level of complexity for displaying mixed services in the correct color space.
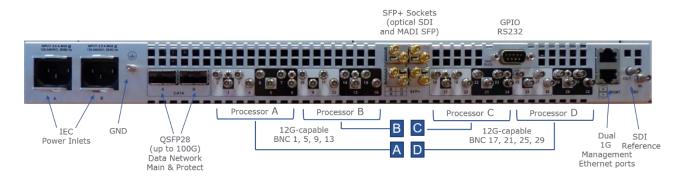
The Solution:

The Selenio Network Processor (SNP) Multiviewer from Imagine Communications has the capability to ingest today's services with an eye toward the future. The SNP-MV scales well from a simple SDI appliance to a large, facility-level multiviewing solution.

This powerful platform is cost effective and feature competitive in a single-unit traditional environment, and it can scale well with strong density and advanced feature sets. In most SNP multiviewer deployments, the 32 HDBNC ports are used for input services and the 4 SFP cages are used for multiviewer display outputs. The use of SFPs enables solutions to output layouts in a variety of physical formats, which allows flexibility in displays and accommodates longer cable distances. In the case of dual SFP outputs, the two outputs can be two discrete layouts or simply copies of one another.
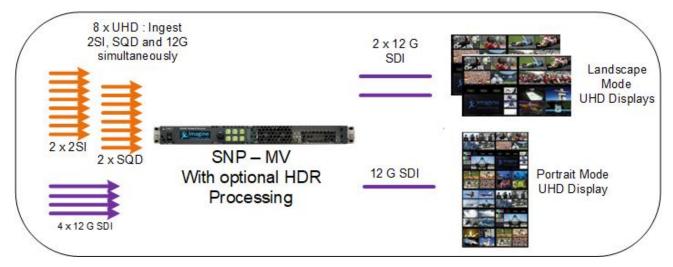
The SNP-MV can ingest and create SMPTE ST 2110 and ST 2022 signals via the dual 100G IP QSFPs available from leading switch providers. This allows the SNP to not only ingest ST 2110 IP services, but also make HD and UHD layouts available on IP as ST 2110, or SNP-to-SNP point-to-point links.
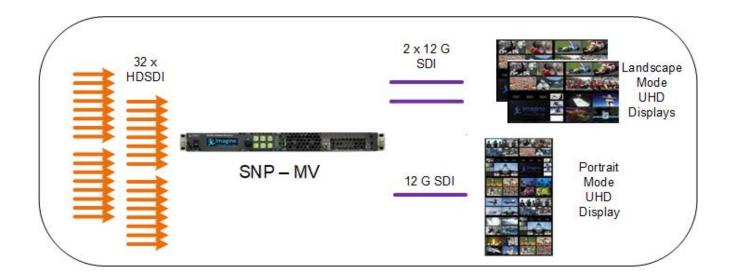

Features and Benefits:

- Native support for SD, HD and UHD formats (with optional HDR color depth & space processing).
- HD and UHD layout capabilities come standard, using Imagine's Layout Designer tool.
- Seamless integration with Imagine's Magellan™ SDN Orchestrator as a destination and source.
- SFPs allow for customizable display options.
- ST 2110 Ready: The SNP is well suited for SDI applications, and when you are ready to move to ST 2110 — so is the SNP. IP is inherent in the design to simplify your migration to ST 2010 workflows.
- In an NMOS environment, each PIP is announced as a routable NMOS destination.

The SNP-MV can be configured to create up to 8 unique multiviewer layouts, with a single frame of latency in many configurations. The SNP can ingest SD, HD and UHD, and create multiviewer layouts on HD and UHD canvases simultaneously. Add in HDR awareness and the SNP can ingest a variety of different services and normalize them for display on layouts. The 32 HD-BNC ports on the SNP are user configurable as inputs or outputs. In addition, there are 4 VSFP cages available, which can be populated with: HDMI, HDMI 2.0, Dual 3G SDI or Dual 12G SDI.

Ready for the Future:

The SNP-MV can be a managed source and destination within Imagine Communications' Magellan SDN Orchestrator. This allows the SNP-MV to be part of complex, facility-level multiviewing applications, as well as larger live production applications. The SNP-MV is an HDR-aware multiviewer, ensuring a source routed in a live production environment will be accurately displayed with the highest picture quality available.