GV CONVERGENT

Version 1.4.0

Release Notes

13-00952-010 AC

2018-03-05

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Title	GV Convergent Version 1.4.0 Release Notes
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Installation and Network Requirements

This section details the requirements that must be met prior to installing or upgrading a system with the current version of GV Convergent. It also provides upgrading and configuration guidelines, as well as tips to improve performance.

Hardware Requirements

System Requirements for running GV Convergent Client

The client platform must meet the following system specifications for optimal performance:

Operating system	Microsoft Windows 10, Windows 8.1, Windows 8, or Windows 7
Processor	Intel Core i3, the minimum required by the operating system, or better
Memory	8 GB RAM minimum, the minimum required by the operating system, or more
Disk Space	The minimum required by the operating system plus one GB, or more
Supported Web Browser	Google Chrome only (most recent version)

Supported Servers

GV Convergent version 1.4.0 is supported on the following server only: A 1-RU SuperMicro© SYS-6018R-MTR server built and configured to Grass Valley specifications.

Network Requirements

Users can access the GV Convergent Controller from a client PC using a standard Web browser (Google Chrome). When a client logs in and launches an GV Convergent module, the software is automatically downloaded from the Controller. Consequently, no other application software is needed. This greatly simplifies installation and system maintenance.

It is recommended that the GV Convergent Controller (as well as the associated equipment it controls) be installed on a dedicated LAN, using the existing security infrastructure. A qualified system administrator should verify that the setup follows the security standards of your organization. Refer to the *GV Convergent Quick Start Guide* for software installation information.

TCP/UDP Port Usage

The various GV Convergent communication protocols require access to specific ports. In networks where a firewall is present between device A and device B, the ports used to communicate from device A to device B must be open on the incoming (external) side of the firewall.

The following network ports must be open on PCs running GV Convergent Client:

Port Number	Application / Protocol
5001 to 5010 Inbound and outbound	GV Convergent Client replication engine. This is needed so that the client can receive updates from the server and other currently open clients connected to the same server.
80 Outbound	Web port needs to be available on GV Convergent server in order to access the web administration page. Communication with some devices and services is done via REST (Cisco DCNM, Densité Manager, AMWA NMOS).

The following network ports must be open inbound and outbound for GV Convergent servers:

Port Number	Application / Protocol
5001 to 5010	GV Convergent Client replication engine. This is needed so that the client can receive updates from the server and other currently open clients connected to the same server.
80	Web port needs to be available on GV Convergent server in order to access the web administration page. Communication with some devices and services is done via REST (Cisco DCNM, Densité Manager, AMWA NMOS).
5100	Port used by Densité Manager to control Densité cards and GV Node.
5194	NP0016 protocol southbound communication port.
9193	NP0017 protocol southbound communication port.
14000	Probel SW-P-08 protocol southbound communication port.
37800	Sony NS-BUS protocol southbound communication port.

Port Number	Application / Protocol
12345	GVG Native protocol northbound communication port.
5194+Area External ID	NP0016 protocol northbound communication port. The Area External ID can be looked up in the GV Convergent client Area Configurator by selecting the area that needs to be controlled and looking at the External ID property.
9193+Area External ID	NP0017 protocol northbound communication port. The Area External ID can be looked up in the GV Convergent client Area Configurator by selecting the area that needs to be controlled and looking at the External ID property.

Software Component Compatibility

Grass Valley recommends you use the following software components and the stated versions for optimal performance and compatibility with GV Convergent version 1.4.0:

GV Convergent Inter-Operation System Component Compatibility

Product	Requirement for GV Convergent Compatibility
GV Node	Software Versions 1.3.1
IPG-3901 (Densité 3 Frame IP Gateway)	Software Version 1.3.4, 2.2.x, and v9.0.0
Router protocols	NP0016 Compact Router NP0016 Enterprise Router NS-BUS NV9000 Serial NV9000 TCP/IP SAM SW-P-08 Serial SAM SW-P-08 TCP/IP
Panel protocols	NV96XX Panel Control
External Control Interface Protocols	NP0017 SW-P-08 GVG Native Protocol (names-based for K-frame switcher)
RCP-200 Remote Control Panel	Software version 1.7 or later
Kaleido-X	Software version 6.70 or later
Kaleido-IP	Software version 6.70 or later
Densité CPU-ETH2	Software version 2.0.4 or later
EdgeVision	Software version 1.21 or later
NV9000	Software version 6.3.0 build 1873 or later

2 Release Notes

The *GV Convergent Release Notes* guide includes lists of new features and enhancements, bugs fixed, as well as known issues and limitations associated with the latest version of the GV Convergent software.

Overview

GV Convergent version 1.4.0 is the new major customer release containing key features to meet the needs of our customers (see).

New Features and Enhancements in GV Convergent

The following is a complete list of features and enhancements introduced in GV Convergent 1.4.0, 1.3.1, and 1.30.

Added in Version 1.4.0

GV Convergent 1.4.0 adds the following new features and enhancements. The most recent are indicated by the star (★) symbol:

★ [Ref. #PEG-6325] **GV IP LDX Router Control support:** GV IPG-3901Convergent now supports the ability to cause the LDX receivers to join send streams.

    1 Add a camera with a REST API Control port to your GV Convergent topology.

    2 Enter the IP Address of the LDX.

    3 Activate the topology for the camera to retrieve the information from the XCU and create its ports.

       There is one input port and one output port.

    4 Connect the camera to the network switch, via its physical connections.

    5 Use the automatically created logical devices to control the receivers. Alternatively, you can create the logical devices manually.

★ [Ref. #PEG-7367] **Device properties for IPG-3901 have been updated:** GVC Client device properties for the IPG-3901 have been updated to simply the control characteristics of GV Convergent Client in the topology

★ [Ref. #PEG-7434] **Version 9.0 support for IPG-3901 - 4 audio receivers:** The gateways for the IPG-3901 now offer up to four receivers to join AES-67 streams in a TR04 workflow. These act as tie lines, allowing the user to join additional streams in order to retrieve audio channels for a breakaway to be embedded on the SDI output. Once the four receivers have been caused to join four streams, takes, requiring additional audio, will fail unless they can reuse an existing tie line or replace previously joined streams.

★ [Ref. #PEG-7584] **Version 2.2 of the IPG-3901 can now operate in TR04 mode:** GV Convergent supports the control of IPG-3901 version 2.2 operating in TR04 mode - with video and audio streams to or from SDI ports. The IPG-3901 is now a virtual device that can be added to a topology. It replaces the Gateway virtual device. This migration is automatic during upgrade.

Known issue: The embedders of the SDI output on the IPG-3901 are always on and can only be disabled completely during configuration in iControl. In the next release of IPG-3901 (v2.3), users will be able to configure a source without audio, or with free source audio, on the audio logical levels to disable the embedders.

★ [Ref. #PEG-6087] **Support of 'Loopback' on the IPG-3901:** The GV Convergent IPG-3901 driver was updated to support the loopback functionality. You can now route an SDI input of an IPG-3901 from GV Convergent to an SDI output on the same IPG.

★ [Ref. #PEG-8444] **Safety added for re-index button on Alias Editor:** If you hit the **Re-Index** button after the External ID column is shown, you are asked for confirmation via a toaster pop-up. You cannot press the Re-index button again until you have confirmed your intent.

If you enter a conflict in the External ID column, the old error message is now displayed in a toaster pop-up, instead of the dialog. The table cannot be changed until you have confirmed your intent.

If you attempt to show the External ID column, and do not have the required security permissions, a warning is displayed as a toaster, instead of a dialog, pop-up.

Added in Version 1.3.1

GV Convergent 1.3.1 adds the following enhancements:

- [Ref. #PEG-8594] **GV Convergent restarts the active controller on failover:** When you click the Force Active button on the standby controller, GV Convergent restarts the currently active controller. This allows for a cleaner transfer of the services to the newly active controller. This also serves the purpose of severing the synchronization between controllers until the inactive system is back online, a very short time later.

- [Ref. #PEG-8453] **Active and standby states are redefined in the GV Convergent Controller redundancy model:** This ensures that the controller and database are valid and can provide the required factors to set the active or standby state on a GV Convergent controller at startup. Previously, the cluster could be in an inconsistent state when network interruptions occurred. For example, the standby controller may not have fully started or data may not have been synced between the active and standby controllers.

Added in Version 1.3.0

Version 1.3.0 adds the following new features and enhancements:

- [Ref. #PEG-5156] **NV9647 Panel support:** The NV9647 panel is now supported by GV Convergent.

- [Ref. #PEG-7673] **GV Node 23.98sf support:** GV Convergent can control signals going through GV Node with 23.98sf frame rate.

- [Ref. #PEG-7566] **GV Convergent support for GV Node 2.1.x (TR03 with 72 redundant sources):** GV Node 2.1.x can use all 24 ports in redundancy to have 72 TR03 sources. This is an adjustment from the previous version, which used only 36 TR03 sources. The GV Node driver displays the correct configuration, in the topology, when it connects to the GV Node of this version in an active GV Convergent topology.

- [Ref. #PEG-7377] **Sony LSM scalability:** It is possible to support up to 3,000 sources and 1,000 destinations for each of the 3 physical levels exposed by Sony LSM NS-BUS protocol.

- [Ref. #PEG-7105] **Bulk logical device configuration:** You can assign streams to multiple logical devices in bulk. To do this, select the required streams and drag them to a logical device level. This assigns all selected streams to the logical device and sequentially to the following ones for the level column into which the streams were dragged.

- [Ref. #PEG-5935] **Stream bandwidth management:** You can manage the bandwidth associated with a stream via the Topology Configurator stage task Property Editor. To do this, select the device, then choose the port and the stream that need to be modified, and then change the bandwidth property. You can specify the value in kilobytes, megabytes, or gigabytes by using a K, M or G suffix (i.e.: 1.5G for gigabytes).

- [Ref. #PEG-6974] **Logical device table:** Sources and destinations that are generated automatically from edge devices, such as cameras and monitors, cannot be modified from the logical device table.

- [Ref. #PEG-6946] **DCNM host and flow policy scalability:** TR-03 full setup with a 9272Q switch can handle a total of 4,608 sender host policies and 9,216 flow policies.

- [Ref. #PEG-6945] **Dynamic bandwidth change with DCNM:** GV Convergent is capable of changing the allocated bandwidth of a stream within DCNM. In order to circumvent an issue with DCNM where an established flow cannot dynamically change bandwidth, GV Convergent will first change the default bandwidth to a small value in order to stop the flow before applying the new bandwidth value. This can add a delay for the new bandwidth and must to be taken into account.

- [Ref. #PEG-6938] **DCNM High Availably status:** If GV Convergent is actively communicating with a DCNM-managed network, the health of the DCNM software is shown on the GV Convergent Client > System Status stage task and updated dynamically.

- [Ref. #PEG-6648] **Breakaway Support:** GV Convergent supports breakaway of Video, Ancillary, and Audio essences by using the multiplexing capabilities of a GV Node automatically.

- [Ref. #PEG-6836] **Logical device table filtering:** In the logical device table stage task, you can filter out the sources and destinations, automatically generated by GV Convergent. To do this, click on any column filter icon and check the "Hide automatic sources" or "Hide automatic destinations" checkboxes.

- [Ref. #PEG-5945] **GV Convergent redundant path support:** GV Convergent is capable of handling redundant paths using in 2022-7 and ST2110 workflows by configuring redundant ports on sources and destinations so that joining IP streams is done on both networks automatically.

- [Ref. #PEG-5927] **DCNM support:** GV Convergent can control a DCNM network by creating a network switch virtual device and assigning it a DCNM control port. Once configured, any device connected to that network switch is configured in DCNM automatically.

- [Ref. #PEG-5977] **NP0017 ID management:** In the GV Convergent Alias Editor, you can display the NP0017 ID of sources and destinations by checking the "Show NP0017 ID Columns" checkbox on the top toolbar. Note that these IDs are read-only, because they are globally unique to the system, and not per-topology like External IDs.

- [Ref. #PEG-6290] **Invalid backup protection:** If a backup file that has been corrupted or tampered with is being restored, GV Convergent reverts the restoration operation automatically and returns the system to the original database.

- [Ref. #PEG-6955] **Path Visualization UI:** In the Path Manager stage task, you can see a detailed view of the signal paths. To do this, select the destinations tab on the right and then select the destination for the signal path you want to see.

- [Ref. #PEG-6193] **Raid 1 (Mirror) support on physical servers:** Newly imaged physical servers with GV Convergent software version 1.3.0 will now be installed with a Linux-level software raid 1. In the event of a hard disk failure, the raid array will automatically be repaired once the failed disk is replaced with a healthy one.

- [Ref. #PEG-4785] **1+1 Redundancy status and control:** If a pair of GV Convergent servers is configured in a 1+1 cluster, the GV Convergent > System Status stage task displays the health of both servers, along with a button that allows manual failover of one server to the other. The button is labeled "Force Active". Clicking it triggers a failover, which usually completes within a few seconds. Operation of the system may be impacted during that time window.

- [Ref. #PEG-3550] **GV Convergent DHCP configuration:** DHCP is enabled by default on Ethernet port em2 of GV Convergent servers. The IP range is 10.1.3.40 to 10.1.3.139. If GV Convergent is configured in 1+1 redundancy, the secondary server's IP range is 10.1.3.140 to 10.1.3.254.

Configuring DHCP using PuTTY (SSH)

To configure DHCP with PuTTY"

Change the network interface on which DHCP is active like this:
`Edit /etc/default/isc-dhcp-server`

1 Identify the line with `INTERFACES=` and set the interface you want, e.g.: INTERFACES="p15p1"

2 You can change the addresses used and other parameters like this:
`Edit /etc/dhcp/dhcpd.conf`

3 Set the subnet, the netmask, and the range of addresses.

4 Make sure these values correspond to the network configuration as done in /etc/network/interfaces for the interface of interest. Typically the DHCP server can only serve addresses in the subnet assigned to the interface.

5 Restart the DHCP server: `/etc/init.d/isc-dhcp-server restart`

6 View the logs from the DHCP server in `/var/log/syslog`

- [Ref. #PEG-5936] **Automatic DCNM bandwidth management:** When a specific device, like an IPG or a GV Node, is configured to send SD, HD or 3G signals, GV Convergent will automatically update the flow policies in DCNM to allow the newly set bandwidth from the device.

Alternatively, bandwidth can be configured manually via the property editor in the Topology Configurator stage task at the stream level.

- [Ref. #PEG-6232] **Crosspoint logging:** GV Convergent writes all crosspoint changes in an audit log file. This file can be viewed in the GV Convergent Admin> Audit Logs.

- [Ref. #PEG-5634] **NP0016 error reporting:** When a take operation sent via NDAC NP0016 fails within GV Convergent, an error response is now sent back to the NDAC client.

- [Ref. #PEG-1153] **Take operation error reporting:** In the GV Convergent Client Router Control stage task, error messages are now reported when take operations fail.

- [Ref. #PEG-7103] **SSM address support:** When configured to do so, GV Convergent is capable of setting the SSM address field when making IP joins on GV Node versions that support SSM. In order for GV Convergent to push the SSM address value, a GV Node, port or stream must have the "SSM Enabled" checkbox checked in the Topology Configurator stage task Property Editor.

- [Ref. #PEG-6830] **Clean switch configuration:** In order to ensure that switching to a destination is made clean, a column was added to the logical device table with a checkbox. Enabling this checkbox will instruct the GV Convergent path finding engine to ensure that the switch is clean. Doing so will make the take operation slower.

- [Ref. #PEG-6941] **Export of sources and destinations to Excel:** In the logical device table, a new button was added to export all of the sources and destinations in the current topology to Microsoft Excel.

- [Ref. #PEG-6641] **Logical level editor:** With the new logical level editor UI, a user can manage existing levels, create new ones, change compatibility, and create composite levels.

- [Ref. #PEG-5730] **Path Manager Destination highlighting:** The Path Manager has two modes for viewing the signal path from a source to a destination. The detailed mode shows the inputs and outputs. This is displayed when you first select a destination in the Destinations tab. When you click the Overview button, the topology graph is displayed, with the signal path highlighted in green.

- [Ref. #PEG-2018] **1+1 Redundancy support:** A pair of GV Convergent servers can be configured to be in a cluster by going into the Area configurator and changing the number of system controllers to two. Then, set the IP address of Controller 2 in the Property Editor. It automatically joins a new cluster as the standby server.

  A failover is triggered automatically when the standby server is unable to communicate with the active server for a two second period.

- [Ref. #PEG-4782] **Panel status is displayed on the System Status stage task:** The System Status Devices tab displays a health status widget for all configured panels in the active topology. The widget is green as long as the panel is online. It turns red if the panel becomes offline.

- [Ref. #PEG-4997] **GV Node health reported in System Status Page:** When a GV Node is configured in an active topology, the communication status between GV Convergent and the Node will be reported in the System Status Page.

- [Ref. #PEG-4996] **Communication status with IP end points:** All devices under GV Convergent control, such as IPG-3901, GV Node, and NP0016 routers, have a health widget in the System Status stage task that shows whether the software is able to reach those end points (green) or not (red).

- [Ref. #PEG-4994] **IPG-3901 health reporting:** The System Status stage task contains widgets for every IPG-3901 controlled to tell if the software is able to communicate with it (green) or not (red).

- [Ref. #PEG-5813] **Audit log viewing:** All audit logs can be viewed under GV Convergent Admin > Audit logs.

- [Ref. #PEG-5622] **GV Node support as a single device:** You can configure and control a GV Node from GV Convergent. To do this, open the Topology Configurator stage task. Then, drag and drop a GV Node from the Virtual Devices column to the topology graph. Define the IP address of the GV Node frame when the topology graph is inactive. This composite device contains all the SDI and IP capabilities.

- [Ref. #PEG-3778] **Server health reporting:** From the System Status stage task, you can see the health of GV Convergent server hardware. This includes CPU and memory usage, fan status, and network adapter health.

- [Ref. #PEG-4319] **Virtual IP support for 1+1 redundancy:** When configured with 1+1 redundancy, a pair of GV Convergent servers can be configured to use a Virtual IP. To do this, go to the Area Configurator stage task and select the System Controller group. Then, set the desired IP in the Property Editor >Virtual IP Address field.

- [Ref. #PEG-5364] **IPG-3901 2022-7 support:** When configured in 2022-7, a receiving IPG-3901 card is automatically instructed to join streams on both networks when available.

- [Ref. #PEG-5792] **User and security management:** The GV Convergent Client > User Management stage task is available for administrators to create, modify, and delete user accounts, as well as to assign pre-defined roles on a per-area basis.

  Note that it is not possible to change roles or modify the permissions contained within those roles in 1.3.0.

- [Ref. #PEG-5548] **Path Manager tie line view:** From the Path Manager stage task, it is possible to click on the link between devices that represent a set of tie lines in order to have a detailed table that lists them.

  The table displays each tie line and shows whether they are free or used. If used, statistics like bandwidth, port, source, and destination are shown.

- [Ref. #PEG-6135] **Logical device table:** It is possible to create logical sources and destinations composed of user-defined streams in the logical device table. From the UI, you can create new sources and destinations and assign streams to each available level for the current topology.

- [Ref. #PEG-5888] **Automatic backup when doing software upgrades:** To create automatic backups when you perform software upgrades or rollbacks, select the checkboxes in GV Convergent Admin > Software Update. These checkboxes are selected by default.

- [Ref. #PEG-3787] **GV Convergent Client auto-reconnect on failover:** When configured in 1+1 redundancy, if a failover occurs while a GV Convergent Client is connected to a server, the client automatically reconnects to the new server once it is ready to receive this connection. This process usually takes a few seconds.

- [Ref. #PEG-5983] **Rollback support:** From GV Convergent Admin > Software Update, it is possible to roll back the current GV Convergent software to a previously installed version. You can choose to keep the current database, delete it, or roll back to the previous database. Note: you can also restore a previous database from Database Backup and Restore.

- [Ref. #PEG-63] **Sony LSM support:** GV Convergent can now control Sony LSM switchers via the NS-BUS protocol. This is limited to individual control of each physical matrix exposed by NS-BUS.

- [Ref. #PEG-4191] **Bandwidth rules during path finding:** When GV Convergent looks for a path to bring a source and destination that needs to go through IP fabric, the software will take into account current bandwidth usage and capacity and allow or deny the take if it would cause oversubscription on the link.

- [Ref. #PEG-5929] **DCNM startup configuration:** When connecting to DCNM after configured for the first time or being offline, GV Convergent will update the policies in DCNM to match the configuration of the active topology.

- [Ref. #PEG-5938] **DCNM exclusive control:** When a DCNM control port is configured to be in exclusive mode, any policy not created by GV Convergent is removed, automatically.

- [Ref. #PEG-5834] **NP0017 device-based crosspoints and label support:** GV Convergent supports all of the NP0017 commands required to allow NV9000 to control edge devices in Convergent.

- [Ref. #PEG-5022] **NP0016 Coherent take command:** GV Convergent supports the 0x0000 0055 coherent take NP0016 command along with the normal 0x0000 0050 take command.

- [Ref. #PEG-3772] **NP0017 Port-based crosspoints and Labels:** NP0017 can be used with GV Convergent for Northbound control of the logical devices within its topology. This also makes pulling labels, or mnemonics, from Convergent possible with NP0017. The following commands were added as part of this story:
    - Get physical level dimensions.
    - Perform port crosspoint changes.
    - Notify of crosspoint changed.
    - Query device, source and destination mnemonics.
    - Notify of mnemonic changes.

- [Ref. #PEG-5739] **Support of GV Node 1.3.1 2022-7 workflows:** GV Convergent is capable of automatically handling the redundant paths configured with a GV Node with version 1.3.1. In order to use 2022-7 with GV Node, simply configure the network to use the appropriate redundant lanes on separate network switch devices, and the software will automatically instruct receiving GV Node to join on both networks.

- [Ref. #PEG-5607] **Logical Destinations that control GV Node can be configured for Clean Switch:** Within the logical destination table, on the far right of the logical levels, a check box can be set for GV Node Clean Switch. This forces the takes within a single GV Node to traverse the aggregation ports in order to maintain a single timing plane. Also, this uses the join-before-leave rule for the aggregation ports to insure that the secondary crosspoint switches, internal to the GV Node, are clean at the destination.

- [Ref. #PEG-4783; 4784] **Router Connection Status Available on the System Status Page:** Routers configured within the GV Convergent topology are displayed in the GV Convergent Client > System Status stage task. Their connection status is indicated by color - Green, for connected, Red, for not connected.

- [Ref. #PEG-5939] **DCNM topology visualization:** In the Path Manager stage task, if one or more network switches are managed by DCNM, it is now possible to expand the network switch to see the spine-and-leaf topology with each individual switch.

Bandwidth usage between switches is displayed along with the health of the switches. When you click on a link or on the switch, a detailed status page is shown, on the right. You can see which ports are disabled or in error state.

- [Ref. #PEG-7572] **DCNM flow error visualization:** When a flow is not properly established in DCNM, you can view the error in the Path Manager Signal path detailed view. The path shows the devices from source to destination, as well as the IP network leaves the devices are connected to. The part where the flow failed is depicted by an unknown network bubble.

- [Ref. #PEG-6697] **Implemented the GVG Native Protocol External Interface for Northbound Control:** The GVG Native Protocol External Interface is used by the Grass Valley switcher to pull mnemonics and perform router control through GV Convergent. This implementation uses the Names-based version of the protocol over the index-based.

- [Ref. #PEG-6082] **NMOS Registry:** To start the GV NMOS registry service from the GV Convergent Client, open the Area Configurator and select the System Controller group. Select the "Enable NMOS Registry" checkbox under System Controller Group Properties on the right. Note that in a 1+1 redundancy model, the NMOS registry runs on the active controller only, not on the standby controller.

- [Ref. #PEG-7596] **NMOS registry priority configuration:** From the Area Configurator, select the system controller. In the property editor, a field called "NMOS Registry Priority" has been added to change the priority of the registry. Zero (0) is the highest priority and it can go as low as 255.

- [Ref. #PEG-5821] **Coherent sources and destinations configuration (for GV Node destinations only):** From the Logical Device Table stage task, you can create coherent sources and destinations by first creating custom sources or destinations (from the appropriate tab) and assigning streams from configured edge devices to the custom source or destinations levels.

  For example, a 4K source and destination would require four custom levels. Then sources and destinations can be created and four streams assigned to them on each of the four individual levels.

  The source can then be taken to destination normally.

- [Ref. #PEG-7732] **GV Convergent Admin independent login:** It is possible to log in to the GV Convergent server while the software is offline.

- [Ref. #PEG-7012] **IP address validation:** On a per-network basis, GV Convergent can detect collisions on port and multicast IP addresses. When connected port IP addresses change or when physical connections are made, the software warns the user that duplicate IP addresses have been connected to the same network.

  These errors are logged in the main audit log, which can be viewed in GV Convergent Admin > Audit Logs.

- [Ref. #PEG-7795] **Salvo execution from GV Convergent Client:** From the Router Control stage task, it is possible to list available salvos by selecting the "Salvos" radio button. Once a salvo is selected, you can press the take button to execute it.

- [Ref. #PEG-6597] **Salvo creation and editing:** From the Router Control stage task in the GV Convergent client, a Salvo Editor tab is available on the right-side panel.

  From this tab, you can create, edit and delete new salvos. To edit a salvo, select one from the list on top. This populates the list at the bottom with all of the operations

contained within that salvo. You can use the toolbar on top of the operations list to add, replace, and edit operations. To do this, choose sources and destinations from the left and center panels and press the take, lock, protect, release and force release buttons of the toolbar.

- [Ref. #PEG-7319] **Manual control of stream shown in Path Manager:** When a stream that is part of a tie line is configured to be manually controlled via its "Expose Stream" property, it will be automatically be considered as used in the percentages displayed in the Path Manager stage task.

  For example, if 5 out of 10 tie lines have been configured for manual control between two routers, the Path Manager will show 50% usage since half of the tie lines are reserved for manual control.

- [Ref. #PEG-6533] **Direct Flow Orchestration (DCNM Static Joins):** This supports the use cases where a destination IP device does not have an API exposed to cause its receivers to join send streams. GV Convergent can control the egress ports of a network switch to statically stitch flows feeding the IP device. It is also necessary to remove the network interface ports from the available resources for dynamically stitching flows via IGMP joins. Another way of stating this - it is necessary to remove paths from the available tie lines.

- [Ref. #PEG-7314] **Manual control of streams:** To bring signals manually to devices in the middle of a topology, you can check the "Expose Stream" checkbox in the Property Editor of the Topology Configurator. Once exposed, you can create a source and destination. Then, you can bring sources to the stream and from the stream to a destination.

  The tie line connected to the stream is considered reserved, so if any other take operation is made, the manually controlled stream will never be recycled or re-used by takes that do not involve the source or destination at that location.

- [Ref. #PEG-6599] **Salvo button for software and hardware panels:** From the GV Convergent Client Topology Configurator stage task, you can drag-and-drop salvo buttons into any panel behavior configured in the system. Each salvo button is its own salvo, and can be executed individually from a panel by pressing it and then the take button.

- [Ref. #PEG-7728] **Panel buttons status available for failed takes:** Only the source, destination, and level buttons involved in the failed take will flash. The take button does not flash.

  The flashing currently consists of changing the color to red, then repetitively toggling from low to high tally for a total of 6 times, each time for 300ms. So, it gives about 2 seconds of flashing. After that the buttons go back to their normal state.

  The color for flashing is configurable on the source, quick source, destination, indexed destination, and level buttons. The state is "In Error."

Bugs Fixed in GV Convergent

The following is a complete list of the bugs fixed in GV Convergent 1.4.0 and 1.30.

Fixed in 1.4.0

★ [Ref. #PEG-6303] **Two automatic logical sources are created for Redundant Generic IP devices:** Only one logical device will be automatically created for a redundant (2022-7) device.

A correction was made in the code to prevent the automatic creation of a logical device for each port of a redundant-defined device in a 2022-7 architecture. One logical device is now automatically created and both streams are displayed in the stream browser. If you include one of these streams in a logical device, both streams will switch when the logical device is switched.

★ [Ref. #PEG-7265] **Replaced outdated label "Source Table" with "Logical Device Table":** The source table stage, in the GV Convergent Client, was replaced with the Logical Device Table, where you can select between logical sources and destinations.

★ [Ref. #PEG-7307] **DCNM hosts are not named correctly because GV Convergent does not support bidirectional ports:** The DCNM host represents a physical Ethernet interface.

GV Convergent does not have the concept of a host.

For example, in GV Convergent, a user could define multiple input physical interfaces, of type IP, using the same IP address and then define other output physical interfaces, of type IP, using different names.

This creates issues in the DCNM driver because the DCNM API assumes that a host can have only one IP address and only one name.

Workaround:

- Use the same IP address for the input port and output port that share the same number on a device.
- Distinguish between the ports labels using "In" and "Out;" for example, Eth1Out and Eth1In.

★ [Ref. #PEG-7694] **Panel Status no longer stays offline after the configuration is restored.** This bug was addressed within the code to properly update the status of the panel after a system restoration.

★ [Ref. #PEG-7766] **The DCNM system status is no longer displayed incorrectly as Online:** The behavior is as follows:

Case 1: We disconnect ETH (uncheck "connected" in ESX Host).

Case 2: We power off the VM completely.

In both cases, the DCNM information disappears from the System Status page (Active, Standby and HA Status), and the actual status changes to red after a few seconds.

★ [Ref. #PEG-8161] **Operations added to a salvo are displayed in the order they were selected:** Previously, operations were not displayed in the correct order.

★ [Ref. #PEG-8283] **Streams were not updated correctly on the IPG in aggregation mode:** Device Properties on the IPG-3901 are now updated properly when you switch between aggregation and redundant mode.

★ [Ref. #PEG-8481] **An invalid IP conflict message was received when RX and TX IPGs had the same multicast IP:** The invalid IP conflict message is no longer received when an IPG's RX and TX have the same multicast IP. This was addressed in a redesign of the IPG data model.

★ [Ref. #PEG-8485] **Synchronization of XPTs now occurs between GV Convergent controllers in a reasonable amount of time:** Takes occurring in less than 30 seconds after a failover were not synchronizing between controllers in a previous build of the code. This has been addressed in the redundancy mode.

★ [Ref. #PEG-8578] **The NP0016 was sending unnecessary responses to clients on a crosspoint change:** The sending of 0x80000050 messages was removed for crosspoint changes, which were not requested by the NDAC NP0016 client.

★ [Ref. #PEG-8604] **The Force Active button now appears 30 seconds after a failover:** The Force Active button appeared 2-3 seconds after a failover even if the system was not ready. This has been addressed in the code.

★ [Ref. #PEG-8671] **Devices were missing in the status page with a specific DB following a force active:** This issue was addressed in the code and the missing information on the status page will now display.

★ [Ref. #PEG-8710]**The Video + ANC button is now required for TR04 routing:** In TR04 mode of operation, the ancillary is embedded in the video and the user cannot route the ancillary data separately. GV Convergent is still monitoring the ancillary and looking to route that stream as part of our pathfinding. This created the need for a Video + Ancillary level button. This level button can be used in conjunction with the audio (AES-67) logical level button(s) for routing TR04 signals and performing a breakaway.

★ [Ref. #PEG-8754]**Takes are causing DCNM host policies to be removed incorrectly:** Previously, when a take changed a receive stream IP address from an old value to a new value, the DCNM driver (and NMOS driver) interpreted that as a change in send stream IP address. That triggers the removal of flow policies associated with the old IP address. This issue was addressed in the code, and no longer occurs.

★ [Ref. #PEG-8757]**Database migration from 1.3.0 to 1.4.0.**

   1 When migration is complete, the GV Node's gateway connection state may stay at "unknown," until you deactivate and reactivate the topology.

   2 The logical levels of the devices connected to the GV Node may need to be changed to be consistent and compatible.

★ [Ref. #PEG-8774] **Pegasus service now starts after a version 1.3.0 database is restored:** Restoring a database backup from 1.3.x takes longer than restoring one from the current version (1.4.0). In fact, it could take up to seven minutes.

Fixed in 1.3.1

★ [Ref. #PEG-8465] **Invalid configuration files can no longer be restored:** Functionality to ensure that invalid configuration files cannot be uploaded and restored has been migrated to the new GV Convergent Admin.

★ [Ref. #PEG-8583] **GV Nodes migrated from unreleased versions of GV Convergent must be manually deleted:** If you added GV Nodes to a topology created prior to GV Convergent 1.3.0 Build 810, you need to perform the following fix. Open the topology in the GV Convergent Client > Topology Configurator. Delete the GV Nodes. Add new GV Nodes to the topology and redo the physical connection.

★ [Ref. #PEG-8440] **Undo functionality is now completely removed.** Previously, you could use the keyboard shortcut Ctrl + Z to reverse an action, even though the Undo button was removed. This is no longer possible.

★ [Ref. #PEG-8424] **System Controllers can now be removed from the Area Configurator stage task in all deployments:** A unique bug, logged by a user who was unable to remove a system controller in the Area Configurator, was fixed. The user's database had been corrupted due to redundancy testing.

★ [Ref. #PEG-8380] **Incorrect warning of IP address conflict is no longer displayed:** Previously, a warning message was displayed incorrectly because the IP address validation did not detect the last Ethernet port pair as the same port. This has been resolved.

★ [Ref. #PEG-8379] **Disabled streams on the IPG's incorrectly displayed:** Based on the configuration of an IPG, certain streams will be disabled, but will maintain their multicast group IP. The process that warns the user of duplicate IP's identifies those as duplicates. They should be ignored due to the fact that those streams are disabled.

★ [Ref. #PEG-7768] **Some host policies, created from the DCNM web interface were not removed when GV Convergent was in exclusive mode:** Previously, the GV Convergent cache that contained the DCNM host policies was not cleared. The cache is updated before the synchronization with the DCNM host policies and after a host policy delete.

On the Cisco DCNM, the host ID is not always reliable between queries.

Therefore, in case the host policy ID has changed since the last query was executed, GV Convergent verifies that the last and correct host ID is present before executing the delete query.

★ [Ref. #PEG-8450] **Buttons on panels are no longer flashing:** This was reported during some on-site testing, but a fix was introduced to resolve the issue. The panel buttons should no longer flash on fail over of the GV Convergent servers.

★ [Ref. #PEG-8484] **Initial third party updates slow down takes in the first minutes after failover:** The fix was to consider the port direction while doing the initialization of all ports and streams, only enabling the streams and ports of the proper direction. It no longer takes an excessive amount of time before 3rd party takes are allowed after failover.

★ [Ref. #PEG-8473] **IPG3901 port labels are now updated dynamically in GV Convergent:** At one point when the user modified the port label of a port on an IPG-3901 card, the changes are were not being dynamically reflected in GV Convergent. This has been addressed in the code.

Known Issues and Limitations

The following is a list of known issues and limitations associated with GV Convergent version 1.3.0 and later. The star (★) symbol indicates a new issue in GV Convergent version 1.4.0.

- [Ref. #PEG-7737] **Status of the destination buttons are not updated on Router Control in GV Convergent Client when the topology is edited:** Removing a physical component of the GV Convergent topology could create a situation where the status on the Router Control page of the client is incorrect.
  Workaround: Close and reopen the GV Convergent Client > Router Control stage task and the source will be cleared for the destination.

- [Ref. #PEG-7283] **The keystroke does not work when the suffix is composed of both a letter and a number**
  Workaround: If this occurs, either use only numbers or use only a single letter for the suffix/keystroke to select devices within a category.

- [Ref. #PEG-7554] **Custom video flow policies are not re-created when you revert back from the default value to the initial value before the default one.**
  Workaround: If this occurs, change the bandwidth again then revert back.

- [Ref. #PEG-7676] **After a failover or restart, the hard panel displays two panel configurations**
  Workaround: If this occurs, then change the stage task and go back on the panel.

- [Ref. #PEG-7825] **DCNM properties are blank after activating a topology**
  Workaround: If this occurs, then deactivate and reactivate the topology.

- [Ref. #PEG-7879] **Get HTTP 401 Unauthorized when connecting on DCNM server during startup**
  Workaround: If this occurs, then attempt to deactivate and activate the topology.

- [Ref. #PEG-7926] **Property Editor does not show any properties when restarting the Pegasus service while GV Convergent Client remains open**
  Workaround: If this occurs, close the Topology Configurator stage task and re-open it.

- [Ref. #PEG-7967] **Deleting an alias column in the Alias Editor is not reflected in the Router Control UI:** After you delete an alias column in GV Convergent Client > Alias Editor while the Alias is selected in Router Control UI, the alias is still shown in Router Control UI although expanding the list will not show it as a list item.
  Workaround: If you reopen another Router Control stage task, None is show in the Alias list, as expected.

- [Ref. #PEG-8007] **Some clients do not reconnect automatically to the server when it comes back online after a reboot**
  Workaround: If this occurs, then close and reopen GV Convergent Client.

- [Ref. #PEG-8040] **Topology in Path Manager does not show new tie line created at the output of the switch to the input of the gateway**
  Workaround: If this occurs, then click on the Refresh button in the Path Manager.

- [Ref. #PEG-8083] **The following scenario causes GV Convergent Client to lose force unlock/unprotect permission:** GV Convergent Client is open. You open a second client as a user, who does not have force unlock/unprotect permissions. The client that was already open loses the permission.
  Workaround: If this occurs, change the role of the user to administrator. Then, log out and log back in with administrator privileges.

- [Ref. #PEG-8117] **Changing control port type of a network switch could cause wrong display in Path Manager:** If you configure a network switch with a Cisco control port and then change it to a dummy control port, the Path Manager always displays the network switch with Cisco control port.
  Workaround: If this occurs, then restart the Pegasus service in PuTTY.

- [Ref. #PEG-8120] **Backup/Restore URL restored to processBackupRestoreConfirmation after deleting a backup:** Refreshing the page does not change the URL.
  Workaround: If this occurs, click on the Backup/Restore link to refresh the page.

★ [Ref. #PEG-8251] **Google Chrome is the supported browser for operating the GV Convergent Admin Web Stage:** Issues have been found with Internet Explorer 11 and the upgrade feature from the GV Convergent Admin page. We recommend using the Google Chrome web browser.

- [Ref. #PEG-8235] **Deleting devices by decreasing the device count is faster when all other GV Convergent Client stage tasks are closed**: If the device count is changed when only the Topology Configurator stage task is open, the deletion is much faster. As soon as you open the Router Control or Path Manager stage task, it starts to slow down.

- [Ref. #PEG-8240] **The Router control UI does not update tallies correctly when router XPTs change while the topology is offline:** After reactivating the topology, the Router Control UI should update with correct XPT status.
  Workaround: If it is not updated, then close and reopen the Router Control UI.

- [Ref. #PEG-8255] **System Status page displaying routers that have been deleted:** After deleting dummy routers on the loaded topology, the System Status UI was still showing the statuses of the deleted routers without their labels.
  Workaround: Close/reopen the System Status UI.

- [Ref. #PEG-8332] **Router Control UI not updated after multi-select take on NV9654 hardware panel**
  Workaround: If this occurs, then close and reopen the GV Convergent Client.

★ Ref. #PEG-8513] **Ports must be opened on the firewall of Client PC**

Normally, the only particular ports that would need to be configured on a firewall are those for the GV Convergent Client software on client PCs (ports 5001-5010).

All other listed ports are used server side and communicate to other devices directly

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Port	Description
5001 to 5010	GVC Client replication engine. This is needed so that the client can receive updates from the server and other currently open clients connected to the same server.
80	The web port needs to be available on GVC server in order to access the web administration page. Communication with some devices and services is done via REST (Cisco DCNM, Densité Manager, AMWA NMOS).
5100	Port used by Densité Manager to control Densité cards and GV Node
5194	NP0016 protocol southbound communication port
9193	NP0017 protocol southbound communication port
14000	Probel SW-P-08 protocol southbound communication port
37800	Sony NS-BUS protocol southbound communication port
12345	GVG Native protocol northbound communication port.

Port	Description
5193+ Area External ID	NP0016 protocol northbound communication port. The Area External ID can be looked up in the GVC client Area Configurator by selecting the area that needs to be controlled and looking at the External ID property.
9193+ Area External ID	NP0017 protocol northbound communication port. The Area External ID can be looked up in the GVC client Area Configurator by selecting the area that needs to be controlled and looking at the External ID property.

- [Ref. #PEG-8602] **The last take operation added to a salvo can appear incorrectly at the beginning:** When you add take operations to a salvo, the last take operation added should appear at the bottom of the list. However, it appears at the beginning of the list. If this occurs, then delete the unsorted operation and add it again.

- [Ref. #PEG-8615] **Client could lose access to the server while idle overnight:** If the GV Convergent Client loses access to the server while open overnight, the user can restart the Pegasus server to restore communication.

★ [Ref. #PEG-8702] **The detailed path view is not updated when you reassign a stream to the routed manual source** When you reassign a stream to a manually created logical source, the detailed view in Path Manager will continue to show the old source until a take is done on the manually created source.
  Workaround: If this occurs, do a take using the manually created source to update the Path Manager.

★ [Ref. #PEG-8708] **Underscores are ignored in topology naming** It is recommended that the user replace underscores with another character when naming the GV Convergent topology.

★ [Ref. #PEG-8716] **Physical connection information may be missing in the UI after a failover**After a failover, the information about the physical connection between the GV Node and destination devices may be missing.
  Workaround: If this occurs, restart both GVC servers, to restore the physical link.

★ [Ref. #PEG-8720] **Physical 3rd party breakaway may not update the router control destination properly** With a GV Node in TR03, if a third party controller only changes the video level, the source at destination status might show the wrong source.
  Workaround: If this occurs, then close and reopen the router control stage in GV Convergent Client to update the status.

★ [Ref. #PEG-8753] **When you activate the topology, control ports behave as if they are offline.**
  Workaround: If this occurs, then reboot the GV Convergent server to correct the issue.

★ [Ref. #PEG-8760] **The new logical level selector pop-up is too large for laptop resolutions** The size of the logical level selector is cropped at the top and bottom when you run GV Convergent Client on a laptop that has a 1366x768 or smaller resolution.
  Workaround: You can still make selections on levels and press ENTER or ESC to simulate the OK and Cancel button presses.

★ [Ref. #PEG-8762] **Takes between an IP Device and GV Node in TR-04 may fail.** This can occur when the logical levels are a mismatch. When setting up the GV Node, the user can select x3 Mode (provisioning for 3G signals), or x6 Mode (provisioning for HD signals). When in x3 mode, the default logical levels of the GV Node will be of the 1080p59 variety, and in x6 mode, logical levels would be 1080i59. Depending on the mode of your IPG or IP device, this could create a logical level mismatch. For signals to pass from the IP device to the SDI outputs of a GV Node, then the intermediate logical levels must match, as well as that of the XIO output.

★ [Ref. #PEG-8763] **IP validation: DCNM policies are not created for a valid IP port**. DCNM-Managed network switch connections must be made on the same device. When you create physical connections between a device and a DCNM-controlled network switch, ensure that the matching in and out ports of a switch are connected to the same device. For instance, in1 and out1 of a network switch cannot be connected to different devices because, in reality, there is only a single port and it cannot be connected to two places.

★ [Ref. #PEG-8820]**The Web stage login button is not enabled when using remembered login and password** The web-stage login button is not enabled when you select the remembered user and password.
Workaround: If this occurs, press the enter key in one of the two fields, or press the tab key in the user field.

• [Ref. #PEG-6749] **GV Convergent Client does not automatically reconnect when changing the management IP address**
Workaround: If this occurs, close and relaunch the client. Then, log in with the new IP address.

• [Ref. #PEG-7029] **New hosts policies were not added while the DCNM was removing unwanted hosts policies**
Workaround: If this occurs, then users can deactivate and reactivate the topology.

• [Ref. #PEG-7830] **Black screen appears when you open the Panel Configurator stage:**
Workaround: If you receive the black screen when opening or selecting the Topology Configurator stage, close and reopen the stage.

• [Ref. #PEG-7994] **Aliases disappear after an alias column is deleted:** When you delete Alias columns, then add aliases on a new column, and then add another Alias column, the alias labels disappear from the cells.
Workaround: Close and reopen the GV Convergent Client > Alias Editor.

• [Ref. #PEG-8009] **Tie lines view is not updated dynamically when a short name is changed:** When you change the short name of a device, the Path Management (Tie lines view) is not dynamically updated.
Workaround: Click the Refresh button.

• [Ref. #PEG-8015] **Physical Connections Candidate tab shows incompatible ports after all SDI ports have been connected via the Quick Connect feature:** If you select SDI ports, output ports, and IP input ports, the Candidate tab shows a red connect icon after it has been selected. However if you go back to the builder tab and connect the SDI ports, the Candidate tab continues to show the red icon until you select the tab.
Workaround: If this occurs, click the candidate tab. This clears the warning.

- [Ref. #PEG-8018] **Ports appearing in "Other" physical connections table are not updated dynamically after changes are made to the device:** When changing the device short name or device count for the corresponding ports appearing in the "Other" table, the table is not dynamically updated.
  Workaround: If this occurs, deselect/select the link.

- [Ref. #PEG-8027] **Changing a port/stream short name for a device does not show the broken link:** When you change the short name of a device port or stream, the broken link icon does not show up.
  Workaround: If this occurs, unselect/select the port/stream tab.

  The same refresh issue applies when changing the port/stream name with multiple instances of GV Convergent Client opened. The second client is not updated until the port/stream is un-selected/selected. Also, if we break the link for the modified properties for streams, the link is still shown as broken. The same workaround applies in this case.

- [Ref. #PEG-8096] **Category Configurator is very slow to assign and delete large numbers of sources and destinations:** if you are experiencing a delay, then as soon as you see the sources are deleted from the screen, close GV Convergent Client and reopen it. This way you skip the unnecessary delays.

  As for the creation of the category, you can do the same thing. Close GV Convergent Client after a while and reopen it.

- [Ref. #PEG-8097] **Logs fill with stack traces when an external controller is configured with an incorrect matrix ID**
  Workaround: If this occurs, fix the matrix ID or stop the external control system from accessing NDAC, or change log level for this module. This may well hide other important errors in this same module.

- [Ref. #PEG-8162] **While you add operations in a Salvo, the operations list can become locked**
  Workaround: If this occurs, close and reopen the Router Control/Salvo Editor stage task.

- [Ref. #PEG-8223] **Physical Connections Table Reload button:** if the user has selected a physical connection and then activated the topology, the Physical Connections table is stuck at loading.
  Workaround: If this occurs, click the reload button at the bottom of the table.

- [Ref. #PEG-8284] **The Alias Editor are not updated dynamically when physical connections are deleted in the topology:** If the Alias Editor stage task is open and the user severs physical connections in the Topology Configurator task, switching back to the Alias Editor may not reflect the deletion.
  Workaround: If this occurs, click on the refresh button on the Alias Editor.

- [Ref. #PEG-8328] **Take should fail with an incorrect physical level configured on a router:** if the user has configured a router, but has the incorrect physical level value, GV Convergent attempts to perform the take. If the physical level does not exist on the router, no actual XPTs are switched.

- [Ref. #PEG-8333] **GV Convergent Client does not automatically reconnect after a network cable is disconnected on the active controller: When** the network cable on the active controller is disconnected, the standby controller becomes the active controller. However, GV Convergent Client may not reconnect to the new active controller.
  Workaround: If this happens, shut down GV Convergent Client and launch it again.

- [Ref. #PEG-8337] **The Logical Level on device group properties does not propagate to "Device Properties" when the automatic Source/Destination is off**
  Workaround: If this occurs, manually configure the logical level on the device properties.

- [Ref. #PEG-8449] **Changing the standby server IP without breaking the cluster is not functional**
  Workaround: If you have to change the IP address of the standby server in a redundant cluster, then it is necessary to break the cluster. To do so, set the number of controllers in the Area Configurator to 1 and press enter. Then, change the number of controllers back to 2 and enter a new IP address for Controller 2 in the Properties Editor.

- [Ref. #PEG-8469] **The virtual IP address cannot be the same as the IP address of either the active or standby controller:** Also, you cannot use the same IP for both the active and standby controllers. If this is the case, then you will need to edit one, or both controller IP addresses in the area configurator.
  Workaround: If the virtual IP address is the same as the IP address of a controller, or if the both controllers have the same IP address, open the GV Convergent > Area Configurator > Property Editor and edit the IP address of one controller or both controllers.

- [Ref. #PEG-8520] **Hosts/flow policies are not being re-created in DCNM after a DCNM HA failover.** If the active DCNM in a HA availability DCNM configuration goes offline, DCNM will fail over to the standby DCNM, but it will not have the hosts/flow policies that were currently available on the previously active DCNM. To fix this issue we have to deactivate and activate the topology one more time.

- [Ref. # PEG-8542] **A Bad Device Graph Is Loaded After A Switch Of Area:** The original area may be displayed when you create a new topology, make it active, and then create a new area. If this occurs, then click on the new area to display it.

- [Ref. #PEG-8585] **Ethernet NIC ports on GV Convergent Admin > Network Settings are listed in reverse order:** Currently, only the em1 interface is enabled on startup of GV Convergent Client. When you edit the configuration of the interfaces in the web stage, it is important to note that, from the rear, the right most network port actually relates to p6p1. These interfaces also need to be manually enabled using the command, "ifconfig [interface] up" (i.e. ifconfig em2 up) through SSH to GVC, or on the Linux command line interface.

- [Ref. #PEG-7734] **The topology does not refresh on switching to full screen in Topology Configurator:** The topology disappears when you click the Fullscreen toggle button at the top of the *Topology: Device Graph* window and then click it again to bring the topology back to the original size.
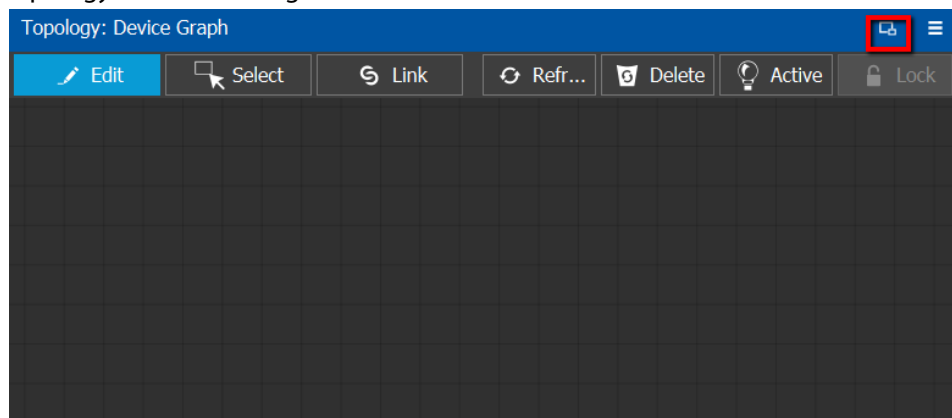
  Workaround: If this occurs, close and reopen the Topology Configurator Stage.

- [Ref. #PEG-8317] **The GV Convergent Admin Backup and Restore does not display the correct host name when the host name has a hyphen in it:** It is not recommended to use a hyphen in the host name.

★ [Ref. #PEG-8826] **The NP0016 streaming protocol timeout used for GV Node must be changed manually.**
Workaround: To configure the timeout value, add the following line:
`com.miranda.mcs.ucs.densite.ifm2t.IFM2TConnector.np0016ConfigurationRe questTimeout=200` **into** `/usr/local/pegasus/ucs-embedded-launcher/conf/default.properties` **or** `/usr/local/pegasus/ucs-embedded-launcher/conf/custom.properties`. The difference between the two is that custom.properties persist across software updates while default.properties are overwritten. After changing the value, you must restart the Pegasus service.

★ [Ref. #PEG-8854] **Exposing a stream with no logical level logs a** `NullPointerException`**:**
Workaround: Add a logical level to the router stream or port to avoid receiving this error in the logs.

★ [Ref. #PEG-8897] **The GV Node streams for audio and ancillary flow types default to video:** You must set the flow type manually if you are using the NMOS Proxy Server. This is (configured in GV Client > Area Configurator > System Controller Group Properties. The NMOS Proxy Server is used to present SDP information to a registry for devices that do not generate their own. The GV Node publishes its SDP information to an AMWA NMOS registry at version 2.2.1.

Grass Valley Technical Support

For technical assistance, contact our international support center, at
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To obtain a local phone number for the support center nearest you, consult the Contact Us section of Grass Valley's website (www.grassvalley.com).

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