Valkyrie Release Note – Release 104

Release Date:	October 2, 2025	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		474.0
Test Modules		
Z800q Freya	Freya-800G-4S-1P	4.0.0
Z800o Freya	Freya-800G-4S-1P-OSFP	4.0.0
E100q Chimera	Chi-100G-5S-2P	3.31.0
	Chi-40G-2S-2P	3.31.0
Z400q Thor	Thor-400G-7S-1P	3.28.0
	Thor-100G-5S-4P	3.28.0
Z100q Loki	Loki-100G-5S-2P	3.34.0
Z100qx Loki	Loki-100G-5S-4P	1.00.0
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	3.15.0
Z10r Odin	Odin-10G-5S-6P-CU[b]	3.39.0
Z10s Odin	Odin-10G-1S-6P[b]	3.31.0
Z10sx Odin	Odin-10G-6S-6P	4.0.0
Z01s Odin	Odin-1G-3S-6P[b]	3.23.0
Z01sx Odin	Odin-1G-3S-6P-E	3.23.0
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	3.36.0
	Odin-10G-1S-2P[d]	3.31.0
All other non-EOL modules:		3.8.0
XenaManager	ValkyrieManager	1.102.9382.3
XenaManager3	(please note: XM3 is in separate package)	3.7.2098.4
Xena1564	Valkyrie1564	1.37.9302
Xena2544	Valkyrie2544	2.96.9358
Xena2889	Valkyrie2889	1.49.9302
Xena3918	Valkyrie3918	1.49.9302
XenaScriptClient	XenaScriptClient	22.0
Xena Wireshark Plugin for TPLD		2.1
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.20.9298.1

Updated documentation for CLI commands is found here:

https://docs.xenanetworks.com/projects/xoa-cli/en/latest/

Please note that from R-101 images for Freya G1 modules are not included in the release, so customers with systems containing Freya G1 modules should not upgrade systems to this release.

Customers upgrading from releases below R-101 to releases above R-101, should first upgrade to R-101. Same applies for downgrades where the downgrade should first be done to R-101, and then to the desired version.

Customers upgrading from release R-101 or R-102 to releases above R-103, should first upgrade to R-103 before upgrading further. Same applies for downgrades where the downgrade should first be done to R-103, and then to the desired lower version, (note restrictions regarding R-101).

Only release versions described in this release note are supported on the date of this release.

Release Summary

This release provides support for the most recent hardware version of Z800/Freya-800G-4S-1P in B2400 Bay and Compact chassis, as well as support for the brand new Z100qx/Loki-100G-5S-4P module in B2400 Bay and Compact chassis, which offers double the number of cages/ports on a module compared to the Z100q/Loki-100G-5S-2P module.

This release provides support for Dynamic Traffic change on Z10sx/Odin-10G-6S-6P, as well as Q-in-Q support stream's ARP and PING for Z100q/Loki-100G-5S-2P, Z10cc/Odin-10G-4S-2P-Combi[b]. Z10r/Odin-10G-5S-6P-CU[b], Z10s/Odin-10G-1S-6P[b], Z01t/Odin-1G-3S-6P-T1-RJ45 and Odin-10G-1S-2P[d].

This release also provides a bug fix for 50G NRZ mode with FEC “ON” on Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2 so XenaManager now will show Virtual Lanes 0+1 on RX side.

Furthermore, this release also includes a fix for LPM support in 1G and 100M modes on Z10r/Odin-10G-5S-6P-CU.

In this release there is also a fix for unexpected TX Rate for burst size exceeding 8062/8063 packets.

For XenaManager3 we introduce several improvements and enhancements, including an enhanced and improved Stream Wizard helping building complex streams across many ports.

With this release XenaManager3 also adds several monitoring and configuration options for transceivers including tunable and coherent transceivers.

Besides all above this release also contains minor bug fixes for test suites.

Finally, this release includes general stability and performance improvements.

New Features

- **Z800/Freya-800G-4S-1P G2:** This release is the first release with support for **Z800/Freya-800G-4S-1P G2** modules with serial range: xxx56 in B2400 Bay and Compact chassis. Previous releases are not compatible with this module version.
- **Z100qx/Loki-100G-5S-4P:** This release is the first release with support for **Z100qx/Loki-100G-5S-4P** in B2400 Bay and Compact chassis. Previous releases are not compatible with this module version.
- **Z10sx/Odin-10G-6S-6P:** This release provides support for **Dynamic Traffic change** on Z10sx/Odin-10G-6S-6P, making it possible change traffic rate without stopping traffic.
- **Z100q/Loki-100G-5S-2P, Z10cc/Odin-10G-4S-2P-Combi[b]. Z10r/Odin-10G-5S-6P-CU[b], Z10s/Odin-10G-1S-6P[b], Z01t/Odin-1G-3S-6P-T1-RJ45 & Odin-10G-1S-2P[d]**: In this release **Q-in-Q support** has been added to stream's **ARP and PING**.

Bug Fixes

- **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** In 50G NRZ mode when enabling FEC XenaManager showed Virtual Lanes 2+0 on RX side.
- **Z10r/Odin-10G-5S-6P-CU:** In previous versions **LPM in 1G and 100M modes** was not supported. This has been corrected in this release. (CAS-15259-Y7Q3M6)
- In previous versions when **burst size exceeded 8062/8063 packets** User could experience unexpected TX Rate. This has been corrected in this release. (CAS-15232-T9S7X6)

XenaManager

Bug Fixes

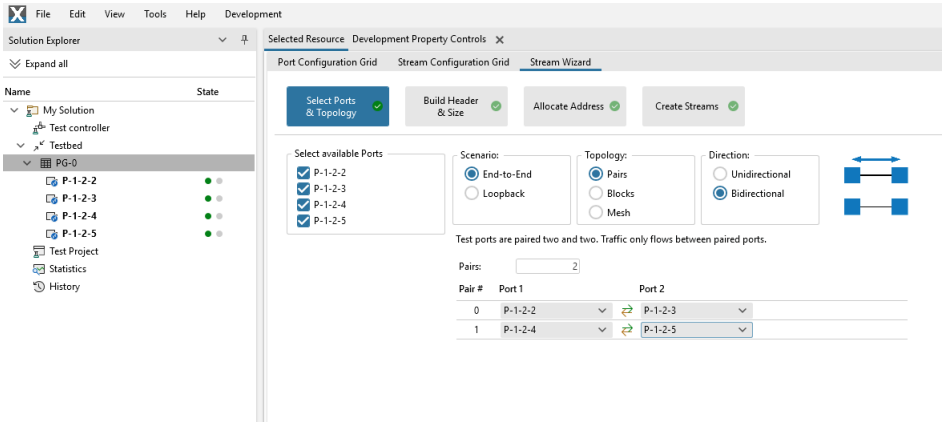
- In previous versions **ARP and PING's TX/RX counters** was not updated corrected. This has been corrected in this release.
- **Stream's Segments hex editor** doesn't show the correct columns per row. This has been corrected in this release.

XenaManager3

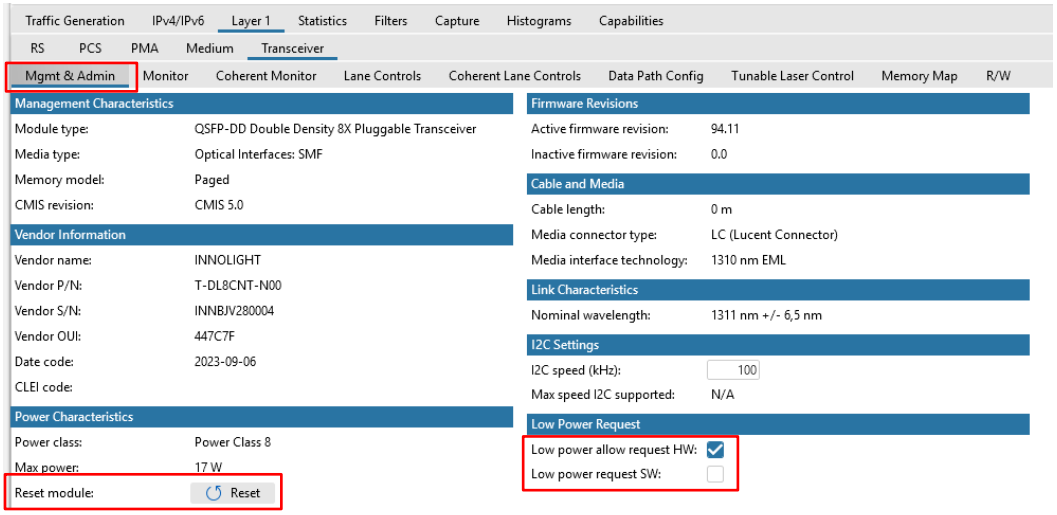
New Features

- In this release **Stream Wizard** in XM3 has been enhanced and improved helping when **building complex streams across many ports**.

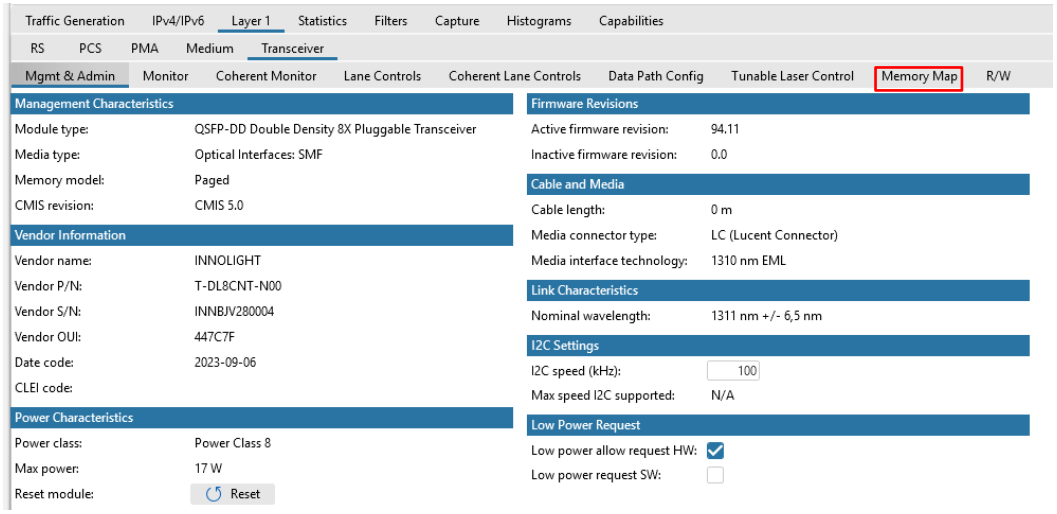
  Each Port Group (PG) has a Stream Wizard that helps you manage the ports in the Port Group. Select Ports & Topology allows you to choose the ports you want to configure and select the traffic topology:



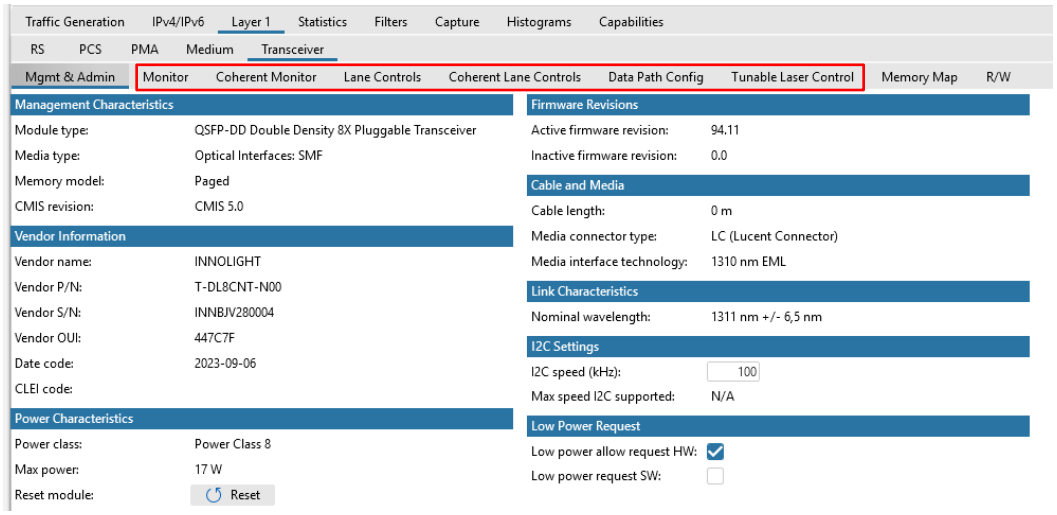
- In this release several improvements have been made to Transceiver Page under Layer 1 - Transceivers adding **Reset Module** button and **Low Power Requests** options:



- In this release in XM3 **Memory Map** will now also expose **CMIS 5.3** and **C-CMIS 1.3** registers:



- In this release several new monitoring and configuration options for transceivers including for tunable and Coherent transceivers are added:



Monitor

Providing real-time module-level and lane-level power monitoring:

- Module-Level Monitor: temperature, VCC supply, and Aux1/2/3.
- Lane-Level Power Monitor: Tx optical power, Tx laser bias, Rx optical power, Rx output status change, LOL, LOS.

Coherent Monitor

Providing diagnostic monitoring of the media lanes and host lanes for digital coherent optics (DCO) modules:

- Lane Status Alarms

Lane Controls
Allow users to manually control and tune the TX and RX on the transceiver:

- Tx output
- Tx auto squelch and output force squelch
- Tx input polarity flip
- Rx output
- Rx auto squelch
- Rx output polarity flip

Coherent Lane Control
Enabling users to control the media lanes and host lanes for digital coherent optics (DCO) modules:

- Media lane thresholds
- Media lane provisioning
- Media lane flag masks
- Media lane flag status
- Host lane config
- Host lane flag masks
- Host lane flag status

Data Path Configuration
Allowing users to configure the data path on the transceiver, including selecting an application and adjusting the Tx and Rx equalizations:

- Advertised Applications
- Application Selection
- Tx/Rx Signal Integrity Control
    - Tx input equalization
    - Rx output amplitude, pre-cursor, post-cursor
- Data Path Configuration Methods
    - Stepwise reconfiguration
    - Regular reconfiguration
    - Hot reconfiguration

Tunable Laser Control
Allowing users to manage the laser frequency of optical transceivers:

- Laser Control
    - Grid Spacing Selection
    - Fine Tuning
    - Target Output Power
- Laser Status
    - Current Laser Frequency
    - Turning Status
    - Wavelength Lock Status

Xena2544

Bug Fixes

- In this release address assignment for loopback test has been corrected (CAS-15237-P1N5H7)

Xena2889

Bug Fixes

- In this release Speed selection dropdown list has been changed so it initiates a fixed speed and not "AUTO".

Xena3918

Bug Fixes

- In this release Speed selection dropdown list has been changed so it initiates a fixed speed and not "AUTO".

Valkyrie Release Note – Release 103

Release Date:	**June 26, 2025**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		473.0
Test Modules		
Z800q Freya	Freya-800G-4S-1P	3.6.0
Z800o Freya	Freya-800G-4S-1P-OSFP	3.6.0
E100q Chimera	Chi-100G-5S-2P	3.31.0
	Chi-40G-2S-2P	3.31.0
Z400q Thor	Thor-400G-7S-1P	3.28.0
	Thor-100G-5S-4P	3.28.0
Z100q Loki	Loki-100G-5S-2P	3.33.0
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	3.14.0
Z10r Odin	Odin-10G-5S-6P-CU[b]	3.38.0
Z10s Odin	Odin-10G-1S-6P[b]	3.30.0
Z10sx Odin	Odin-10G-6S-6P	4.0.0
Z01s Odin	Odin-1G-3S-6P[b]	4.0.0
Z01sx Odin	Odin-1G-3S-6P-E	3.23.0
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	3.35.0
	Odin-10G-1S-2P[d]	3.30.0
All other non-EOL modules:		3.8.0
XenaManager	ValkyrieManager	1.101.9302.1
Xena1564	Valkyrie1564	1.37.9302
Xena2544	Valkyrie2544	2.95.9302
Xena2889	Valkyrie2889	1.49.9302
Xena3918	Valkyrie3918	1.49.9302
XenaScriptClient	XenaScriptClient	22.0
Xena Wireshark Plugin for TPLD		2.1
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.20.9298.1

Updated documentation for CLI commands is found here:

https://docs.xenanetworks.com/projects/xoa-cli/en/latest/

Please note that from R-101 images for Freya G1 modules are not included in the release, so customers with systems containing Freya G1 modules should not upgrade systems to this release.

If customers want to upgrade from releases below R-101 to R-103, the upgrade should first be done to R-101 and then to R-103. Same applies for downgrades where the downgrade should first be done to R-101, and the to the desired version.

Release Summary

We have been working hard on a lot of cool features for several of our modules, but in particular for Freya modules.

This release provides support for **2x100G, 4x50G, 2x40G, 8x25G and 8x10G NRZ in Layer 1 mode** and **TGA mode** on **Z800o/Freya-800G-4S-1P-OSFP G2** module.

This release also provides support for **2x200G, 4x100G, 8x50G and 8x25G in Layer 1 mode** and **TGA mode** on **Z800/Freya-800G-4S-1P G2** module in **QSFP112** mode.

This release provides support for **2x100G, 4x50G, 2x40G, 8x25G and 8x10G NRZ in Layer 1 mode** and **TGA mode** on **Z800/Freya-800G-4S-1P G2** module in **QSFP112** mode.

This release furthermore provides support for “Dynamic Traffic support” on **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2** modules giving the user the option to change the rate of steams on the port without stopping traffic.

This release also provides support for FireCode FEC at 10G and 25G NRZ speeds on **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2** modules.

Furthermode this release provides support for KR-FEC at 10G NRZ speed (already supported on 25G) on **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2** modules.

Together with the KR-FEC support this release provides support for FEC Error Injection (RS-FEC KR) (528,514) on the new introduced speeds on **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2 modules.**

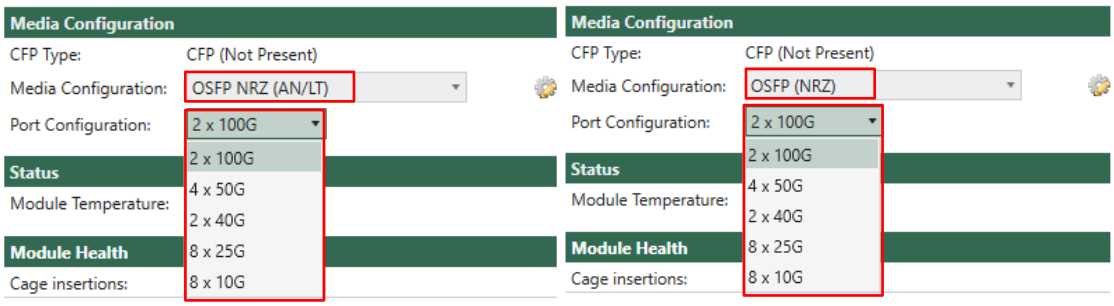
Finally the release also provides support for Reconciliation Sublayer detection and injection **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2** modules.

This release also includes several bug fixes for **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2, Z100q Loki/Loki-100G-5S-2P, Z10r/Odin-10G-5S-6P-CU[b], Z10s/Odin-10G-1S-6P[b], Z10sx/Odin-10G-6S-6P** as well as for **Xena2544** and **ChassisUpgrader.**

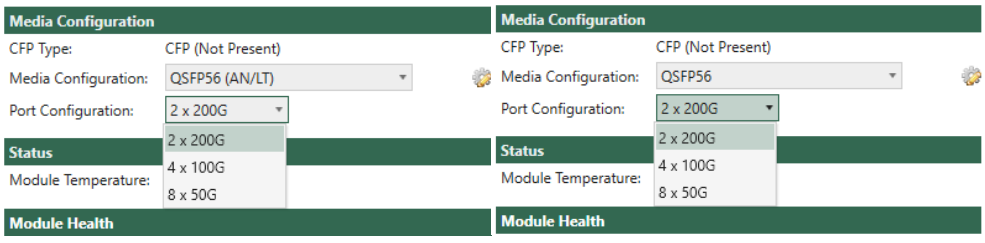
Finally, this release includes general stability and performance improvements.

New Features

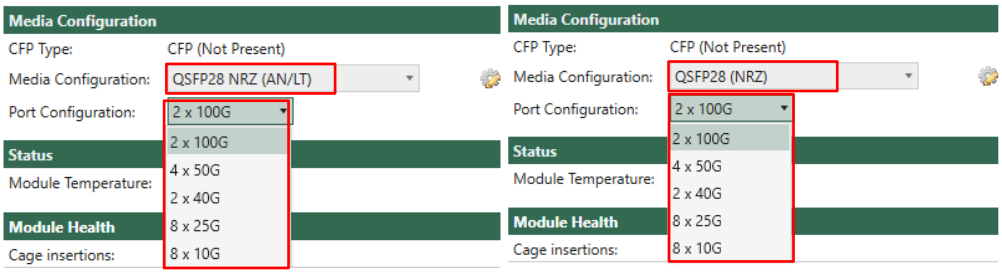
- **Z800o/Freya-800G-4S-1P-OSFP G2:** Support for **2x100G NRZ in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics)
- **Z800o/Freya-800G-4S-1P-OSFP G2:** Support for **4x50G NRZ in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics)
- **Z800o/Freya-800G-4S-1P-OSFP G2:** Support for **2x40G NRZ in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics)
- **Z800o/Freya-800G-4S-1P-OSFP G2:** Support for **8x25G NRZ in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics)
- **Z800o/Freya-800G-4S-1P-OSFP G2:** Support for **8x10G NRZ in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics)



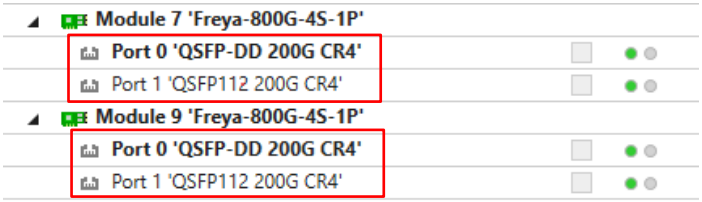
- **Z800q/Freya-800G-4S-1P G2:** Support for **2x200G 56G SerDes in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics) in **QSFP112** mode.
- **Z800q/Freya-800G-4S-1P G2:** Support for **4x100G 56G SerDes in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics) in **QSFP112** mode in **QSFP112** mode.
- **Z800q/Freya-800G-4S-1P G2:** Support for **8x50G 56G SerDes in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics) in **QSFP112** mode**.**



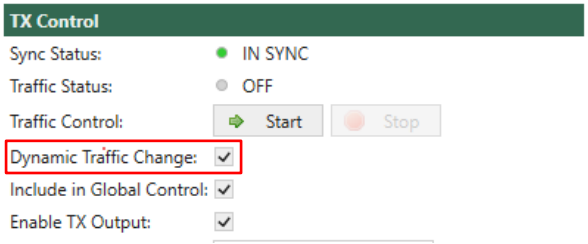
- **Z800q/Freya-800G-4S-1P G2:** Support for **2x100G NRZ in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics) in **QSFP112** mode.
- **Z800q/Freya-800G-4S-1P G2:** Support for **4x50G NRZ in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics) in **QSFP112** mode.
- **Z800q/Freya-800G-4S-1P G2:** Support for **2x40G NRZ in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics) in **QSFP112** mode.
- **Z800q/Freya-800G-4S-1P G2:** Support for **8x25G NRZ in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics) in **QSFP112** mode in.
- **Z800q/Freya-800G-4S-1P G2:** Support for **8x10G NRZ in Layer 1 mode** (single stream TGA without stream statistics) + **TGA mode** (multiple streams with latency and jitter statistics) in **QSFP112** mode.



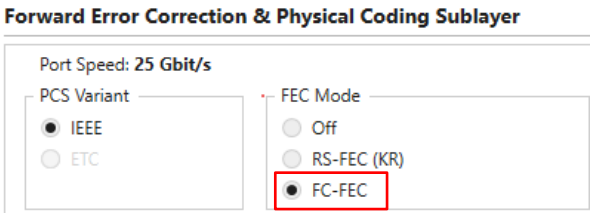
Please note! In QSFP56, QSFP56 (AN/LT), QSFP28 NRZ and QSFP28 NRZ (AN/LT) modes the ports will be split between the QSFP-DD cage and the QSFP112 cage like what was implemented in the QSFP112 modes. Below shows with 2x200G modes on Freya ports = 1 port provided in QSFP-DD cage and 1 port provided in QSFP112 cage:



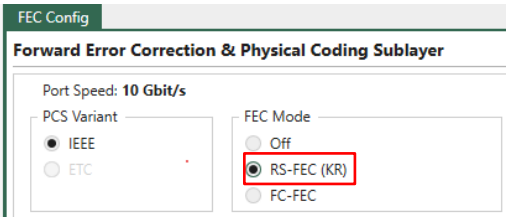
- **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides support for **"Dynamic Traffic Change"**. Enabling Dynamic Traffic support on the port gives the user the option to change the rate of steams on the port without stopping traffic:



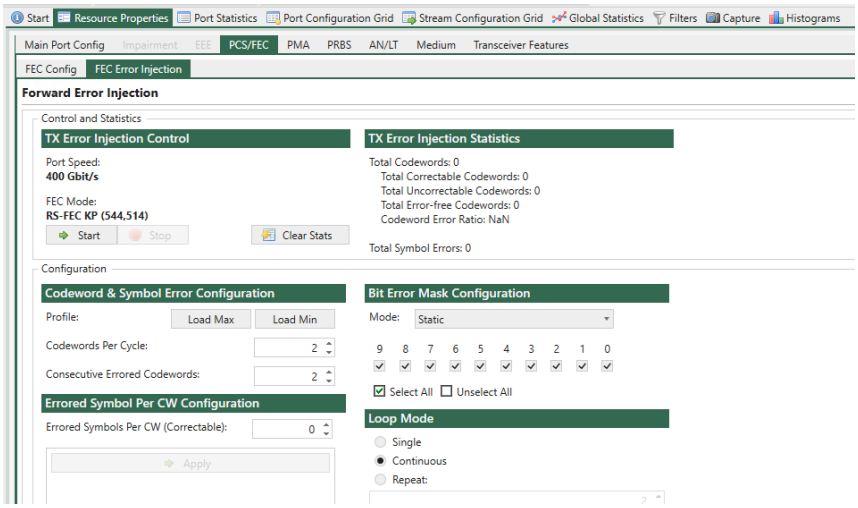
- **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides support for **FireCode FEC at 10G and 25G NRZ speeds**:



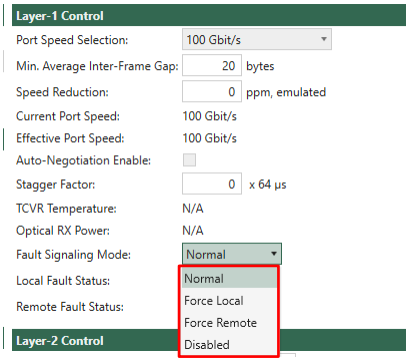
- **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides support for KR-FEC at 10G NRZ speed (already supported on 25G):



- **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides support for **FEC Error Injection** (RS-FEC KR) (528,514) on the new introduced speeds. (Note that FEC Error Injection is made in all FEC engines of the selected port). For more details about the function of the FEC Error Injection feature please refer to R-98 section in this release note.



- **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides support for **Reconciliation Sublayer detection and injection** on the “Layer-1 Control” section on the “Main Port Config” tab:



  It is possible to choose between:

  - Normal: Acts according to 802.3 standard
  - Force Local: Port will continuously transmit “Local Fault indication” on the TX output.
  - Force Remote: Port will continuously transmit “Remote Fault indication” on the TX output.
  - Disabled: Port will relay the traffic from the TX core regardless of what it receives on the input.

Bug fixes

- **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** In previous releases users could experience that “Injected Errors Statistics” on “Port Statistics” under “Global Statistics” did not reset when Clear Counters was initiated. This has been correct in this release.
- **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** In previous releases users could experience that changes made on the Port Configuration Grid do not reflect under resource properties of the stream. This has been correct in this release.
- **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** In previous releases users could experience that when **Link Flap** was enabled with repetitions control button did indicate that the Link Flap sequence was completed. This has been correct in this release.
- **Z100q Loki/Loki-100G-5S-2P:** In previous releases users could experience when logging statistics in csv file that data was duplicated. This has been correct in this release.
- **Z10r/Odin-10G-5S-6P-CU[b], Z10s/Odin-10G-1S-6P[b], Z10sx/Odin-10G-6S-6P:** In previous releases users could experience an issue that **PFC** did work as expected. This has been correct in this release.
- **Z10r Odin/Odin-10G-5S-6P-CU[b]:** In previous releases users could experience an issue with **EEE** did work as expected in 2,5G and 5G modes. This has been correct in this release. (CAS-14748).

Xena1564

Bug Fixes

- in previous versions user could experience that Xena1564 was not able to **change speed** on **Odin-10G-6S-6P**. This has been corrected in this release.

Xena2544

Bug Fixes

- in previous versions user could experience that Xena2544 was not able to **change speed** on **Odin-10G-6S-6P**. This has been corrected in this release.

Xena2889

Bug Fixes

- in previous versions user could experience that Xena2889 was not able to **change speed** on **Odin-10G-6S-6P**. This has been corrected in this release.

Xena3918

Bug Fixes

- in previous versions user could experience that Xena3918 was not able to **change speed** on **Odin-10G-6S-6P**. This has been corrected in this release.

ChassisUpgrader

Bug Fixes

- in previous versions if user cancelled Freya image download while downloading image files, the ChassisUpgrader could encounter a Fatal Error. This has been corrected in this release.

Valkyrie Release Note – Release 102

Release Date:	**May 8, 2025**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		472.0
Test Modules		
Z800q Freya	Freya-800G-4S-1P	3.5.0
Z800o Freya	Freya-800G-4S-1P-OSFP	3.5.0
E100q Chimera	Chi-100G-5S-2P	3.31.0
	Chi-40G-2S-2P	3.31.0
Z400q Thor	Thor-400G-7S-1P	3.28.0
	Thor-100G-5S-4P	3.28.0
Z100q Loki	Loki-100G-5S-2P	3.33.0
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	3.14.0
Z10r Odin	Odin-10G-5S-6P-CU[b]	3.37.0
Z10s Odin	Odin-10G-1S-6P[b]	3.28.0
Z10sx Odin	Odin-10G-6S-6P	3.37.0
Z01s Odin	Odin-1G-3S-6P[b]	3.23.0
Z01sx Odin	Odin-1G-3S-6P-E	3.23.0
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	3.35.0
	Odin-10G-1S-2P[d]	3.28.0
All other non-EOL modules:		3.8.0
XenaManager	ValkyrieManager	1.100.9259.1
Xena1564	Valkyrie1564	1.36.9104
Xena2544	Valkyrie2544	2.94.9250
Xena2889	Valkyrie2889	1.48.9250
Xena3918	Valkyrie3918	1.48.9250
XenaScriptClient	XenaScriptClient	22.0
Xena Wireshark Plugin for TPLD		2.1
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.20.9246.1

Updated documentation for CLI commands is found here:

https://docs.xenanetworks.com/projects/xoa-cli/en/latest/

Please note that from R-101 images for Freya G1 modules are not included in the release, so customers with systems containing Freya G1 modules should not upgrade systems to this release.

If customers want to upgrade from releases below R-101 to R-102, the upgrade should first be done to R-101 and then to R-102. Same applies for downgrades where the downgrade should first be done to R-101, and the to the desired version.

Release Summary

This release provides support for up to 6 Freya G2 modules in a B2400 chassis.

This release also provides support for **2x40G NRZ TGA** - multiple streams with latency and jitter statistics on **Z800/Freya QSFP-DD G2** modules in QSFP-DD cage,

This release also provides support for **AN/LT in QSFP-DD NRZ Layer 1 modes** on **Z800/Freya QSFP-DD G2** modules in QSFP-DD cage,

This release provides support for Port-2-port loopback (Rx - Tx) on **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2** modules.

In this release support for ARP/Ping on NRZ under 100G speeds is added on NRZ under 100G on **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2** modules.

This release provides support for Swap P/N polarity on/off on Tx and Rx SERDES on **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2** modules.

In this release, XenaManager will check if the installed chassis and module firmware are **compatibility**, and if the installed software is incompatible.

In this release new CLI commands are introduced to get available/unused TID's from a system.

This release introduces Per-PCS Lane Corrected Bit errors + Pre-FEC BER Statistics in RX Status in modes supporting FEC on **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2** modules.

This version provides improved latency and jitter calibration between 56G and 112G SerDes speeds on **Z800/Freya QSFP-DD G2 & Z800o/Freya-800G-4S-1P-OSFP G2** modules.

This release provides a fix for an issue with FS SFP-10GM-T-30 Generic version so the transceiver could only run 10G in **Z10sx/Odin-10G-6S-6P** module.

This release also provides several bug fixes for **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2** described later as well as for XenaManager.

Finally, this release includes general stability and performance improvements.

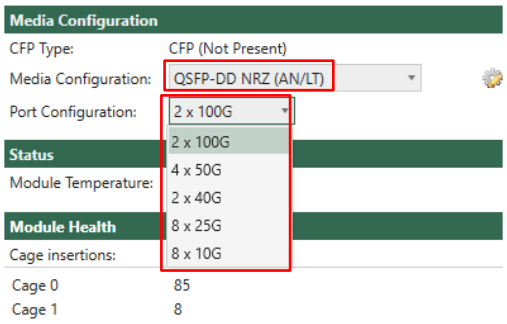
Important note on Odin upgrade:

If User has chassis with legacy Odin 1G/10G modules and Odin-6S modules running releases lower than R-101, and want to upgrade to R-101 or later versions, we recommend this upgrade procedure for such systems:

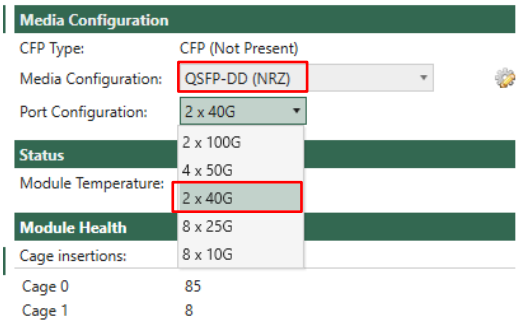
1. Upgrade XenaServer without upgrading module images
2. Reboot chassis
3. Upgrade module images
4. Reboot chassis

New Features

- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides support for up to 6 Freya modules in a B2400 chassis. Please refer to Module Install guide for additional information and guidelines: Installation guide B2400
- **Z800q/Freya-800G-4S-1P G2**: Support for **8x10G NRZ in Layer 1 mode** (single stream TGA without stream statistics) in QSFP-DD cage,
- **Z800q/Freya-800G-4S-1P G2**: Support for **8x25G NRZ in Layer 1 mode** (single stream TGA without stream statistics) in QSFP-DD cage,
- **Z800q/Freya-800G-4S-1P G2**: Support for **2x40G NRZ in Layer 1 mode** (single stream TGA without stream statistics) in QSFP-DD cage,
- **Z800q/Freya-800G-4S-1P G2**: Support for **4x50G NRZ in Layer 1 mode** (single stream TGA without stream statistics) in QSFP-DD cage,
- **Z800q/Freya-800G-4S-1P G2**: Support for **2x100G NRZ in Layer 1 mode** (single stream TGA without stream statistics) in QSFP-DD cage,



- **Z800q/Freya-800G-4S-1P G2:** Support for **2x40G NRZ TGA** - multiple streams with latency and jitter statistics in QSFP-DD cage:



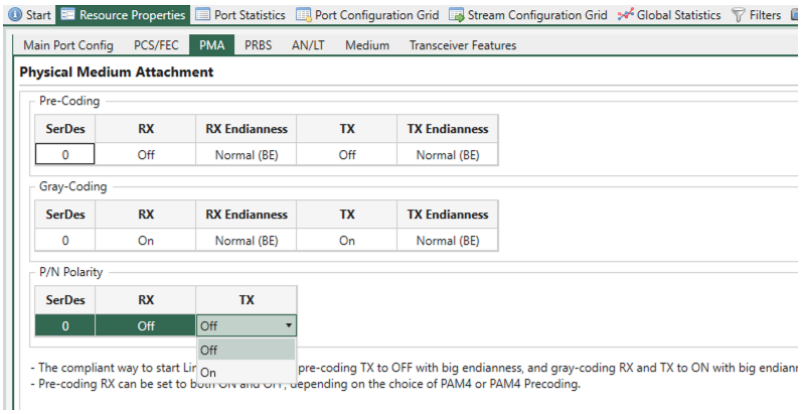
- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides support for Port-2-port loopback (Rx - Tx).
- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** In this release support for ARP/Ping on NRZ under 100G speeds is added.
- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides support for Swap P/N polarity on/off on Tx and Rx SERDES:

  In a SERDES link, you transmit data at high speeds over differential pairs. Each pair has two signals:

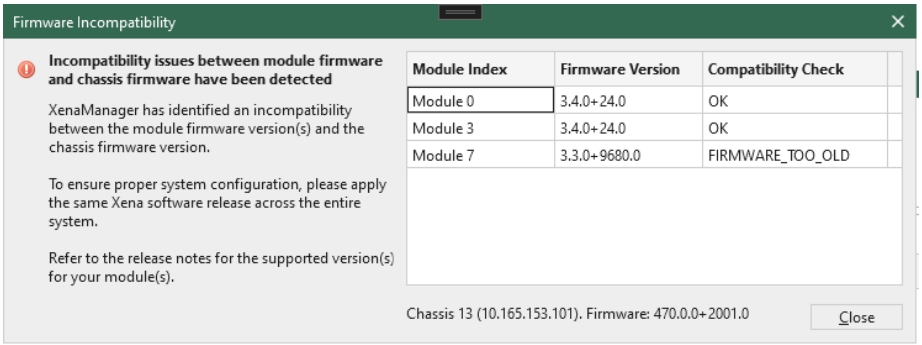
  - P (positive)
  - N (negative)

Normally, the transmitter sends the differential signal correctly: when the P is high, N is low, and vice versa. However, in real hardware, especially during PCB design or cable assembly, sometimes the P and N wires get accidentally swapped.

In this release user can enable the P/N polarity swap of a SERDES in PMA tab in XenaManager, as shown in the screenshot below. By default, the RX and TX P/N polarity swap is off.



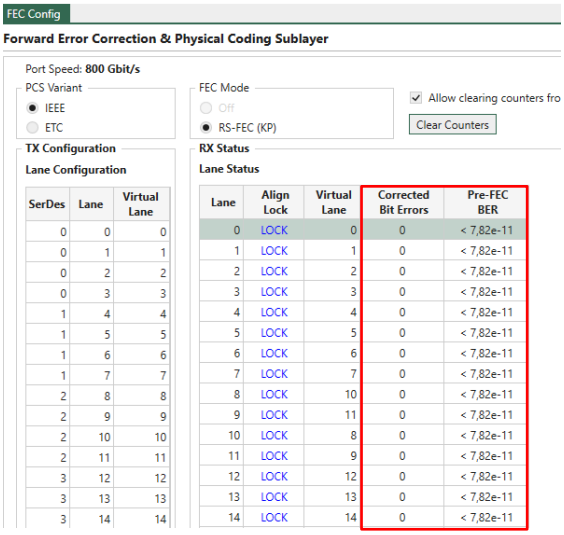
- In this release, XenaManager will check if the installed chassis and module firmware are compatibility. In case the installed software is incompatibility, a dialog window will pop up, as shown in the screenshot below, showing the result for each test module and system software in the chassis:



User should do a down- or upgrade of the system to assure the system is running on a compatible version. (Please note: Upgrade options might depend on EoL status of modules/chassis and/or valid maintenance agreement for products)'

- In this release new CLI commands are introduced to get available/unused TID's from a system. There are 2 new commands introduced for available/unused TID's:
    - C_USED_TPLDID to provide available/unused TID's on the chassis.
    - P_USED_TPLDID available/unused TID's on the port

- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release introduces Per-PCS Lane Corrected Bit errors + Pre-FEC BER Statistics in RX Status in modes supporting FEC:



SerDes	Lane	Virtual Lane
0	0	0
0	1	1
0	2	2
0	3	3
1	4	4
1	5	5
1	6	6
1	7	7
2	8	8
2	9	9
2	10	10
2	11	11
3	12	12
3	13	13
3	14	14

Lane	Align Lock	Virtual Lane	Corrected Bit Errors	Pre-FEC BER
0	LOCK	0	0	< 7,82e-11
1	LOCK	1	0	< 7,82e-11
2	LOCK	2	0	< 7,82e-11
3	LOCK	3	0	< 7,82e-11
4	LOCK	4	0	< 7,82e-11
5	LOCK	5	0	< 7,82e-11
6	LOCK	6	0	< 7,82e-11
7	LOCK	7	0	< 7,82e-11
8	LOCK	10	0	< 7,82e-11
9	LOCK	11	0	< 7,82e-11
10	LOCK	8	0	< 7,82e-11
11	LOCK	9	0	< 7,82e-11
12	LOCK	12	0	< 7,82e-11
13	LOCK	13	0	< 7,82e-11
14	LOCK	14	0	< 7,82e-11

- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This version provides improved latency and jitter calibration between 56G and 112G SerDes speeds.

Bug fixes

- **Z10sx/Odin-10G-6S-6P:** In previous versions users could experience an issue with FS SFP-10GM-T-30 Generic version so the transceiver could only run 10G mode. This is fixed in this version so users can use the generic and Cisco version of the multi rate FS SFP-10GM-T-30 transceiver.
- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** In previous versions 50G NRZ mode "Injected Error injection" counter is not counting. This is now corrected.
- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** In previous versions IPv6 ARP neighbour solicitation did not work as intended in TGA modes. This is now corrected.
- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** In previous versions if injecting PMA Errors in NRZ speeds the system could inject a factor 4 off the injected errors. This is now corrected.
- In previous versions **C_TRAFFICSYNC** did not work as intended. This is now corrected.
- In previous versions **MAC Auto-Training** feature did not work as intended. This is now corrected.
- In previous versions **PCAP replay** could in some scenarios change packet content. This is now corrected.
- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** In previous versions user could experience that inter-module timestamp sync gets 20ns offset between local oscillator and a timesync master. This is now corrected.
- **Z10r/Odin-10G-5S-6P-CU**: In 2.5G and 5G modes when EEE and LPI was active users could in some cases experience that there would be no traffic sent. This is now corrected.

Xena2544

New Feature

- In previous versions when using IMIX in Test Suite Report Test Suite reports did not have IMIX details. It only showed “Mixed Sizes”. In this release the Test Suite report will add Exact and Avg. Frame Size details in IMIX mode.

Bug Fixes

- In previous versions users could get stuck in the IMIX configuration even though it is not in use. This is now corrected.
- In some cases, the Test Suite Preparation Sequence could cause a DUT to block traffic. The Test Suite preparation sequence is now changed to:
    1. Port reset
    2. Port sync toggle
    3. ARP
    4. Learning traffic

  To avoid this issue
- In previous versions configuration of IMIX packet sizes was incorrect. This is not corrected

Xena2889

Bug Fixes

- In previous versions configuration of IMIX packet sizes was incorrect. This is not corrected

Xena3918

Bug Fixes

- In previous versions configuration of IMIX packet sizes was incorrect. This is not corrected

Valkyrie Release Note – Release 101

Release Date:	**February 28, 2025**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		470.0
Test Modules		
Z800q Freya	Freya-800G-4S-1P	3.4.0
Z800o Freya	Freya-800G-4S-1P-OSFP	3.4.0
E100q Chimera	Chi-100G-5S-2P	3.31.0
	Chi-40G-2S-2P	3.31.0
Z400q Thor	Thor-400G-7S-1P	3.28.0
	Thor-100G-5S-4P	3.28.0
Z100q Loki	Loki-100G-5S-2P	3.33.0
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	3.14.0
Z10r Odin	Odin-10G-5S-6P-CU[b]	3.37.0
Z10s Odin	Odin-10G-1S-6P[b]	3.28.0
Z10sx Odin	Odin-10G-6S-6P	3.37.0
Z01s Odin	Odin-1G-3S-6P[b]	3.23.0
Z01sx Odin	Odin-1G-3S-6P-E	3.23.0
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	3.35.0
	Odin-10G-1S-2P[d]	3.28.0
All other non-EOL modules:		3.8.0
XenaManager	ValkyrieManager	1.99.9186.1
Xena1564	Valkyrie1564	1.36.9104
Xena2544	Valkyrie2544	2.93.9111
Xena2889	Valkyrie2889	1.47.9104
Xena3918	Valkyrie3918	1.47.9104
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.3.4
Xena Wireshark Plugin for TPLD		2.1
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.20.9188.1

Updated documentation for CLI commands is found here:

https://docs.xenanetworks.com/projects/xoa-cli/en/latest/

Please note that from R-101 images for Freya G1 modules are not included in the release, so customers with systems containing Freya G1 modules should not upgrade systems to this release.

Release Summary

This release provides support for 4x50G NRZ TGA for Z800q/Freya-800G-4S-1P G2 modules.

With this release, when using FS SFP-10GM-T-30 transceiver, in Z10sx/Odin-10G-6S-6P port can run 10M, 100M, 1G, 2.5G, 5G or 10Gbps with this transceiver

This release provides the option to configure Endianess on modifier on Z10sx/Odin-10G-6S-6P

This release also includes several fixes including FCS error injection on Freya and improved stability for the ANLT algorithm.

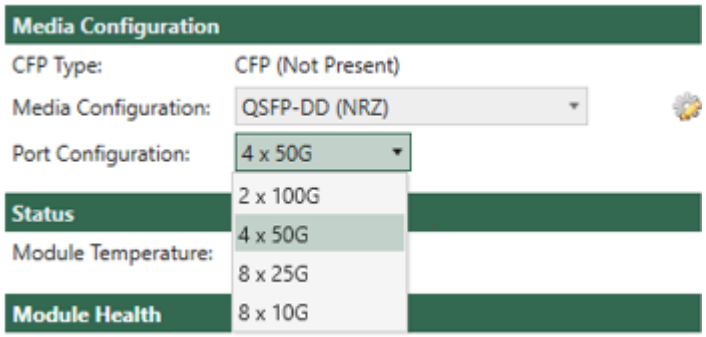
This release also provides a fix where jitter value could return -1 for even tid numbers in 10G NRZ speeds, as well as a change in Auto-Assign ARP Table in XenaManager.

This release includes general stability and performance improvements.

With this release the Wireshark plugin for XenaManager is included in the .msi packages. The plugin will be copied here: C:\Program Files (x86)\Xena Networks\L2-3\Packages.

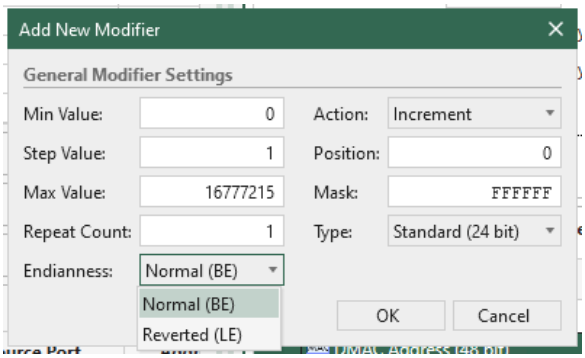
New Features

- **Z800q/Freya-800G-4S-1P G2:** Support for **4x50G NRZ TGA** - multiple streams with latency and jitter statistics in QSFP-DD cage:

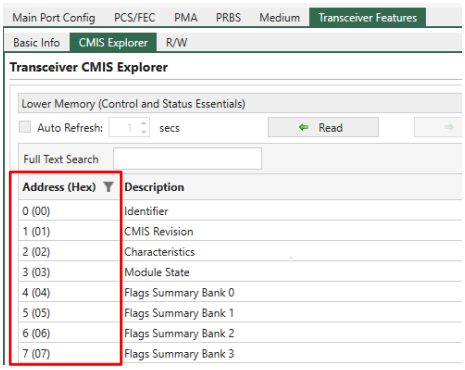


- **Z10sx/Odin-10G-6S-6P:** If the **FS SFP-10GM-T-30** transceiver is inserted in a port it can run **10M, 100M, 1G, 2.5G, 5G or 10Gbps** with this transceiver

- **Z10sx/Odin-10G-6S-6P:** This release provides the option to configure **Endianess on modifier.** The endianness of a modifier is specified in the modifier editor. The endianness is used to determine how the modifier value is applied to the field value. The endianness can be set to either Normal (BE) or Reverted (LE):



- **Z10sx/Odin-10G-6S-6P:** This release provides support for IMIX packet size config.
- This release provides an improvement in the UI of the configuration of **"Stop At"**, so it's now explicit shown in the following format: d.hh:mm:ss. Max entry in hh:mm:ss is now limited to 23:59:59 (CAS-15175-T6C5L2)
- In **CMIS Explorer** under Transceiver Features the **address column** will now show values in both decimal and hex format:



Bug fixes

- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides a fix for FCS error injection and disabling FCS insertion.
- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides improved stability for the ANLT algorithm.
- This release provides a fix where **jitter value** could return -1 for even tid numbers in **10G NRZ speeds**.
- This release provides a fix In **Basic Info** under Transceiver Features showing the **nominal wavelength** for inserted transceiver not supported CMIS.
- With this release **Auto-Assign ARP Table** in XenaManager will use prefix=32 as the default value, so the ARP request will respond only to the single IP address.
- This release provides a fix for earlier incorrect Pre/Post FEC BER calculation while **logging**.

Valkyrie Release Note – Release 100

Release Date:	**December 18, 2024**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		469.0
Test Modules		
Z800q Freya	Freya-800G-4S-1P	3.3.0
Z800o Freya	Freya-800G-4S-1P-OSFP	3.3.0
E100q Chimera	Chi-100G-5S-2P	3.31.0
	Chi-40G-2S-2P	3.31.0
Z400q Thor	Thor-400G-7S-1P	3.28.0
	Thor-100G-5S-4P	3.28.0
Z100q Loki	Loki-100G-5S-2P	3.33.0
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	3.14.0
Z10r Odin	Odin-10G-5S-6P-CU[b]	3.37.0
Z10s Odin	Odin-10G-1S-6P[b]	3.28.0
Z10sx Odin	Odin-10G-6S-6P	3.36.0
Z01s Odin	Odin-1G-3S-6P[b]	3.23.0
Z01sx Odin	Odin-1G-3S-6P-E	3.23.0
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	3.35.0
	Odin-10G-1S-2P[d]	3.28.0
All other non-EOL modules:		3.8.0
XenaManager	ValkyrieManager	1.98.9116.1
Xena1564	Valkyrie1564	1.36.9104
Xena2544	Valkyrie2544	2.93.9111
Xena2889	Valkyrie2889	1.47.9104
Xena3918	Valkyrie3918	1.47.9104
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.3.4
Xena Wireshark Plugin for TPLD		2.0
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.20.9111.1.

Updated documentation for CLI commands is found here:

https://docs.xenanetworks.com/projects/xoa-cli/en/latest/

Release Summary

This release provides several improvements in ANLT configuration as well as a new version of the ANLT Utility with some minor improvements.

This release also provides the ability to export all page CMIS values for the inserted medium.

This release also provides general Improved latency measurement accuracy on the systems.

In this release there are included improvements of the ANLT features

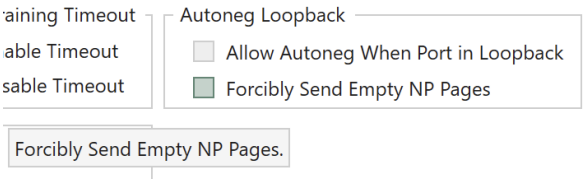
This release also includes bug fixes for several of the test applications and XenaManager

This release also provides support for MicroTPLD and Payload Integrity Checksum on Freya G2.

This release also includes general stability and performance improvements.

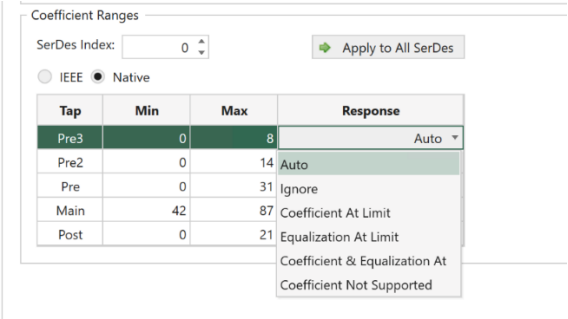
New Features

- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides support for MicroTPLD in **TGA modes.**
- **Z800q/Freya-800G-4S-1P G2 & Z800o/Freya-800G-4S-1P-OSFP G2:** This release provides support for Payload Integrity Checksum in **TGA modes**.
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** This release provides support for the option to Send Empty Autoneg Next Page in **Layer 1 modes.** User can control the port if it should send empty Autoneg Next Page.



- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** In this release the default two ANLT autorestart options of Z800 Freya ports, “ANLT autorestart after link toggling” and “ANLT autorestart after link training failure”, are changed from disabled to enabled when a module is initialized.

- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** In this release users can configure TX Tap Range and Response in **Layer 1 modes:**

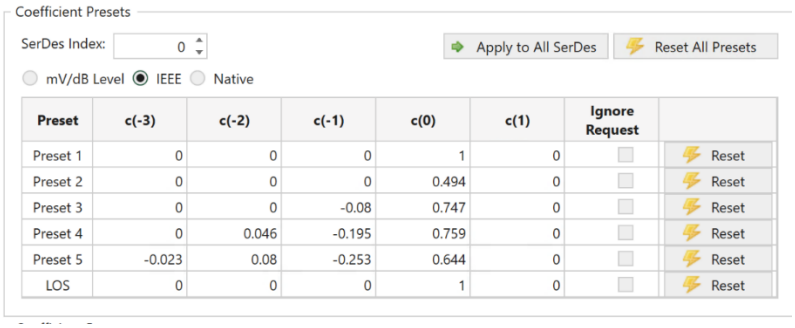


You can set the lower and upper bounds of the transmit equalizer for Link Training for the SerDes, as well as define the SerDes's response to increment or decrement requests when these bounds are reached.

The responses include:

- Auto. The response is automatically determined by the port.
- Ignore. The increment/decrement request will be “acknowledged” without acting upon it.
- Coefficient At Limit. Respond Coefficient At Limit (coefficient status = b010) to the increment/decrement request.
- Equalization AT Limit. Respond Equalization Limit (coefficient status = b100) to the increment/decrement request.
- Coefficient and Equalization AT Limit. Respond Coefficient At Limit and Equalization Limit (coefficient status = b110) to the increment/decrement request.
- Coefficient Not Supported. Respond Coefficient Not Supported (coefficient status = b011) to the increment/decrement request.

- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** In this release user can in **Layer 1 modes** configure the port’s Link Training Presets 1-5 and the loss-of-sync preset (LOS Preset) to preferred values, provided they fall within the specified limits.



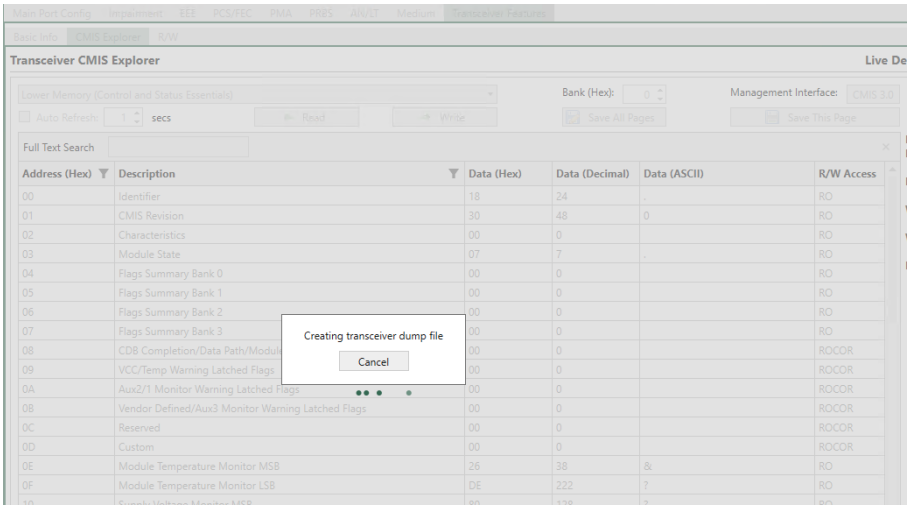
User can also configure the port to either ignore or accept the preset request:

- Ignore: the port acknowledges the preset request without acting upon it (acknowledge but no changes).
- Accept: the port acknowledges the preset request and apply the corresponding preset value

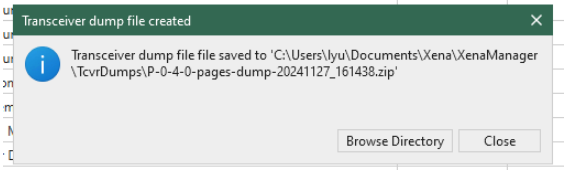
- In **CMIS Explorer** In previous versions user could export page values pr. Page. This release provides the option to export all page values for the inserted medium.

  When you click “Save All Pages” in Transceiver Features > CMIS Explorer, XenaManager will save the register values of all pages in the page selection list. Each page's data is saved into a separate CSV file.

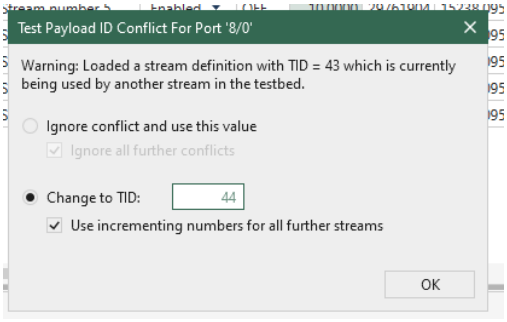
  Please note the saving process takes 2-3 minutes depending on the number of pages in the page selection list.



  After export will show destination of dumped pages:



- This release provides the option to **Enable Multiple Group Records in IGMPv3 Membership Report**
- In this release **Port and Stream description** is included in the XenaManager log.
- If a saved test case config were loaded to another test case, this could in some cases lead to **duplicated TID’s** in the new test case. This release introduces a feature which will check for duplicated TID’s, and provide the user different options to handle this:



Bug fixes:

- In some cases when Freya and other modules were installed in same chassis, the other modules might not **synchronize correct**. This has been corrected.
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** In some cases, Freya would not resolve the HCD in Auto-Negotiation correct. This is now corrected.
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP G2:** In some cases, IMIX lengths could cause wrong rates in the TGA mode. This is now corrected.
- For **Z01/Z10/Odin** the port capability correctly showed that "**Dynamic Traffic Change**" was not supported. However, it was possible to configure this setting via CLI. This has been corrected so there is now an additional input validation if user is trying to set this via CLI.
- In **XenaManager** under **CMIS Explorer** paged transceivers were considered as flat transceiver. This is now corrected.
- In **XenaManager** under logging counter type selection dialog then name "Rx Sequence Errors" has been changed to "Rx Lost Packets" so naming is consistent between Log and "Global Statistics"
- In **XenaManager** under "Global Statistics" if traffic is not started the value will show 0 instead of N/A in this release.
- **ANLT Utility**: When running Link Training interactive mode in PAM4 with precoding the BER statistics could be wrong. This is now corrected.
- User could experience that Xena port did not answer **IPv6 Neighbour solicitation messages** correct if they were sent to the to unicast address of the Xena port. (CAS-15077). This is now corrected.
- In some cases when user connected to a new Chassis or dumped all CMIS Transceiver memory pages **Cancel Button** in XenaManager might not work as intended. This is now corrected.

ChassisUpgrader

Bug Fixes

- **ChassisUpgrader** – in previous version if user were upgrading same Freya module type across multiple chassis ChassisUpgrader could download same Freya images multiple times. This has been corrected in this version.
- **ChassisUpgrader** – If user upgraded system which contain EoL modules to a version which did not support the EoL modules, ChassisUpgrader would says that EOL module is no longer present after upgrade. In this release the module will still be shown, BUT, the configuration will not be valid nor supported

Xena2544

Bug Fixes

- In previous version users could get an error message when trying to **open .v2544 file**. This has now been corrected. (CAS-15147)
- Xena2544 constantly report **OutOfMemory** after running Throughput test. This has been corrected in this release.
- Xena2544 CSV report doesn't have **gap monitoring results** included (CAS-15136). This has been corrected in this release.
- In some cases, if numbers are very large, the values could **overflow table cell** in the PDF report. This has been corrected in this release.

Xena2889

Bug Fixes

- When running **congestion control test** the configured delay times could to be ignored in previous versions. This has been corrected in this release. (CAS-15137)
- In some cases, if numbers are very large, the values could **overflow table cell** in the PDF report. This has been corrected in this release.

Xena3918

Bug Fix

- If number were too large, the values could **overflow table cell** in the PDF report. This has been corrected in this release.

Valkyrie Release Note – Release 99.1

Release Date:	**December 6, 2024**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		468.1
Test Modules		
Z800q Freya	Freya-800G-4S-1P	3.1.0
Z800o Freya	Freya-800G-4S-1P-OSFP	3.1.0
E100q Chimera	Chi-100G-5S-2P	3.31.0
	Chi-40G-2S-2P	3.31.0
Z400q Thor	Thor-400G-7S-1P	3.27.0
	Thor-100G-5S-4P	3.27.0
Z100q Loki	Loki-100G-5S-2P	3.32.0
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	3.13.0
Z10r Odin	Odin-10G-5S-6P-CU[b]	3.36.0
Z10s Odin	Odin-10G-1S-6P[b]	3.27.0
Z10sx Odin	Odin-10G-6S-6P	3.35.0
Z01s Odin	Odin-1G-3S-6P[b]	3.22.0
Z01sx Odin	Odin-1G-3S-6P-E	3.22.0
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	3.35.0
	Odin-10G-1S-2P[d]	3.27.0
All other non-EOL modules:		3.8.0
XenaManager	ValkyrieManager	1.97.9088.2
Xena1564	Valkyrie1564	1.36.8938
Xena2544	Valkyrie2544	2.92.9015
Xena2889	Valkyrie2889	1.46.8938
Xena3918	Valkyrie3918	1.47.8938
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.3.3
Xena Wireshark Plugin for TPLD		2.0
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.20.9098.1

Updated documentation for CLI commands is found here:

https://docs.xenanetworks.com/projects/xoa-cli/en/latest/

Release Summary

This release provides Support for **RS-FEC on 8x25G NRZ SerDes mode on Z800q/Freya-800G-4S-1P G2 version.**

Valkyrie Release Note – Release 99

Release Date:	**December 4, 2024**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		468.0
Test Modules		
Z800q Freya	Freya-800G-4S-1P	3.1.0
Z800o Freya	Freya-800G-4S-1P-OSFP	3.1.0
E100q Chimera	Chi-100G-5S-2P	3.31.0
	Chi-40G-2S-2P	3.31.0
Z400q Thor	Thor-400G-7S-1P	3.27.0
	Thor-100G-5S-4P	3.27.0
Z100q Loki	Loki-100G-5S-2P	3.32.0
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	3.13.0
Z10r Odin	Odin-10G-5S-6P-CU[b]	3.36.0
Z10s Odin	Odin-10G-1S-6P[b]	3.27.0
Z10sx Odin	Odin-10G-6S-6P	3.35.0
Z01s Odin	Odin-1G-3S-6P[b]	3.22.0
Z01sx Odin	Odin-1G-3S-6P-E	3.22.0
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	3.35.0
	Odin-10G-1S-2P[d]	3.27.0
All other non-EOL modules:		3.8.0
XenaManager	ValkyrieManager	1.97.9088.2
Xena1564	Valkyrie1564	1.36.8938
Xena2544	Valkyrie2544	2.92.9015
Xena2889	Valkyrie2889	1.46.8938
Xena3918	Valkyrie3918	1.47.8938
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.3.3
Xena Wireshark Plugin for TPLD		2.0
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.20.9098.1

From this release the version numbering scheme has been revised for module images, so it is now uniform across all modules. From this release it will now follow this versioning scheme: major.minor.patch+build

Updated documentation for CLI commands is found here:

https://docs.xenanetworks.com/projects/xoa-cli/en/latest/

Release Summary

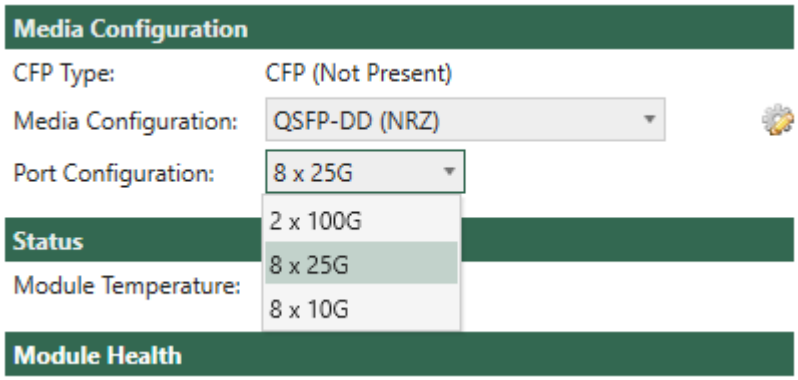
This release introduces the first NRZ speeds on Freya platform.

It also contains some minor changes to version numbering.

This release also includes general stability and performance improvements.

New Features

- **Z800q/Freya-800G-4S-1P on G2 version**: Support for **8x10G NRZ TGA** - multiple streams with latency and jitter statistics in QSFP-DD cage.
- **Z800q/Freya-800G-4S-1P on G2 version**: Support for **8x25G NRZ TGA** - multiple streams with latency and jitter statistics in QSFP-DD cage.
- **Z800q/Freya-800G-4S-1P on G2 version**: Support for **2x100G NRZ TGA** - multiple streams with latency and jitter statistics in QSFP-DD cage.



- On “Chassis Properties” “Driver version” has been removed from UI.
- On “Chassis Properties” “Firmware Version” has been renamed to “Version”. The CLI command to show the version for the chassis is: C_VERSIONSTR.
- On “Module Properties” "Version Number" has been renamed to "Version". The CLI command to show the version for the module is: M_VERSIONSTR.
- This release provides improved inter-module latency calibration

Known limitations:

- **Z800q/Freya-800G-4S-1P:** AN/LT is not supported on the NRZ speeds in this release.
- **Z800q/Freya-800G-4S-1P:** FEC error injection is not supported on the NRZ speeds in this release.

Bug fixes:

- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** In previous releases PR_CALIBRATE which automatically set the "latency offset" of the port did not work as intended. This has now been corrected.

Valkyrie Release Note – Release 98.2

Release Date:	**October 30, 2024**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		467.0.1
Test Modules		
Z800q Freya	Freya-800G-4S-1P	300
Z800o Freya	Freya-800G-4S-1P-OSFP	300
E100q Chimera	Chi-100G-5S-2P	331
	Chi-40G-2S-2P	331
Z400q Thor	Thor-400G-7S-1P	327
	Thor-100G-5S-4P	327
Z100q Loki	Loki-100G-5S-2P	332
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	313
Z10r Odin	Odin-10G-5S-6P-CU[b]	336
Z10s Odin	Odin-10G-1S-6P[b]	327
Z10sx Odin	Odin-10G-6S-6P	335
Z01s Odin	Odin-1G-3S-6P[b]	322
Z01sx Odin	Odin-1G-3S-6P-E	322
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	335
All other non-EOL modules:		308
XenaManager	ValkyrieManager	1.97.9040
Xena1564	Valkyrie1564	1.36.8938
Xena2544	Valkyrie2544	2.92.9015
Xena2889	Valkyrie2889	1.46.8938
Xena3918	Valkyrie3918	1.47.8938
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.3.3
Xena Wireshark Plugin for TPLD		2.1
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.20.9053.1

Updated documentation for CLI commands on is found here:

https://docs.xenanetworks.com/projects/xoa-cli/en/latest/

Release Summary

This release provides a fix for a bug found in R-98.1.

Bugfix:

Z800q/Freya-800G-4S-1P + Z800o/Freya-800G-4S-1P-OSFP: This release provides a fix for a bug found in R-98.1, where Users could experience that only the first port works when running ín 8x50G and 4x100G (56G) TGA modes. This has now been corrected in this release.

Utilities

Wireshark plugin: Version 2.1 of the Wireshark plugin now also supports Micro TPLD. In our Knowledge Base you find an updated Wireshark plugin for Xena TPLD, supporting Wireshark 3.0 and later The lua plugin file and instructions for install and upgrade can be found here: Wireshark integration for Xena (xenanetworks.com)

Valkyrie Release Note – Release 98.1

Release Date:	**October 24, 2024**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		467.0
Test Modules		
Z800q Freya	Freya-800G-4S-1P	300
Z800o Freya	Freya-800G-4S-1P-OSFP	300
E100q Chimera	Chi-100G-5S-2P	331
	Chi-40G-2S-2P	331
Z400q Thor	Thor-400G-7S-1P	327
	Thor-100G-5S-4P	327
Z100q Loki	Loki-100G-5S-2P	332
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	313
Z10r Odin	Odin-10G-5S-6P-CU[b]	336
Z10s Odin	Odin-10G-1S-6P[b]	327
Z10sx Odin	Odin-10G-6S-6P	335
Z01s Odin	Odin-1G-3S-6P[b]	322
Z01sx Odin	Odin-1G-3S-6P-E	322
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	335
All other non-EOL modules:		308
XenaManager	ValkyrieManager	1.97.9040
Xena1564	Valkyrie1564	1.36.8938
Xena2544	Valkyrie2544	2.92.9015
Xena2889	Valkyrie2889	1.46.8938
Xena3918	Valkyrie3918	1.47.8938
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.3.3
Xena Wireshark Plugin for TPLD		2.0
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.20.9053.1

Updated documentation for CLI commands on is found here:

https://docs.xenanetworks.com/projects/xoa-cli/en/latest/

Release Summary

This release introduces;

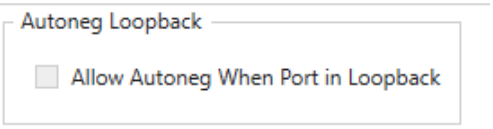
- Support for **8x50G 56G SerDes** in QSFP-DD/OSFP cage on Z800q/Freya.
- Support for **Sync Start Traffic** in TGA modes on Z800q/Freya.
- An **Extended Payload Editor** that allows you to customize/configure the entire payload area of a stream in addition to the pre-define payload patterns.
- The ability to **customize the transceiver memory page definitions in CMIS Explorer.**
- The feature to Z800q/Freya to allow **AN** when Port is running with **Loopback.**

This release also includes:

- **Bug fixes** for both **Z800q/Freya, Z400q/Thor, Z100q/Loki, Z10/Odin, Z01/Odin and E100q/Chimera modules, XenaManager, Xena2544 and Xena1564.**
- A new version of the ChassisUpgrader which informs the user – prior to upgrading - if the modules in a system are EoL
- M**inor bug fixes** and **general performance improvements**.
- A new version of the **Wireshark plugin**, supporting Wireshark 3.0 and later **to preview and capture packets**.

New Features

- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP**: Support for **8x50G 56G SerDes** in Layer 1 mode (single stream TGA without stream statistics) in QSFP-DD/OSFP cage
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP**: Support for **8x50G 56G SerDes TGA** - multiple streams with latency and jitter statistics in QSFP-DD/OSFP cage
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** Support for Sync Start Traffic in TGA modes.
- In this release XenaManager is able to open ValkyrieManager configuration files (**.vmcfg**).
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP**: Allow Autoneg When Port in Loopback is added in XenaManager Port>AN/LT tab:



- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP**: TX tap presets and IEEE/Level calculations are updated in this release. When selecting “IEEE” format on the Port=>Medium=>TX Taps page, the c-coefficients can be inspected and changed directly.

  The following rules apply:

  - c(0) ≥ 0.5 approx. and ≤ 1
  - c(1) and c(-1) ≤ 0 and ≥ -0.4 approx.
  - c(-2) ≥ 0 and ≤ 0.25 approx.
  - c(-3) ≤ 0 and ≥ -0.25 approx.
  - Taking the absolute values of each c, the sum must be <=1.
  - A sum of 1 corresponds to a TX output voltage swing of 1000 mVpp approx.

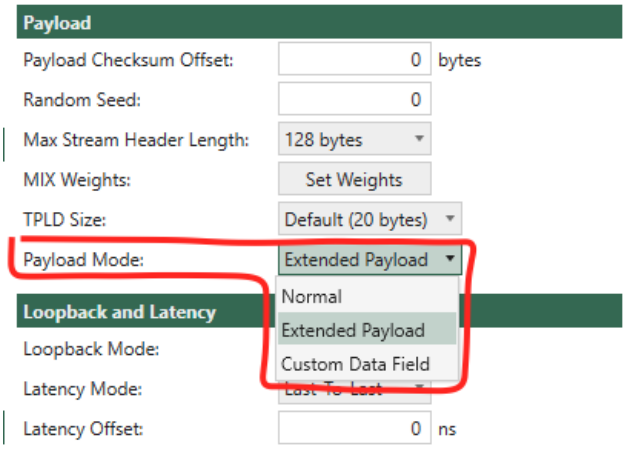
  The pre- and post cursors are entered as the equalization level in dB. The equalization level for any Pre/Post cursor, c(n), is defined as:

  $$E = 20*LOG((c(0)+|c(n)|) / (c(0) – |c(n)|))$$

  where LOG is the base-10 logarithm.

- **Extended Payload Editor** is a powerful UI feature that allows you to customize/configure the entire payload area of a stream in addition to the pre-define payload pattern e.g. Incrementing 8-bits, Pattern, Random, and PRBS-31.

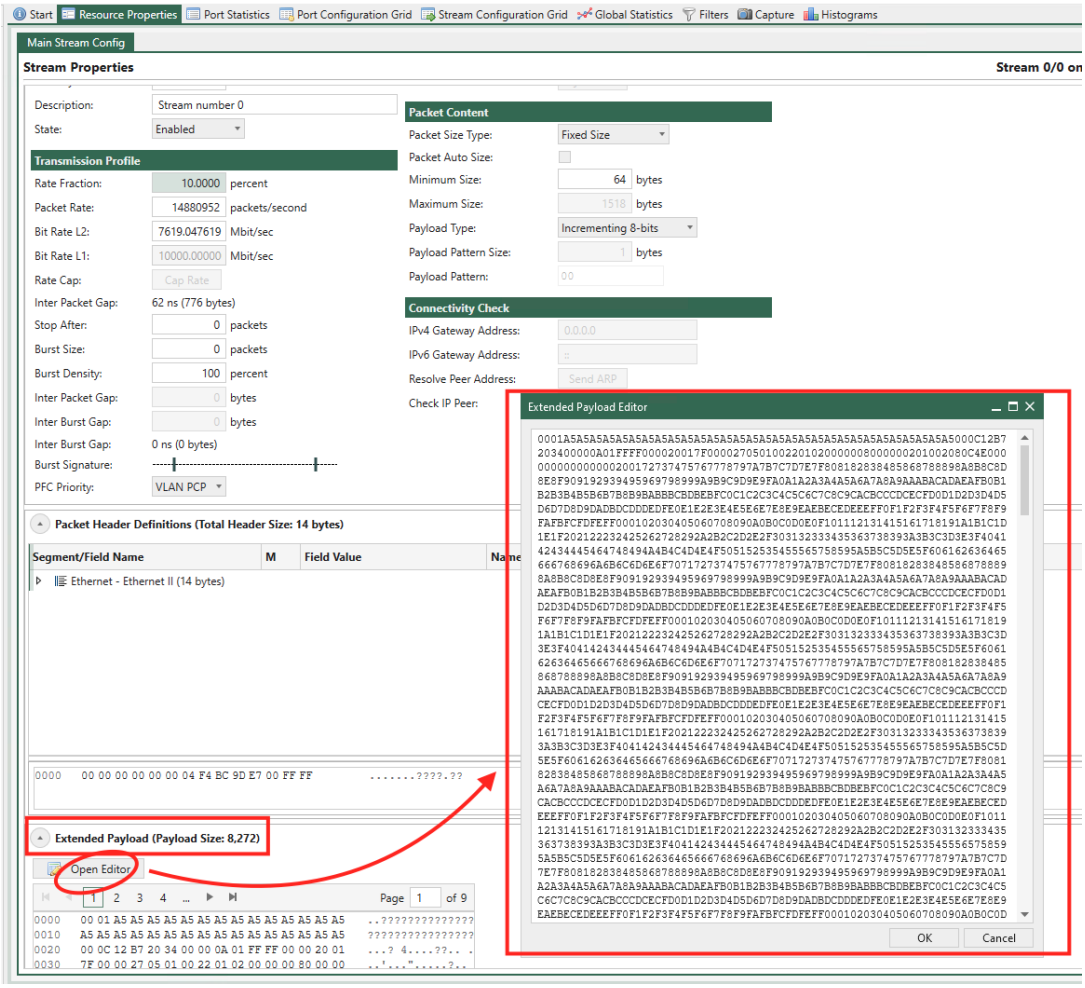
  Please note that the Extended Payload Editor is only enabled when you set the port’s Payload Mode to Extended Payload as shown below. This will enable all the streams under the port to accept the extended payload configuration.

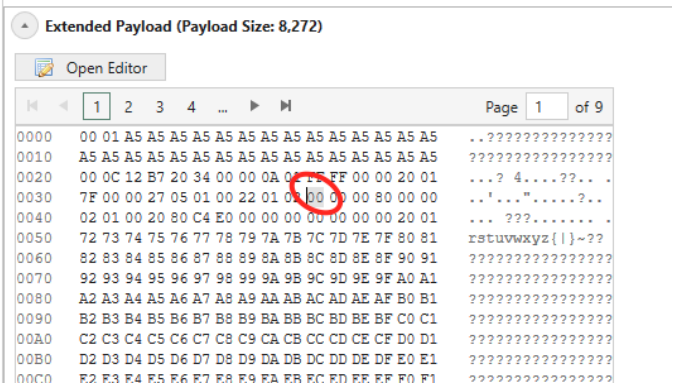


  On a stream under the port that has Payload Mode set to Extended Payload, you find the Extended Payload editor as shown below. Click Open Editor and paste the payload data in hex strings and click OK. Then you can see your payload data in a byte-ascii grid view where each row contains 16 bytes.

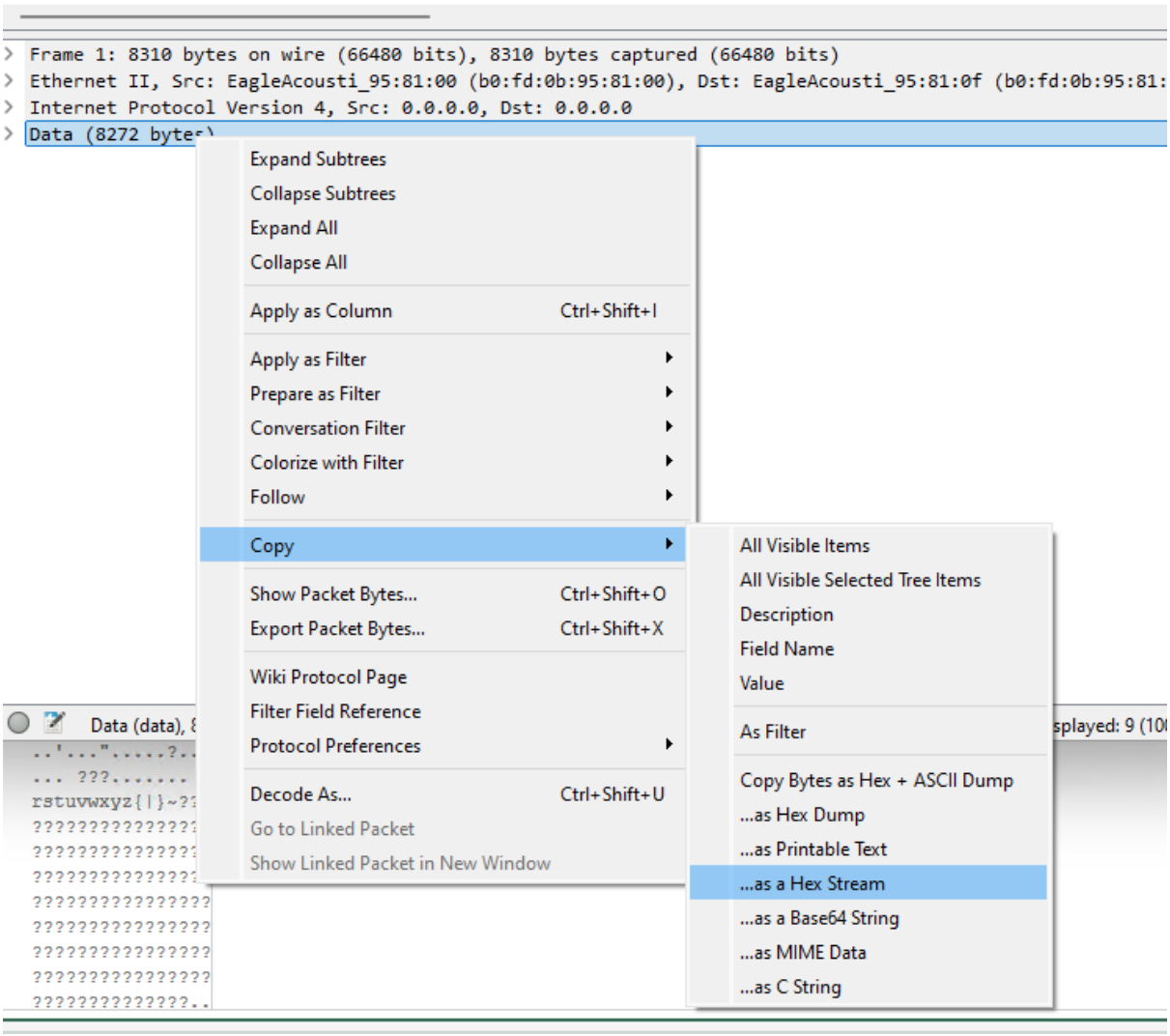
  If you want to do adjustment to some bytes, you can click on the byte and enter the value.

  If the Extended Payload is not empty, the stream will use the provided payload data. If empty, the stream will use the configuration from Packet Content > Payload Type.



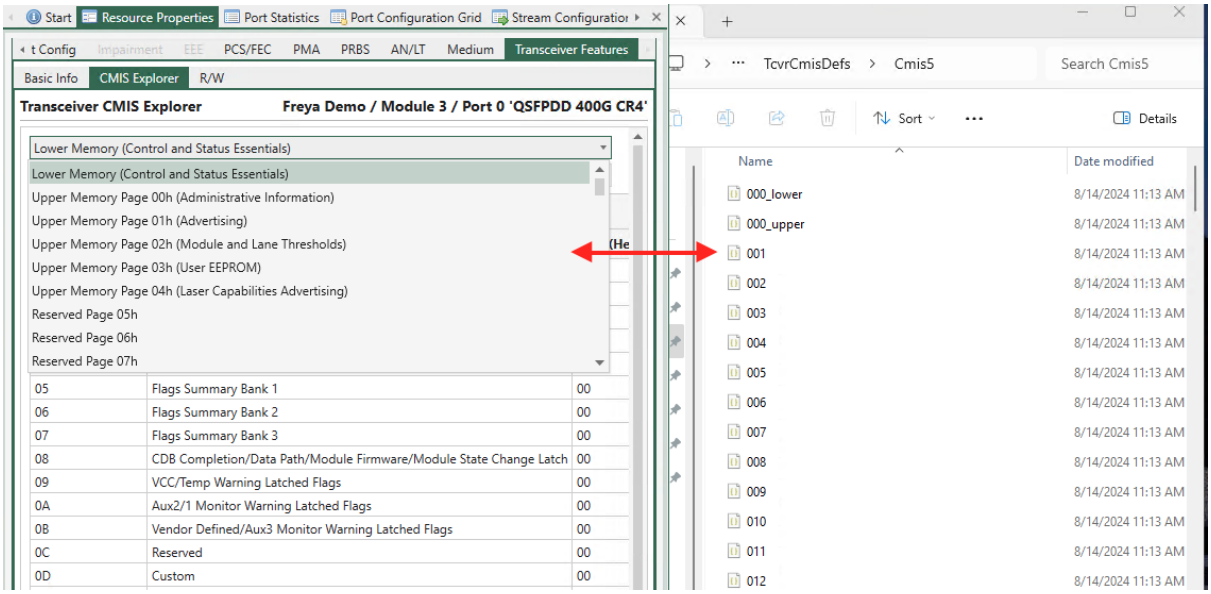


To quickly import the payload data from a pcap file, you can use Wireshark to copy the payload data and then paste it into the Extended Payload editor:


Frame 1: 8310 bytes on wire (66480 bits), 8310 bytes captured (66480 bits)
Ethernet II, Src: EagleAcousti_95:81:00 (b0:fd:0b:95:81:00), Dst: EagleAcousti_95:81:0f (b0:fd:0b:95:81:
Internet Protocol Version 4, Src: 0.0.0.0, Dst: 0.0.0.0
Data (8272 byte
Expand Subtrees
Collapse Subtrees
Expand All
Collapse All
Apply as Column Ctrl+Shift+I
Apply as Filter
Prepare as Filter
Conversation Filter
Colorize with Filter
Follow
Copy
Show Packet Bytes... Ctrl+Shift+O
Export Packet Bytes... Ctrl+Shift+X
Wiki Protocol Page
Filter Field Reference
Protocol Preferences
Decode As... Ctrl+Shift+U
Go to Linked Packet
Show Linked Packet in New Window
All Visible Items
All Visible Selected Tree Items
Description
Field Name
Value
As Filter
Copy Bytes as Hex + ASCII Dump
...as Hex Dump
...as Printable Text
...as a Hex Stream
...as a Base64 String
...as MIME Data
...as C String

- **CMIS Explorer** allows you to **customize the transceiver memory page definitions**. You can decide which page to display, specify which bytes on a page to show, and provide descriptions for both pages and bytes.

  When you launch XenaManager (R98.1) for the first time, the application creates a folder at C:\Users\username\Documents\Xena\XenaManager\TcvrCmisDefs and generates a CMIS page definition JSON file for each page according to the CMIS specification. Consequently, there are 257 definition files for each CMIS specification. These definition files are used by XenaManager to populate the CMIS page selection drop-down list.



  When you want to customize a page, simply go to the corresponding folder and open the corresponding JSON file for that page.

```
{
  "version": "1.0",
  "cmis_rev": "Cmis5",
  "page": 5,
  "page_description": "Reserved Page 05h",
  "is_banked": false,
  "reg_list": [
    {
      "description": "Reserved",
      "address": 128,
      "access_type": "RW"
    },
    {
      "description": "Reserved",
      "address": 129,
      "access_type": "RW"
    },
    {
      "description": "Reserved",
      "address": 130,
      "access_type": "RW"
    },
    {
      "description": "Reserved",
      "address": 131,
      "access_type": "RW"
    },
    {
      "description": "Reserved",
      "address": 132,
      "access_type": "RW"
    },
    {
      "description": "Reserved",
      "address": 133,
      "access_type": "RW"
    },
```

page_description: this is the page name shown in the drop-down selection list
reg_list: this list contains the bytes you want the CMIS Explorer to show on this page

- **description**: this is the description of the byte
- **address**: address of the byte

It is recommended that you save a copy of the entire TcvrCmisDefs folder if you want to do customization because XenaManager doesn't provide the undo feature.

XenaManager **only** regenerates the definition files if the subfolders cannot be found. For example, if TcvrCmisDefs/Cmis5 is missing, XenaManager will generate TcvrCmisDefs/Cmis5 and its definition files.

- **XenaManager Test Report:** Information about inserted medium shown on "Basic info" on "Transceiver Features" and PRBS results (if selected) are included in XenaManager Test Report in this release

Bug Fixes

- **Z800q/Freya-800G-4S-1P:** In previous versions LED's on QSFP112 port did not provide status indications. This has been corrected in this release.
- **Z400q/Thor-400G-7S-1P, Thor-100G-5S-4P & Z100q/Loki-100G-5S-2P:** In Val-98 the system returns "TX and RX lane swap/skew unsupported". This also meant the features were not visible in XenaManager. This is now corrected.
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** If users had enabled multiple streams on in **TGA** mode users could experience that one stream could get a lower rate while the other streams could get a higher rate than configured. This has now been corrected.
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** If streams were set **suppressed** and then enable users could experience frame loss. This is now corrected.
- **Z400q/Thor-400G-7S-1P, Thor-100G-5S-4P & Z100q/Loki-100G-5S-2P:** In previous versions where IEEE and ETC options are shown in UI on the “PCS Variant” section on the “PCS/FEC” tab users could choose IEEE, but afterwards user would get an error message. This has now been corrected so IEEE is chosen pr. default (CAS-15107)
- **Z100q/Loki-100G-5S-2P**: In previous version single PRBS Error Inject was missing from GUI. This is now shown again in XenaManager
- **Z100q/Loki-100G-5S-2P**: This release provides a fix for a bug which could be seen in PRBS mode where a Inject single error could get the system to crash. This has been fixed in this release
- **Z01/Odin modules & Z10cc/Odin-10G-4S-2P-Combi:** When configuring IP-in-IP in users could see a wrong IP Checksum. This has been corrected.
- **Z10r/Odin-10G-5S-6P-CU[b] & Z10sx/Odin-10G-6S-6P:** Custom Data Field/Extended payload did not work properly in speeds under 10G. This is now corrected.
- **Z10t/Odin-1G-3S-6P-T1-RJ45**: **Autoneg with BroadR-Reach**: In this release the 100M/1000M auto-negotiation configuration options have been optimized so the user has these options:
    - Fixed 100, manual Master/Slave
    - Fixed 1000, manual Master/Slave
    - AUTO 100/1000, auto Master/Slave
        - Setting local port to Master will force it to Master; if peer also attempts to force Master, the link will not be established
        - Setting both local and peer to Slave will let auto-negotiation resolve Master/Slave roles

- **E100q/Chi-100G-5S-2P & Chi-40G-2S-2P:** In some cases if active traffic was running on your testbed and you selected “use” on a Chimera port while the traffic was running the system could crash. This has been corrected in this release.
- In **Transceiver Features** under “Basic Info” SNR values were not shown correct. This is now corrected.
- In **“CMIS Explorer”** under “Transceiver Features” – When saving CMIS Explorer data to file the hex results in the file was showing decimal values. This has been corrected in this release so data is shown as hex values.
- In some cases user could experience that **timestamps** were misaligned between ports on same module/chassis. This has been fixed in this release

- In the "**Transceiver Basic Info**" under "Transceiver Features" the value for the **temperature reading** in some cases was not correct. This has been corrected in this release.
- In the "**Transceiver Basic Info**" under "Transceiver Features" If the **temperature reading** of inserted medium is read out of the register as 0 ºC the UI will now show N/A.
- If a Ethernet+IPv4 stream was created and a **modifier** added for **protocol segment field on IPv4** the modifier set to a different offset than configured and not change the protocol (8 bit) field. This has now been corrected (CAS-15090).
- In some cases clearing the FEC counters could lead to a short incorrect **spike in the FEC counter values**. This behavior has been changed so it do not give this incorrect spike values.
- In this release "Statistics Charting" **Gap monitor duration** axis has been changed so it now changes the scaling dynamically instead of a fixed value.

Xena2544

New Features

- **Xena2544** protocol segment profile title now includes VXLAN VNI (CAS-14595)

Bug Fixes

- In previous version some users could experience **negative latency values** when running traffic between ports of different speeds. This has been fixed in this release (CAS-15100)

Xena1564

Bugfix:

- This release includes a fix for input validation of PR_UAT_STATUS and PR_UAT_TIME commands which in some configurations could causes errors in Xena1564.

ChassisUpgrader

- **ChassisUpgrader** – If a module is End of Life (EoL) as described in: Xena Business Terms (xenanetworks.com) the module is no longer supported by Teledyne LeCroy Xena. XenaUpgrader will indicate if EoL module(s) were detected when syncronizing chassis status. Be aware that if EoL modules are installed in your chassis they can impact performance and stability on your system, including on non-EoL modules.

Utilities

- **Wireshark plugin**: Wireshark changed the lua integration in version 4.4.0 so the previous Wireshark-Xena plugin did not work as intended above Wireshark 4.2.7. In our Knowledge Base you find an updated Wireshark plugin for Xena TPLD, supporting Wireshark 3.0 and later The lua plugin file and instructions for install and upgrade can be found here: Wireshark integration for Xena (xenanetworks.com)

Valkyrie Release Note – Release 98

Release Date:	**July 18, 2024**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		465.13
Test Modules		
Z800q Freya	Freya-800G-4S-1P	69
Z800o Freya	Freya-800G-4S-1P-OSFP	69
E100q Chimera	Chi-100G-5S-2P	331
	Chi-40G-2S-2P	331
Z400q Thor	Thor-400G-7S-1P	327
	Thor-100G-5S-4P	327
Z100q Loki	Loki-100G-5S-2P	331
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	312
Z10r Odin	Odin-10G-5S-6P-CU[b]	334
Z10s Odin	Odin-10G-1S-6P[b]	327
Z10sx Odin	Odin-10G-6S-6P	334
Z01s Odin	Odin-1G-3S-6P[b]	321
Z01sx Odin	Odin-1G-3S-6P-E	321
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	334
All other non-EOL modules:		308
XenaManager	ValkyrieManager	1.96.8949.2
Xena1564	Valkyrie1564	1.36.8938
Xena2544	Valkyrie2544	2.91.8938
Xena2889	Valkyrie2889	1.46.8938
Xena3918	Valkyrie3918	1.47.8938
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.3.0
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.19.8903.1

Updated documentation for CLI commands on is found here:

https://docs.xenanetworks.com/projects/xoa-cli/en/latest/

Release Summary

This release introduces Teledyne naming on modules, chassis, and test suites.

This is the first release which enables the QSFP112 on the Z800q/Freya-800-4S-1P modules, enabling 112G SerDes speeds of 400G, 200G and 100G in both in QSFP112 TGA and Layer 1 modes.

This release also provides support for 1x400G, 2x200G and 4x100G 56G SerDes in Layer 1 modes on Z800q/Freya-800-4S-1P and Z800o/Freya-800-4S-1P-OSFP modules.

In this release TX Lane Swap is introduced for Z800q/Freya-800-4S-1P and Z800o/Freya-800-4S-1P-OSFP modules in Layer 1 modes.

With this release we also include slicers in Signal Integrity View for Z800q/Freya-800-4S-1P and Z800o/Freya-800-4S-1P-OSFP modules in Layer 1 modes.

In this release we introduce an advanced FEC error injection feature for Z800q/Freya-800-4S-1P and Z800o/Freya-800-4S-1P-OSFP modules in Layer 1 modes, giving users the option to configure FEC error injection so they can validate DUT's FEC error correction mechanisms.

After the introduction of "Basic Transceiver Info" in previous software versions, we now introduce the "CMIS Explorer" as the next feature in the same feature area, exposing detailed register information, as well as giving option to write into registers as defined according to CMIS specification.

This release also adds support for 8x10G/8x25G/2x40G/4x50G NRZ in a single QSFP-DD cage on Z400q/ Thor-400G-7S-1P[b], [c] and [d] versions.

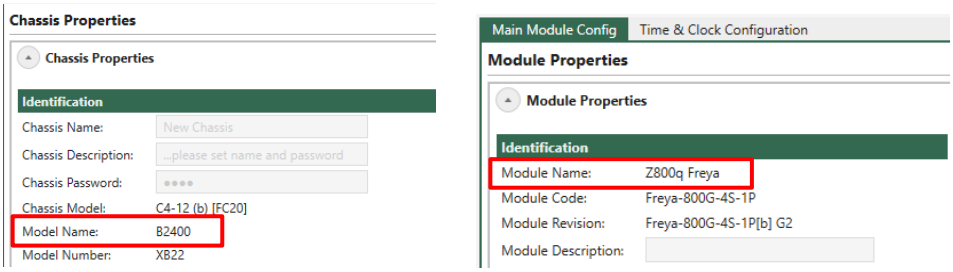
Finally, this release also includes several minor bug fixes for Odin/Z10 and test suites as well as general performance improvements to the systems.

This release also includes an updated version of the ANLT Utility.

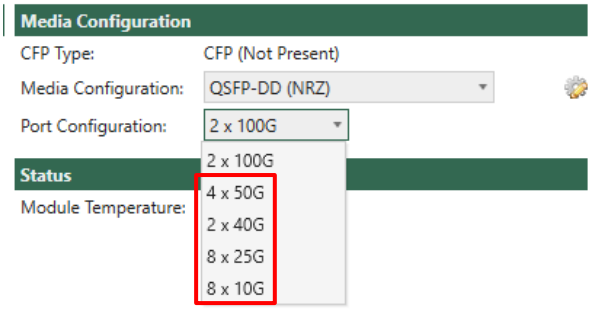
Please read the detailed description about all the included features and bug fixes in the following sections.

New Features

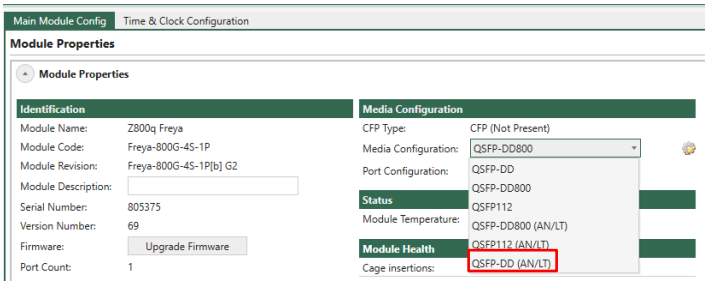
- Teledyne chassis and module names have been added to “Identification” under “Module Properties”:



- In this release test suites have been renamed to Xena1564, Xena2544, Xena2889 and Xena3918.
- Z400q/Thor-400G-7S-1P[b], [c] and [d] versions: This release adds support for 8x10G/8x25G/2x40G/4x50G NRZ in a single QSFP-DD cage:

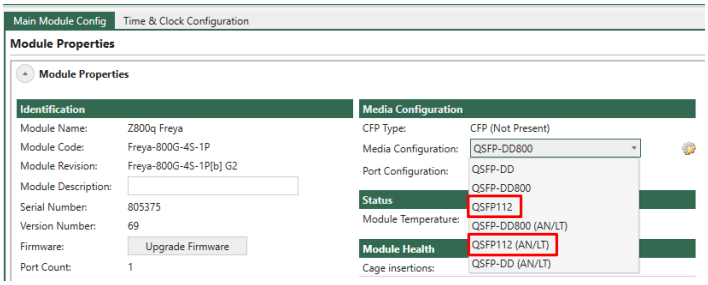


- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** In Media Configuration, users can now choose QSFP-DD (56G SerDes) Layer 1 mode (shown as AN/LT), as shown below:



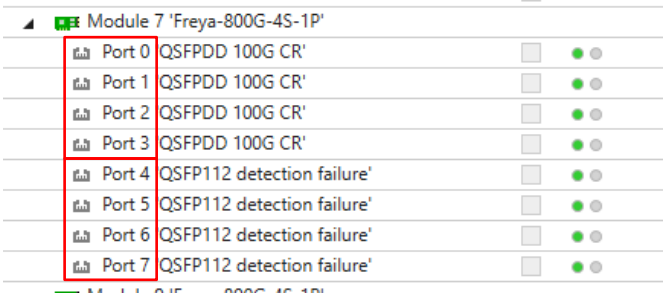
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** Support for **1x400G 56G SerDes** in Layer 1 mode (single stream TGA without stream statistics)
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** Support for **2x200G 56G SerDes in Layer 1 mode** (single stream TGA without stream statistics)
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** Support for **4x100G 56G SerDes in Layer 1 mode** (single stream TGA without stream statistics)

- **Z800q/Freya-800G-4S-1P:** In Media Configuration, users can now choose **QSFP112** TGA mode or **QSFP112** Layer 1 mode (shown as AN/LT), as shown below:

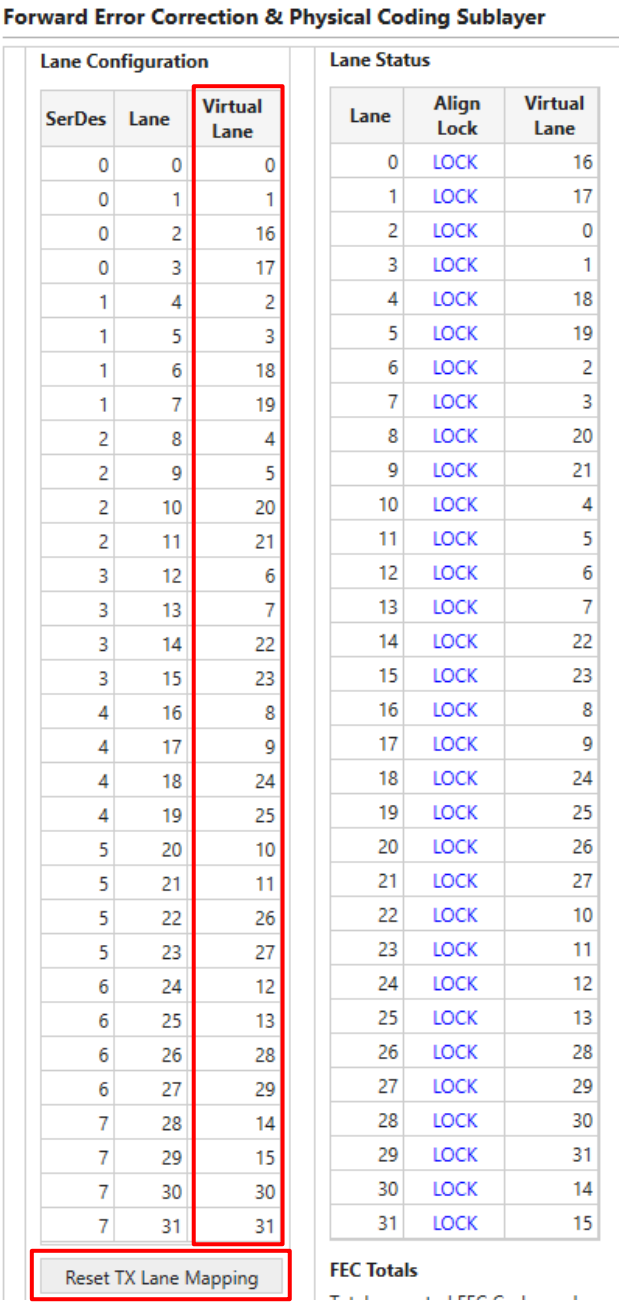


- **Z800q/Freya-800G-4S-1P:** Support for **2x400G 112G SerDes TGA** - multiple streams with latency and jitter statistics in **QSFP112** mode.
- **Z800q/Freya-800G-4S-1P:** Support for **4x200G 112G SerDes TGA** - multiple streams with latency and jitter statistics in **QSFP112** mode
- **Z800q/Freya-800G-4S-1P:** Support for **8x100G 112G SerDes TGA** - multiple streams with latency and jitter statistics in **QSFP112** mode
- **Z800q/Freya-800G-4S-1P:** Support for **2x400G 112G SerDes** in **QSFP112** Layer 1 mode (single stream TGA without stream statistics)
- **Z800q/Freya-800G-4S-1P:** Support for **4x200G 112G SerDes** in **QSFP112** Layer 1 mode (single stream TGA without stream statistics)
- **Z800q/Freya-800G-4S-1P:** Support for **8x100G 112G SerDes** in **QSFP112** Layer 1 mode (single stream TGA without stream statistics)

Please note! In QSFP112 mode the ports will be split between the QSFP-DD cage and the QSFP112 cage as shown below with 8x100G modes on Freya port = 4 ports provided in QSFP-DD cage and 4 ports provided in QSFP112 cage:



- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** In this release PCS **TX Lane swap** is supported in Layer 1 modes, so user can configure Virtual Lane ID on TX side. To revert lane mapping settings to default this feature also includes a "**Reset TX Lane Mapping**" function:



Forward Error Correction & Physical Coding Sublayer

Lane Configuration

SerDes	Lane	Virtual Lane
0	0	0
0	1	1
0	2	16
0	3	17
1	4	2
1	5	3
1	6	18
1	7	19
2	8	4
2	9	5
2	10	20
2	11	21
3	12	6
3	13	7
3	14	22
3	15	23
4	16	8
4	17	9
4	18	24
4	19	25
5	20	10
5	21	11
5	22	26
5	23	27
6	24	12
6	25	13
6	26	28
6	27	29
7	28	14
7	29	15
7	30	30
7	31	31

Reset TX Lane Mapping

Lane Status

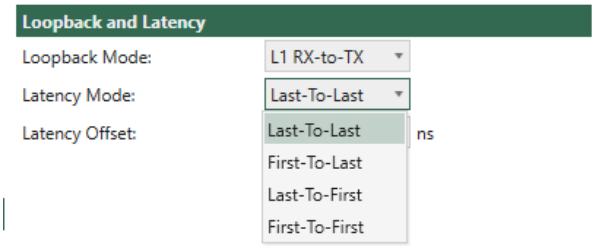
Lane	Align Lock	Virtual Lane
0	LOCK	16
1	LOCK	17
2	LOCK	0
3	LOCK	1
4	LOCK	18
5	LOCK	19
6	LOCK	2
7	LOCK	3
8	LOCK	20
9	LOCK	21
10	LOCK	4
11	LOCK	5
12	LOCK	6
13	LOCK	7
14	LOCK	22
15	LOCK	23
16	LOCK	8
17	LOCK	9
18	LOCK	24
19	LOCK	25
20	LOCK	26
21	LOCK	27
22	LOCK	10
23	LOCK	11
24	LOCK	12
25	LOCK	13
26	LOCK	28
27	LOCK	29
28	LOCK	30
29	LOCK	31
30	LOCK	14
31	LOCK	15

FEC Totals

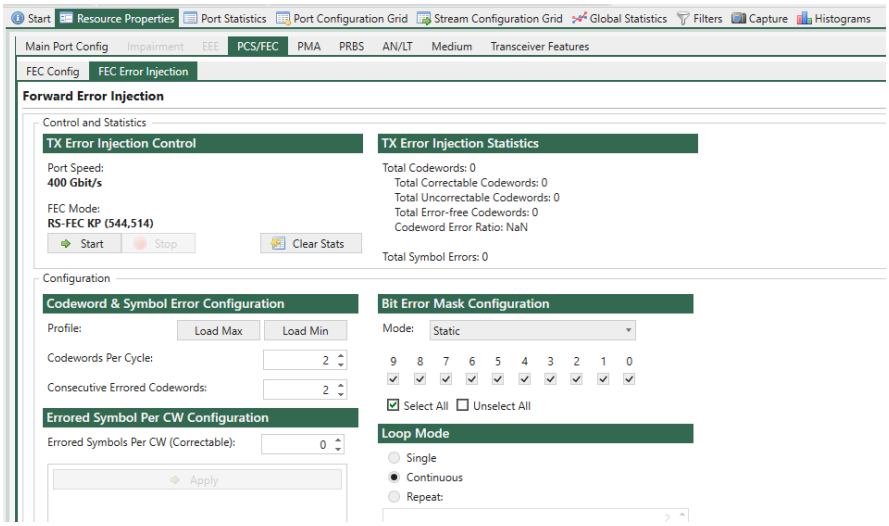
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** This release provides support for **TCP/UDP checksums.**

- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** This release provides support for the following **Latency modes** on the “Main Port Config” page under “Loopback & Latency”:

    - Last-To-Last
    - First-To-Last
    - Last-To-First
    - First-To-First



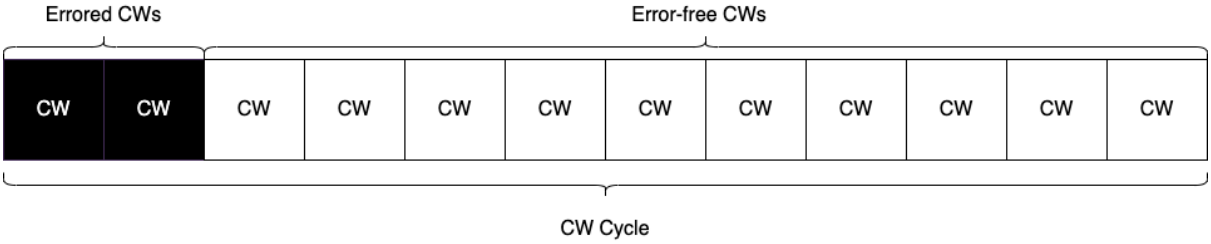
- **Z800q/Freya-800G-4S-1P & Z800o/Freya-800G-4S-1P-OSFP:** In this release **FEC Error Injection** for RS-FEC KP (544,514) and RS-FEC-Int (544,514) has been added as a new feature in 56G and 112G Layer 1 modes.
  (Note that in this release, FEC Error Injection is made in all FEC engines of the selected port).



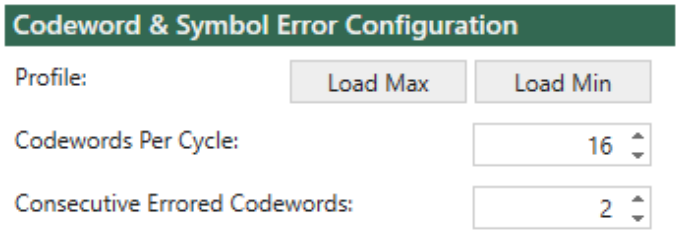
In the following each section of this view will be described.

Codeword Cycle, Codeword & Symbol Error Configuration:

On the codeword level, you configure the number of codewords of an Codeword injection cycle. The errored codewords are placed before the error-free.

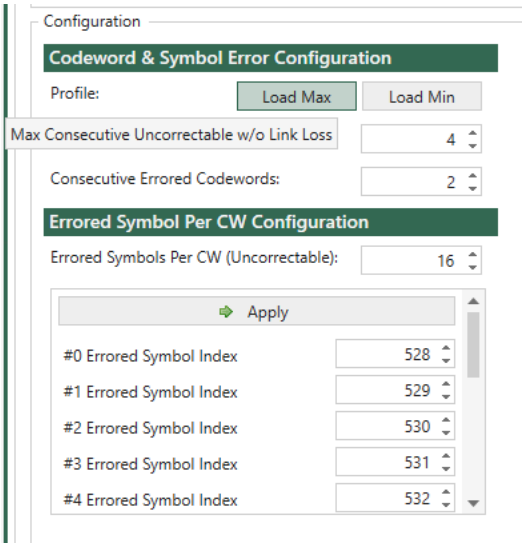


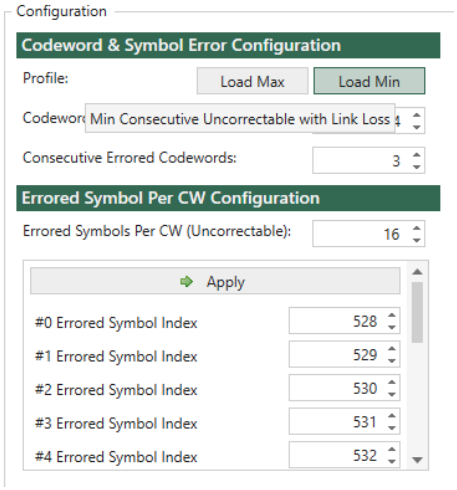
The **Codewords Per Cycle** must be an even integer for 112G serdes, e.g. 2, 4, 6, 8, etc. Inside a cycle, you can configure the number of **Consecutive Errored Codewords**, in which at least one errored symbol is injected:



There are two pre-defined profiles that you can load:

- Max Consecutive Uncorrectable w/o Link Loss
- Min Consecutive Uncorrectable with Link Loss

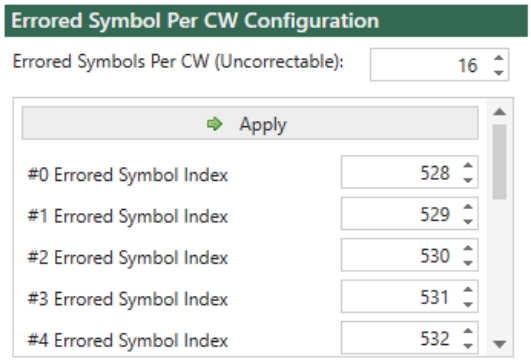




After loading the profile, you can still customize this to meet your test requirements. (Note: you need to click the Apply button to commit the errored symbol index list after loading the profile)

Errored Symbol Per CW Configuration

On the symbol level, you configure the quantity of errored symbols inside an errored CW in **Errored Symbols Per CW**, and the **position of each errored symbol** in the list below it.

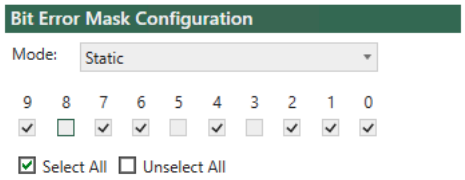


For RS-FEC KP and RS-FEC-Int, a CW with more than 15 errored symbols is uncorrectable, which you can see as you configure.

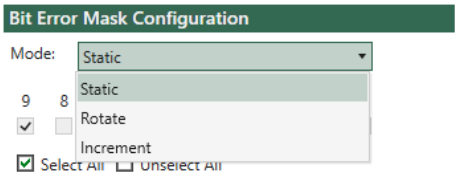
Every time the errored symbol index list is changed, you will need to click Apply to commit the change to the chassis. If you have many indices to change, you can use the tab key on the keyboard to go from one index to the next, or shift + tab to go back.

Bit Error Mask Configuration

On the bit level, you configure the quantity of errored bits inside an errored symbol, and their position. Use the bit mask pattern checkbox to select which bits are errored inside an errored symbol. The most significant bit (bit 9) is placed on the left, and the least significant bit (bit 0) on the right:



There are three modes you can choose:



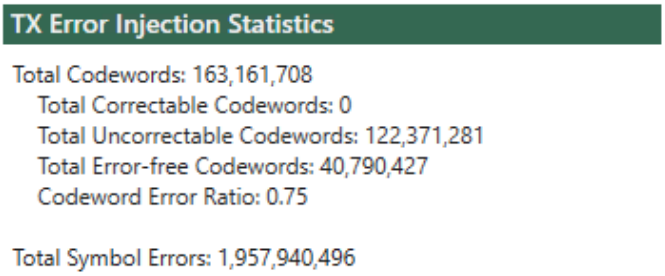
- Static: The bit error pattern stays the same for all errored symbols.
- Rotate: The bit error pattern shifts one bit to the most significant bit per errored symbol.
- Increment: When this mode is selected, the bit error pattern is ignored. Instead, the bit error pattern initiates from 000000001, 000000010, 000000011, continuing up to 111111111, and repeating the sequence as 000000001…

Loop Mode

There are three loop modes for you to control how many cycles to inject:

- Single: Inject a single cycle.
- Continuous: continuously inject cycles until explicitly stop.
- Repeat: Inject a specific number of cycles (max 65,535)

TX Error Injection Statistics



In the TX statistics, you can find the following counters:

- Total transmitted CWs
- Total correctable CWs (errored but with <=15 errored symbols)
- Total uncorrectable CWs (errored and with >15 errored symbols)
- Total error-free CWs
- CW error ratio (1-total-error-free/total-cws)

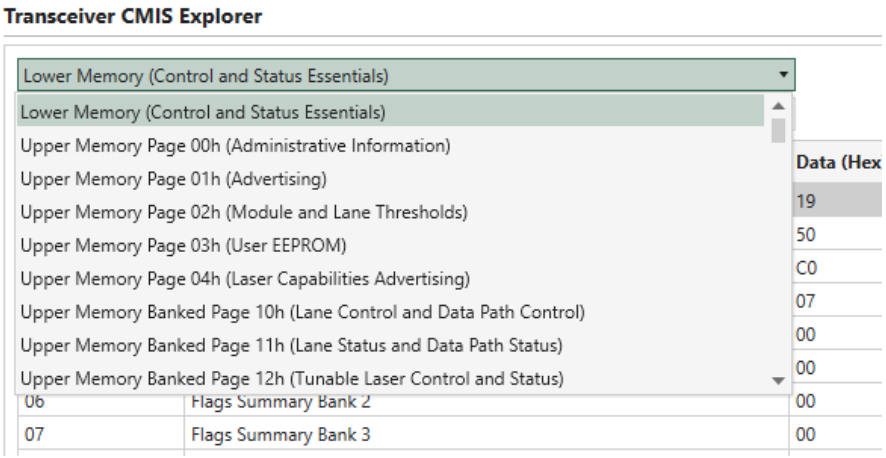
- Total transmitted errored symbols

Note: Each FEC engine injects errors according to the configurations. This means, that the total counters are what you configure on the UI times the number of FEC engines.

- This release provides a new feature: **CMIS Explorer**. CMIS Explorer provides you with a memory byte view of the transceiver plugged into the cage. CMIS Explorer can be found under Port > Resource Properties > Transceiver Features.

  CMIS Explorer provides the following functionalities:

  - **Page selection**. Use the **page selection drop-down list** to select the page you want to view:



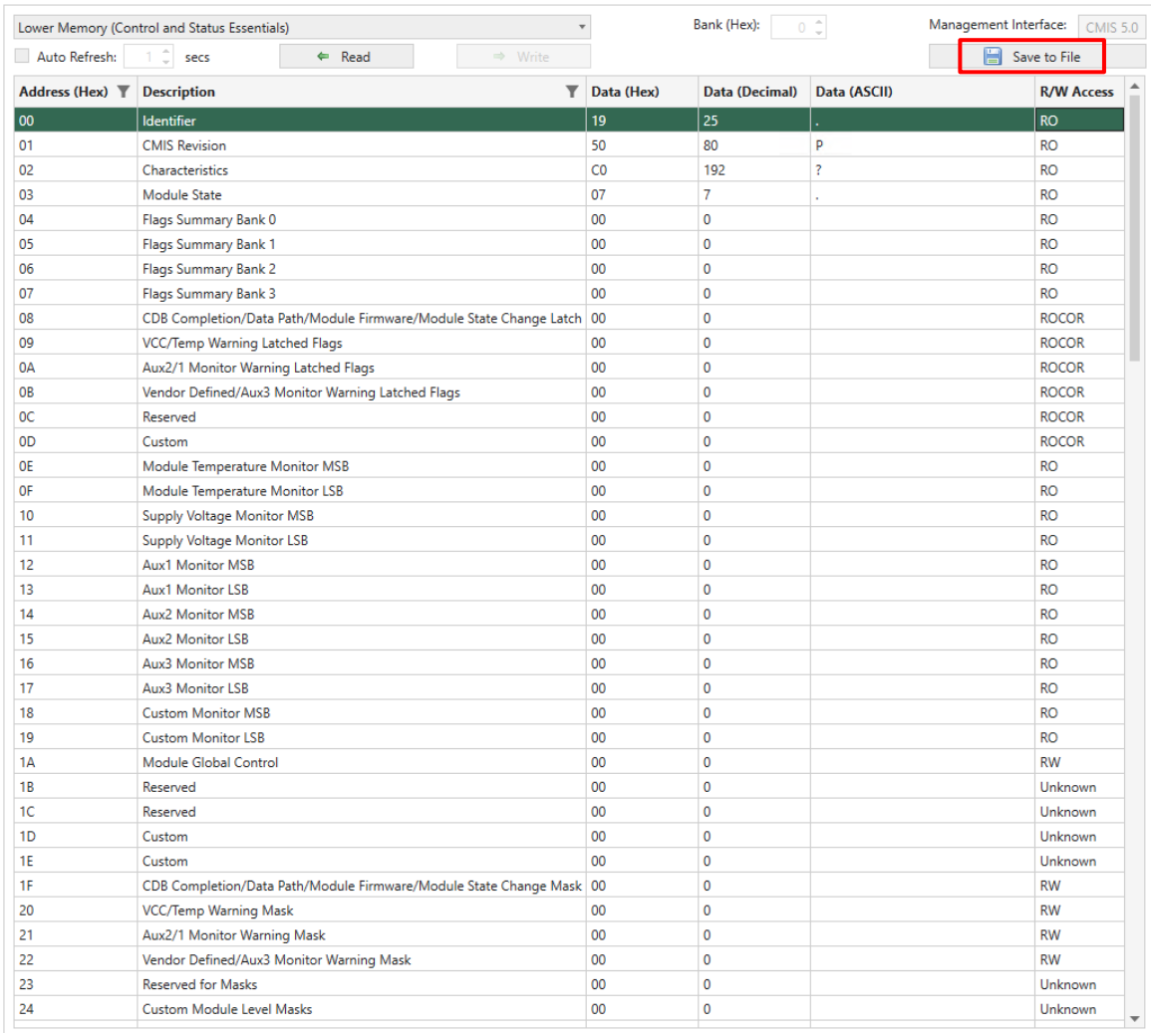
  - **Bank selection** (for banked pages). Use the **Bank (Hex) stepper** field to select the bank.
  - View the CMIS specification version of the transceiver in **Management Interface**.
  - Description of each byte.
  - **Read** values of register bytes. Each row corresponds to a byte on the page. The value of a byte is presented in three columns:
    - **Data (Hex)**: raw binary value of the byte in hex format.
    - **Data (Decimal)**: decimal format of the byte value.
    - **Data (ASCII)**: ASCII format of the byte value.
  - On-demand read and auto-refresh.
    - Clicking **Read button** trigger an **on-demand read** of all the bytes of the selected page/bank.
    - If you need to periodically monitor the page/bank, you can enable auto-refresh by enabling **Auto Refresh** with a **polling interval** in seconds.
  - **Write** values into register bytes. Click on the cells in Data (Hex) or Data (Decimal) to enter the corresponding value you want to write.
    - Click the **Write** button to **commit the write changes**. This allows you to batch write into the page/bank of the transceiver.

  (Note: writing into RO bytes is allowed but the value will be ignored by the transceiver)

- R/W Access. The CMIS Explorer shows the read/write access level of each byte.

R/W Access Level	Description
RW	A readable and writeable element.
RWW	A readable and writeable element that can also be modified by the module.
RO	A read-only element. A WRITE of a value to a read-only element is allowed but has no effect.
WO	A write-only element. A READ from a write-only element is allowed but delivers unpredictable values.
WOSC	A write-only element with self-clearing side effect. A READ from a WO/SC element is allowed and delivers a zero value, except transiently when reading before the module has evaluated and cleared the non-zero bits written.
ROCOR	A read-only element with clear-on-read (clear-after-read) side effect. All bits in a RO/COR Byte are cleared by the module after the Byte value has been read.

- Save selected the page/bank into csv file. Click **Save to File button** to save the entire table into a csv file, including all information shown in the table.



Address (Hex)	Description	Data (Hex)	Data (Decimal)	Data (ASCII)	R/W Access
00	Identifier	19	25	.	RO
01	CMIS Revision	50	80	P	RO
02	Characteristics	C0	192	?	RO
03	Module State	07	7	.	RO
04	Flags Summary Bank 0	00	0		RO
05	Flags Summary Bank 1	00	0		RO
06	Flags Summary Bank 2	00	0		RO
07	Flags Summary Bank 3	00	0		RO
08	CDB Completion/Data Path/Module Firmware/Module State Change Latch	00	0		ROCOR
09	VCC/Temp Warning Latched Flags	00	0		ROCOR
0A	Aux2/1 Monitor Warning Latched Flags	00	0		ROCOR
0B	Vendor Defined/Aux3 Monitor Warning Latched Flags	00	0		ROCOR
0C	Reserved	00	0		ROCOR
0D	Custom	00	0		ROCOR
0E	Module Temperature Monitor MSB	00	0		RO
0F	Module Temperature Monitor LSB	00	0		RO
10	Supply Voltage Monitor MSB	00	0		RO
11	Supply Voltage Monitor LSB	00	0		RO
12	Aux1 Monitor MSB	00	0		RO
13	Aux1 Monitor LSB	00	0		RO
14	Aux2 Monitor MSB	00	0		RO
15	Aux2 Monitor LSB	00	0		RO
16	Aux3 Monitor MSB	00	0		RO
17	Aux3 Monitor LSB	00	0		RO
18	Custom Monitor MSB	00	0		RO
19	Custom Monitor LSB	00	0		RO
1A	Module Global Control	00	0		RW
1B	Reserved	00	0		Unknown
1C	Reserved	00	0		Unknown
1D	Custom	00	0		Unknown
1E	Custom	00	0		Unknown
1F	CDB Completion/Data Path/Module Firmware/Module State Change Mask	00	0		RW
20	VCC/Temp Warning Mask	00	0		RW
21	Aux2/1 Monitor Warning Mask	00	0		RW
22	Vendor Defined/Aux3 Monitor Warning Mask	00	0		RW
23	Reserved for Masks	00	0		Unknown
24	Custom Module Level Masks	00	0		Unknown

- CMIS Explorer supports the following CMIS specifications:

- CMIS 3.0
- CMIS 4.0
- CMIS 5.0
- CMIS 5.1
- CMIS 5.2

XOA

- **ANLT Utility:** This release includes an updated version of ANLT Utility with improved stability. You can download the ANLT Utility here: https://github.com/xenanetworks/open-automation-utilities/releases/download/v2.3.0/xoa-utils-win-x64.2.3.0.zip

Bug Fixes

- **Z10sx/Odin-10G-6S-6P, Z10r/Odin-10G-5S-6P-CU(b), Z01s/Odin-1G-3S-6P(b), Z01sx/Odin-1G-3S-E, Z01t/Odin-1G-3S-6P-T1-RJ45** – In some cases if 2 of the listed modules were running different speeds, or if 2 different of the listed modules were used in a configuration, statistics could show negative latency and high jitter. This has now been corrected. (CAS-14467)
- **Z10/Odin-10G**: When FPS on streams were set above 2332000 anomaly jitter statistics could be observed. This has now been corrected.
- **Z10sxc/C-Odin-10G-6S-6P** – In previous versions port numbering were 5-4-3-2-1-0. This has now been corrected so ports are numbered 0-1-2-3-4-5 (CAS-15080).
- **Xena2544** – ARP refresh messages could be missing VLAN tags (CAS-15070). This is now corrected.
- **Xena2544** – When running mixed size users could experience a “test halt” error (CAS-15067). This is now corrected.
- **Xena2889** – When running mixed size users could experience a “test halt” error. This is now corrected.
- **Xena3918** – When running mixed size users could experience a “test halt” error. This is now corrected.

Valkyrie Release Note – Release 97.3

Release Date:	**May 31, 2024**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		464.9
Test Modules		
Z800q Freya	Freya-800G-4S-1P	68
Z800o Freya	Freya-800G-4S-1P-OSFP	68
E100q Chimera	Chi-100G-5S-2P	331
	Chi-40G-2S-2P	331
Z400q Thor	Thor-400G-7S-1P	327
	Thor-100G-5S-4P	327
Z100q Loki	Loki-100G-5S-2P	331
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	312
Z10r Odin	Odin-10G-5S-6P-CU[b]	326
Z10s Odin	Odin-10G-1S-6P[b]	327
Z10sx Odin	Odin-10G-6S-6P	333
Z01s Odin	Odin-1G-3S-6P[b]	320
Z01sx Odin	Odin-1G-3S-6P-E	320
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	313
All other non-EOL modules:		308
XenaManager	ValkyrieManager	1.95.8913.1
Xena1564	Valkyrie1564	1.35.8669
Xena2544	Valkyrie2544	2.90.8712
Xena2889	Valkyrie2889	1.45.8621
Xena3918	Valkyrie3918	1.46.8621
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.2.3
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.19.8903.1

Release Summary

This release are adding 56G SerDes speeds for Z800q Freya / Freya-800G-4S-1P & Z800o / Freya-800G-4S-1P-OSFP: These speeds were not included in Val-97.1 and Val-97.2.

Valkyrie Release Note – Release 97.2

Release Date:	**May 27, 2024**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		464.9
Test Modules		
Z800q Freya	Freya-800G-4S-1P	67
Z800o Freya	Freya-800G-4S-1P-OSFP	67
E100q Chimera	Chi-100G-5S-2P	331
	Chi-40G-2S-2P	331
Z400q Thor	Thor-400G-7S-1P	327
	Thor-100G-5S-4P	327
Z100q Loki	Loki-100G-5S-2P	331
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	312
Z10r Odin	Odin-10G-5S-6P-CU[b]	326
Z10s Odin	Odin-10G-1S-6P[b]	327
Z10sx Odin	Odin-10G-6S-6P	333
Z01s Odin	Odin-1G-3S-6P[b]	320
Z01sx Odin	Odin-1G-3S-6P-E	320
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	313
All other non-EOL modules:		308
XenaManager	ValkyrieManager	1.95.8913.1
Xena1564	Valkyrie1564	1.35.8669
Xena2544	Valkyrie2544	2.90.8712
Xena2889	Valkyrie2889	1.45.8621
Xena3918	Valkyrie3918	1.46.8621
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.2.3
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.19.8903.1

Release Summary

This release contains a bug fix where XenaManager could crash, when user reserved ports on Odin modules.

Valkyrie Release Note – Release 97.1

Release Date:	**May 23, 2024**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		464.9
Test Modules		
Z800q Freya	Freya-800G-4S-1P	67
Z800o Freya	Freya-800G-4S-1P-OSFP	67
E100q Chimera	Chi-100G-5S-2P	331
	Chi-40G-2S-2P	331
Z400q Thor	Thor-400G-7S-1P	327
	Thor-100G-5S-4P	327
Z100q Loki	Loki-100G-5S-2P	331
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	312
Z10r Odin	Odin-10G-5S-6P-CU[b]	326
Z10s Odin	Odin-10G-1S-6P[b]	327
Z10sx Odin	Odin-10G-6S-6P	333
Z01s Odin	Odin-1G-3S-6P[b]	320
Z01sx Odin	Odin-1G-3S-6P-E	320
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	313
All other non-EOL modules:		308
XenaManager	ValkyrieManager	1.95.8903.2
Xena1564	Valkyrie1564	1.35.8669
Xena2544	Valkyrie2544	2.90.8712
Xena2889	Valkyrie2889	1.45.8621
Xena3918	Valkyrie3918	1.46.8621
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.2.3
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.19.8903.1

Release Summary

This release includes the features and bug fixes listed below. This release also includes improvements for Freya 4S modules to the Auto Negotiation (AN) and Link training (LT) protocol handling.

New Features

- XenaUpgrader indicates if the installed image versions on Freya modules are from before the official release for Freya was released.
- In this version statistics for multiple streams shown in Global Statistics are also stored in csv file for the conducted testcase.

Bug Fixes

- Z10sx Odin/Odin-10G-6S-6P: Users could experience that a system could get into an unstable condition if there were installed more than 6 pcs. Z10sx Odin/Odin-10G-6S-6P in a chassis. This has now been fixed.
- The readout of nominal wavelength in the “Basic info” tab under “Transceiver features” was not correct in previous version. This is now corrected so the correct value is shown in XenaManager.
- Z400q Thor/Thor-400G-7S-1P - Thor-100G-5S-4P - Z800q Freya/Freya-800G-4S-1P - Z800o Freya/Freya-800G-4S-1P-OSFP when running in PAM4 100G mode, the number of lanes was not shown correctly. This has been corrected.

This release also includes several minor bug fixes and general performance improvements.

Valkyrie Release Note – Release 97

Release Date:	**April 24, 2024**	
Teledyne Xena Product	**Xena Product Code**	**Version**
XenaServer		464.4
Test Modules		
Z800q Freya	Freya-800G-4S-1P	66
Z800o Freya	Freya-800G-4S-1P-OSFP	66
E100q Chimera	Chi-100G-5S-2P	331
	Chi-40G-2S-2P	331
Z400q Thor	Thor-400G-7S-1P	327
	Thor-100G-5S-4P	327
Z100q Loki	Loki-100G-5S-2P	331
Z10cc Odin	Odin-10G-4S-2P-Combi[b]	312
Z10r Odin	Odin-10G-5S-6P-CU[b]	326
Z10s Odin	Odin-10G-1S-6P[b]	327
Z10sx Odin	Odin-10G-6S-6P	332
Z01s Odin	Odin-1G-3S-6P[b]	320
Z01sx Odin	Odin-1G-3S-6P-E	320
Z01t Odin	Odin-1G-3S-6P-T1-RJ45	313
All other non-EOL modules:		308
XenaManager	ValkyrieManager	1.95.8878.1
Xena1564	Valkyrie1564	1.35.8669
Xena2544	Valkyrie2544	2.90.8712
Xena2889	Valkyrie2889	1.45.8621
Xena3918	Valkyrie3918	1.46.8621
XenaScriptClient	XenaScriptClient	22.0
ANLT Utility	ANLT Utility (separate installation)	2.2.3
Common Tools	**Common Tools**	
XenaUpgrader	ChassisUpgrader	3.19.8868.1

Release Summary

This release includes support for Freya modules in ValkyrieBay. This release also includes several features for Freya mentioned in detail below.

With this release it is possible to have module configurations with Freya and other Valkyrie modules in the same B2400 chassis.

Please note that Freya due to power and cooling requirements must be installed in B2400 chassis or in the Terabit Compact configuration as described in the datasheets.

This release also includes a new feature in XenaManager: Transceiver Basic Information, providing register information from inserted Medium in a User-friendly view.

This release also includes several minor bug fixes and general performance improvements.

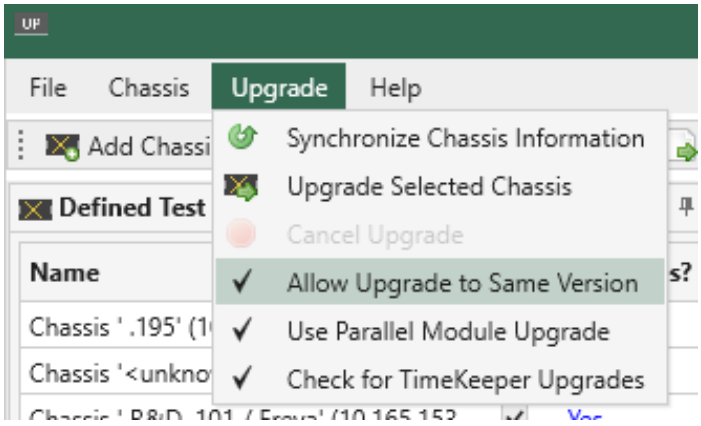
IMPORTANT NOTE!

This version can only be used for upgrades from Freya 2.9.1 or later versions. Customers running lower versions should contact Xena for guidance on upgrading from these lower versions to Valkyrie Release 97!

In this release the Freya image versioning is consolidated into a single image number. Freya users upgrading from previous Freya image versions to Valkyrie Release 97 will experience a message in the ChassisUpgrader that the version they are trying to install is a downgrade. This is not correct! The release is an upgrade from previous versions.

UPGRADING NOTE

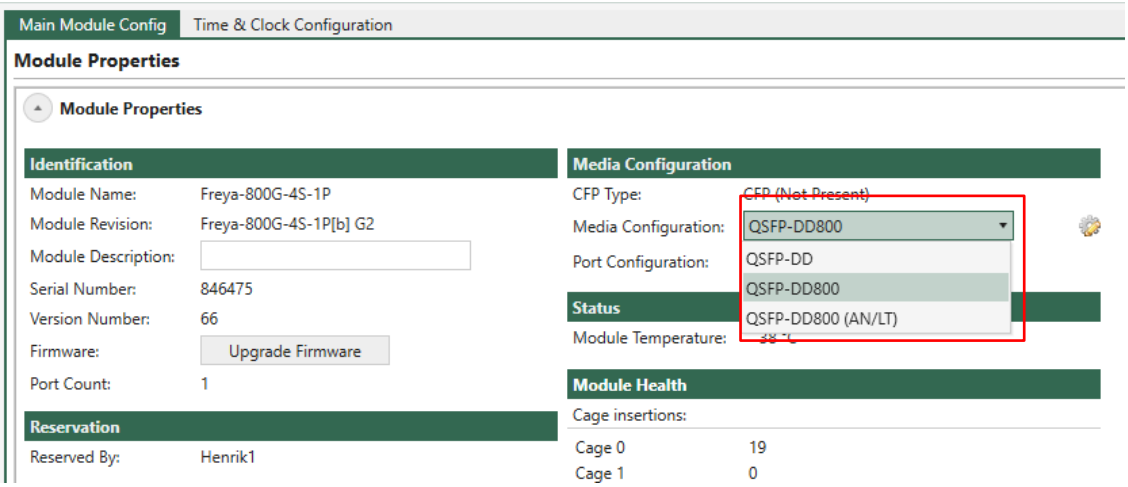
Upgrading existing Freya modules requires enabling “Allow Upgrade to Same Version”. If you don’t enable this option, ChassisUpgrader will not upgrade the Freya modules.



New Features for Freya-800G-4S-1P & Freya-800G-4S-1P-OSFP:

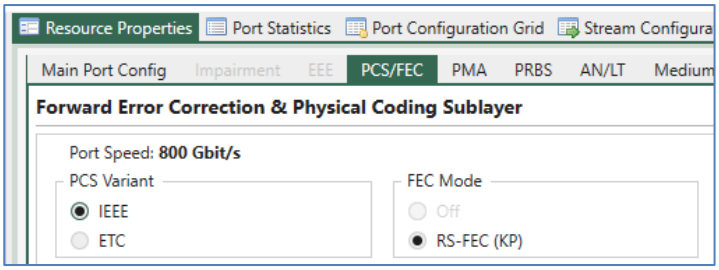
Freya module support

- Support for Freya-800G-4S-1P & Freya-800G-4S-1P-OSFP module in XenaBay and Xenacompact.
- Support for Freya-800G-4S-1P & Freya-800G-4S-1P-OSFP module in XenaManager.
- XenaManager will display hardware revisions (G1 or G2) in Module revision section.
- In Media Configuration, users can choose between TGA mode and Layer 1 mode (shown as AN/LT).
    - TGA mode provides full TGA feature set, including multiple streams with latency and jitter measurements.
    - Layer 1 mode provides advanced ANLT features and functions plus single stream TGA with limited stream statistics.



Port speed modes supported

- Support for 1x800G 112G SerDes TGA with latency and jitter statistics on G2 modules, with the option to configure if the traffic should be sent according to 800G ETC or 800G IEEE. User can either manually configure the 800G variant by selecting IEEE or ETC in *Resource Properties → PSC/FEC → PCS Variant* as shown in the screenshot below or let auto-negotiation decides. The result made by auto-negotiation will update the manual configuration.



- Support for 2x400G 112G SerDes TGA multiple streams with latency and jitter statistics.
- Support for 4x200G 112G SerDes TGA: multiple streams with latency and jitter statistics.
- Support for 8x100G 112G SerDes TGA: multiple streams with latency and jitter statistics.
- Support for 1x400G 56G SerDes TGA: multiple streams with latency and jitter statistics.
- Support for 2x200G 56G SerDes TGA: multiple streams with latency and jitter statistics.

- Support for 4x100G 56G SerDes TGA: multiple streams with latency and jitter statistics.
- Support for 1x800G 112G SerDes In Layer 1 mode (single stream TGA without stream statistics), with the option to configure if the traffic should be sent according to 800G ETC or 800G IEEE.
- Support for 2x400G 112G SerDes In Layer 1 mode (single stream TGA without stream statistics)
- Support for 4x200G 112G SerDes In Layer 1 mode (single stream TGA without stream statistics)
- Support for 8x100G 112G SerDes In Layer 1 mode (single stream TGA without stream statistics)

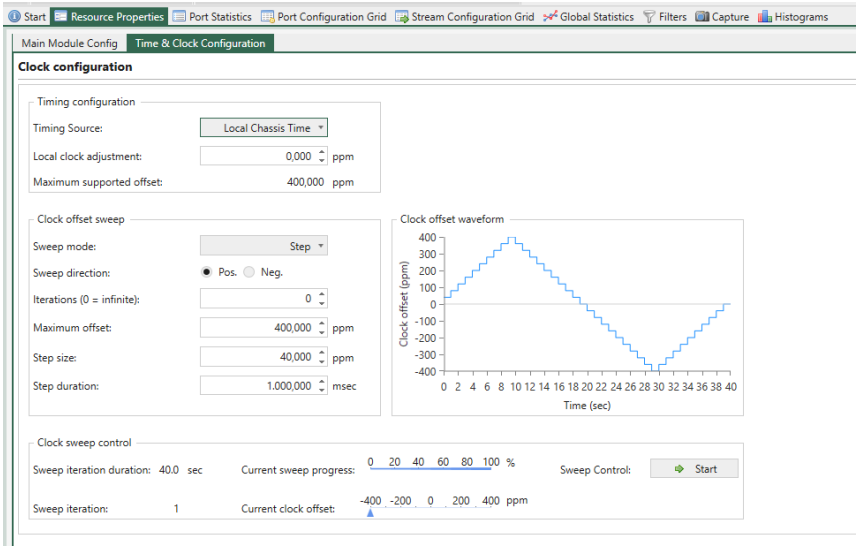
Test patterns

You can select test pattern in *Resource Properties → PRBS → Polynomial* in XenaManager:

- Support for PRBS13Q
- Support for PRBS31Q
- Support for SSPRQ test pattern (IEEE 802.3 Clause 120.5.11.2.3)
- Support for Square Wave test pattern (IEEE 802.3 Clause 120.5.11.2.4).

Dynamic PPM sweep

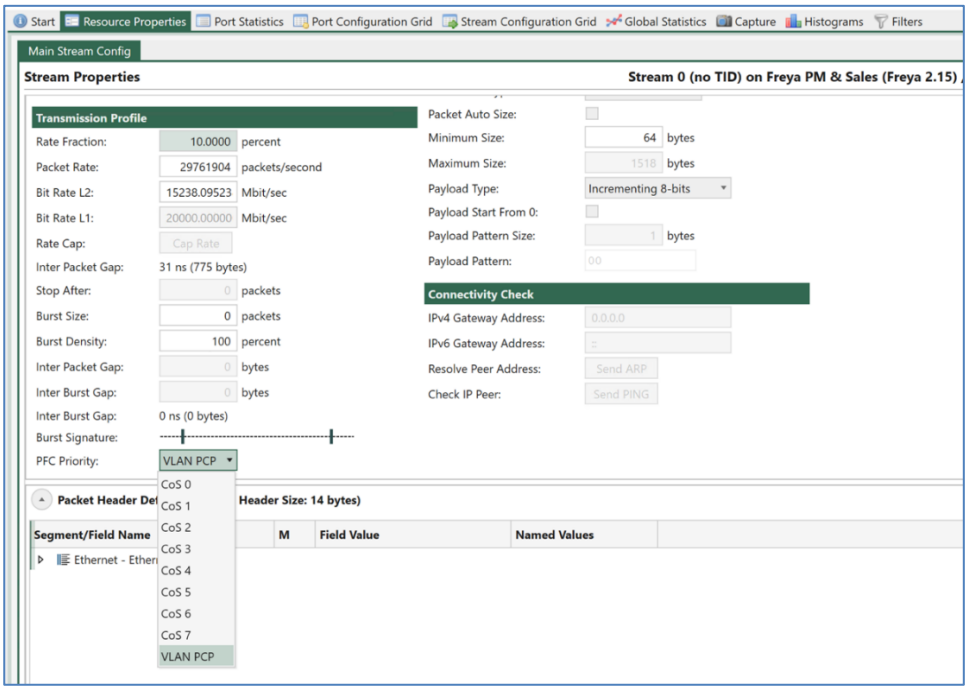
- Timing configuration and “local clock adjustment” under “Resource Properties” on Module has been moved to a new tab: “Time & Clock Configuration”. On this tab the maximum offset is also indicated.
- Dynamic PPM adjust (sweep) for TX clock adjustment. This feature gives the user the option to configure offset of clock on TX in a linear or stepped “Sweep” with a sweep duration up to 64 secs. The PPM sweep can be run alone or combined with traffic:



Flow control support

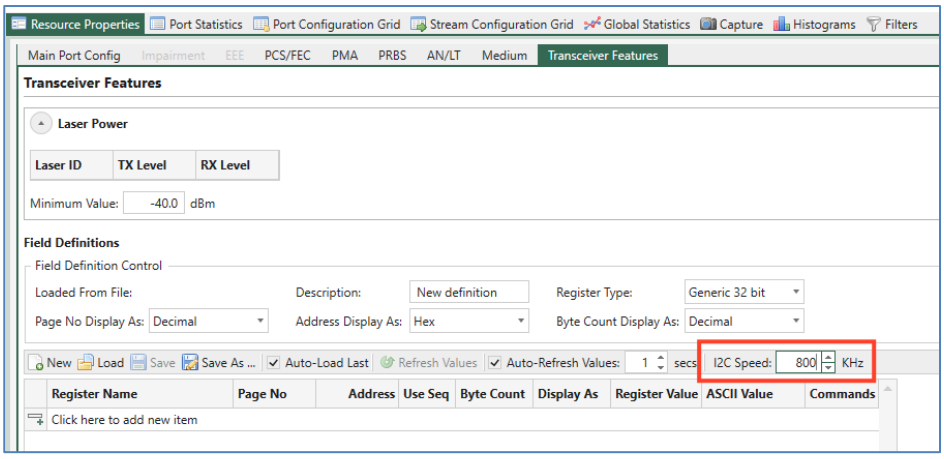
- Support for Priority Flow Control (PFC) on ports when running in TGA modes.

- Support for PFC per-stream configuration when running in TGA modes: Set the PFC priority on any stream using the "PFC Priority" option. Selecting CoS 0-7 configures the stream to the PFC priority 0-7. If you want to use VLAN PCP field to configure the PFC priority, select VLAN PCP. Please note, you still need to set the port to react to PFC frames in Resource Properties>Main Port Config>Layer-2 Control>React to PFC Frames



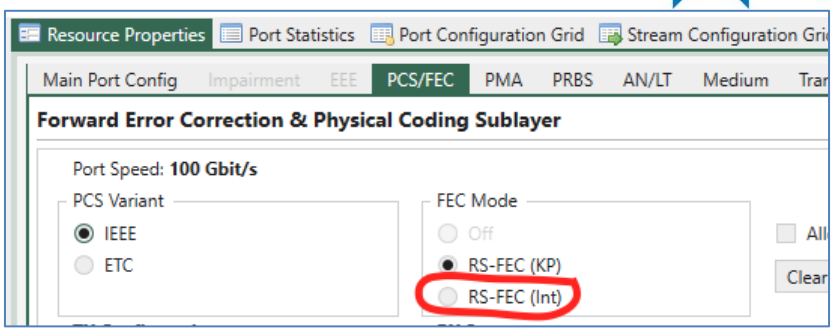
I2C RX/TX transceiver access speed

- I2C RX/TX transceiver access speed can be configured, enabling I2C access speed to a maximum of 800KHz (actual speed depends on medium support):



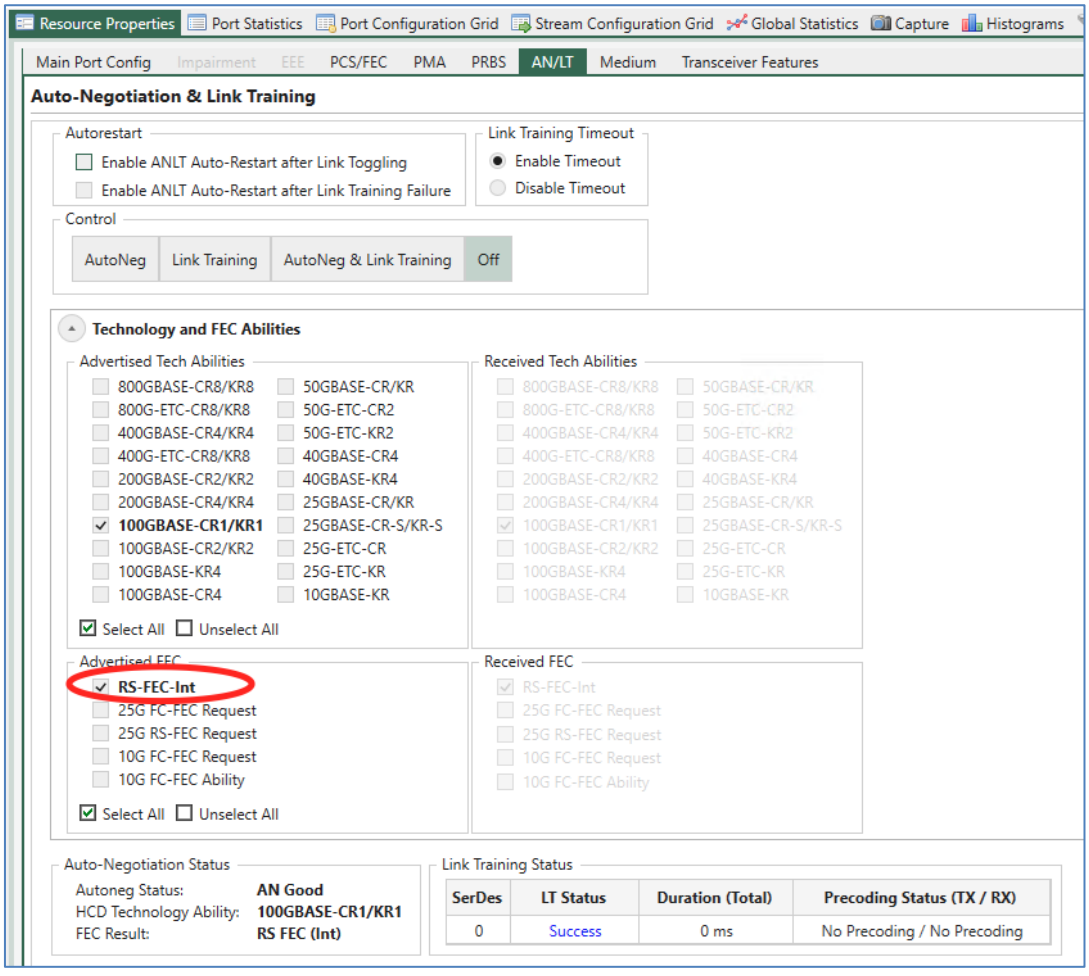
RS-FEC Int

- Supports RS-FEC Int (IEEE 802.3ck Clause 161) when running 100GBASE 112G SerDes speeds:



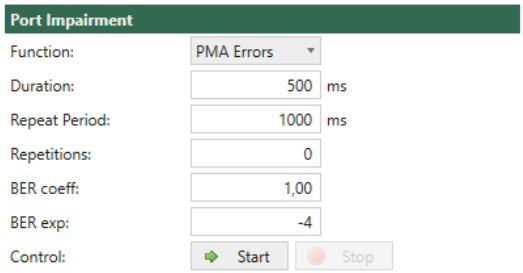
RS-FEC Int (IEEE 802.3ck Clause 161) is supported when the port is configured to 8x100G. To manually set the RS-FEC Int, go to *Resource Properties → PCS/FEC → FEC Mode.*

Alternatively, you can let autoneg decide the FEC mode by selecting **RS-FEC-Int** in *Resource Properties → AN/LT → Advertised FEC*, as shown below. The decision made by ANLT will update the manual configuration. (Note: the remote port must also advertise RS-FEC-Int to have FEC result as RS-FEC-Int):



Port-level Link Flap and PMA error injection

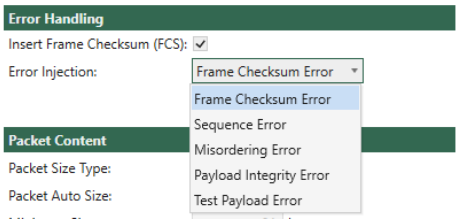
- This release includes Port-level Link Flap and PMA error injection on the Main Port Config page. When using PMA error injection all the parameters below can be configured:



You find more description about the parameters in the CLI documentation: https://docs.xenanetworks.com/projects/xoa-cli/en/latest/cli_ref/l23/pp_commands.html#pp-pmaerrpul-params

FCS error injection

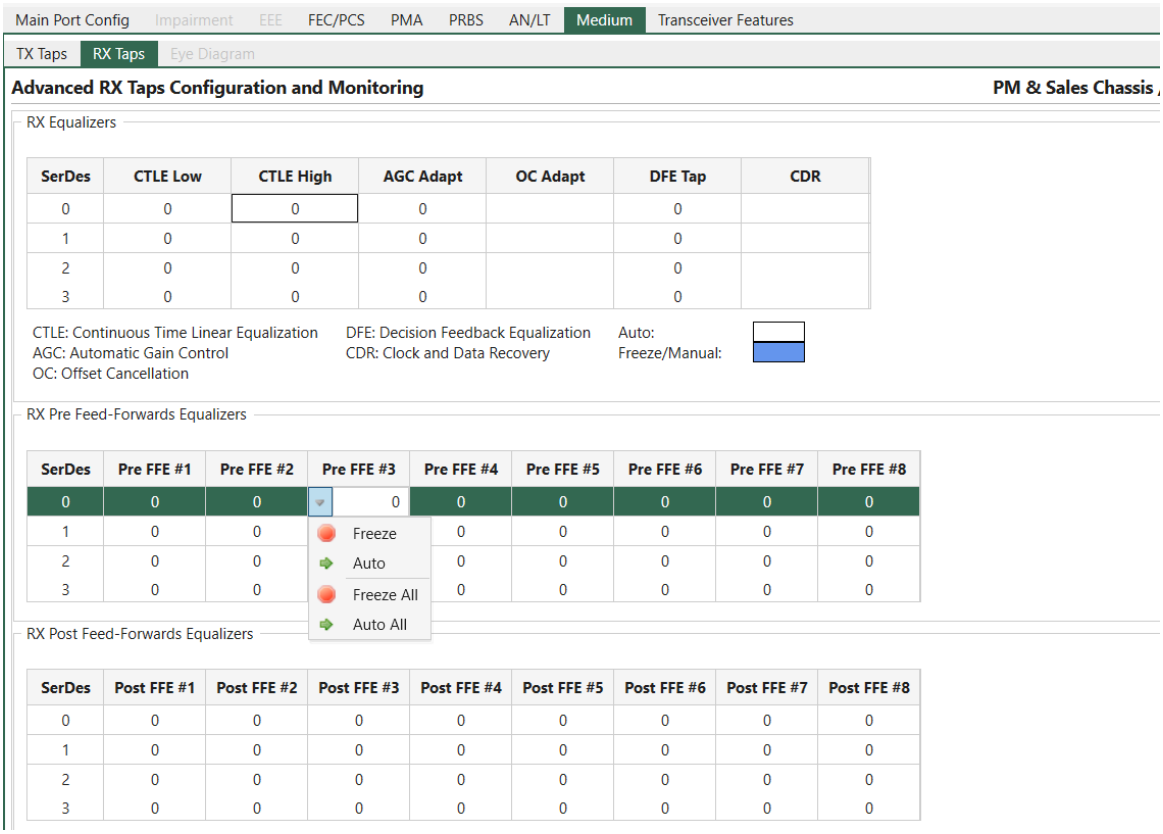
This release includes support for FCS error injection on the “Error Handling” section on the “Stream Properties” tab:



RX Tap configuration

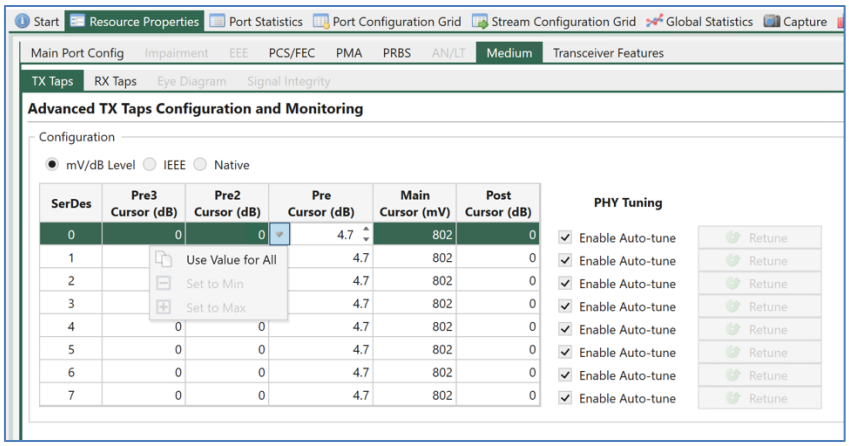
- RX Tap configuration is now moved under “Resource Properties > Medium > RX Taps”. The introduced grid view allows overview of RX tap values across all serdes lanes. Click on the value cell to activate the edit mode. For Freya modules, the RX taps include the following:
    - CTLE Low and High
    - AGC Adapt
    - OC Adapt
    - DFE
    - CDR
    - 8 Pre-FFEs and 23 Post-FFEs

You can use the context menu button to freeze or auto the value of a cell or the values of a column. This feature allows you to enable or disable the automatic adjustment of RX taps on the tester, which helps optimize the DUT's transmitter settings to achieve an optimal bit error rate without signal quality compensation done by the tester's receiver:



TX Tap configuration

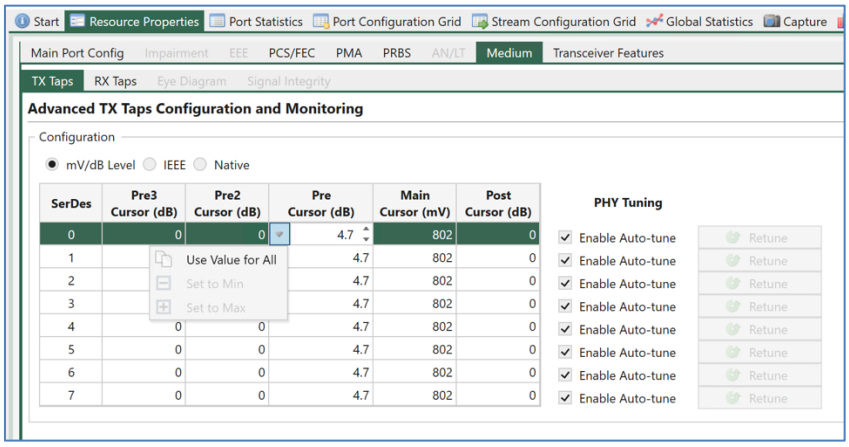
- TX Tap configuration is now moved under "Resource Properties > Medium > TX Taps". The introduced grid view allows overview of TX tap values across all serdes lanes. Click on the value cell to activate the edit mode.
  Use the context menu button to apply the value of the cell to the entire column:

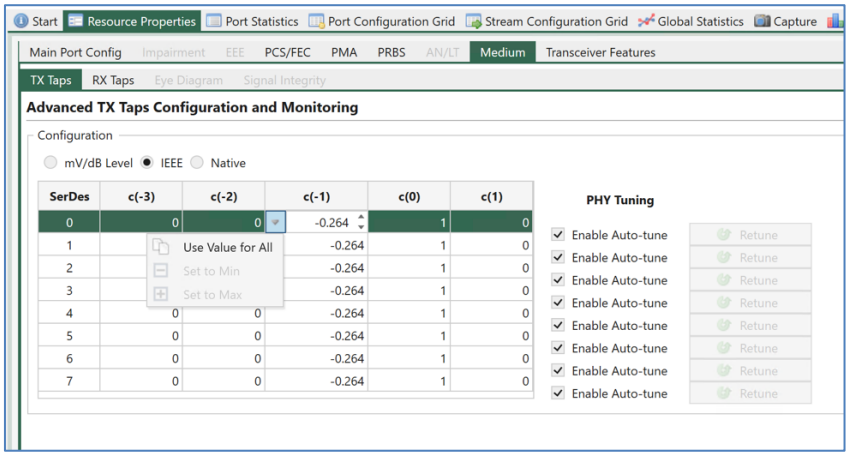


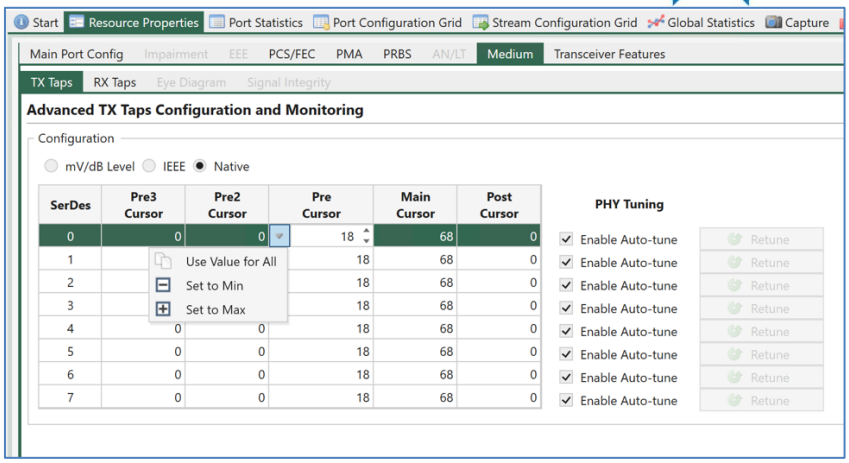
- In this release besides the raw values shown in TX tap settings, user can now choose between three different views: mV/dB Level, IEEE, or Native values:
    - **mV/dB Level View**: In this view, the TX tap values are displayed in mV/dB. pre3, pre2, pre, and post values are shown in dB, while the main tap is displayed in mV.
    - **IEEE View**: In this view, the TX tap values are presented according to the IEEE specification.
    - **Native View**: In this view, the TX tap values are shown as Xena's internal raw values.

    When you modify the tap values under one of the three views, the values under the other two views will automatically adjust accordingly. This ensures a consistent view of the TX tap values, regardless of how they are configured. These enhancements greatly improve the usability of the TX tap configuration, providing users with clearer insights and easier adjustments.

    Please be aware that the TX tap values you can set are discrete. This means that when configuring TX taps using either the mV/dB Level or IEEE views, the value you set may be rounded to the nearest possible value. Consequently, you may observe a slightly different value from what you initially set. For instance, if you set the pre-cursor (dB) to 3, you may see the value become 3.1 due to rounding.

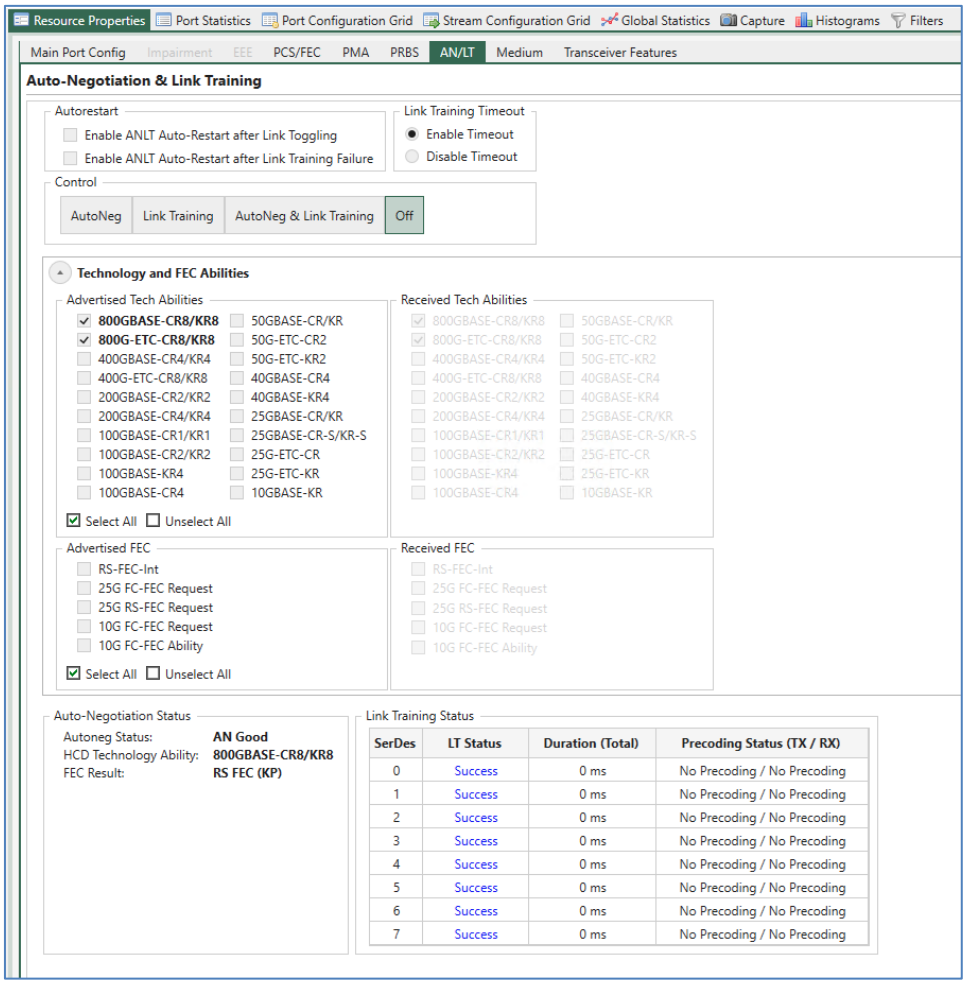






Auto-Negotiation & Link Training

- Enhanced ANLT test with configurable advertised technology abilities and FEC abilities: You have the option to set the advertised technology capabilities and FEC abilities for auto-negotiation and view the received technology capabilities and FEC abilities. This page also provides status on AN and LT:



For Auto-restart configuration:

- Enable ANLT Auto-Restart after Link Toggling: after ANLT, if the link is down, the ANLT will start again, until the link is up.
- Enable ANLT Auto-Restart after Link Training Failure: if link training fails, the ANLT will start again, until link training succeeds. (Link training succeeds means that both link training ports declare TRAINED)

For link training configuration:

- Link Training Timeout allows you to enable or disable link training timeout.

For auto-negotiation configuration:

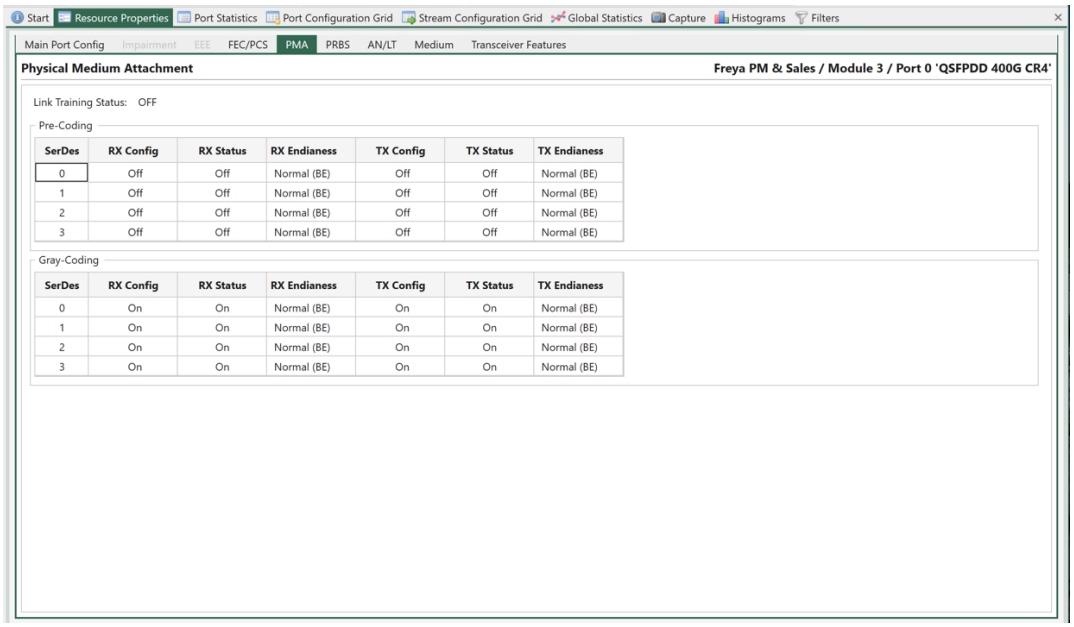
- **Advertised Tech Abilities** allows you to select the technology abilities the port should advertise. Technology abilities that are supported by the port are in bold. To guarantee that port succeeds in finding the highest common denominator of technology abilities with the remote port, it is recommended to select only the supported technology abilities.
- **Advertised FEC Abilities** allows you to select the FEC abilities the port should advertise. FEC abilities that are supported by the port are in bold. To guarantee that port succeeds in FEC abilities negotiation, it is recommended to select only the supported FEC abilities.
    - What you get and set are the 5 F-bits in the ANEG frame, i.e. F0 - F4.
    - F0 - F3 are only applicable for 10G and 25G SERDES.
    - F4 is "RS-FEC-Int", which is only supported for 100G on 100G-SERDES.
- **Received Tech Abilities** displays the received technology abilities from the remote port.
- **Received FEC Abilities** displays the received FEC abilities from the remote port.
- **Auto-Negotiation Results** includes
    - **Auto-Negotiation Status**: the FSM state of the auto-negotiation protocol.
    - **HCD Technology Ability**: the highest common denominator of the technology ability negotiation. In case of unsuccess, “failed” will be displayed.
    - **FEC Result**: the FEC result. This result can also be found in PCS/FEC tab panel.
    - **Link Training Results** includes:
    - Link training status
    - Link training duration, from start to both ends declares TRAINED
    - TX precoding config
    - RX precoding status

For ANLT control buttons:

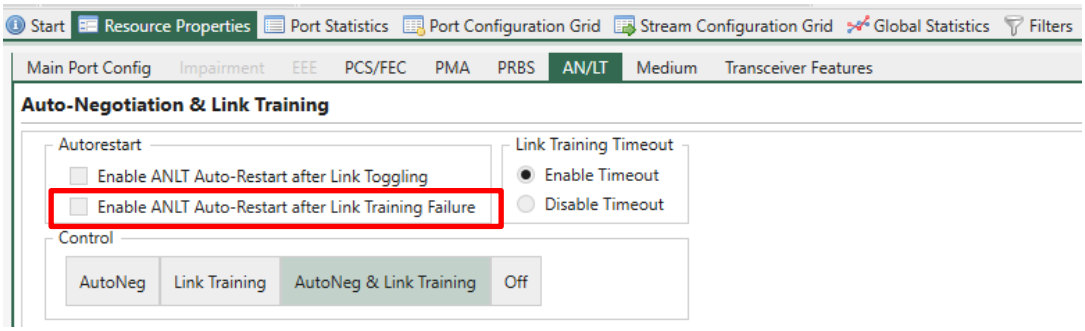
- **Start AN**: the port starts to run auto-negotiation with the auto-negotiation configuration. Link training will not be run.
- **Start LT**: the port starts to run link training with the link training configuration. Auto-negotiation will not be run.
- **Start AN+LT**: the port starts auto-negotiation and link training.
- **Stop**: the port stops ANLT.

To restart ANLT, you will need to click Stop and then click one of the three start buttons depending on your testing requirements.

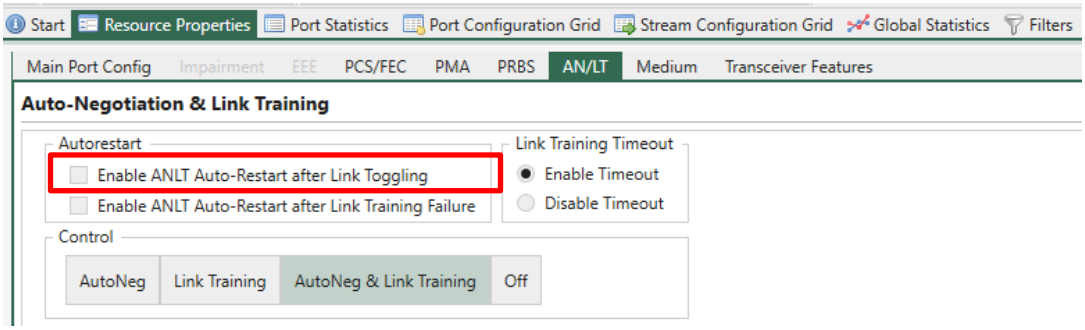
- This release provides the option to negotiation of Pre-coding setting as part of Link Training
- This release provides the option to configure pre-coding and gray-coding as well as LSB and MSB for pre-coding and gray-coding in tab “Resource Properties > PMA”:



- Ability to configure an auto restart of Auto negotiation (AN) and Link Training (LT) in tab “Resource Properties > AN/LT” if LT fails. If LT is enabled and experiences a failure on either side, the port will initiate the AN+LT restart process repeatedly until LT succeeds. Please note: This functionality is only applicable when LT is enabled:

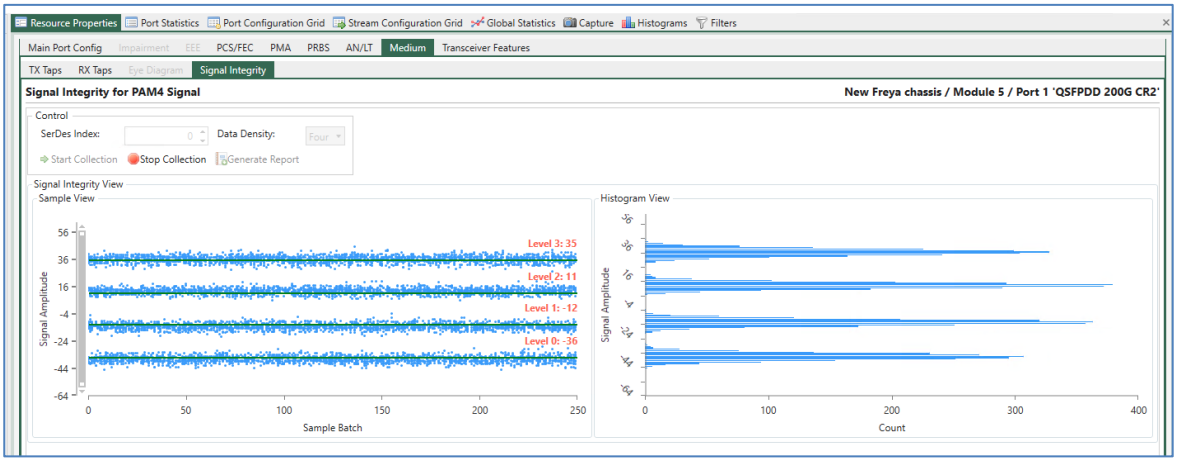


- Ability to configure an auto restart of Auto negotiation (AN) and Link Training (LT) after a link toggle in tab “Resource Properties > AN/LT”. Enable AN+LT auto-restart when a link down condition is detected. A “link down” state signifies the loss of a valid input signal, which can occur due to events such as cable unplugging and re-plugging, TX disable, or link flap on the link partner’s end. The auto-restart process will continue until the link is re-established.
  Please note that this setting is only effective when AN and/or LT are enabled:



Signal Integrity View

- This release includes Signal Integrity View for PAM4 modulated signal quality analysis when running in Layer 1 mode.
  Signal Integrity View (SIV) can be found under Resource Properties → Medium → Signal Integrity. With SIV, you can analyze 112G PAM4 signal loss and noise. The sample view clearly shows the effects of signal loss and noise. The histogram view next to it shows the distribution shape of each slice, making it easier for you to tell the characteristics of each eye slice.



When a signal is transmitted from one switch port to another, the signal is degraded by several factors. The signal level will be reduced due to the inherent resistance of the wires causing gradual loss of signal as the signal moves from the transmitter to the receiver. Limitations in the bandwidth will lead to Inter-Symbol Interference (ISI) and inductive coupling between electrical lanes as well as connectors lead to cross talk. Impedance mismatches cause reflections (Return Loss). At both the transmitter and receiver jitter can occur and finally the signal will be degraded by thermal noise.

Signal integrity is a measure of the quality of the transmitted signal. It is commonly analyzed using a so-called eye-diagram which is constructed by overlapping the pulses in a bit sequence as shown for an NRZ-modulated signal. The signals are sampled at the center of the pulses and if the voltage level is higher than Vref it is interpreted as a “1” and if it is below Vref a “0”.

With no distortion on the transmission the eye is nice and open. However, in a real system the eye will look more “closed”, where some of the “1”s will be mistaken as “0”s and thus lead to bit errors.

In general, impairments to the signal level such as loss and noise will cause the eye to “close” in the vertical direction whereas delay and jitter impairments will cause the eye to “close” in the horizontal direction.

For 112 Gbps PAM4 modulated signals however, the situation is a bit more complicated. Since PAM4 has four levels, the eye diagram consists of three eyes rather than one. Obviously the PAM4 eyes are much narrower than the NRZ eye which means that PAM4 is less tolerant to distortions than NRZ.

For very high speeds like 112 Gbps the pre-FEC eye diagram is likely going to be almost closed and difficult to use for analyzing signal integrity. Instead, a vertical slicer eye diagram is used. The vertical slicer eye is constructed by plotting the sampled, recovered signal level for a large number of samples.

Other New Feature - Valkyrie

Transceiver Basic Information in XenaManager

This release includes a feature which provides register information from the inserted Medum in XenaManager:

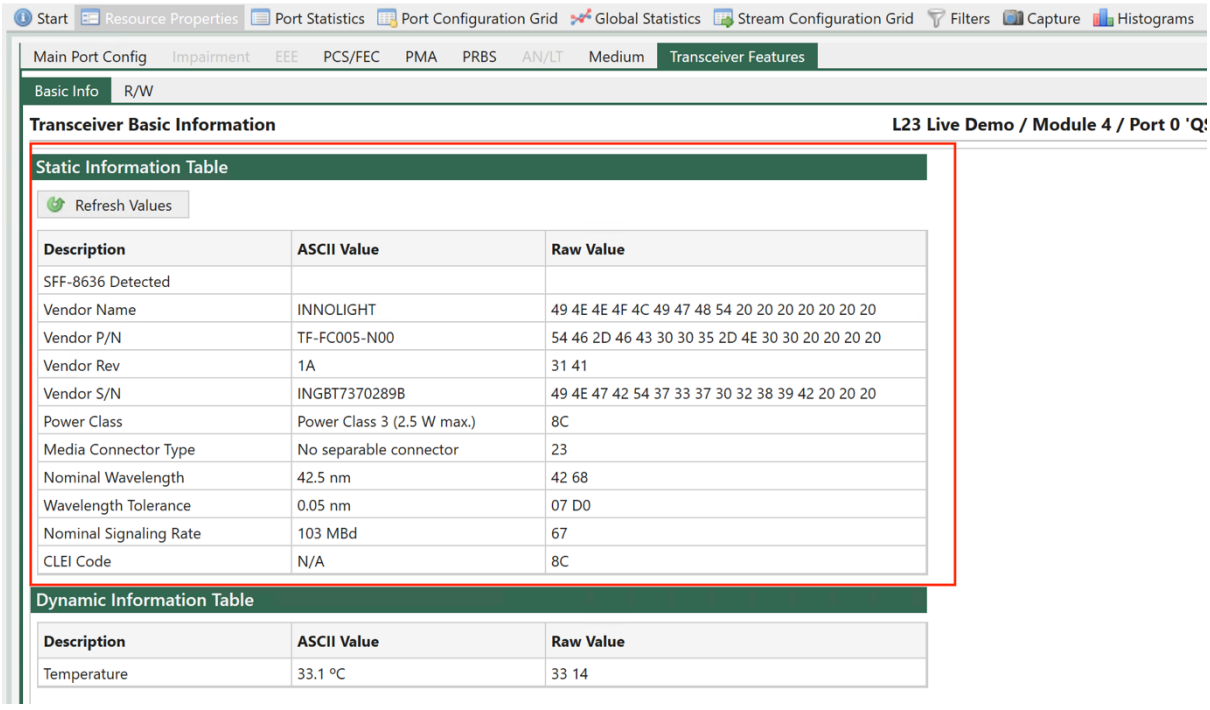
- **Basic Info**

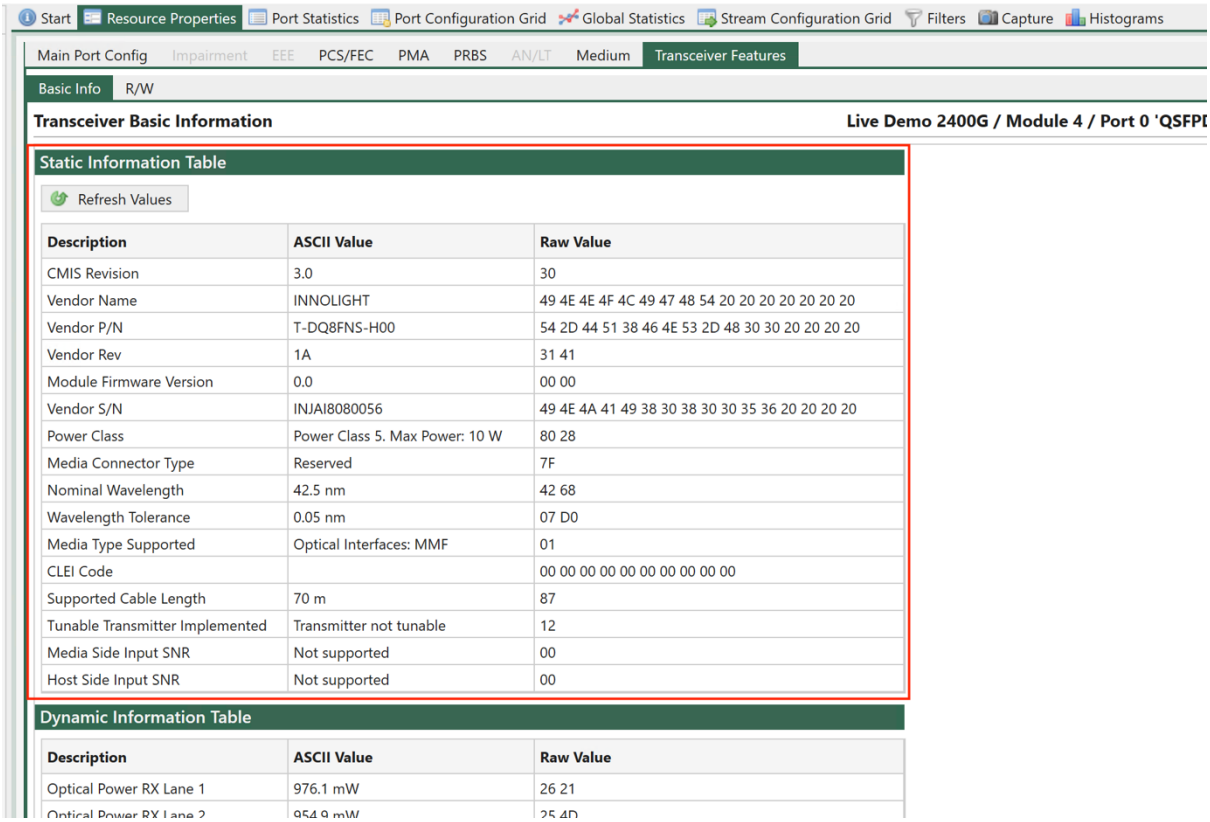
Basic Info tab panel provides basic transceiver information. The information on this page is obtained from reading management interface of the transceiver and may not necessarily be the same as what is indicated in its data sheet.

The basic information consists of a Static Information Table and a Dynamic Information Table. Different specifications result in different table content. Both tables display both the raw HEX value read out of the transceiver register and the decoded values according to the corresponding specification.

- **Static Information Table**

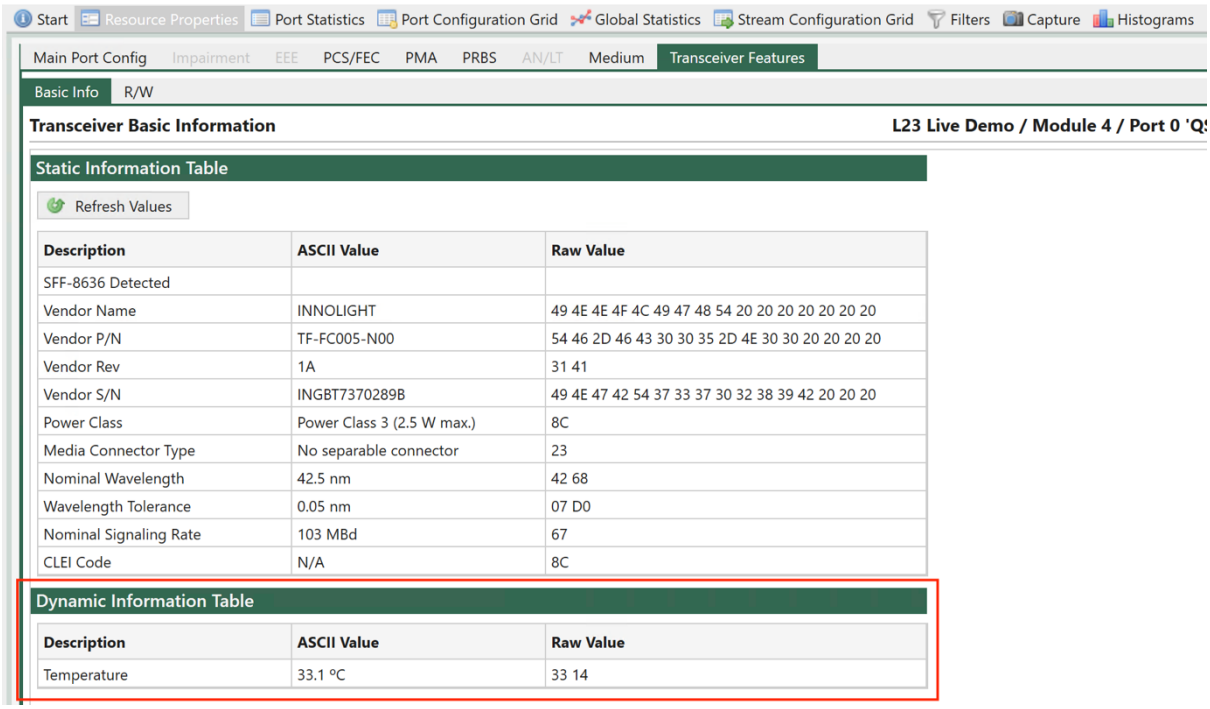
You can refresh the Static Information Table by clicking the Refresh Values button. It will trigger the XenaManager application to read those values out of the transceiver again.

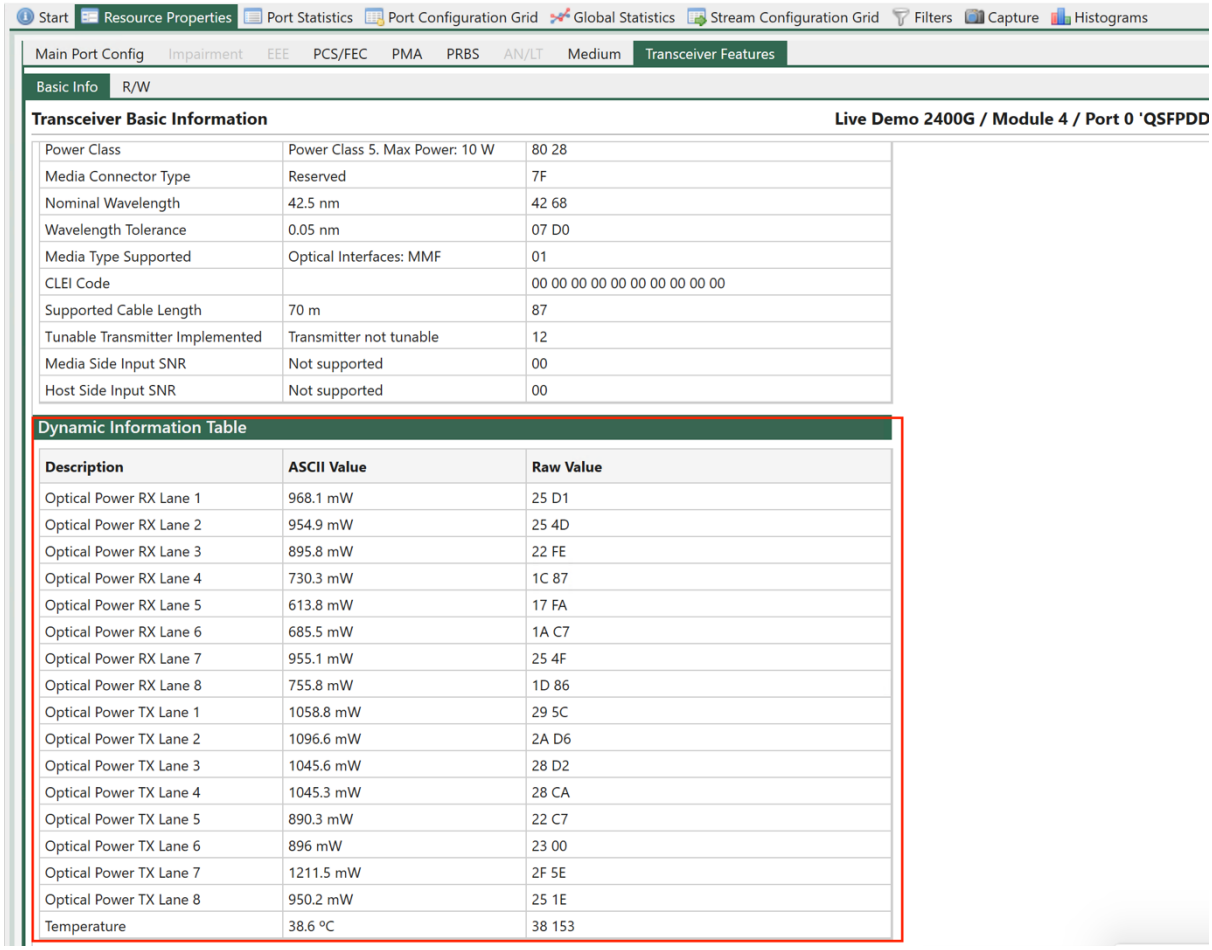




- **Dynamic Information Table**

Dynamic Information Table is automatically refreshed by the XenaManager application every second. For SFF specifications, only transceiver temperature is provided in the Dynamic Information Table. For CMIS, optical RX and TX power per lane and temperature are provided in Dynamic Information Table.





Changes

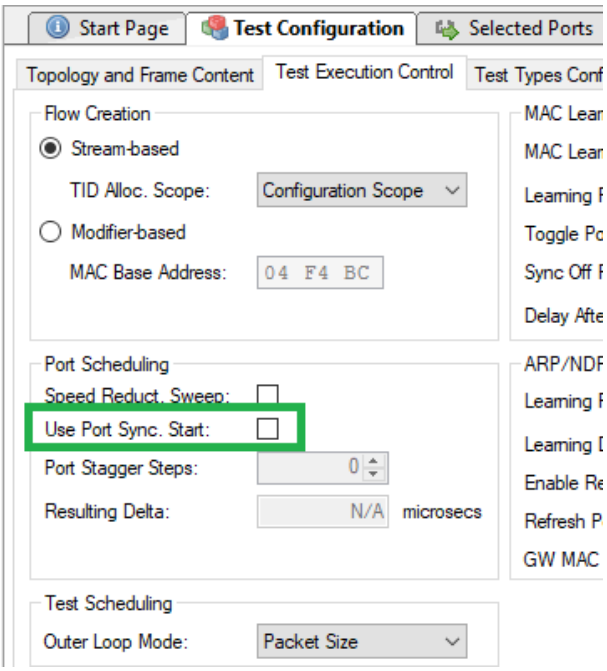
- PRBS in PAM4 modes are renamed to PRBS<N>Q in XenaManager

Bug Fixes

- This release contains a fix for Loki-100G-5S-2P which could prevent a port at 25G to transmit if other ports were sending Ethernet/IPv4 traffic. This has been corrected.
- This release contains a fix for XenaManager where Stream Wizard did not show ports correct. This has been corrected.
- This release contains a fix for XenaManager Statistics where Charting-Packet Loss Ratio which did not get updated correct on graph. This has been corrected.
- This release contains a fix for XenaManager Statistics where Charting 2nd y-axis scale could show incorrect scaling. This has been corrected.
- This release contains a fix for XenaManager which could show laser power when a DAC was inserted into a port. This has been corrected.

Xena2544

Please observe that you will need to uncheck the "Use Port Sync Start" box to get Xena2544to complete ("Use Port Sync Start" is checked by default when you define a new Xena2544 configuration).



ANLT Utility

This release includes support for Xena OpenAutomation (XOA) ANLT Utility v2.2.3. XOA ANLT utility allows for advanced configuration, monitoring and logging of Auto-Negotiation (AN) and Link Training (LT) protocols while AN and/or negotiating between Freya ports and DUT's. Please be aware that this utility can only be used when a port is running in Layer 1 (ANLT) mode.

For general documentation about XOA ANLT Utility go this page: ANLT Utility Documentation

Windows (x64) users can download the xoa-utils-x64.exe application, which includes Python itself, xoa-driver, and all the dependencies. There is no need to install extra software on your Windows PC to run the **xoa-utils-x64.exe**.

XOA ANLT Utility 2.2.3 for Windows application supported with val-97 go to this page: xoa-utils-win-x64.2.2.3

ChassisUpgrader

This release includes an update to ChassisUpgrader with improved cloud download option for available images.

Please refer to the ChassisUpgrader manual for further information on upgrade scenarios:

Xena ChassisUpgrader User Manual (xenanetworks.com)

Valkyrie Release Note – Release 96.2

Release Date:	**February 16th, 2024**
Software/Firmware Versions	**Valkyrie**
XenaServer:	463.5
Test Module Firmware:	
• Chi-100G-5S-2P, Chi-40G-2S-2P	331
• Thor-400G-7S-1P, Thor-100G-5S-4P	327
• Loki-100G-5S-2P	330
• Odin-1G-3S-6P-T1-RJ45	313
• Odin-10G-4S-2P-Combi[b]	312
• Odin-10G-5S-6P-CU[b]	326
• Odin-1G-3S-6P[b], Odin-1G-3S-6P-E	320
• Odin-1G-3S-2P-T, Odin-10G-4S-2P-Combi	311
• Odin-10G-1S-6P[b]	327
• Odin-10G-6S-6P	330
• All other non-EoL modules:	308
ValkyrieManager:	1.93.8749.1
Valkyrie1564:	1.35.8669
Valkyrie2544:	2.90.8712
Valkyrie2889:	1.45.8621
Valkyrie3918:	1.46.8621
XenaScriptClient:	22.0
Common Tools	
ChassisUpgrader:	3.17.8665

Note

Naming conversion for Xena Networks and TeleDyne LeCroy Xena modules can be found here: https://xenanetworks.com/legacy/

Release Summary

This release introduces the option to configure I2C RX/TX transceiver access speed on the Thor-400G-7S-1P in NRZ speeds up to a maximum of 800KHz.

This release also provides support for Technica Engineering TE-1440 SFP Module 1000BASE-T1 H-MTD on several Odin modules.

This release also includes a fix for an issue for 50G PAM4 Reconciliation Sublayer on Thor-400G-7S-1P.

This release also includes a fix for an issue observed on Loki-100G-5S-2P when Users changed X/Y Parameters in the Eye Diagram settings.

Finally, this release also includes a fix for an issue found on Chi-100G-5S-2P & Chi-40G-2S-2P which could prevent Users to down- or upgrade from Chimera image version 310 or 329.

This release also includes other minor bug fixes and general performance improvements.

Valkyrie

New Feature

- Thor-400G-7S-1P - The i2C RX/TX transceiver access speed can now be configured in NRZ modes, enabling an increase in the I2C access speed to a maximum of 800KHz (actual speed depends on medium support).
- Odin-1G-3S-6P[b], Odin-1G-3S-6P-E, Odin-10G-6S-6P & Odin-10G-4S-2P-Combi[b] - This release provides support for Technica Engineering TE-1440 SFP Module 1000BASE-T1 H-MTD.

Bug Fixes

- Thor-400G-7S-1P - This release includes a fix for a bug where 50G PAM4 Reconciliation Sublayer functionality did not react as expected. This has now been corrected.
- Loki-100G-5S-2P: This release includes a fix for a bug where ValkyrieBay unexpectedly could fail, when User changed X/Y Parameters in the Eye Diagram settings (CAS-15005). This is now corrected.

Chimera

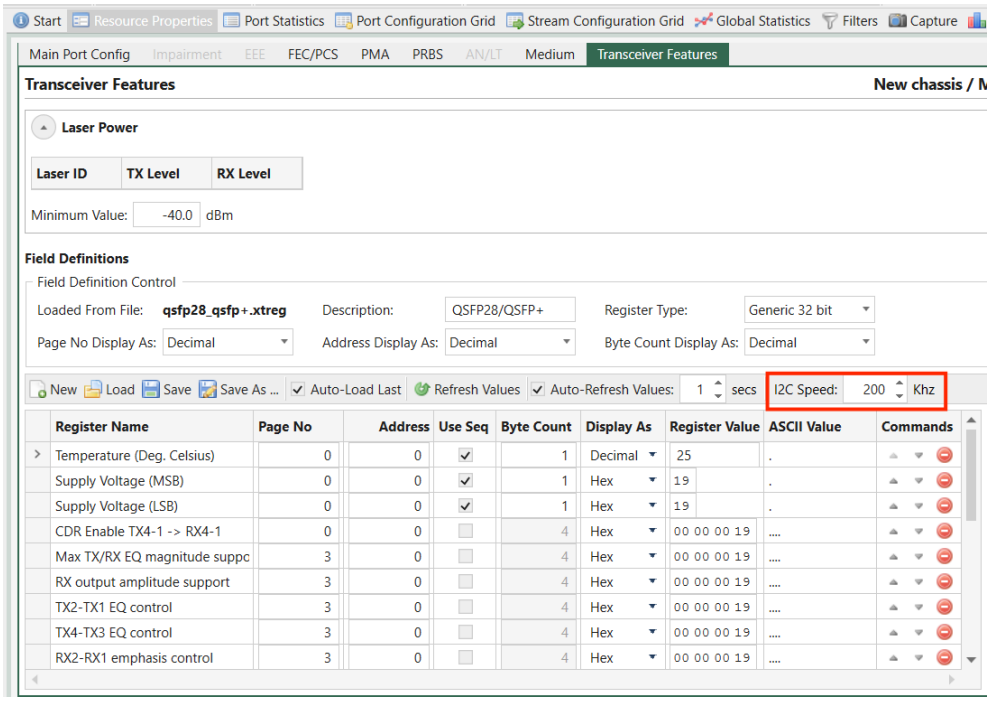
Bug fix

- Chi-100G-5S-2P & Chi-40G-2S-2P: In some cases, Users which have had installed Val-94 or later releases (Chimera image version 310 or 329), could experience that they could not down- or upgrade from the installed version. This release provides a fix enabling customers to down- and upgrade the modules from Chimera image version 310 or 329, (and other image versions).

ValkyrieManager

New Features

- Odin-1G-3S-6P[b], Odin-1G-3S-6P-E, Odin-10G-6S-6P & Odin-10G-4S-2P-Combi[b] - This release provides support for Technica Engineering TE-1440 SFP Module 1000BASE-T1 H-MTD. Please note that ValkyrieManager will overwrite the dip switch settings made on the transceiver.
- Thor-400G-7S-1P: The i2C RX/TX transceiver access speed can now be configured in NRZ modes, enabling an increase in the I2C access speed to a maximum of 800KHz (actual speed depends on medium support):



Valkyrie Release Note – Release 96.1

Release Date:	**December 15th, 2023**	
Software/Firmware Versions	**Valkyrie**	
	XenaServer:	463.3
	Test Module Firmware:	
	• Thor-400G-7S-1P, Thor-100G-5S-4P	326
	• Loki-100G-5S-2P	330
	• Odin-1G-3S-6P-T1-RJ45	313
	• Odin-10G-4S-2P-Combi[b]	311
	• Odin-10G-5S-6P-CU[b]	326
	• Odin-1G-3S-6P[b], Odin-1G-3S-6P-E	320
	• Odin-1G-3S-2P-T, Odin-10G-4S-2P-Combi	311
	• Odin-10G-1S-6P[b]	327
	• Odin-10G-6S-6P	330
	• All other non-EoL modules:	308
	ValkyrieManager:	1.93.8749.1
	Valkyrie1564:	1.35.8669
	Valkyrie2544:	2.90.8712
	Valkyrie2889:	1.45.8621
	Valkyrie3918:	1.46.8621
	XenaScriptClient:	22.0
	Common Tools	
	ChassisUpgrader:	3.17.8665

Release Summary

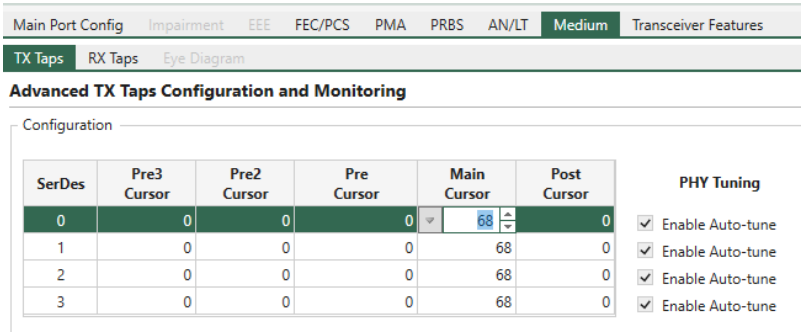
This release introduces a feature on Medium tab so it is now possible to toggle values up/down in the tap settings menu.

This release provides a fix for speed change in the Layer-1 Control section for modules supporting this feature.

ValkyrieManager

New Feature

- On Medium tab it is now possible to toggle up/down on the values on the tap settings:



Bug fix

- In some cases on modules which support the ability to change speed in the Layer-1 Control section on the Port Properties tab, these modules could not change speed. This has now been corrected.

Other important notes

When upgrading systems containing Chimera modules to Valkyrie Release 96 or Valkyrie Release Val-96.1, user could experience a message in The ChassisUpgrader that the module is not present. This is not correct. The module is present in the system, and it will still be fully functional in ValkyrieManager via CLI and XOA.

Valkyrie Release Note – Release 96

Release Date: **December 7th, 2023**

Software/Firmware Versions

Valkyrie

XenaServer:	463.3
Test Module Firmware:	
• Thor-400G-7S-1P, Thor-100G-5S-4P	326
• Loki-100G-5S-2P	330
• Odin-1G-3S-6P-T1-RJ45	313
• Odin-10G-4S-2P-Combi[b]	311
• Odin-10G-5S-6P-CU[b]	326
• Odin-1G-3S-6P[b], Odin-1G-3S-6P-E	320
• Odin-1G-3S-2P-T, Odin-10G-4S-2P-Combi	311
• Odin-10G-1S-6P[b]	327
• Odin-10G-6S-6P	330
• All other non-EoL modules:	308
ValkyrieManager:	1.93.8738.1
Valkyrie1564:	1.35.8669
Valkyrie2544:	2.90.8712
Valkyrie2889:	1.45.8621
Valkyrie3918:	1.46.8621
XenaScriptClient:	22.0

Common Tools

ChassisUpgrader:	3.17.8665

Release Summary

This release provides support for the new Odin-10G-6S-6P module.

This release also includes a bug fix for Odin-10G-3S-6P[b] & Odin-10G-4S-2P-Combi[b] IP-in-IP configuration which could show a wrong IP Checksum, as well as a fix for react to PAUSE frame.

This release includes a fix for a bug in Extended Payload.

This release also contains a fix for an issue on Thor-400G-7S-1P - In 8x50G mode which could affected RX on one port if a DUT made a reset on the neighboring port.

This release introduces the option to configure I2C RX/TX transceiver access speed on the Thor-400G-7S-1P up to a maximum of 800KHz.

The subtabs under “Resource Properties” have been restructured according to sublayers, such as Impairment, EEE, FEC/PCS, PMA, PRBS, AN/LT, Medium, and Transceiver Features. TX/RX Tap configurations are moved under Medium.

PRBS polynomials are now arranged alphabetically on PRBS tab.

All Chimera impairment statistics, including frame drops, misordering, duplication, and corruption, are now incorporated into ValkyrieManager reports and charts.

The coloring of the Pre-FEC Error Distribution bar chart has been updated.

This release also includes a bug fix, where ValkyrieManager could quit unexpectedly when access Global Statistics, and a bug fix for the report generation for Latency and Jitter values on the y-axis.

This release also includes a new feature for Valkyrie2544 enabling a “Preemptive Stop” option.

In Valkyrie2544, the RX Loss (frames) within the Stream Progress Counters has been rectified.

This release introduces Micro TPLD mode in Valkyrie1564, enabling the utilization of an 6 byte test payload when testing with frame sizes smaller than the standard 20 byte test payload.

This release also includes fixes for Valkyrie1564 for frame header values, and allocation of unique Test Payload ID (TID) for each individual stream.

This release also includes several minor bug fixes and general performance improvements.

Valkyrie

New features

- Odin-10G-6S-6P - This release provides support for Odin-10G-6S-6P module in ValkyrieBay and ValkyrieCompact.
- Odin-10G-6S-6P – Support for 10G/5G/2.5G/1G modes. Port speeds can be configured individually pr. Port, so Port 0 can run 1G, Port 1 run 10G etc.
- Thor-400G-7S-1P - This release introduces configuration of I2C RX/TX transceiver access speed up to a maximum of 800KHz.

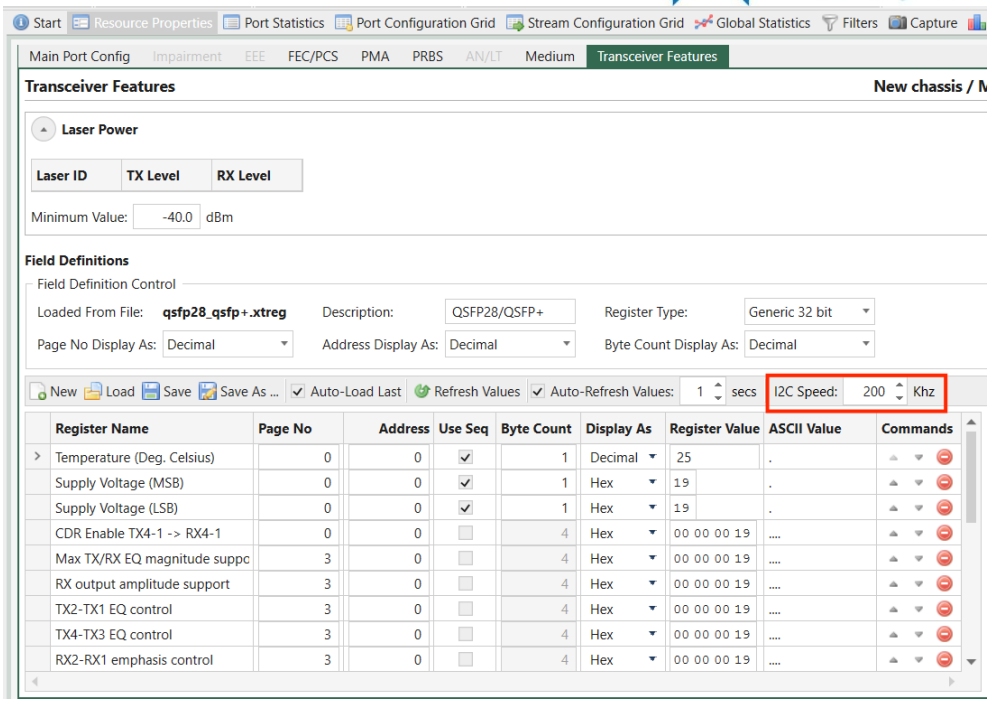
Bug fixes

- Odin-10G-1S-6P[b] & Odin-10G-4S-2P-Combi[b] – When configuring IP-in-IP in 10G users could see a wrong IP Checksum. This has been corrected.
- Odin-10G-1S-6P[b] & Odin-10G-4S-2P-Combi[b] - Module did not react to PAUSE frame as expected. This has now been corrected.
- Loki-100G-5S-2P – If user used Extended Payload Pattern, user could experience that the payload was not correct. This has now been corrected.
- Thor-400G-7S-1P - In 8x50G PAM4 user could experience an effect on RX on one port if a DUT made a reset on the neighboring port (CAS-14842).
- This release includes a general fix for a bug in Extended Payload.

ValkyrieManager

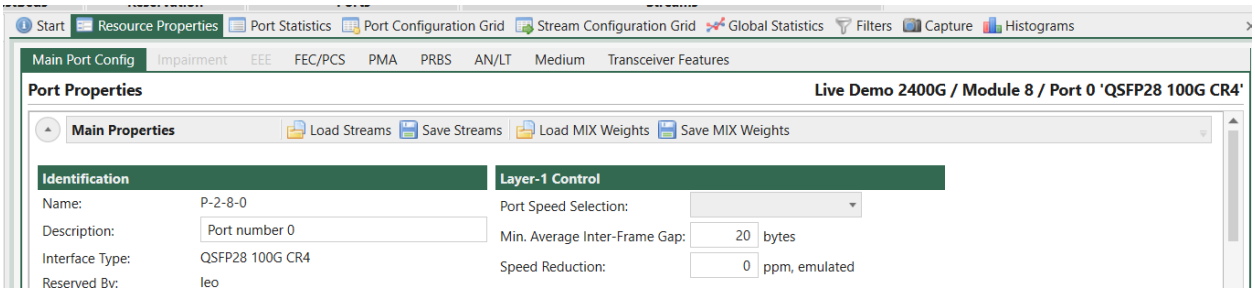
New Features

- Odin-10G-6S-6P - This release provides support for Odin-10G-6S-6P module in ValkyrieManager.
- Thor-400G-7S-1P: The i2C RX/TX transceiver access speed can now be configured in PAM4 modes, enabling an increase in the I2C access speed to a maximum of 800KHz. This enhancement facilitates quicker diagnostics and firmware updates among other tasks involving transceivers:

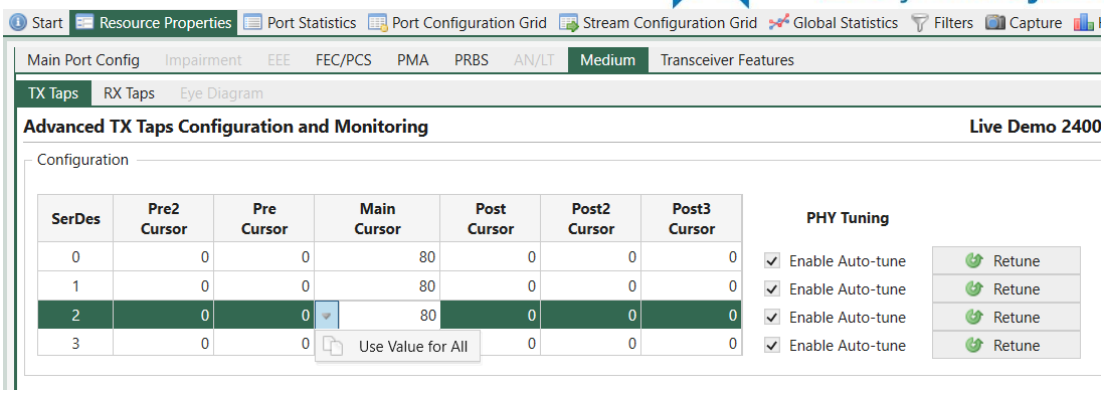


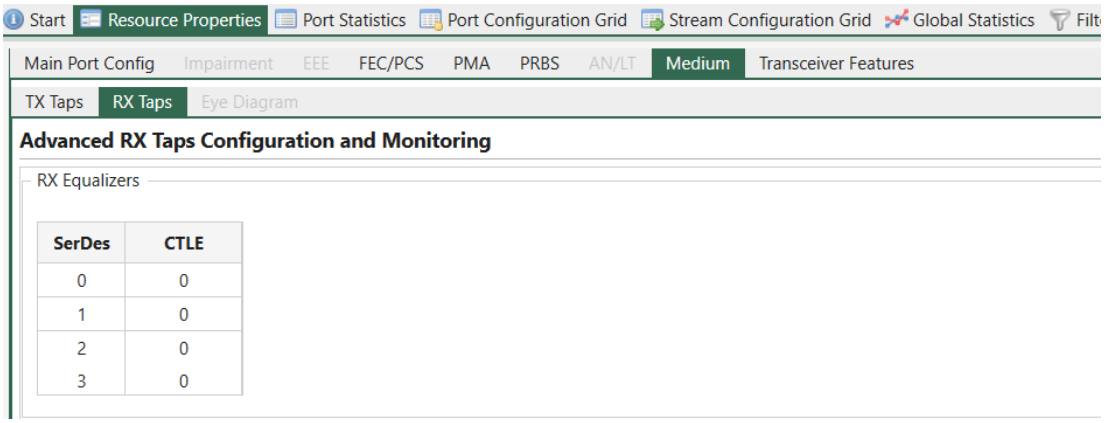
Changes

- The color scheme for ValkyrieManager is changed in this release to “Racing Green” theme, available in a light and dark theme. The theme can be changed in the “view” menu on the top bar of ValkyrieManager.
- The subtabs under “Resource Properties” have been restructured according to sublayers, such as Impairment, EEE, FEC/PCS, PMA, PRBS, AN/LT, Medium, and Transceiver Features. This reorganization facilitates the convenient discovery of configurations and controls tailored to specific purposes. Depending on the chosen port, any unsupported subtabs will be automatically disabled:

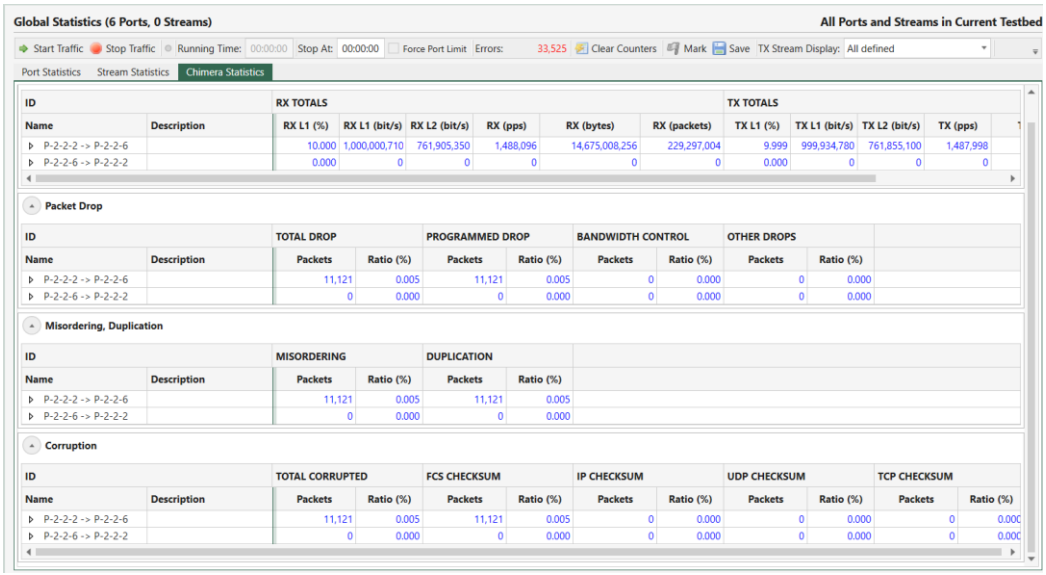


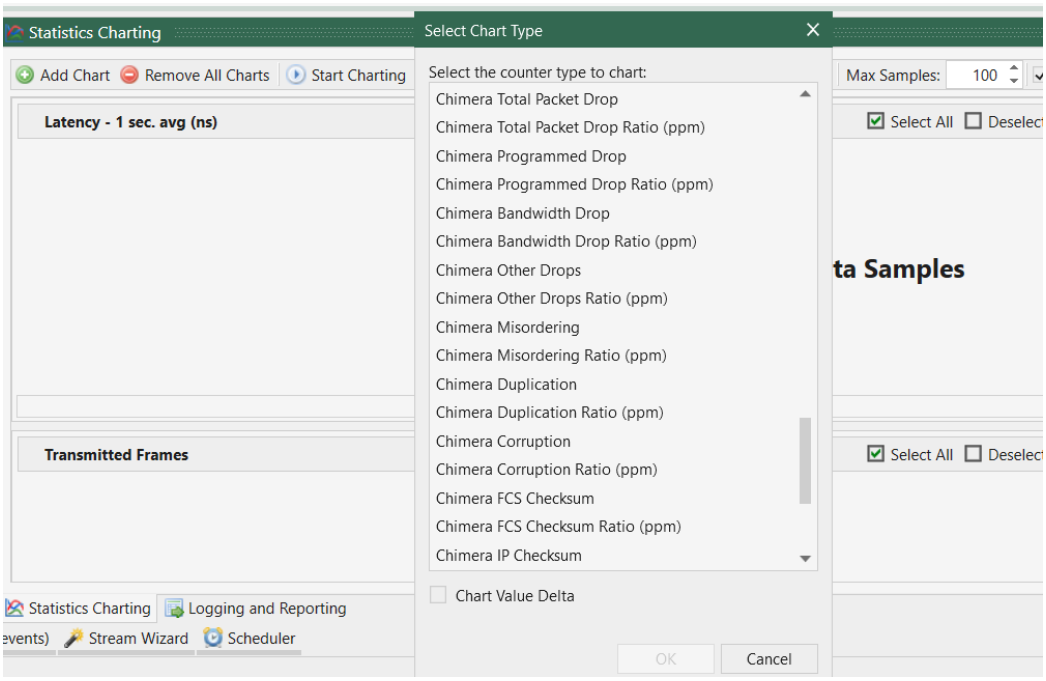
- TX/RX Tap configurations are moved under Medium. For modules supporting tap configuration: Click on the value cell to activate the edit mode. Use the context menu button to apply the value of the cell to the entire column:

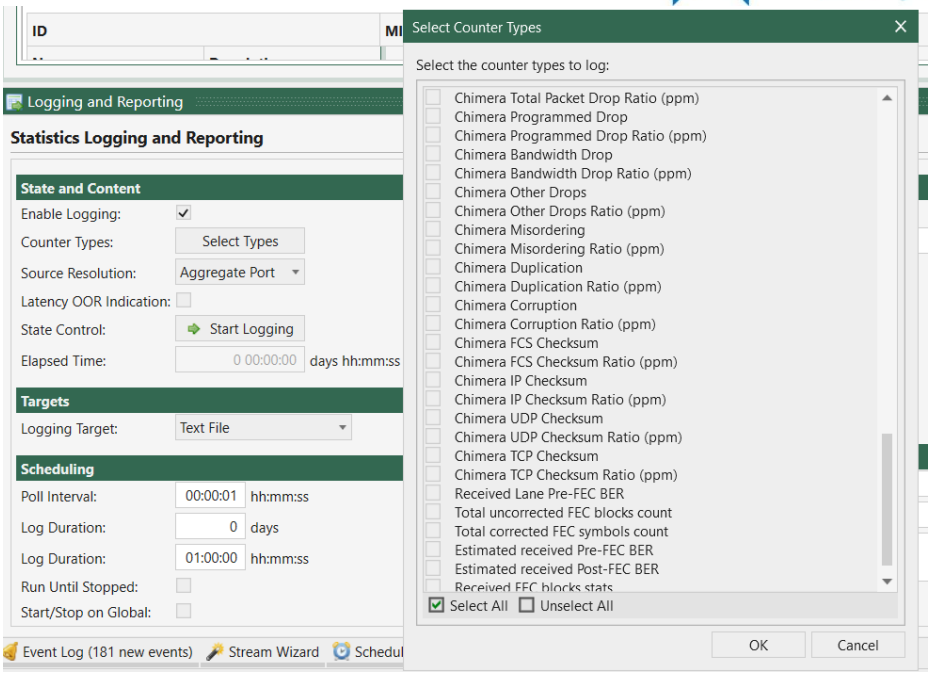

Start
Resource Properties
Port Statistics
Port Configuration Grid
Stream Configuration Grid
Global Statistics
Filters
Capture
Main Port Config
Impairment
EEE
FEC/PCS
PMA
PRBS
AN/LT
Medium
Transceiver Features
TX Taps
RX Taps
Eye Diagram
Advanced TX Taps Configuration and Monitoring
Live Demo 2400
Configuration
SerDes
Pre2 Cursor
Pre Cursor
Main Cursor
Post Cursor
Post2 Cursor
Post3 Cursor
PHY Tuning
0 0 0 80 0 0 0 Enable Auto-tune Retune
1 0 0 80 0 0 0 Enable Auto-tune Retune
2 0 0 80 0 0 0 Enable Auto-tune Retune
3 0 0 Use Value for All 0 0 0 Enable Auto-tune Retune


Start
Resource Properties
Port Statistics
Port Configuration Grid
Stream Configuration Grid
Global Statistics
Main Port Config
Impairment
EEE
FEC/PCS
PMA
PRBS
AN/LT
Medium
Transceiver Features
TX Taps
RX Taps
Eye Diagram
Advanced RX Taps Configuration and Monitoring
RX Equalizers
SerDes
CTLE
0 0
1 0
2 0
3 0

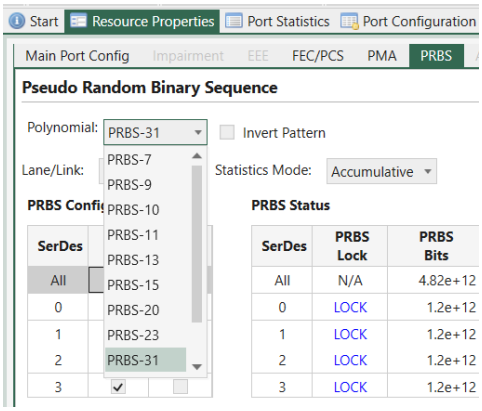
- All Chimera impairment statistics, including frame drops, misordering, duplication, and corruption, are now incorporated into ValkyrieManager's reports and charts:



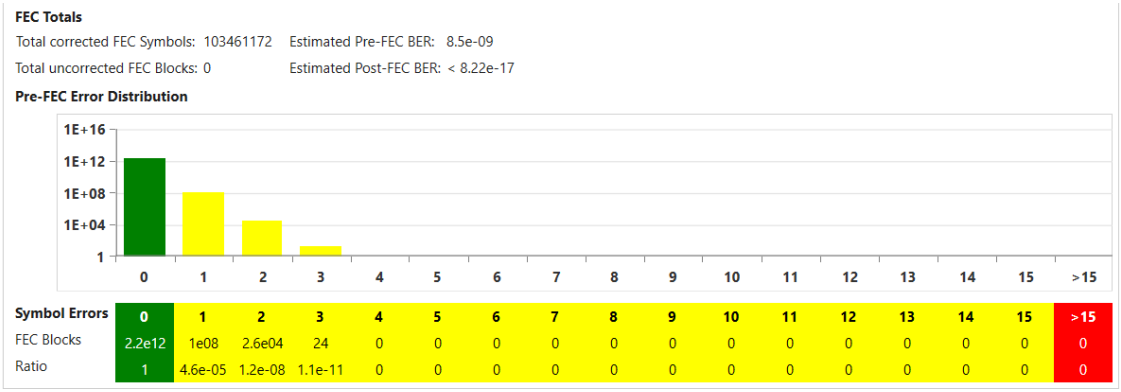




- PRBS polynomials are now arranged alphabetically, simplifying the process of locating and selecting the desired PRBS setting:



- The coloring of the Pre-FEC Error Distribution bar chart has been updated as follows:
  - A green column now represents zero symbol errors.
  - A red column indicates an excessive number of symbol errors that are uncorrectable.
  - Yellow columns signify the presence of symbol errors that are correctable:



Bug Fixes

- This release includes a fix for a bug where ValkyrieManager unexpectedly could quit when access Global Statistics (CAS-14916). This is now corrected.
- If a user tried to add a chassis which was not available, users could experience next time they wanted to add the same chassis that ValkyrieManager reported the chassis was already defined in the test configuration. This is now corrected.
- On DHCP segments in "Server Host Name" field or "Boot File Name" segment field could be truncating on the last byte. This is now corrected.
- In previous versions of ValkyrieManager, if a Valkyrie Test report was generated in Portrait mode, the Lane Errors Counter statistics were cut off if number of lanes/columns exceeded 13. This is now corrected.
- Previously in the report generation the value for Latency and Jitter on the y-axis might not be consistent with the value in nanoseconds. This has now been corrected.

Valkyrie2544

New Feature

- Valkyrie2544 now features a “Preemptive Stop” option, which allows users to abort the Frame Loss Test preemptively if it is bound to fail the pass/fail criteria.

Bug Fixes

- In Valkyrie2544, the RX Loss (frames) within the Stream Progress Counters has been rectified. When there are more frames received than transmitted due to frame duplication by the DUT, the counter will now display 0 instead of negative numbers.

Valkyrie1564

New Feature

- Micro TPLD mode is now accessible in Valkyrie1564, enabling the utilization of an 6 byte test payload when testing with frame sizes smaller than the standard 20 byte test payload.

Bug Fixes

- Valkyrie1564 incorrect frame header values:
  - When C-TAG is enabled, the Ethernet/EtherType value defaults to FFFF.
  - When QinQ is enabled, the Ethernet/EtherType is 88A8, and the C-TAG/EtherType is FFFF.
- Valkyrie1564 allocates a unique Test Payload ID (TID) for each individual stream.

Valkyrie Release Note – Release 95

Release Date: **July 14th, 2023**

Software/Firmware Versions

Valkyrie

XenaServer:	458.0
Test Module Firmware:	
• Chi-100G-5S-2P Chi-40G-2S-2P	329
• Thor-400G-7S-1P Thor-100G-5S-4P	325
• Loki-100G-5S-2P	329
• Odin-1G-3S-6P-T1-RJ45	313
• Odin-10G-4S-2P-Combi[b]	310
• Odin-10G-5S-6P-CU[b]	326
• Odin-1G-3S-6P[b], Odin-1G-3S-6P-E	320 311
• Odin-1G-3S-2P-T, Odin-10G-4S-2P-Combi	326
• Odin-10G-1S-6P[b]	308
• All others:	
ValkyrieManager:	1.90.8594.1
Valkyrie1564:	1.33.8530
Valkyrie2544:	2.88.8588
Valkyrie2889:	1.44.8530
Valkyrie3918:	1.45.8557
XenaScriptClient:	22.0

Common Tools

ChassisUpgrader:	3.14.8531

Release Summary

This release includes several bug fixes for Valkyrie including fix for modifiers on RAW segments, fix for Extended payload, fix for checksum in IP-in-IP and Pause frame reaction on Loki-100G-5S-2P.

This release also includes new and improved features in ValkyrieManager, including ability to show description of modules and ports, improvement of “Auto-Assign Tables” in “ARP/NDP Address tables”, option to add FEC BER Statistics to log and Valkyrie Test Report and clearing of counters when mode is changed.

This release also includes several bug fixes for ValkyrieManager including a fix for loaded testcases with only port configuration, fix in the test report for RX bytes and RX Frames counters, fix for update of Current/Effective Speed based on selection and fix for retrieving fixed speed configuration in a loaded testbed.

This release includes a bug fix for latency offset on Chimera in 10G, 25G or 40G modes.

This release also includes a fix for Valkyrie3918 so pad now is inserted after options.

This release provides a fix for Valkyrie2544 for showing total lost frames for multi-streams.

This release includes a new version of Valkyrie ChassisUpgrader, providing future download of images from cloud repository.

This release does not include XenaRESTserver, since XenaRESTserver 0.6.1 is already included in the initial chassis software when chassis are shipped to customers.

With EoL of 32-bit chassis June 1st 2023, this release is the last release with support for Valkyrie 32-bit chassis. Please refer to Xena WEB for further details about the EoL chassis and modules: Xena Business Terms (xenanetworks.com)

Valkyrie

Bug fixes

- When configuring RAW segments user could experience that modifiers did not change the value as intended. This has now been corrected.
- Loki-100G-5S-2P – When configuring IP-in-IP users could see a wrong IP Checksum. This has been corrected.
- Loki-100G-5S-2P (10G mode) - Module did not react to PAUSE frame as expected. This has now been corrected.
- This release includes a fix for a bug in Extended Payload introduced in val-94.1

Chimera

Bug fixes

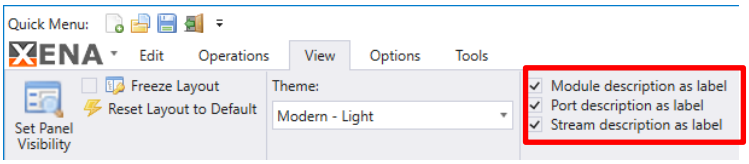
- Chi-100G-5S-2P & Chi-40G-2S-2P - When running in 10G, 25G or 40G mode users could experience a high offset in latency. This has been corrected.

ValkyrieManager

New features

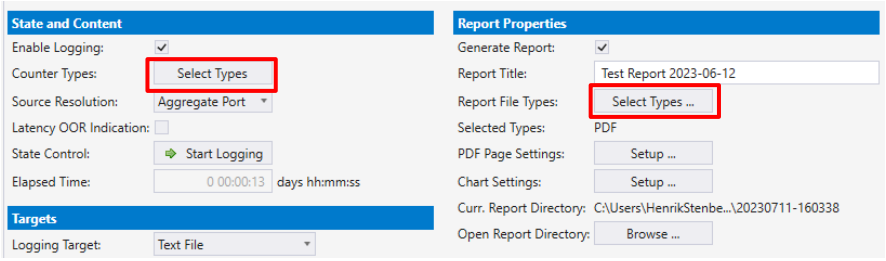
- Previously users could get Stream description shown in the “Available Resource” window. In this release this functionality has been extended to include description for Ports and Modules as well:

User can toggle between views on the View tab in the top bar:

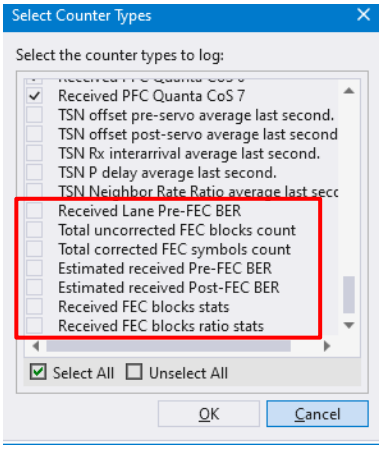


- In this release the “Auto-Assign Tables” in the “ARP/NDP Address tables” section on “Main Port Config” tap functionality have been extended so the ARP and NDP tables can be auto generated based on the configuration of modifier on source address.

- With this release it is possible to add FEC BER Statistics to log and Valkyrie Test Report. The statistics can be added to log and Valkyrie Test Report by clicking on “Select Types” on the “Logging and Reporting” tab:



Choose the FEC BER statistics which should be included in logging/reporting:



Change

- When a user change mode on a module, statistics counters are cleared to avoid showing mixed statistics from previous and current mode.
- In “Port Capabilities” on the “Main Port Config” tap the wording has changed to reflect that max rates is for RX+TX: Max Rate (RX+TX, %), Max Rate (RX + TX, pps) and Max Rate (RX + TX, Mbps)

Bug fixes

- In some cases where a user had saved a testcase with only port configuration (and no module configuration), and then loaded the saved testcase to a system, the file would not load as requested, and reservation of ports failed. This has now been corrected.
- In the Test report generated in ValkyrieManager the RX bytes and RX Frames in “Main Stream Traffic Counters” did not show the values correct. This has now been corrected.
- In the “Layer 1 Control” section on the “Main Port Config” tab If when user set “Port Speed Selection” manually the Current/Effective Speed was not updated unless port was in Sync or user manually refreshed port. This is now corrected.
- If a user loaded a testcase with a manual set “Port Speed Selection” the Current/Effective Speed was not updated unless port was in Sync or user manually refreshed port information. This is now corrected.
- If a user configured a port to 10M or 100M (fixed) and saved the port configuration or testbed, and then loaded the port configuration or the testbed, the port speed parameter was not correctly restored. This has now been corrected.

Valkyrie3918

Bug fix

- Users could experience that MLD packet generated by Val3918 pad was done at the front of the IPv6 hop-by-hop option. This has now been corrected so the pad now is inserted after options.

Valkyrie2544

Bug fix

- When configuring multi-stream the Valkyrie2544 would not show the total lost frames for all the configured streams. This is now corrected.'

ChassisUpgrader

New Feature

- This release includes a new version of Valkyrie ChassisUpgrader. Upgrade process is unchanged, and current module images are still included in the release. This version of ChassisUpgrader allows for future download of images from cloud repository.

Valkyrie Release Note – Release 94.1

Release Date:	**May 1st, 2023**
Software/Firmware Versions	**Valkyrie**
	XenaServer: 457.1
	XenaRESTserver: 0.6.1
	Test Module Firmware:
	• Chi-100G-5S-2P Chi-40G-2S-2P 310
	• Thor-400G-7S-1P Thor-100G-5S-4P 325
	• Loki-100G-5S-2P 326
	• Odin-1G-3S-6P-T1-RJ45 313
	• Odin-10G-4S-2P-Combi[b] 310
	• Odin-10G-5S-6P-CU[b] 326
	• Odin-1G-3S-6P[b], Odin-1G-3S-6P-E 320 311
	• Odin-1G-3S-2P-T, Odin-10G-4S-2P-Combi 326
	• Odin-10G-1S-6P[b] 308
	• All others:
	ValkyrieManager: 1.86.8518
	Valkyrie1564: 1.33.7984
	Valkyrie2544: 2.87.8476
	Valkyrie2889: 1.44.8481
	Valkyrie3918: 1.43.8476
	XenaScriptClient: 22.0
	Common Tools
	ChassisUpgrader: 3.13.8455

Release Summary

This release includes introduces new features, bug fixes and improvements to ValkyrieManager for Valkyrie and Chimera products, as well as bugfixes for Valkyrie.

This release also includes bug fixes for Valkyrie2544, Valkyrie2889 and Valkyrie3918.

This release also includes several minor bug fixes and general performance improvements.

Valkyrie

Bugfixes

- Configuring TE-1437 1000Base-T1 SFP transceiver on Odin-1G-3S-6P could lead to a state where the transceiver wasn't working properly. This is now corrected.
- IP checksums could be calculated incorrectly for nested IP-in-IP headers in certain configurations. This is now corrected.

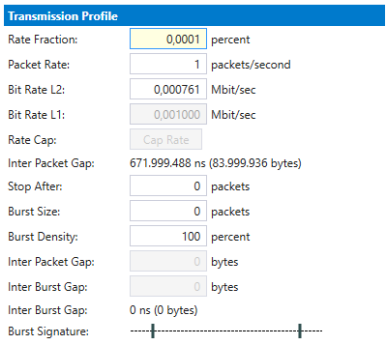
ValkyrieManager

New features

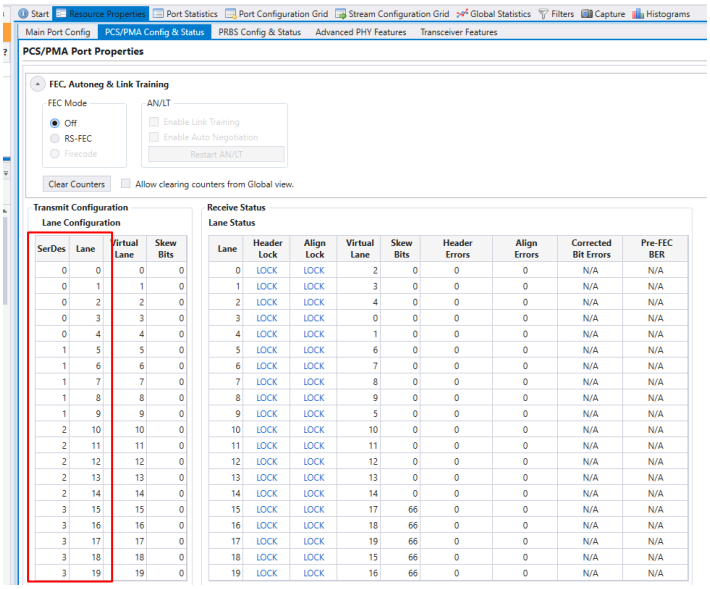
- It is now possible to add modifiers on Customs Segments in streams.

Changes

- On "Main Stream Config" under "Transmission Profile" minimum value for "Rate Fraction" is 0.0001 percent. and minimum value for "Bit Rate L2" is 0.000001 Mbit/sec:



- On the "PCS/PMA" tap under "Transmit Configuration" SerDes numbering to corresponding Lanes has been added to the table:



Bug fixes

- Odin-1G-3S-6P - User could experience that on the "Transceiver Features" tap register values were not read out correctly from transceivers. This is now corrected.

- If a user tried to add a chassis which was not available, users could experience next time they wanted to add the same chassis that ValkyrieManager reported the chassis was already defined in the test configuration. This is now corrected.
- Freya - If a user copied a uTGA stream from one port and pasted it to another uTGA port, the pasted stream could get a TID. This is now corrected.
- Freya – If a user set the “Local lock adjustment” to a +/- value of the “Maximum supported offset” the illustration in the “Clock offset waveform” would disappear. This is now corrected.
- On DHCP segments in "Server Host Name" field or "Boot File Name" segment field could be truncating on the last byte. This is now corrected.

Chimera

New features

- Statistics Charting has been added as a new feature for Chimera modules to ValkyrieManager:

Valkyrie2544

Bugfix

- Users could experience that TX Rate would not reach 100% in the throughput test. This is now corrected.
- If a user added a public IP address on a port, and then deleted it on the port users could experience that the IP address which was deleted on the first port was still present on the port. This is now corrected.

Valkyrie2889

Bugfix

- At low rates FCS filtering statistics for “Injected Error Statistics” could show inaccurate values. This is now corrected.

- If a user added a public IP address on a port, and then deleted it on the port users could experience that the IP address which was deleted on the first port was still present on the port. This is now corrected.

Valkyrie3918

Bugfix

- If a user added a public IP address on a port, and then deleted it on the port users could experience that the IP address which was deleted on the first port was still present on the port. This is now corrected.

Valkyrie Release Note – Release 94

Release Date: **February 23rd, 2023**

Software/Firmware Versions

Valkyrie

XenaServer:	457.0
XenaRESTserver:	0.6.1

Test Module Firmware:

• Chi-100G-5S-2P Chi-40G-2S-2P	310
• Thor-400G-7S-1P Thor-100G-5S-4P	325
• Loki-100G-5S-2P	325
• Odin-1G-3S-6P-T1-RJ45	313
• Odin-10G-4S-2P-Combi[b]	310
• Odin-10G-5S-6P-CU[b]	326
• Odin-1G-3S-6P[b], Odin-1G-3S-6P-E	320 311
• Odin-1G-3S-2P-T, Odin-10G-4S-2P-Combi	326
• Odin-10G-1S-6P[b]	308
• All others:	308

ValkyrieManager:	1.85.8447.1
Valkyrie1564:	1.33
Valkyrie2544:	2.86
Valkyrie2889:	1.43
Valkyrie3918:	1.43
XenaScriptClient:	22.0

Common Tools

ChassisUpgrader:	3.13

Release Summary

This release enables users to start Payload Increment from 00 after header on Odin-10G-1S-6P[b] & Odin-10G-5S-6P-CU[b]. This release also increases Extended match term in Filters and position has been increased to support up to 2031 for Odin-10G-1S-6P[b] & Odin-10G-5S-6P-CU[b].

With this release users can define size of payload pattern when choosing “Pattern” as “Payload Type” in “Stream Properties”.

This release also includes several bug fixes. When using Extended payload and filtering statistics could show incorrect statistics for Odin-10G-5S-6P-CU (b) & Odin-10G-1S-6P[b].

This release includes a bug fix where Running Time in Global Statistics in some cases did not start correctly.
Using modifiers in Segment/Field setting a position value greater than 2045 could lead to unwanted behavior. Values are now only accepted up to 2045.

Odin-10G-1S-6P[b] & Odin-10G-5S-6P-CU[b] – In Segment/Field, for Max Value on 24 bit modifiers the value range has been adjusted to allow valid values.

This release includes a protection mechanism for ValkyrieManager DHCP Server, preventing it from creating a fatal error if a high number of DHCP request was issued to the it.

With this release we provide a fix that prevents ValkyrieManager from encountering a fatal error when a user under “Operations” clicked “Save testcase”.

This release provides a fix for an issue when loading a stream from PCAP file with “Stream Wizard”, which could make ValkyrieManager still encounter a fatal error even after the patch provided in Val-93.

This release also includes several minor bug fixes and general performance improvements.

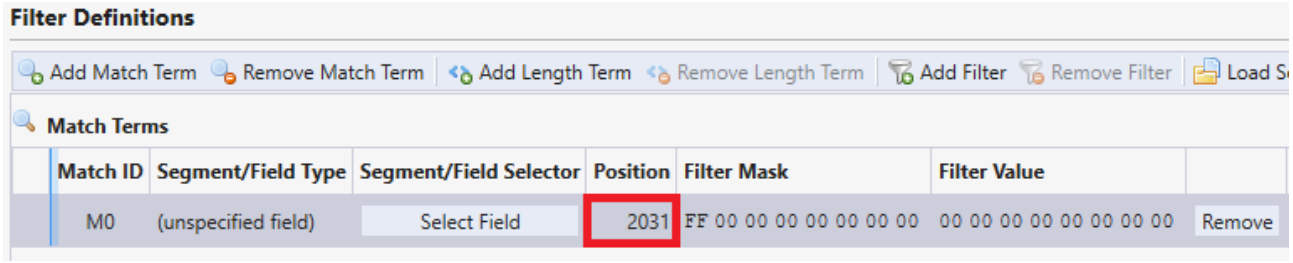
Valkyrie

New features

- Odin-10G-1S-6P[b] & Odin-10G-5S-6P-CU[b] – Users can now start Payload Increment from 00 after header.

Changes

- Odin-10G-1S-6P[b] & Odin-10G-5S-6P-CU[b] – Extended match term in Filters and position has been increased to support up to 2031:



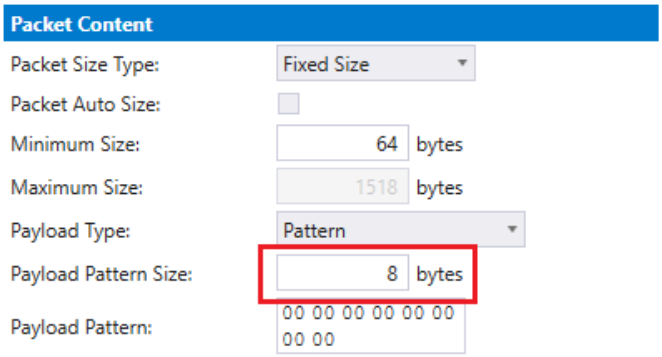
Bugfix

- Odin-10G-5S-6P-CU (b) & Odin-10G-1S-6P[b] – When using Extended payload and filtering, statistics could show incorrect statistics. This has now been corrected.
- When a port was reset in some cases ARP/NDP RX Table was not being cleared. This has now been corrected.
- Minor bug fixes and general performance improvements are included in this release.

ValkyrieManager

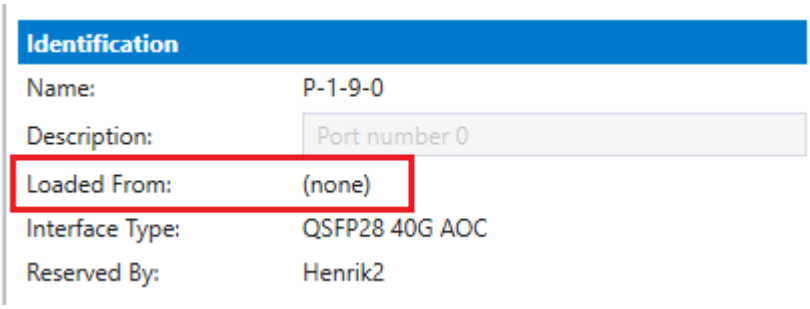
New features

- Odin-10G-1S-6P[b] & Odin-10G-5S-6P-CU[b] – Users can now start Payload Increment from 00 after header.
- Previously when choosing “Pattern” as “Payload Type” in “Stream Properties” the full pattern shown would be used. It is now possible to define the size of the payload pattern:



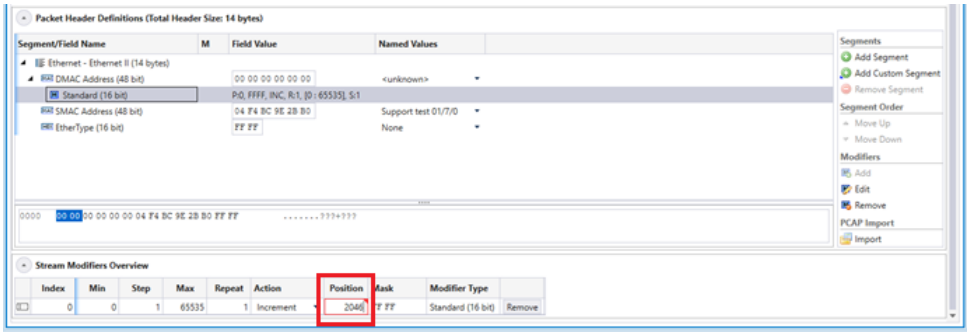
Change

- Previously it was shown where the xpc-file was loaded from, but since that could be altered afterwards, the information about where it was loaded from could be misleading. Therefor it has been removed.



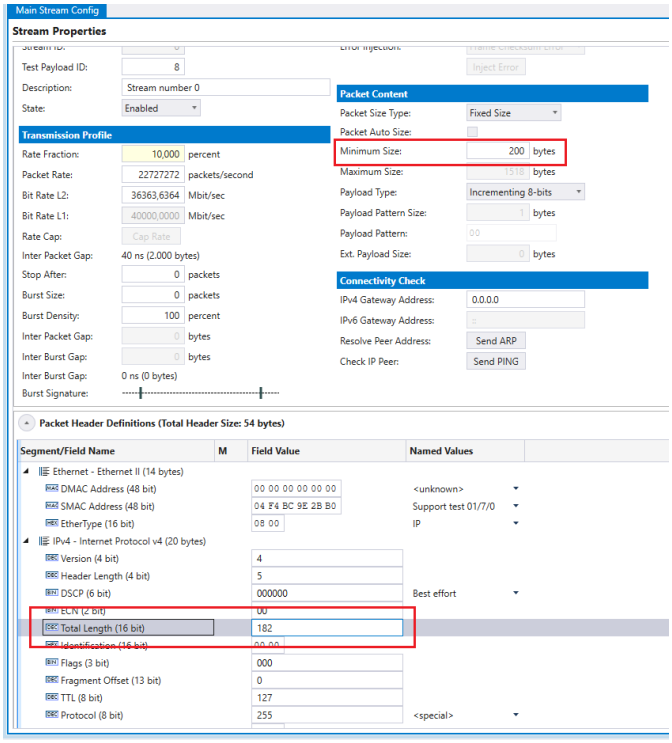
Bug fix

- Odin-10G-5S-6P-CU (b) & Odin-10G-1S-6P[b] – When using Extended payload and filtering, statistics could show incorrect data. This has now been corrected.
- When starting traffic from Global Statistics, in some cases the Running Time in the menu did not start. This is now corrected.
- When using modifiers in Segment/Field setting, a position value over 2045 could lead to unwanted behavior. Values are now only accepted up to 2045.



- Odin-10G-1S-6P[b] & Odin-10G-5S-6P-CU[b] – In Segment/Field, for Max Value on 24 bit modifiers the value range has been adjusted to allow valid values.

- When the “Minimum size” was updated in Packet Control, the “Total Length” in Header field was not updated. This has been corrected:



- In some cases the ValkyrieManager DHCP Server could create a fatal error if a high number of DHCP request was issued to the it. A protection mechanism has been implemented to protect the DHCP Server from creating a fatal error.
- If a user under “Operations” clicked “Save testcase” and then clicked “Cancel” ValkyrieManager could encounter a fatal error. This has now been corrected.
- When loading a stream from PCAP file with “Stream Wizard”, ValkyrieManager could in some cases encounter a fatal error even after the patch provided in Val-93. This has now been corrected.

Valkyrie Release Note – Release 93

Release Date: **December 22nd, 2022**

Software/Firmware Versions

Valkyrie

XenaServer:	456.0
XenaRESTserver:	0.6.1

Test Module Firmware:

• Chi-100G-5S-2P Chi-40G-2S-2P	309
• Thor-400G-7S-1P Thor-100G-5S-4P	325
• Loki-100G-5S-2P	324
• Odin-1G-3S-6P-T1-RJ45	313
• Odin-10G-4S-2P-Combi[b]	310
• Odin-10G-5S-6P-CU[b]	325
• Odin-1G-3S-6P[b], Odin-1G-3S-6P-E	320
• Odin-1G-3S-2P-T, Odin-10G-4S-2P-Combi	311 325
• Odin-10G-1S-6P[b]	325
• Odin-10G-1S-2P[d]	308
• All others:	

ValkyrieManager:	1.84.8385.1
Valkyrie1564:	1.33
Valkyrie2544:	2.86
Valkyrie2889:	1.43
Valkyrie3918:	1.43
XenaScriptClient:	22.0

Common Tools

ChassisUpgrader:	3.13

Release Summary

This release adds support for using 16-bit or 24-bit standard modifier size, depending on port capabilities on Odin-10G-1S-6P[b], Odin-10G-1S-2P[d] and Odin-10G-5S-6P-CU[b]. This release also provides a bug fix related to L1 RX-to-TX loop mode on Thor-400G-7S-1P and Thor-100G-5S-4P modules.

This release enables Auto adjust of frame size in stream configuration. With this release byte rate statistics have been added to Port and Stream Statistics, and Frame Events defined as “RX Undersize”, “RX Oversize” and “RX Jabber” have been added to Port Statistics.

With this release new options for packet content for Odin-10G-5S-6P-CU & Odin-10G-1S-6P are also supported. Support for extended payload on Odin-10G-5S-6P-CU (b) is also supported with this release.

Extended match term has been extended to 16,000 for Odin-10G-1S-6P[b] and Odin-10G-5S-6P-CU[b].

This release also adds Reconciliation sublayer detection and injection feature (Link Fault Detection/Injection) for Loki-100G-5S-2P.

Thor-400G-7S-1P – In FEC Statistics “Corrected Bit errors” and “Pre-FEC BER” in Receive Status Lane Status did not show correct statistics. This has now been corrected.

Corrected Bit errors and Pre-FEC BER in Receive Status Lane Status are incorrect

This release also includes general enhancements and bug fixes.

Valkyrie

New features

- Odin-10G-1S-6P[b], Odin-10G-1S-2P[d] and Odin-10G-5S-6P-CU[b] - Increased the standard modifier size from 16 bits to 24 bits.
- Odin-10G-5S-6P-CU & Odin-10G-1S-6P – New options for packet content
- Odin-10G-5S-6P-CU(b) – Support for extended payload has been added
- Extended match term has been extended to 16,000 for Odin-10G-1S-6P[b] and Odin-10G-5S-6P-CU[b].
- Loki-100G-5S-2P – Reconciliation sublayer detection and injection feature (Link Fault Detection/Injection) has been added.

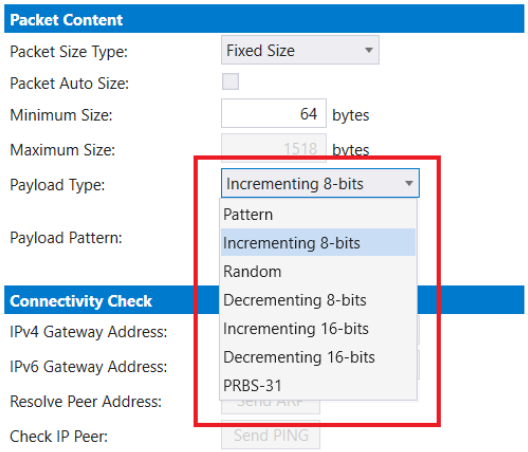
Bugfixes

- L1 RX-to-TX loopback on Thor-400G-7S-1P and Thor-100G-5S-4P modules did not work in some modes. This has now been corrected.
- Thor-400G-7S-1P - In some cases traffic could stop when sending 10 packets with 10pps when running in PAM4 modes. This has now been corrected.
- Thor-400G-7S-1P: NRZ mode - FCS error injection was not working correct. This has now been corrected.
- Thor-400G-7S-1P – In FEC Statistics “Corrected Bit errors” and “Pre-FEC BER” in Receive Status Lane Status did not show correct statistics. This has now been corrected.

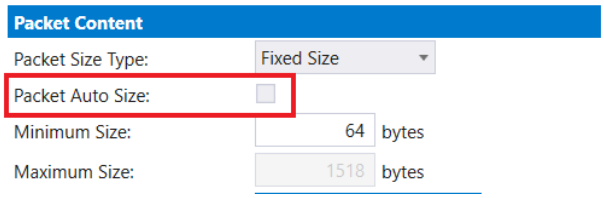
ValkyrieManager

New features

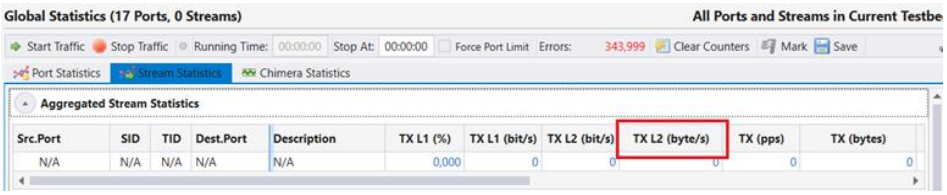
- Added support for using 16-bit or 24-bit standard modifier size, depending on port capabilities.
- Odin-10G-5S-6P-CU & Odin-10G-1S-6P – New options for packet content has been added, it is now possible to choose the following options in “Packet Content” under “Stream Properties”:



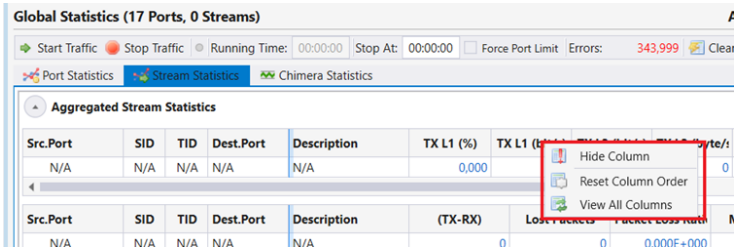
- Under “Packet Content” under “Stream Properties” a new feature has been added to auto adjust packet size, so minimum packet size defined in the “Packet Content” field equals the configured packet size in the stream:



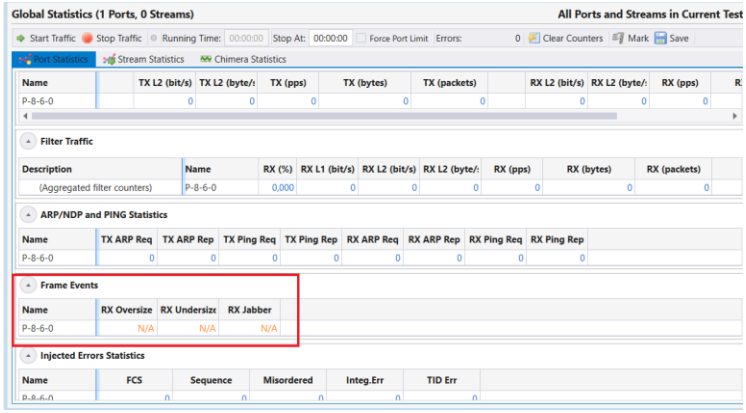
- Byte rate statistics has been added to “Port statistics” and “Stream Statistics” on “Global Statistics” tab:



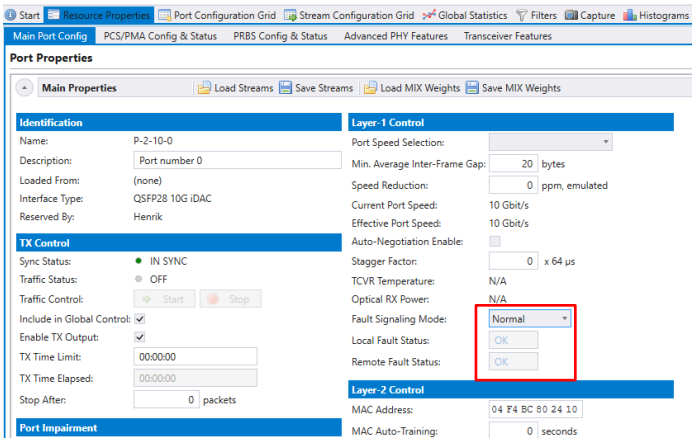
A tip here is that user can customize their view by right-clicking on the header and choosing which statistics they want to see:



- Frame Events defined as “RX Undersize”, “RX Oversize” and “RX Jabber” statistics has been added to “Port Statistics” on “Global Statistics” tab:



- Reconciliation sublayer detection and injection feature (Link Fault Detection/Injection) has been added in ValkyrieManager on the “Layer-1 Control” section on the “Main Port Config” tab for Loki-100G-5S-2P:



It is possible to choose between:

- Normal: Acts according to 802.3 standard
- Force_Local: Port will continuously transmit “Local Fault indication” on the TX output (which is usually not allowed by the standard).
- Force_Remote: Port will continuously transmit “Remote Fault indication” on the TX output.
- Disabled: Port will relay the traffic from the TX core regardless of what it receives on the input.

Changes

- If users used paused frames longer than the time set in “TX Zero Check Time” on the “Options” tap in main menu, traffic generation would stop. “TX Zero Check Time” and the associated limitation has been removed in the menu to avoid unintended stop of traffic.

Bugfixes

- Thor-400G-7S-1P – In FEC Statistics “Corrected Bit errors” and “Pre-FEC BER” in Receive Status Lane Status did not show correct statistics. This has now been corrected.
- When loading a stream from PCAP file with “Stream Wizard”, ValkyrieManager could in some cases crash. This has now been corrected.

Valkyrie2544

Bugfix

In Valkyrie2544 the CSV report was missing the column title Tx Off.Rate (Percent) for Frame Loss Rate Test and Back-to-Back Test. This has now been corrected.

Valkyrie Release Note – Release 92.1

Release Date:	**November 1st, 2022**
Software/Firmware Versions	**Valkyrie**
	XenaServer: 455.4
	XenaRESTserver: 0.6.1
	Test Module Firmware:
	• Chi-100G-5S-2P Chi-40G-2S-2P 309
	• Thor-400G-7S-1P Thor-100G-5S-4P 323
	• Loki-100G-5S-2P 323
	• Odin-1G-3S-6P-T1-RJ45 313
	• Odin-10G-4S-2P-Combi[b] 310
	• Odin-10G-5S-6P-CU[b] 312
	• Odin-1G-3S-6P[b], Odin-1G-3S-6P-E 320
	• Odin-1G-3S-2P-T, Odin-10G-4S-2P-Combi 311 309
	• Odin-10G-1S-6P[b] 308
	• All others:
	ValkyrieManager: 1.81.8333.1
	Valkyrie1564: 1.33
	Valkyrie2544: 2.85
	Valkyrie2889: 1.43
	Valkyrie3918: 1.43
	XenaScriptClient: 22.0
	Common Tools
	ChassisUpgrader: 3.13

Release Summary

This is a bugfix release, which addresses an issue introduced in Release 92 on Loki-100G-5S-2P, Thor-400G-7S-1P and Thor-100G-5S-4P, where certain configurations with a high number of streams were rejected by the system.

Valkyrie

Bugfix

- Certain configurations with a high number of streams were rejected by the system. This has now been corrected.

Valkyrie Release Note – Release 92

Release Date:	**October 26th, 2022**
Software/Firmware Versions	**Valkyrie**
	XenaServer: 455.3
	XenaRESTserver: 0.6.1
	Test Module Firmware:
	• Chi-100G-5S-2P Chi-40G-2S-2P 309
	• Thor-400G-7S-1P Thor-100G-5S-4P 323
	• Loki-100G-5S-2P 323
	• Odin-1G-3S-6P-T1-RJ45 313
	• Odin-10G-4S-2P-Combi[b] 310
	• Odin-10G-5S-6P-CU[b] 312
	• Odin-1G-3S-6P[b], Odin-1G-3S-6P-E 321
	• Odin-1G-3S-2P-T, Odin-10G-4S-2P-Combi 311 309
	• Odin-10G-1S-6P[b] 308
	• All others:
	ValkyrieManager: 1.81.8333.1
	Valkyrie1564: 1.33
	Valkyrie2544: 2.85
	Valkyrie2889: 1.43
	Valkyrie3918: 1.43
	XenaScriptClient: 22.0
	Common Tools
	ChassisUpgrader: 3.13

Release Summary

This release enables 2x100G NRZ mode for QSFP-DD on Thor-400G-7S-1P module. This release also enables 4xPRBS on each of the 100G ports in 2x100G NRZ mode for QSFP-DD on Thor-400G-7S-1P module. For Thor-100G-5S-4P and Thor-400G-7S-1P this release also includes support for Reconciliation sublayer detection and injection. The maximum number of filters has now been extended up to 8 bytes. This release also adds support for sequential access for transceivers in ValkyrieManager

This release also provides the option to save Chimera Statistics to file.

This release also includes general enhancements and bug fixes in ValkyrieManager.

Valkyrie

Bugfix

- Odin-10G-5S-6P-CU & Odin-10G-1S-6P: Frame Checksum (FCS) did not trigger in filtering. This is now corrected.

New features

- Thor-400G-7S-1P module 2x100G NRZ mode on QSFP-DD has been added as an additional mode
- Thor-400G-7S-1P module - it is now possible to run 4xPRBS on each 100G port in QSFP-DD (NRZ) mode
- Previously the maximum number of filters was set to 6. This has now been extended so users can use up to 8 filters.
- Odin-10G-1S-6P (b) – Support for extended payload has been added
- Thor-400G-7S-1P & Thor-100G-5S-4P - Reconciliation sublayer detection and injection (Link Fault Detection/Injection) has been added as a new feature

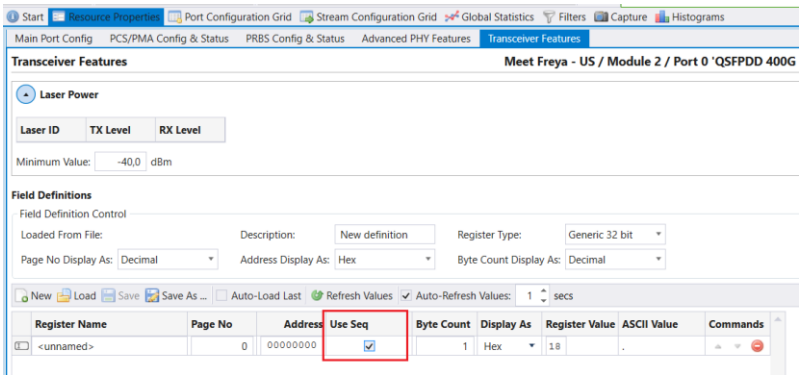
ValkyrieManager

Change

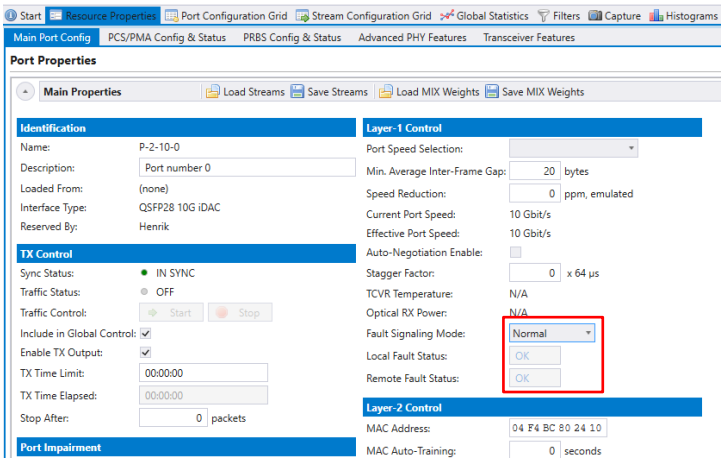
- On the “PRBS Config & Status” tab the naming of the columns “Lane” has been changed to “SerDes” to provide a more precise description of shown information
- On the “PCS/PMA Config & Status” tab the column with PRBS lock status has been removed. The information regarding PRBS lock can still be found on the “PRBS Config & Status” tab

New features

- Previous maximum number of filters was set to 6 bytes. This has now been extended so filters can be up to 8 bytes
- “Timing configuration” and “local clock adjustment” under “Resource Properties” on Module has been moved to a new tab: “Time & Clock Configuration”. On this tab the maximum offset is also indicated
- Under Port “Resource Properties”– on the tab “Transceiver Features” Sequential access has been added as a new feature:



- Reconciliation sublayer detection and injection feature (Link Fault Detection/Injection) has been added in ValkyrieManager on the “Layer-1 Control” section on the “Main Port Config” tab for Thor-100G-5S-4P and Thor-400G-7S-1P:



  - It is possible to choose between:
    - Normal: Acts according to 802.3 standard
    - Force_Local: Port will continuously transmit “Local Fault indication” on the TX output (which is usually not allowed by the standard).
    - Force_Remote: Port will continuously transmit “Remote Fault indication” on the TX output.
    - Disabled: Port will relay the traffic from the TX core regardless of what it receives on the input.

Bugfix

- Loki-100G-5S-2P – 32-bit modifier was not available options 25G and 10G modes. This is now possible to choose.
- Chimera – When changing port speeds Chimera kept reservation of users. This has now been disabled so when changing speeds on the ports the ports will be relinquished
- Chimera – From “Global Statistics” it is now possible to save the Chimera Statistics to file.