

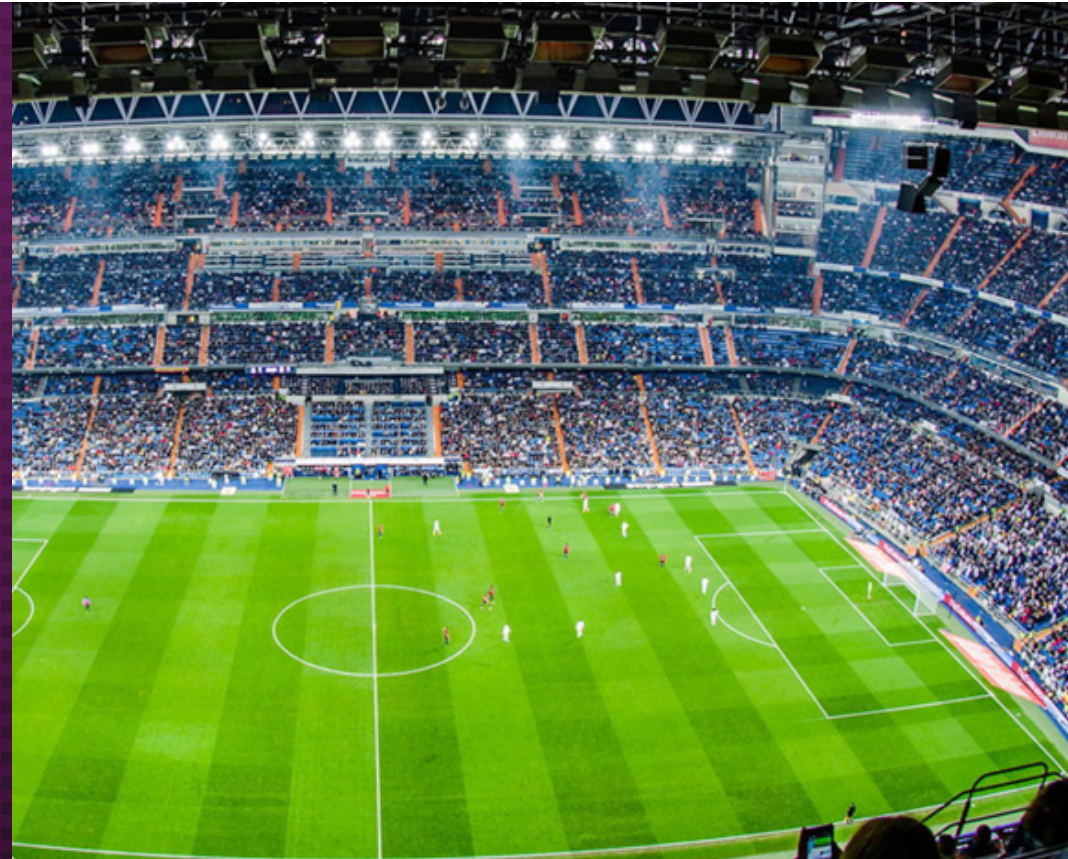


Remote Production Over IP

The new IP world has emerged

Full system solution
Grass Valley and third-party devices
Customizable monitoring & control

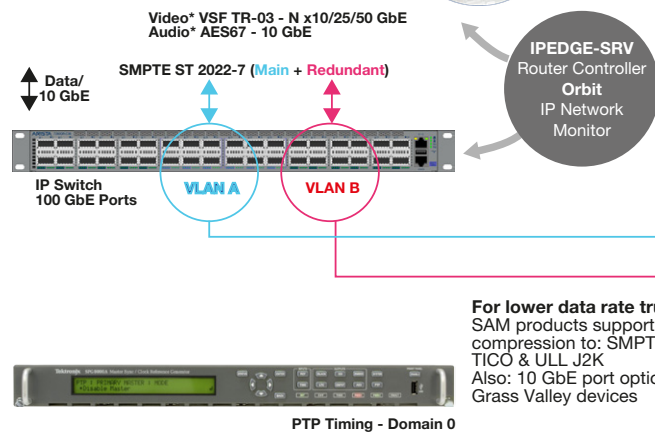
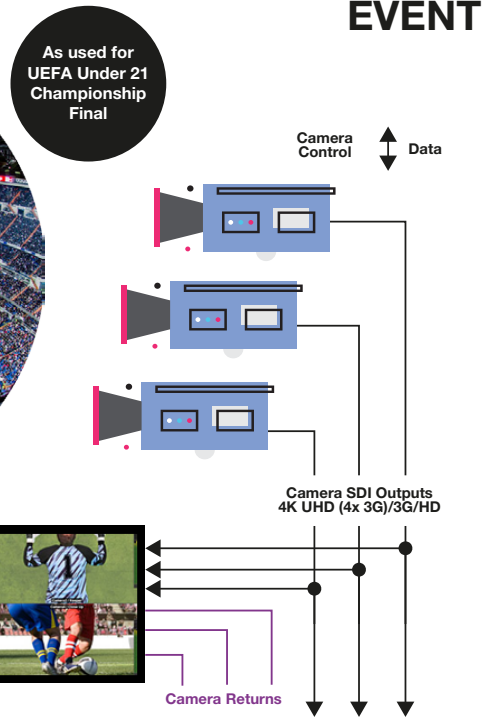
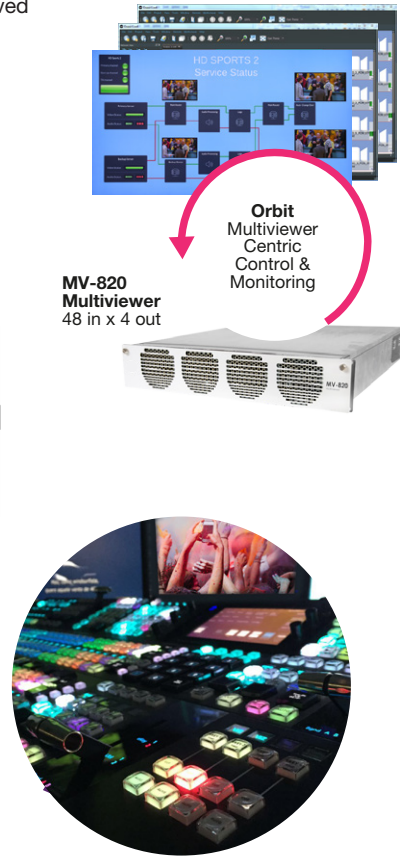
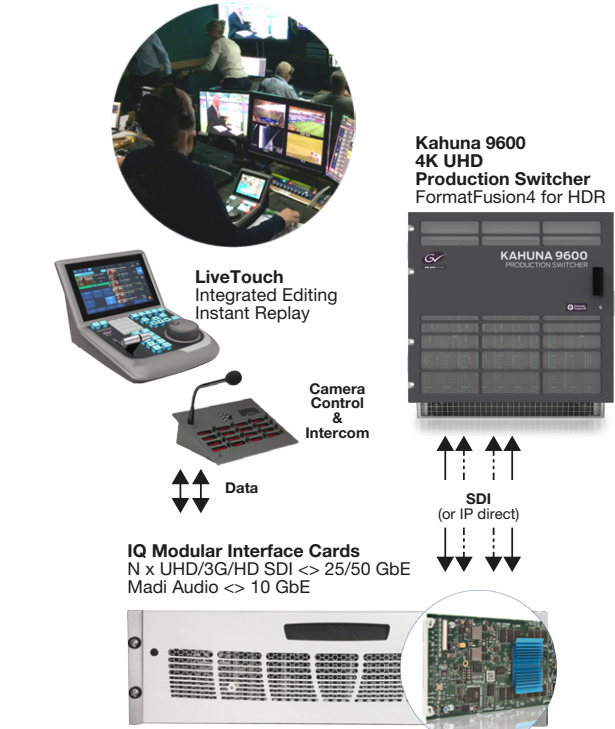
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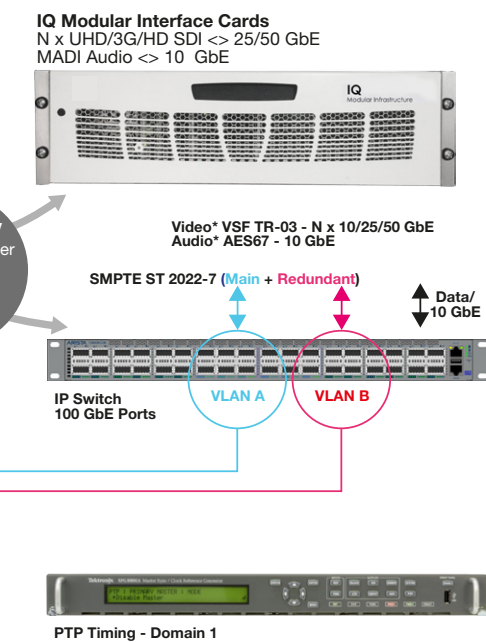
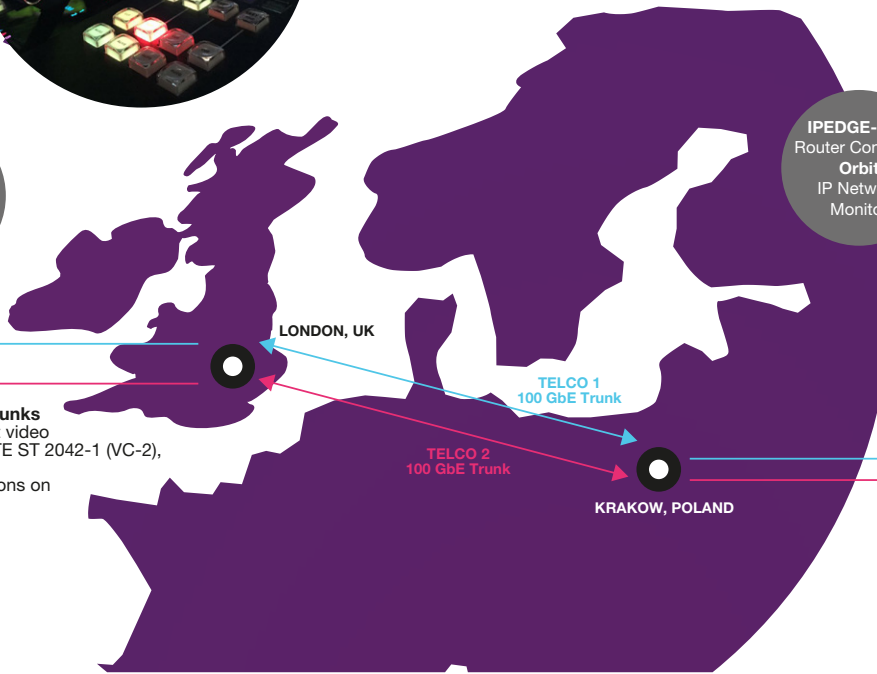
PRODUCTION

Ultra high-speed, low-latency IP networks are a game-changer for transport and switching of live 4K UHD & HD. This has paved the way for centralized production for remote events over IP!

Grass Valley. Making the Complex Simple.



For lower data rate trunks SAM products support video compression to: SMPTE ST 2042-1 (VC-2), TICO & ULL J2K
Also: 10 GbE port options on Grass Valley devices



As used for UEFA Under 21 Championship Final

EVENT

Background

Ultra high IP network speeds of typically 100 GbE, coupled with very low latency, are proving to be a game-changer for transport and switching of uncompressed 4K UHD and/or HD. As such, the concept of televising a remote event under control from a centralized production studio has rapidly evolved into an attractive option.

Primary Benefits

The reduced equipment inventory required at the remote site provides the most obvious cost saving, but perhaps just as important is the ability to re-deploy the production facility (much more rapidly) to an alternative venue.

Suitably fast trunk links can be leased from various Telco organizations. Indeed, dual or multiple VPN (Virtual Private Network) trunks can be established for redundancy either from the same Telco or split between providers for maximum peace of mind. A 100 GbE link is more than adequate for transport of multiple uncompressed 4K UHD camera feeds with their respective HD returns plus all associated audio, real-time control and metadata.

Alternatively, Grass Valley products (including dedicated IQ modular interface cards) can also support low latency compression standards such as SMPTE ST 2042-1 (VC-2), TICO and ULL JPEG 2000 (J2K). As such, using much reduced video data rates can dramatically improve the system economics. Grass Valley has cost-effective lower speed 10 GbE interface options for all its IP enabled products.

Proven IP Solutions from Grass Valley

Grass Valley has proven solutions with installed systems such as the one depicted in the central pages of this document.

Grass Valley's turnkey IP routing control system (IPEDGE-SVR-D) manages all multicast stream switching through both the event and production IP switches which are locked to different PTP timing domains. Although virtually all Grass Valley processing equipment has IP signal I/O options in place of SDI, the IQ modular system provides the most complete range of interface and transcoder cards for conversion to the IP environment.

Alliance for IP Media Solutions



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www.grassvalley.com/blog

Production Devices

Grass Valley's unrivaled performance and heritage for production switchers has not changed with IP. Both the Kula and high-end Kahuna production switchers feature 40 and 50 GbE interfaces and have both been deployed in remote production scenarios. Our LiveTouch replay system with integrated editing and slow-motion is the icing on the cake!

IP Router Control & Orbit IP Network Monitor

Central to Grass Valley's IP routing system is the IP Network Monitor which is part of the Orbit suite of software packages.

The network monitor supports self-discovery of all IP edge devices, IP addressing and all the functions required for complete IP system configuration including setting and monitoring of all source and destination data stream flows.

Orbit Control & Monitoring

Grass Valley's IP network monitor, combined with our Orbit over-arching control and monitoring software, makes it the most powerful and comprehensive system on the market today.

Orbit control and monitoring software can be enabled with standard or custom screens tailored to your exact system requirements. That's not just configuration, monitoring and control of all Grass Valley devices but also any third-party equipment.

If a device is not already in our software driver library, Grass Valley can create one!

This product may be protected by one or more patents. For further information, please visit: www.grassvalley.com/patents.

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