Version 5 Release Notes

Pathscape Config software for Windows$^\Diamond$ and macOS$^\spadesuit$	
Pathscape Config	**v5.0.1**
Release Date	**July 10, 2024**
Firmware Versions	

VIA	VIA10 (6730) and VIA12 (674x)	v3.11
	VIA5 6705 & 6706	v3.9.0
	PWVIA RM P12 & PWVIA DIN P8	v6.5.1
	PWVIA DIN P16	v6.1.8
	PWVIA RM P24	v6.5.1
eLink	PWELINK	v6.5.1
Vignette NSB	PWGW N485 (NSB)	v6.5.1
	PWGW V485 (Vignette)	v6.5.1
	PWGW CLK (Vignette Clock)	v6.5.1
	PWWSI NPOE (NSB)	v6.5.1
	PWWSI VPOE (Vignette)	v6.5.1
NFP	PWINF NFP	v6.5.1
Pathport	All PWPP Pathport gateways	v6.5.1
Pathport	OEM Pathport Core	v6.3.1
Snapshot	nPWDMX SNAPSHOT	v6.5.1

$\Diamond$Support for 64-bit Windows 10 and 11

$\spadesuit$Support for macOS 11 and greater

Pathscape Config Executive Summary

Version 5 marks the most significant release of the Pathscape software since it eclipsed our original configuration software called Pathport Manager discontinued in 2016. It is such a leap forward that we changed its name to better describe its phenomenal functionality to configure every aspect of your dynamic lighting network. Pathscape Config introduces the Network Navigator view that shows you, in real-time, what your network looks like and its current health. Never before could you visually identify parts of your network so quickly, touch them and interact with them directly with the properties boxes or context sensitive right-click menus.

This release also comes bundled with new firmware for virtually every network product we make. Substantial improvements have been made to how Ethernet Multicast traffic is handled, responding to the explosive growth of today's architectural and theatrical networks. Improvements have also been made to how the VIA Ring Protection system handles larger networks that may be spread out over larger distances. See the full list of firmware improvements below.

Pathscape Config has been a monumental development effort and demonstrates Pathway Connectivity's commitment to our easy to operate and robust lighting network products. We hope

you're as excited as us to take this next leap forward. We love hearing from you and working with you to make our products more friendly and reliable. Please reach out to me with any comments or questions.

Robert Bell
Consulting Director
Pathway Connectivity Solutions
RBell@PathwayConnect.com

> ⚠️ ## IMPORTANT NOTE ABOUT FIRMWARE RELEASE
>
> Pathway Connectivity Solutions, an Acuity Brands Company, highly recommends upgrading all devices to the latest firmware bundled with this release as described in the table above as soon as possible. The updates contain critical bug fixes and improvements in reliability for your lighting network. It may also include security fixes and other feature enhancements.

Pathscape Windows 11 bug fixes in v5.0.1	
Firmware Updater crash	Shortly after the v5.0.0 release, we found a bug which was only apparent in Windows 11. Opening the TOOLS | FIRMWARE UPDATER would simply close the application.
Table Transparency	Another change between Windows 10 and Windows 11 is Pathscape tables were appearing semi-transparent, resulting in some frozen columns on the left-hand side of the table showing information below. This affected the DMX Patch tab and IGMP Membership dialog box on Windows 11 machines only.

Pathscape Config Network Navigator	
Network Navigator	The addition of the Network Navigator tab (*See Figure 1*) offers a graphical view of all Pathway Connectivity devices when using VIA switches for the network backbone. Discovered devices are placed on the map ready to organize in a way that makes sense to you. Devices are 'connected' to the actual port on the VIA and updated in real time as devices come and go.
Status	Each device in Navigator has a Red, Yellow or Green dot to shows its connection status. Devices with a Red offline dot will have a dashed red line to the last known VIA port they were discovered on. The Red, Amber or Green padlock shows the current Security Domain status. (*See Figure 2*)
Layout Tools	To help make your network map look neat and tidy a selection of Alignment and Distribution tools are available. *See Figure 3*) When it's all in the right place, use the Position Lock to stop things move about as you interact with Navigator.
Zooming & Hotkeys	Selecting something in the Devices tab then switching to the Network Navigator tab will center the display on the selected device. While panning and zooming in Navigator, use the HOME key to zoom into and center the selected device or devices. The END key zooms you to the extents of the drawing. PAGE UP and PAGE DOWN zooms the map in and out. Holding down CTRL and rolling the mouse wheel will also control the zoom. Hover over buttons (*See Figure 4*) to see tooltips describing what they do and if they have any associated hotkeys.
Background Image	Add a schematic or graphic or whatever as the background to the Network Navigator. Set its opacity and scale and add a border. Supported image formats include BMP, JPG and PNG. (*See Figure 5*). Images should be to scale at 72 ppi.
Right Click Menu	Similar to the tabular "Devices" view, devices and ports have context sensitive right-click menus, but the Navigator, with all its connection lines, gives you confidence you're performing the operation on the correct device and the effects are seen right away. For instance, reboot or PoE Reboot will change the blue connecting line to a red dashed line showing the device has gone offline temporarily. *See Figures 6-8* for more functions.
Print	With Network Navigator open, find the Print option in the File menu then choose either Portrait or Landscape and desired output size. (*See Figure 9*). PDFs are always printed to fit the page size.
AllowList.txt	A previously undocumented feature of Pathscape is to use the existence of a simple text file on your Desktop named "allowlist.txt". This file may list the IP addresses of the specific devices you want to be discovered. We have used this on *extremely* large networks to limit the number of devices discovered and reduce network traffic. If you enter only one line in the file which has "1.1.1.1" and save it, when you start Pathscape (*See Figure 10*), it will not discover anything on your network. This may be handy if you want to be in the venue and on the network, but work with a different Pathscape Config showfile offline. Only the devices in the show file will be displayed. You can then set properties and work on the placement of images and devices in the Network Navigator tab without seeing more than what is on disk.

Pathscape Config IGMP Properties and Tables

IGMP Config (new)	To streamline setup of IGMP and avoid miss-configurations, we have removed the two check boxes called IGMP QUERIER and IGMP SNOOPING. There is now a single combo box property called IGMP MODE. The three options are "Disabled", "Enabled: Snooping Only" and "Enabled: Snooping + Querier". (*See Figure 11*). Enable at least two Queriers on your network, preferably separated by power supplies and physical distance across your network for redundancy.
Querier (new)	In the VLAN Config, each VIA with IGMP enabled will display its current Querier. (*See Figure 11*) Every VIA should have the same Querier address and should never be 0.0.0.0. If the switch is using itself as the Querier, then it will report "Self" for the Port property, otherwise it will report the port which is connected (directly or indirectly) to the current Querier. Note, the Querier may not be a Pathway Connectivity VIA, so the IP is shown vs. the name.
Membership (new)	The IGMP properties box has a button to open a table showing which ports are forwarding which multicast traffic. (*See Figure 12*) As multicast IP addresses are used for more than sACN universes, there is a column labeled "Possible Use". This is a handy table to cross reference what is downstream of each port and what multicast traffic is being forwarded.

Pathport v6.5.1	
PWPP DIN P8 (new)	Version 6.5.0 was the first to support the new PWPP DIN P8. This includes support for SixEye.
RDM (change)	Part of the E1.20 RDM specification allowed RDM packets to specify the gateway's PORT_ID. We found some third-party devices erroneously expected that value to always be 1. As we found no practical reason why an end device would care what port it was attached to, we have hard coded Port 1 for all Pathport Ports. Other minor RDM compatibility issues have been implemented too.
IGMP (bug fix)	Specific to the 1-Port and 2-Port devices, Internet Group Management Multicast Joins will occur directly after boot. A bug was found where it may have taken up to 125 seconds before multicast traffic like sACN and Pathscape Config data started to flow on networks employing IGMP Snooping.
PCP (bug fix)	There exists an extension of ANSI E1.31 sACN which allows Per Chanel Priority. A bug was found specific to the 1-Port and 2-Port devices where upon boot, one or both ports configured to use PCP would not latch on to existing sACN sources already transmitting PCP sACN.
PWPP WM P1 (bug fix)	Fixed issue where it was logging "Permission Denied"

VIA v6.5.1	
IGMP (enhancement)	Internet Group Management Protocol is employed to reduce multicast traffic, like sACN, from broadcasting to all devices on the network. It works by noting which port on which switch is connected to a device, such as a gateway or other switch, that has subscribed to (or asked for) specific multicast addresses or sACN universes. Version 6.5.1 has completely overhauled how IGMP is implemented in the VIA switch line. It is highly recommended you upgrade to this version to ensure efficient and reliable IGMP operation. We have stressed tested VIAs IGMP Querier table management with hundreds of concurrent multicast joins. See the Pathscape Config or VIA manuals for the recommended method of configuring IGMP on your network.
IGMP menu (change)	To streamline setup of IGMP and avoid miss-configurations, we have removed the two properties called QUERIER: ENABLE/DISABLE and SNOOPING: ENABLE/DISABLE and combined them into one MODE property. The three options are "DISABLED", "SNOOPING" and "SNOOP and QUERY". On the front panel menu, the IGMP MODE is found under ADVANCED SETTINGS	VLAN SETUP	VLAN CONFIG	VLAN#.
LED Test (change)	To reduce the boot time of the VIA switches, we have moved the LED test to a menu option under ADMIN/SECURITY. It is harmless to run the test while the system is active. This feature is only available on the rack-mount VIAs.

Link Act. Blink (change)	The amber Link Activity now closer represents real traffic activity. Prior versions showed Link Activity using a constant 50:50 duty cycle.
SFP BX (new)	VIA switches now support BiDi SFP 1000Base-BX transceivers. These come in matching Blue and Purple pairs and use a single fibre.
Health (new)	On units with a front panel, under the DEVICE INFO/STATUS menu, there are two new entries to report on the health of two subsystems of the switch, the SWITCH CONTROLER and the POE CONTROLER. They should always report OK. If not, please contact technical support.
Ring Protect (bug fix)	Ethernet Automatic Protection Switching or Ring Protection has been overhauled. This version is less reliant on the boot sequence of your Master vs. Transit switches. As always, choose either EAPS or RSTP. EAPS requires a bit more setup, but is much faster than RSTP and is VLAN aware. It is not recommended to use RSTP when VLANs are enabled.
VLAN (bug fix)	A bug was found that made the front panel of the rack mount VIAs slow to respond when the VLAN pool was larger than 35. VIA 6.5.1 can work with 100 or more VLANs, but be aware, it will affect the boot time of each switch. Is it ideal to set the VLAN pool to reasonable size for the number of departments at your venue. This bug had a telltale sign that the IP address would always report 0.0.0.0 regardless of IP Setup.
Panel Lockout (bug fix)	Fixed a bug in VIA24 where if the front panel was locked out, even within 30s of boot, it would not allow you to use the on screen menus.
Front Panel (bug fix)	Fixed a bug where in the idle state, the third line of the display was flashing.
IGMP List (bug fix)	Fixed a bug where using the front panel to find IGMP membership lists caused a switch controller crash.

VIA16 v6.1.8	
Firmware Version	VIA16 firmware has not been released with Pathscape Config v5.0. VIA16's are shipped with v6.1.8.
Known Issue	VA16 may report an IP address of 169.254.x.x, but actually shows a valid Online status. The 169. (link local) IP is reporting incorrectly. Pathscape is actually talking to the device on the correct subnet. This should be considered a display bug.
IGMP	Until VIA16 has a 6.5.x firmware release, it is not suggested to use IGMP.

Legacy VIA v3.11	
IGMP (change)	Due to the changes in our implementation of IGMP, these legacy devices would not play well with the updated code. Version 3.11 of the VIA firmware for models 6705, 6706, 6730, 6741 and 6742 removes the IGMP feature. These devices will continue to pass multicast data. It is suggested that if you must mix legacy VIAs with current VIAs running version 6.5.1, the older VIAs are used as edge devices, that is, on a branch that is not in the core of the network.

eLink V6.5.1	
KiNet (new)	The eLink has added KiNet as a selectable Transmit protocol. (*See Figure 13*) There are options to broadcast to power supplies by number or unicast to specific IP addresses. eLink can simultaneously receive E1.31 sACN, Pathway ssACN, Strand ShowNet, Art-Net and Pathport protocol and transmit any one of those protocols, now including KiNet, back onto the same network or to a physically different network.

nPWDMX SNAPSHOT	
RLS (new)	nLight has released a new version of SensorView on January 25, 2024. Using v15.9 you can update the SNAPSHOT's nLight firmware to F141A001Z-010 to support "Return to Last

	State" (RLS). Pathscape Config also has v6.5.1 firmware that has the improvements noted in the Pathport section above.

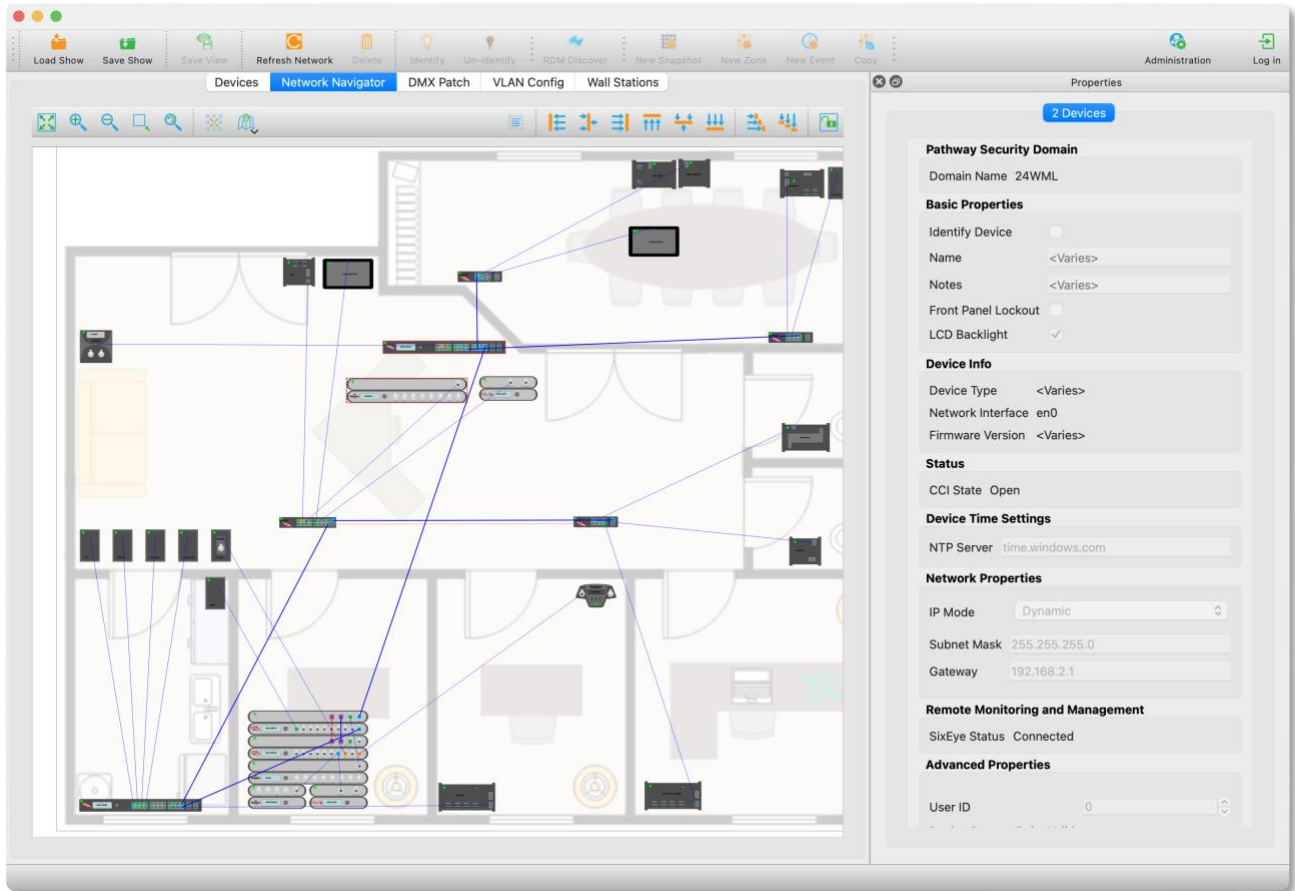| Cognito² and Choreo	
Controls (security)	Cognito² and Choreo and CogPC have new versions on our website that included security enhancements. Due to the size of the installers, they are not bundled with Pathscape Config. Please find them here: https://pathway.acuitybrands.com/support/choreo-cognito

Figure 1 – Pathscape Network Navigator tab showing devices and their connections.
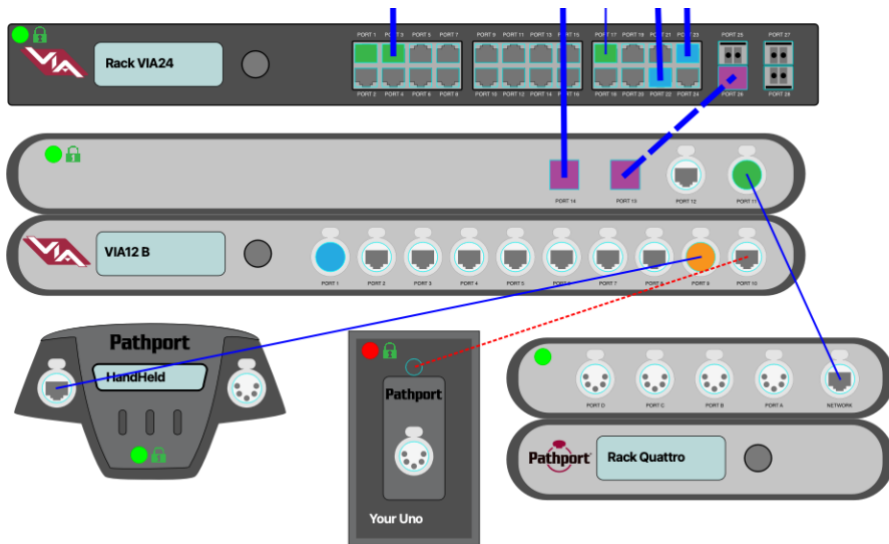
Figure 2 – Connections showing Tagged (thick), Blocked (dashed) and normal (thin lines) and lost (red dashed) links. Connection speeds are shown on ports as Amber for 10M, Green for 100M, Blue for 1G and Purple 10G. Ports with color but no line depict non-Pathway devices. Dots and padlocks show connection and security status.

Figure 3 – Select All, Align Tools, Distribute Tools, Lock Placement
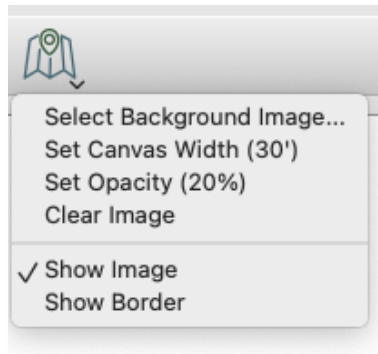

Figure 4 – Zoom Tools and Background Image Setup
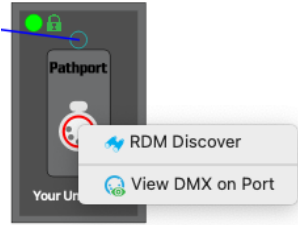

Figure 5 – Background Image Setup

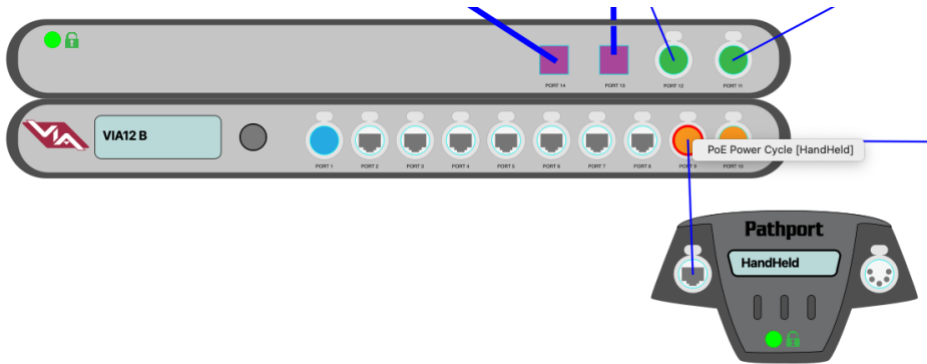*Figure 6 – Right Click menu on DMX Port*
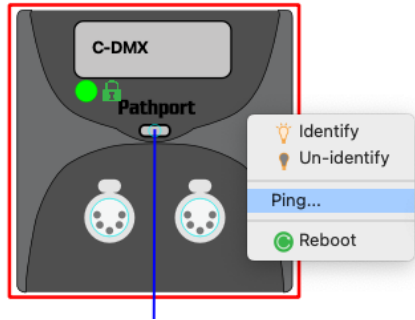

Figure 7 –Right Click menu on VIA Port

Figure 8 –Right Click menu on base device
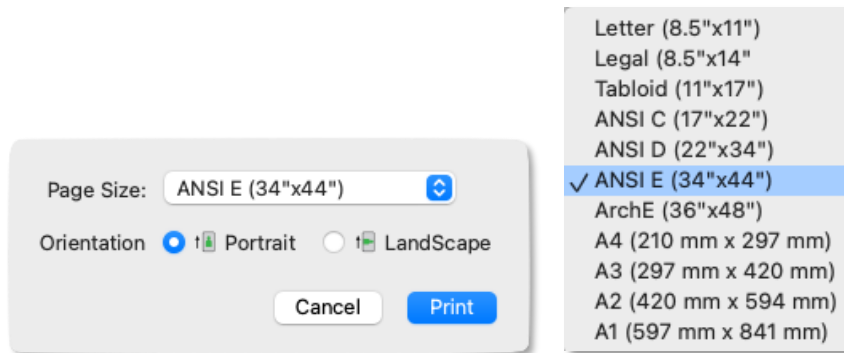

Figure 9 – Print Network Navigator to PDF

Figure 10 – Starting Pathscape Config with the 'allowlist.txt' present to work offline.
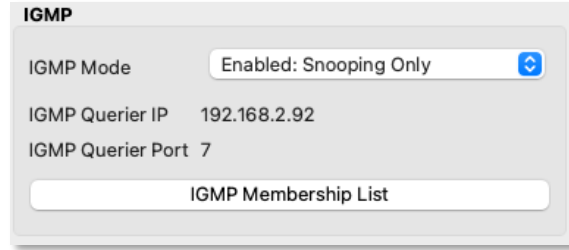

Figure 11 – New IGMP properties, now a single combo box vs multiple check boxes. Current Querier should never be 0.0.0.0. Membership List opens table of addresses and ports (see Figure 11).

Desk VIA24 - VLAN Shock

Multicast Group IP ^	Possible Use	Port 7	Port 8	Port 9	Port 10	Port 11	Port 12	Port 13	Port 14	Port 15	Port 16
239.192.38.8	Pharos										✓
239.255.0.0	Dante ATP					✓					
239.255.0.1	sACN Universe 1; Dante ATP	✓				✓					✓
239.255.0.2	sACN Universe 2; Dante ATP	✓				✓					✓
239.255.0.3	sACN Universe 3; Dante ATP	✓				✓					✓
239.255.0.4	sACN Universe 4; Dante ATP					✓					✓
239.255.0.5	sACN Universe 5; Dante ATP					✓					
239.255.0.6	sACN Universe 6; Dante ATP					✓					
239.255.0.7	sACN Universe 7; Dante ATP					✓					
239.255.0.8	sACN Universe 8; Dante ATP					✓					
239.255.0.9	sACN Universe 9; Dante ATP					✓					
239.255.0.10	sACN Universe 10; Dante ATP					✓					
239.255.0.11	sACN Universe 11; Dante ATP					✓					
239.255.0.12	sACN Universe 12; Dante ATP					✓					
239.255.0.13	sACN Universe 13; Dante ATP					✓					
239.255.0.14	sACN Universe 14; Dante ATP					✓					

Figure 12: IGMP Membership table with Possible Uses per address per port.
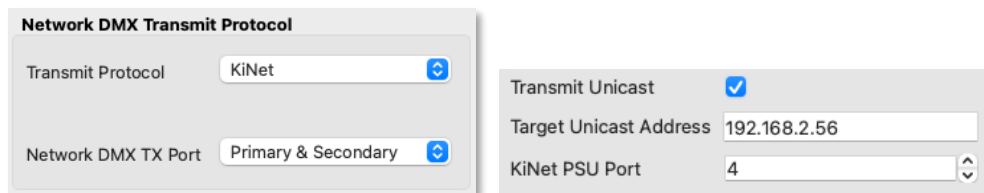
Figure 13 – Two Properties showing new KiNet configuration on eLink.