Operators' ProNews

EVS Production Servers

Package 20.4 & 20.5 | June 2023

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1. Introduction

With the latest Multicam 20.4 & 20.5 software, our XT and XS servers continue to incorporate new IP features, and offer a range of functionality improvements.

LIVEIP IMPROVEMENTS: It's now possible to use the IP Aggregator (XHub VIA) with only one IP address per QSFP interface (instead of multiple IP addresses as before). When switching sources using an NMOS bulk change including multiple audio and video streams, the switching can be vertically aligned, thus providing synchronized switching of all associated streams. The use of the NMOS Group hint Tag allows different streams to be handled simultaneously (Quad-HD, SLSM, Fill&Key). The maximum number of 1080p streams per SFP interface is now 4 instead of 3. All the LiveIP parameters needed to configure IP flows can now be exported and imported in CSV format, which is easy to edit in a spreadsheet.

HIGH DENSITY FILL & KEY: On XT-VIA and XS-VIA you can now have up to 6 F&K channels (previously two output channels were required per FK channel, so it was limited to 3).

BLOCK-BASED PRELOAD: This function greatly reduces the delay when playing a live distant record train using XNet-VIA.

RECORDER GANGING: In addition, this means it is now possible to align the playback timing of several cameras, whether they're played from local or remote channels.

HTTPS PROTOCOL FOR MANAGEMENT: Now allows a secure connection to the management interface

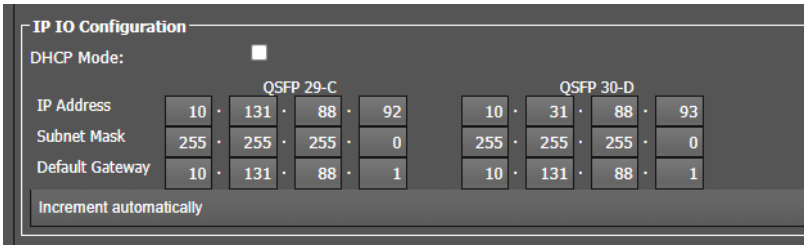
OPENMETRICS: For maintenance and troubleshooting purposes, it is now possible to access monitoring data using Grafana and Prometheus, via an OpenMetrics API implemented on the servers.

24 & 32 CHANNELS AUDIO: The maximum number of mono audio channels per video channel, previously 16, has now been extended to 24 or 32.

NEW I/O CONFIGURATIONS for XT-VIA, XS-VIA, and XT-GO: In addition to the new Fill & Key configurations, we've also added extra configurations for SLSM sources of different speeds, complementing those which were already available.

2. LiveIP Improvements

2.1 IP Aggregator improvement



- With recent updates, the functionality of the IP Aggregator has been further extended. This machine allows the transformation of 14 SFP+ (10G) connections into 2 QSFP28 (100G) connections. However, until now, these two interfaces each retained the 7 IP addresses of the corresponding SFP+ interfaces. Now each QSFP28 interface has a unique IP address. This greatly simplifies configuration and allows better integration with systems that do not accept multiple IP addresses on a single interface.

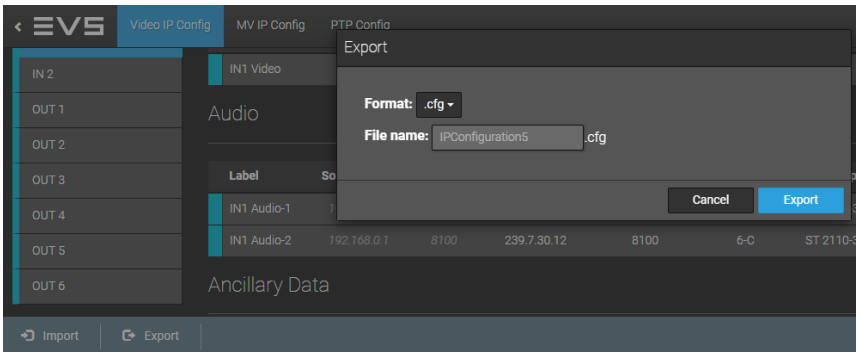
2.2 IP flow grouping and alignment

XT servers are now compatible with the AMWA BCP-002-01 standard for natural grouping. This means that several IP streams of the same group can be handled as a single entity. This applies, for example, to a video stream and several associated audio streams, but also to Fill & Key channels, SLSM camera phases or 4K Quad-HD video frames. This is done by adding an NMOS "group hint" tag to the streams in the same group.
In addition, the "vertical alignment" function, accessible from the LiveIP interface, allows the different streams of the same channel to be communicated simultaneously.

2.3 Bandwidth optimization

Using ST-2110 IP streams, the number of 1080p channels per SFP+ interface is now 4 (instead of 3).This applies to both outgoing and incoming channels, including the Multiviewer outputs.

2.4 LiveIP Settings Import & Export



- Until now, LiveIP settings were not saved with the configuration lines. It is now possible, from Multicam version 20.5, to import and exportthis LiveIP configuration using dedicated buttons on the user interface. The exported data uses a proprietary file type, or a CSV file that can be easily used in a spreadsheet.
The data exported as a CSV file appears clearly, separated into several blocks (one per essence). They are therefore easy to edit.

3. High-Density Fill & Key

On servers equipped with V4X cards, the native "Fill & Key" mode used to deliver 3 Fill & Key channels (with one Fill & Key channel requiring two channels). Now though, new enhancements mean up to 6 output channels are available.
The currently available XT-VIA configurations in 720p, 1080i or 1080p are:

- 4 OUT
- 6 OUT
- 1 IN / 5 OUT

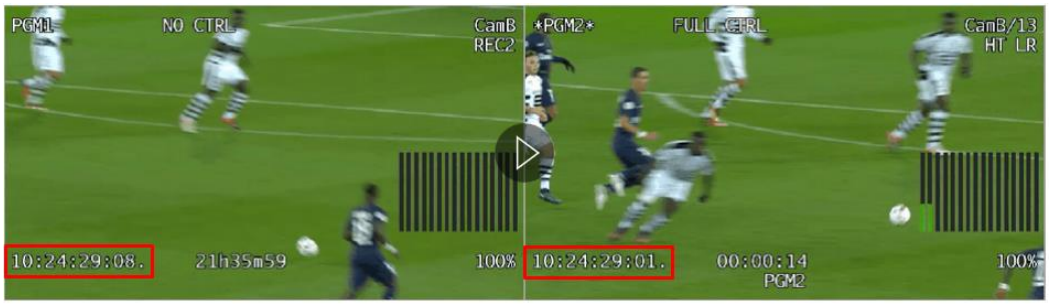
The XT-GO configurations in 1080i or 1080p are:

- 4 OUT
- 1 IN / 3 OUT

Note that the function is available for both SDI and IP configurations. In terms of connections, the Fill & Key channels use the SDI A and B connectors respectively. The multiviewer only displays the Fill channels.
The Fill & Key clips can be stored and restored as single clips, using VIA Xsquare 4.6 or higher, preserving the Fill & Key metadata in an EVS MXF container format.

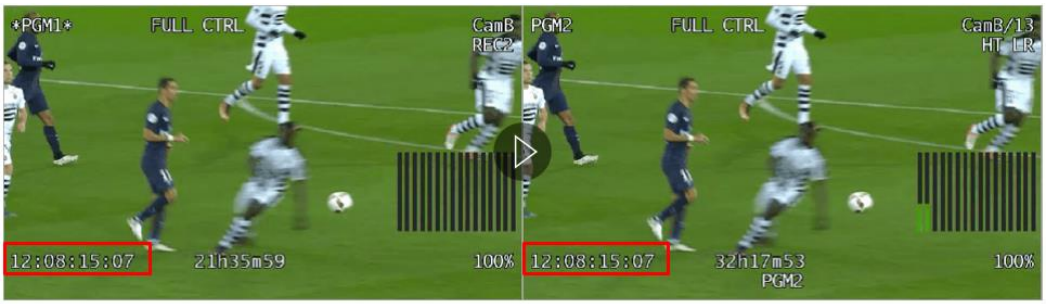
4. Block-based Preload and Recorder Ganging

In the past, a five-second delay was required to play a record train live from a remote server via XNet-VIA. With version 20.4 this time is significantly reduced, because the data is no longer transmitted in small transfer units, thus avoiding delays.
Now the delay of playout on an XT-VIA server directly connected to the incoming signal is still 200 ms, while the distant playout (through XNet-VIA) is reduced to 500 ms from 5000 ms previously. This means that the differential delay over XNet-VIA is only 300 ms (about 7 frames).



Local Live Playout Remote Live Playout

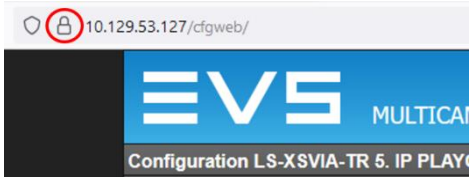
In addition, it is possible to activate the "**Recorder Ganging**" function in the Setup Menu. This function synchronizes local and remote live playouts. The final delay is of course aligned to the delay of the remote channels, but the playouts are completely synchronized.



Local Live Playout Remote Live Playout

5. HTTPS protocol for management

The HTTPS protocol allows you to connect to the management interface securely, using a TLS encryption tunnel. This function can be activated from the VGA or web interface. To do this, it's necessary to download a certificate signed by an authority recognized by your browser.



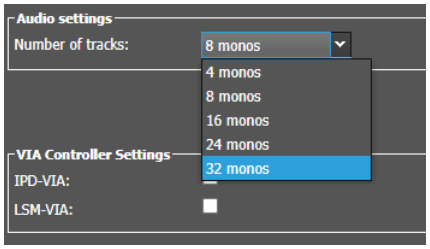
6. OpenMetrics Monitoring

In addition to SNMP monitoring via XNet Monitor, it is now possible(from Multicam version 20.5) to access monitoring data using Grafana and Prometheus, via an OpenMetrics API implemented on the servers.

Activated by default, the API exposes the system and hardware metrics on the PC LAN port. This data is transmitted,every 5 seconds by default, and recorded by Prometheus software installed on an external PC. The Grafana software, meanwhile, connects to Prometheus to present customized monitoring visualizations (Dashboards) with real-time metrics and alarms.

Depending on your needs, you can monitor parameters such as storage, CPU usage, memory, network traffic, temperature, etc.

7. 24 & 32 Audio Channels



On XT-VIA and XS-VIA in SDI configuration, the number of audio channels recorded per video channel can be extended to 24 or 32 (in addition to the previous possibilities: 4, 8 & 16). As the total number of audio channels cannot exceed 192, the number of video channels must be limited to 8 (for 24 audio / channel) or 6 (for 32 audio / channel). This feature is not supported when used with LSM-VIA.

8. New I/O Configurations

8.1 New Configurations for XT-VIA

HD 1080i

1 SLSM 4X + 2 SLSM2X + 2 IN + 2 OUT
1 SLSM 3X + 2 SLSM2X + 2 IN + 4 OUT
2 SLSM 4X + 4 IN + 2 OUT

HD 1080p

2 SLSM 3X + 2 SLSM2X + 2 OUT
1 SLSM 6X + 1 SLSM3X + 2 IN+ 2 OUT
2 SLSM 3X + 2 SLSM2X + 2 OUT

HD 1080p (Upscaling to UHD)

2 SLSM 2X + 4 IN + 2 OUT
3 SLSM 2X + 2 IN+ 2 OUT

8.2 New Configurations for XT-VIA and XS-VIA

Fill & Key HD 1080i / 1080p

4 OUT
1 IN + 5 OUT
6 OUT

8.3 New Configurations for XT-GO

Fill & Key HD 1080i / 1080p

4 OUT
1 IN + 3 OUT

HD 1080i / 1080p

1 SLSM 3X + 4 IN + 1 OUT

9 Compatibilities

Multicam 20.4 & 20.5 can only be installed on the XT-VIA, XS-VIA and XT-GO servers. These servers can be part of an XNet SDTI network with other servers (XT4K, XS4K, XT3, XS3 or XTNano) running Multicam 16.6.17 (or higher 16.6 sub-version).

The XNet-VIA network can only contain XT-VIA or XS-VIA servers, running Multicam 20.1 or higher.

10. Software Download and Manuals

Please refer to the Download area for manuals, release notes and software packages to download.

If you do not already have an EVS login, you will be invited to create a personal EVS account, to help ensure that you're kept up to date with only the most relevant information and updates. This will also allow you to download all the information you need, completely free of charge.