WHAT'S NEW

Xena Networks Release Note – Release 58.1

Release Date	:	April 1, 2015	
Software/Firmware Versions	:	XenaServer	405
		XenaL47Server	1.4
		XenaChassisUpgrader	1.4
		XenaConnect	1.1.15.0
		XenaManager-2G	1.9
		XenaIntegrator	1.14
		Xena2544	2.23
		Xena1564	1.14
		Xena2889	1.11
		Xena3918	1.12
		XenaScriptClient	21

Release Highlights

This release is mainly focused on supporting the new layer 4-7 test platform but also contains a number of improvements and bug-fixes for the existing layer 2-3 test solutions.

XenaConnect is a Windows client for configuration and generation of stateful TCP on Xena's new layer 4-7 chassis. With XenaConnect, the user can specify millions of TCP connections in switched, routed or NAT topologies. XenaConnect also has extensive stats and reporting which can be exported directly to PDF.

Special remarks:

The old XenaManager tool is no longer part of the release. It has been completely replaced with the new XenaManager-2G tool.

Layer 2-3 Test Module Functionality

M1CFP4QSFP28CXP

- QSFP28 port now supports QSFP+ as well (1x40G mode).
- Improved multi-vendor CFP and CFP4 transceiver compatibility: The TX de-emphasis on the electrical interface from the transceiver towards the module PHY is now always set to zero on transceiver insertion. Some vendors has it much higher per default and this may cause bit errors in the RX direction.
- Faster switch-over time between media types (CFP, QSFP28/QSFP+ CXP) and port speeds (100G, 40G, 10G).
- Lower power consumption for inactive interfaces.

- 20% faster eye-capture.
- Bugfix: QSFP28 did not properly detect some transceiver types
- Bugfix: On rare occations, eye-capture on empty an transceiver cage could crash the server.

M2QSFP+

- Bugfix: RX laser power read out now works on both ports.

M1CFP100, M2CFP40, M1CFP4QSFP28CXP

- Bugfix: "Extended" modifiers would sometimes still run after they were deleted.

XenaConnect

New features

- Read only mode for editable test configuration across platform, when test is compiling, running and reported.
- Links to 'Getting Started', 'User Manual' added to application startup screen. Checks for internet connectivity during application start up. If no connectivity, the page links are grayed out.
- Chassis connectivity robustness.
    - Immediately kill of chassis when connection is lost.
    - Assigned resources are removed gracefully from test if chassis or port reservation are changed during test.
- Save, Don't Save Cancel flow improved at application exit, or when loading new test.
- UI 3'rd party components updated to 2015 Q1.
    - Bug work a rounds with previous version removed.
    - Changed controls, re-layout.
    - Removed old references, themes etc.
- Improved logging.
- Introduce complex load profiles at application level.
    - Complex load editor, with updating small chart.
    - Single data query (counters) collate data across multiple cgs.
    - Dataset queries (counters), resamples collated data into single dataset.
    - Moved all apps to complex load profile scheme.
    - Update Traffic mixer to handle two level load hierarchy.
- Moved all direct counter quires for reporting to be proxied by StatisticManager (simplifies datatype rendering)
- Tracked subscription objects usage, correct disposal -> fix of mem leak.
- TcpCC Realtime statview updated.
- TcpLoad Realtime statview updated.
- Reporting.
    - Added XenaResource section.
    - Added more Test Result detailed counters.
    - Added Test setup summary section, Load, Network and application specific setup parameter.
    - Added/improved Test setup detailed section.

        - TableReportElement support for row mode (building table by adding rows).
- Test execution engine, added support for canceling when chassis is being configured.
- Capture mode (pcap files). Enables capture first 128 bytes (Small, many package mode) or Full (complete package, lesser number of packages).
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Bugfixes

- 57 xscale
- 60 Stats name is truncated
- 63 Unnassign one port reassign another port -> unable to Run Test
- 72 remove chassis -> crash
- 65 Remove chassis after a successful test run - > crash
- 59 Retransmissions detected (on 40G NIC) but system performance reports ok (green)
- 67 Port assigned to test but no PE's allocated - no warning given
- 58 Human readable version number in module parameters

XenaL47Server

New features

- Increased packet capture buffers: 200.000 full size packets and added 4M packets truncated to 128 bytes
- Improved scheduling when using multiple Connection Groups
- Improved general scheduling algorithm
- Added M4_CAPTURE_SIZE scripting command for FULL or truncated packet capture

Bugfixes

- Fixed a bug which could cause port state to hang in state PREPARE (seen with multiple connection groups)
- Fixed a bug which could cause post-run statistics not to be cleared (seen with multiple connection groups)
- Fixed a bug in HTTP get request/response

XenaChassisUpgrader

New features

- Added support for new XenaScale product

XenaManager-2G

New features

- Show type of PRBS used in 40/100G port property view.
- Added "Stream Preview" option to right-click menu (ticket #1211)
- Added "Port Preview" option (ticket #1211)
- Allow sorting of global statistic grids by clicking column headers (ticket #1211)
- Added "Query" value option to IGMPv2 "Type" protocol field (ticket #1253)

- Added option to specify up to 8 multicast addresses for port Join/Leave.
- Added new stream "Seq.Packets" property for use when port is in sequential mode (ticket #1193)

Bugfixes

- Don't show confirmation if "Save Port Configuration" dialog is cancelled (ticket #1229)
- Stream grid "Use For All" did not work for decimal rate values (ticket #1228)
- Disconnected chassis entry in treeview had invalid right-click options.
- Default value for stream "Seq.Pkts" property set to 1 (ticket #1213)
- Port sequential Tx rates did not auto adjust correctly (ticket #1213)
- Port sequential Tx rates was not capped according to max. port speed.
- Don't remove ports from testbeds when chassis is disconnected.
- Ports not added to/removed from global stats grid when chassis connection state changed.
- Prevent multiple script clients for each chassis.
- Close chassis scriptclient window when loosing chassis connection.
- Selecting filter for capture could fail if filter 0 did not exist (ticket #1211)
- Improved check of saved window position and size to always ensure visibility when using multiple monitors.
- Disabled editing of non-supported fields for ext. modifiers.
- Fixed crash due to failure to handle localized font family resources (ticket #1254)
- XM would "hang" and require Task Manager kill when editing certain grid properties and scrolling away.
- Don't display internal control properties in port configuration grid.
- Crash when displaying stats for 2 or more filter definitions (ticket #1195).
- Prevent editing segment address fields when traffic is active.
- Set all stream rate fields to inactive when port is in sequential mode (ticket #1193)
- Grid view "Use for all w/increment" did not check for valid property range (ticket #1200)

Xena2544

Bugfixes

- Fixed failure to reset iteration state for per-source port throughput test (ticket #1246)
- Fixed failure to handle "toggle sync state" for 10GBase-T ports (ticket #1234)
- Fixed failure to stop test on loss of port sync even if configured to do so (ticket #1230)
- Changed default value for "Stop on LOS" to "checked".
- Fixed report generation problem for latency tests when rate sweep was linked to throughput results (ticket #1194)

Xena2889

Bugfixes

- Fixed failure to handle "toggle sync state" for 10GBase-T ports

Xena3918

Bugfixes

- Fixed failure to handle "toggle sync state" for 10GBase-T ports

Xena Networks Release Note – Release 58

Release Date	:	February 19, 2015	
Software/Firmware Versions	:	XenaServer	403
		XenaChassisUpgrader	1.2
		XenaConnect	1.0
		XenaManager-2G	1.7
		XenaIntegrator	1.14
		Xena2544	2.20
		Xena1564	1.14
		Xena2889	1.10
		Xena3918	1.11
		XenaScriptClient	21

Release Highlights

This release is mainly focused on supporting the new layer 4-7 test platform. The layer 2-3 test software versions are identical to the versions released in 57.3 with the notable exception of the original XenaManager. This tool has been removed from the release as it is now 100% replaced with the new XenaManager-2G tool.

XenaConnect is a Windows client for configuration and generation of stateful TCP on Xena's new layer 4-7 chassis. With XenaConnect, the user can specify milions of TCP connections in switched, routed or NAT topologies. XenaConnect also has extensive stats and reporting which can be exported directly to pdf.

Special remarks:

The old XenaManager application is no longer part of the release.

Xena Networks Release Note – Release 57.4

Release Date	:	February 26, 2015	
Software/Firmware Versions	:	XenaServer	404
		XenaChassisUpgrader	1.2
		XenaManager-2G	1.8
		XenaIntegrator	1.14
		Xena2544	2.21
		Xena1564	1.14
		Xena2889	1.10
		Xena3918	1.11
		XenaScriptClient	21

Special remarks:

The old Setup program has been replaced with a new Windows Installer (MSI) compliant Setup program, which also features a proper uninstaller. The new Setup program will automatically remove all existing tools installed with the old Setup program. The chassis upgrade functionality has been moved to another new tool, the XenaChassisUpgrader.

The old XenaManager application is now end-of-life, and will not be maintained anymore. It is still shipped as part of the release but will be removed completely in the future. Most of the new features in this release are not supported by the old XenaManager. All future maintenance focus is thus shifted to the new XenaManager-2G application.

Test Module Functionality

M1CFP4QSFP28CXP

- Improved generation speed for eye diagrams with up to a factor 14.
- Improved initialization time for module resulting in a much faster chassis boot time.

XenaManager-2G

New features

- Added option to specify up to 8 multicast addresses for port Join/Leave.
- Added new stream "Seq.Packets" property for use when port is in sequential mode (ticket #1193)

Bugfixes

- XM would "hang" and require Task Manager kill when editing certain grid properties and scrolling away (ticket #1177).
- Crash when displaying stats for 2 or more filter definitions (ticket #1195).
- Don't display internal control properties in port configuration grid.
- Prevent editing segment address fields when traffic is active.
- Set all stream rate fields to inactive when port is in sequential mode (ticket #1193)
- Grid view "Use for all w/increment" did not check for valid property range (ticket #1200)

Xena2544

Bugfixes

- Fixed report generation problem for latency tests when rate sweep was linked to throughput results (ticket #1194)
- Removed latency test options "Autoset Start Rate" and "Autoset End Rate" as they in some circumstances would lead to inconsistent rate sweep values. The "Relative to Throughput" option should be used instead.

Xena Networks Release Note

Release Number	:	Release 57.3	
Release Date	:	February 19, 2015	
Software/Firmware Versions	:	XenaServer	403
		L2-3 TestModule Firmware	251
		XenaChassisUpgrader	1.2
		XenaManager-2G	1.7
		XenaIntegrator	1.14
		Xena2544	2.20
		Xena1564	1.14
		Xena2889	1.10
		Xena3918	1.11
		XenaScriptClient	21

Special remarks:

The old Setup program has been replaced with a new Windows Installer (MSI) compliant Setup program, which also features a proper uninstaller. The new Setup program will automatically remove all existing tools installed with the old Setup program. The chassis upgrade functionality has been moved to another new tool, the XenaChassisUpgrader.

The old XenaManager application is now end-of-life, and will not be maintained anymore. It is still shipped as part of the release but will be removed completely in the future. Most of the new features in this release are not supported by the old XenaManager. All future maintenance focus is thus shifted to the new XenaManager-2G application.

Test Module Functionality

M1CFP4QSFP28CXP

- Added automatic PHY RX tuning and recovery on the QSFP28 interface upon new signal detection from the QSFP28 transceiver.
- Added support for eye-measurements for CFP4 and QSFP28 ports.
- Added support for tuning the PHY TX parameters on CFP4 and QSFP28 ports.
- Added user interface for controlling PHY RX tuning on CFP4 and QSFP28 ports.
- Added better support for identifying more types of QSFP28 transceivers.
- Fixed an issue where CXP SerDes would sometimes boot up in a bad state.

- Increased power efficiency – on-board PHYs and transceiver lasers are now turned off when not used.
- Added laser power readout for QSFP28/QSFP+ transceivers.

M2QSFP+

- Added laser power readout for QSFP+ transceivers.

XenaChassisUpgrader

New features

- Check for missing modules after upgrade and reboot.
- Added warning on expired software maintenance license.
- Added option to set chassis username.
- Added better logging of any issues when matching modules to firmware files.
- Added Most-Recently-Used function for chassis address.

XenaManager-2G

New features

- Added support for eye diagrams for M1CFP4QSFP28CXP testmodules.
- Added support for multiple charts. Also made charting configuration persistent.
- Added support for loop-until-manually-stopped PCAP replay mode (ticket #1069).
- Added support for using Port TX Time Limit in Global Statistics (ticket #1077).
- Added support for changing the visual application theme.
- Improved support for Energy Efficient Ethernet (EEE) testports.

Bugfixes

- Added missing port zero-rate monitoring from the legacy XenaManager (ticket #1022)
- Corrected spelling mistake for Local Clock Adjustment label (ticket #1091)
- Fixed crash when copy/pasting MAC addresses (ticket #1107)
- Fixed wrong IP Type value for UDP and TCP field with checksum (ticket #1123)
- TCP checksum was incorrectly shown as supported for M6SFP and M2SFPT modules.
- Incorrect default value for "Flags" field in "GRE with checksum" segment (ticket #1150)
- Limited checksum for "GRE with checksum" segment not calculated (ticket #1150)
- Fixed inability to view configured TID for active histogram (ticket #1176)
- Fixed crash when disconnecting from an unresponsive chassis (ticket #1178)
- Fixed crash in trace message handling (ticket #1164)
- Fixed crash when handling responses from disconnecting chassis (ticket #1164)
- Fixed crash when adding modifiers (ticket #1174)
- Enable support for local clock adjustment for M2SFP+ rev. 'c' modules.

Xena2544

New features

- Added "FCS Errors" total counter to progress display.

- Added option to specify if test should be aborted on lost port sync.
- Added improved folder browser dialog.
- Added rate iteration line to console output.

Bugfixes

- CSV report generation failed when stream info was included in report (ticket #1116)
- Crash when pressing the "Restore Default Profiles" button (ticket #1124)
- Old test configuration settings still displayed after loading new configuration file (ticket #1145)
- B2B test did not respect custom port cap value (ticket #1022)
- The MAC "Learning Frame Count" configuration parameter was not used.
- Abort test on lost port reservation.
- Improved resilience of command line options parsing (ticket #1105)
- Fixed crash when importing legacy Xena2544 configuration.
- Improved resilience towards partially corrupted stream profile assignments due to bugs in earlier Xena2544 versions (ticket #1022).
- Old test configuration settings still displayed after loading new configuration file (ticket #1145)
- Removed wrong initial rate percent in console output (ticket #1187).
- Command line executor did not generate intermedia results (ticket #1187)
- Command line executor did not release used ports after test ended (ticket #1187)

Xena1564

New features

- Added improved folder browser dialog.

Bugfixes

- Command line executor did not release used ports after test ended (ticket #1187)

Xena2889

New features

- Added improved folder browser dialog.

Bugfixes

- Improved resilience of command line options parsing (ticket #1105)
- Command line executor did not generate intermedia results (ticket #1187)
- Command line executor did not release used ports after test ended (ticket #1187)

Xena3918

New features

- Added improved folder browser dialog.

Bugfixes

- Improved resilience of command line options parsing (ticket #1105)
- Command line executor did not release used ports after test ended (ticket #1187)

XenaIntegrator

No changes.

Xena Networks Release Note

Release number : Release 57.2

Release date : January 21, 2015

Versions : XenaServer S.401
Module I.251
XenaChassisUpgrader v1.1
XenaManager-2G v1.6
XenaIntegrator v1.14
Xena2544 v2.17
Xena1564 v1.13
Xena2889 v1.9
Xena3918 v1.10
XenaScriptClient v21
XenaManager v362

Special remarks:

The old Setup program has been replaced with a new Windows Installer (MSI) compliant Setup program, which also features a proper uninstaller. The new Setup program will automatically remove all existing tools installed with the old Setup program. The chassis upgrade functionality has been moved to another new tool, the XenaChassisUpgrader.

The old XenaManager application is now end-of-life, and will not be maintained anymore. It is still shipped as part of the release but will be removed completely in the future. Most of the new features in this release are not supported by the old XenaManager. All future maintenance focus is thus shifted to the new XenaManager-2G application.

Test Module Functionality

New Features

- Improved performance and reduced power consumption of CFP4 and QSFP28 ports on M!CFP4QSFP28CXP

XenaSetup

Bugfixes

- Added missing registration of tool configuration file extensions.

Xena Networks Release Note

Release number : Release 57.1

Release date : December 15, 2014

Versions : XenaServer S.400
Module I.251
XenaChassisUpgrader v1.1
XenaManager-2G v1.6
XenaIntegrator v1.14
Xena2544 v2.17
Xena1564 v1.13
Xena2889 v1.9
Xena3918 v1.10
XenaScriptClient v21
XenaManager v362

Special remarks:

The old Setup program has been replaced with a new Windows Installer (MSI) compliant Setup program, which also features a proper uninstaller. The new Setup program will automatically remove all existing tools installed with the old Setup program. The chassis upgrade functionality has been moved to another new tool, the XenaChassisUpgrader.

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator applications versioning methodology has been changed from a single (X) to a double revision numbering scheme (X.X)

The old XenaManager application is now end-of-life, and will not be maintained anymore. It is still shipped as part of the release but will be removed completely in the future. Most of the new features in this release are not supported by XenaManager. All future maintenance focus is thus shifted to the new XenaManager-2G application.

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator now require the Microsoft .NET 4.0 Framework (Client Profile)."

Test Module Functionality

Bugfixes

- On M2QSFP+ modules, the 40G/100G (CAUI) configuration and monitoring was swapped between the two ports on XenaBay systems.

XenaChassisUpgrader

New Features

- Added warning when upgrading chassis with expired software maintenance license.

XenaManager-2G

- No changes

Xena2544

Bugfixes

- Port synchronized start feature was enabled by default (ticket #1078).
- Enforce proper port stream ordering according to RFC 2889, section 5.1.3

Xena1564

- No changes

Xena2889

Bugfixes

- Port synchronized start feature was enabled by default (ticket #1078).
- Enforce proper port stream ordering according to RFC 2889, section 5.1.3

Xena3918

Bugfixes

- Port synchronized start feature was enabled by default (ticket #1078).
- Enforce proper port stream ordering according to RFC 2889, section 5.1.3

XenaIntegrator

- No changes

Xena Networks Release Note

Release number : Release 57

Release date : December 8, 2014

Versions : XenaServer S.399
Module I.251
XenaChassisUpgrader v1.0 (first version)
XenaManager-2G v1.6
XenaIntegrator v1.13
Xena2544 v2.16
Xena1564 v1.14
Xena2889 v1.8
Xena3918 v1.9
XenaScriptClient v21
XenaManager v362

Special remarks:

The old Setup program has been replaced with a new Windows Installer (MSI) compliant Setup program, which also features a proper uninstaller. The new Setup program will automatically remove all existing tools installed with the old Setup program. The chassis upgrade functionality has been moved to another new tool, the XenaChassisUpgrader.

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator applications versioning methodology has been changed from a single (X) to a double revision numbering scheme (X.X)

The old XenaManager application is now end-of-life, and will not be maintained anymore. It is still shipped as part of the release but will be removed completely in the future. Most of the new features in this release are not supported by XenaManager. All future maintenance focus is thus shifted to the new XenaManager-2G application.

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator now require the Microsoft .NET 4.0 Framework (Client Profile)."

Test Module Functionality

New Features

- Added support for synchronized start of traffic for multiple ports.
- Added support for staggered start of traffic across multiple ports.
- Added support for Energy Efficient Ethernet (EEE) for 10G ports on M2RJ25+ and M6RJ45+.
- Timestamp expiry for captured packets increased to 512 seconds (up from 32 seconds).
- Added support for micro-TPLD for small packet sizes. This allows for instance the use of IPv4/UDP protocol headers in 64 byte packets. This feature is supported on the following test module types: M6SFP+, M2SFP+T, M2SFP+, M12QSFP10, M2XFP, M2QSFP+ (for 10G ports), M1CFP4QSFP28CXP (for 10G ports).
- Added support for MDI/MDIX control for copper PHY ports (M6SFP and M2SFPT).
- Added support for selecting 512/1024 byte packet headers.
- Added 40G/100G misordering checking. Misorder *insertion* is currently not supported for 40G/100G.
- Improved latency calibration for XenaBay chassis.
- Added packet size range check for 40G/100G streams.
- Added support for controlling and monitoring Remote Fault signaling for 40/100 ports.
- Added support for current (last second) min/max latency and jitter.
- Increased the maximum measurable latency period from 2 seconds to 16 seconds for all testmodule types.

Bugfixes

- Errored Tx packet transmission for Jumbo packets for certain traffic rates.
- Bug fixed in Modifier bit mask (bit[13]).
- Selection of local test module clock for latency measurements (M6SFP).
- Rx packet alignment not IEEE compliant.
- Interoperability issue with Sumitomo 2nd generation Sumitomo CFP LR4 on CAUI interface (default de-emphasis function by Sumitomo is now disabled).

XenaSetup and XenaChassisUpgrader

- First version. Replaces the old Setup and Upgrader utility.

XenaManager-2G

General New Features

- Improved testbed selection and management with new list-oriented display.
- Now possible to set chassis in disconnected mode until explicitly connected again.
- Moved docking panel visibility options to separate dialog.
- Added embedded ScriptClient for each chassis.

Port and Stream Configuration

- Improved hex value editor allow selecting multiple byte values + copy and paste.
- Added support for enabling micro-TPLD for streams
- Added support for sync. port traffic start and start time staggering.
- Port and stream config. grids now show the number of rows.
- Added support for setting MDI/MDIX for supported ports
- Ability to "Use For All w/Increment" for MAC addresses.
- Provided modifier overview in Stream Properties view.
- Added readonly display of resulting bitrate at layer-1 in stream properties.
- Added underline indication of HW modified fields as for XM-1G (ticket #786)
- Added option to load same port configuration file to multiple ports (ticket #969)
- Added option to use stream description as label in resource treeview.
- Added protocol segment definition for IGMPv1.
- Allow "Use with increment" for stream descriptions (ticket #1026)
- Added option to select the source of streams in the grid configuration view (ticket #1025).
- Now possible to add multiple streams in one operation.
- Enable pasting stream on multiple ports.

Statistics

- Migrated periodic port statistics logging feature from XenaIntegrator.
- Added view for aggregated stream statistics counters (ticket #893).
- Customized column order in Global Statistics gridviews will be restored when application is started again (ticket #921).
- Added support for new 1-second min and max latency/jitter statistics.

Bugfixes

- Unable to change chassis name, description and password.
- Stream creation attempt not prevented if max. streams reached for port.
- Crash when loading port configuration with IPv6 segment (ticket #903).
- Not all stream counters written to saved CSV file in Global view.
- Auto-remove port from testbed which is no longer present in chassis (ticket #903).
- Changing the packet size in resource view did not change the rates (ticket #920).
- Failed to check for max. stream packet size (ticket #968)
- Failed to check limits on various modifier values (ticket #963)
- Global Stats running time counter would wrap from 23:59:59 to 00:00:00 (ticket #948)
- Improved scrolling speed of configuration grids.
- Modifier not displayed for raw segment (ticket #1004)
- Improved performance for large stream counts.
- Fixed crash when copy/pasting a stream with modifiers (ticket #996)
- Fixed missing modifiers when copy/pasting a stream (ticket #1024)
- Not possible to edit extended modifier values after creation.
- Multiple entries in Global Stats after changing CFP module type or media.
- Unable to display Extended Modifier in stream protocol tree.

- Auto-refresh port configuration when reserving it.
- Crash when double-clicking on a column in Available Resources (ticket #1048)
- Renamed modifier start/stop to min/max to avoid confusion when decrementing (ticket #1061)
- Remove orphaned modifiers on stream after PCAP segment import (ticket #1064)
- The bits of the mask of extended modifiers must be asserted from right (LSB) to left (MSB).

Xena2544

New Features

- Migrated to use Microsoft .NET 4.0.
- Added support for sync. port traffic start and start time staggering.
- Added support for enabling micro-TPLD for streams.
- Added support for setting MDI/MDIX for supported ports
- Added support for multistream configuration
- Added context menu for "use value for all" to selected port grid.
- Added command-line option to log console messages to file (ticket #928)
- Added option to enable or disable auto-scrolling to last row.
- Added option to prevent use of gateway MAC address as DMAC.
- Added option to add custom port rate cap values (ticket #1022)

Bugfixes

- Not possible to remove chassis from configuration (ticket #914).
- Inconsistent configuration handling when last used configuration file could not be found.
- Intermediate result did not include same columns as realtime gridview in GUI (ticket 924).
- Console mode did not emit "completed" message on chassis connection errors (ticket #928).
- Console mode did not generate CSV report (ticket #928).
- Auto-scroll to last row would jump to first column (ticket #960)
- Invalid tag names for segment profile map in XML report (ticket #1027)
- Back-to-back test on 100G ports with 64 byte frames would exceed internal packet mac. limit (ticket #993)
- PortTxRatePcnt not present in XML report for per-port results (ticket #1074).

Xena1564

- Migrated to use Microsoft .NET 4.0.

Xena2889

New Features

- Migrated to use Microsoft .NET 4.0.
- Added support for enabling micro-TPLD for streams.
- Added support for setting MDI/MDIX for supported ports

- Added option to add custom port rate cap values (ticket #1022)

Bugfixes

- Not possible to remove chassis from configuration (ticket #914).

Xena3918

New Features

- Migrated to use Microsoft .NET 4.0.
- Added support for enabling micro-TPLD for streams.
- Per-port unicast protocol segment profile.
- Added CSV report option.
- Added option to add custom port rate cap values (ticket #1022)

Bugfixes

- Not possible to remove chassis from configuration (ticket #914).

XenaIntegrator

- Migrated to use Microsoft .NET 4.0.

Release 56.4, released on: November 3, 2014

Release number	: Release 56.4
Release date	: November 3, 2014
Versions	: XenaServer S.388 Module I.247 XenaManager-2G v1.5 XenaIntegrator v1.13 Xena2544 v2.13 Xena1564 v1.12 Xena2889 v1.7 Xena3918 v1.8 XenaScriptClient v21 XenaManager v362

Special remarks:

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator applications versioning methodology has been changed from a single (X) to a double revision numbering scheme (X.X)

The older Xena2544 application is now end-of-life, and all future feature upgrades are based on the new Xena2544-2G application, which is now generally referred to as Xena2544.

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator now require the Microsoft .NET 3.5 Framework. It is necessary to have the full framework installed and not just the "Client Profile"

Test Module functionality:

- Bug fix: errored Tx packet transmission for Jumbo packets for certain traffic rates

Release 56.3, released on: September 4, 2014

Versions : XenaServer S.386
Module I.247
XenaManager-2G v1.5
XenaIntegrator v1.13
Xena2544 v2.13
Xena1564 v1.12
Xena2889 v1.7
Xena3918 v1.8
XenaScriptClient v21
XenaManager v362

Special remarks:

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator applications versioning methodology has been changed from a single (X) to a double revision numbering scheme (X.X)

The older Xena2544 application is now end-of-life, and all future feature upgrades are based on the new Xena2544-2G application, which is now generally referred to as Xena2544.

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator now require the Microsoft .NET 3.5 Framework. It is necessary to have the full framework installed and not just the "Client Profile"

Test Module functionality:

- No Changes

XenaManager-2G:

- Removed beta version warning.
- Added Tools menu item to open Windows Explorer in the Xena data directory.
- Added support for Energy Efficient Ethernet (EEE) testports.
- Added feature to forcibly relinquish all resources on selected chassis. The feature can be invoked in the Operations menu as "Relinquish Chassis Resources".
- Bug fix: Fixed crash when adding a modifier after several stream additions and removals (ticket #884).

- Bug fix: Swapped position of "Add Stream" and "Start Traffic" context menu items to avoid starting traffic by mistake when wanting to add another stream (ticket #877).
- Bug fix: Prevent crash when MAC address editor field in grid view becomes temporarily invisible (ticket #878).
- Bug fix: Fixed erroneous update of capture results when selecting ports for the first time.
- Bug fix: Prevent selection of invalid step values for latency-type histograms (ticket #861).
- Bug fix: Ensure that the max. packet size cannot be lower than the min. packet size for size types that use both values (ticket #863).
- Bug fix: Port TX sequential mode rate values not enabled when XM-2G re-opened (ticket #829).
- Bug fix: XM-2G should ignore stream rates and not attempt to cap them when port is in sequential mode (ticket #792).
- Bug fix: Fixed ambiguous thousand-separator for M2SFPT TX and SMA filter setting (ticket ##771).
- Bug fix: Fixed crash when clicking in columns other than Name for a stream (ticket #790).
- Bug fix: Double-click on Add Segment dialog scrollbar would close the dialog box (ticket #787).
- Bug fix: Only write raw counter values to CSV file instead of formatted counter values (ticket #830).
- Bug fix: Port reservations may fail silently when parent resource is reserved (ticket #788).
- Bug fix: Adding modifier with custom mask causes fatal exception (ticket #793)
- Bug fix: Show "N/A" for capture latency when latency value is invalid.
- Bug fix: Only show valid values for module M2QSFP+ CFP Configuration.

XenaManager:

- No changes

Xena2544:

- Added context menu for "Use Value for All" and "Use for All W/Increment" commands to selected port grid.
- Bug fix: Failure to save entered public IP address (ticket #870)
- Bug fix: Ports was not sorted correctly in result panels and reports.

Xena1564:

- Added MAC learning step to avoid initial packet loss due to flodding.
- Bug fix: Not possible to set L2 rate larger than 2.147.483.647 bit/sec due to wrong integer representation (requred long integer) (ticket #783).
- Bug fix: Burst tests might fail to initialize depending on previous tests due to failure to calculate remaining bandwidth (ticket #783).
- Bug fix: Pass/Fail state of tests only depended on result for last used frame size.
- Bug fix: Wrong unit for Max. Frame Transfer Delay in report (ticket #768).
- Bug fix: UAS state wrongly "inherited" by next frame size tested (ticket #768).
- Bug fix: Add detection of total loss of traffic for SES/UAS criteria.
- Bug fix: Handle erroneous tab selection change when disabling docking panels.
- Bug fix: Performance test would fail if more than one framesize was defined (ticket #768).

Xena2889:

- Allow user to specify the mode for allocation the Test Port MAC address for address caching and learning tests (ticket #682).
- Enable logging of intermediate results to CSV file (ticket #773)
- Allow setting DMAC of learning frames for address caching and learning rate tests to broadcast address instead of the default test port MAC (ticket #843).
- Allocate capacity test port MAC address in same range as the learning addresses. This may help finding the true MAC learning table size.
- Bug fix: Fixed naming error in Address Learning report (ticket #772)
- Bug fix: The used learning rate in Address Learning test would not use the rate iteration settings but would always be set to 100%.
- Bug fix: Ports was not sorted correctly in result panels and reports.
- Bug fix: Fixed inactive configuration controls for Address Learning Rate test.

Xena3918:

- Added option to configure a multicast group sweep for the Latency and Burdened Latency tests (ticket #859)
- Bug fix: Fixed missing display of intermediate results for capacity test (ticket #857)
- Bug fix: Fixed wrong X-axis label for Aggr. MC Throughput report graph.
- Bug fix: Multicast Group range definition was not utilized for Aggr. MC Throughput and Mixed Class Throughput tests.

XenaIntegrator:

- No changes

Release 56.2, released on: July 4, 2014

Versions : XenaServer S.386
Module I.247
XenaManager-2G v1.2
XenaIntegrator v1.13
Xena2544 v2.10
Xena1564 v1.10
Xena2889 v1.5
Xena3918 v1.7
XenaScriptClient v21
XenaManager v362

Special remarks:

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator applications versioning methodology has been changed from a single (X) to a double revision numbering scheme (X.X)

The older Xena2544 application is now end-of-life, and all future feature upgrades are based on the new Xena2544-2G application, which is now generally referred to as Xena2544.

Test Module functionality:

- No changes

XenaManager-2G:

- Added support for importing XenaManager v1 testbeds.
- Added support for loading and saving testcases.
- Save and restore window state (maximized/minimized/normal)
- Double-click on modifier opens Edit dialog
- Added option to take a snapshot image of the stream charts to the clipboard.
- Auto-stop traffic on port if traffic no longer active.
- Bug Fix: crash when opening Username dialog.
- Bug Fix: failure to detect deleted stream after port refresh.
- Bug Fix: Fixed counter headers and tooltips for port-level global statistics.
- Bug Fix: Fixed module latency reference config.
- Bug Fix: capture filter selection issues when creating and deleting filters.
- Bug Fix: Resource reservation check must take child reservation states into account.
- Bug Fix: failure to refresh capture result view for selected port when starting capture from Global Stats view.
- Bug Fix: failure to update capture view for User Stop option (ticket #762)

XenaManager:

- No changes

Xena2544:

- Added default Ethernet-IPv6 protocol segment profile.
- Bug fix: Don't issue ARP for gateway MAC address when all destination ports are on same IP subnet (ticket #720).
- Bug fix: Fail latency and loss tests when Rx packets = 0 (ticket #754).
- Bug fix: Corrected calculation of default gateway for IPv6.

Xena1564:

- No changes

Xena2889:

- Added default Ethernet-IPv6 protocol segment profile.
- Bug fix: Corrected calculation of default gateway for IPv6.
- Bug fix: Don't issue ARP for gateway MAC address when all destination ports are on same IP subnet.
- Bug fix: Increased the wait time for traffic stop during address caching and learning tests.

Xena3918:

- Enable viewing test parameters when test is running.
- Changed result and report to show test result PASS/FAIL state.
- Join/Leave test now fails the test properly in case of errors and logs the cause in the report, instead of just aborting the test execution.
- Bug fix: Fixed crash in reporting function when stopping active test.
- Bug fix: Don't issue ARP for gateway MAC address when all destination ports are on same IP subnet.

XenaIntegrator:

- No changes

Release 56.1, released on: June 11, 2014

Versions : XenaServer S.386
Module I.247
XenaManager-2G v1.1
XenaIntegrator v1.13
Xena2544 v2.9
Xena1564 v1.10
Xena2889 v1.3
Xena3918 v1.6
XenaScriptClient v21
XenaManager v362

Test Module functionality:

- Bug fix: certain stream rates and burst profiles causing FCS errors on Tx side for 40/100G ports

XenaManager-2G:

- Added GTP v1 and v2 segment types.

- Added Capture "User Stop" option.
- Added support for configuring MIX weight distribution for packet lengths.
- Auto-select first filter when setting histogram "Which Packets" to "Filter".
- Added right-click option to stream config grid.
- View name of last loaded config file for port
- Bug fix: Disable stream rate and burst config when port mode = Sequential.
- Bug fix: Disable changes to stream enable state when state is Disabled and traffic is ON.
- Bug fix: Convert stream enable state Disabled to Suppressed when traffic is ON.
- Bug fix: Fixed excessive filter panel refresh when port polling active.
- Bug fix: Fixed wrong initial enable state for stream packet size fields.
- Bug fix: Fixed update of "Port Tx Time Elapsed" when port traffic is on.
- Bug fix: Fixed auto-detection of Xena tools for ribbonbar.
- Bug fix: Allow only capture “Keep All” for 40/100G ports, when using any other capture stop criteria than "Until Full".
- Bug fix: Improved performance of capture view with large number of packets.
- Bug fix: Removed "Count" parameter from histograms as this is not currently supported by the Xena server.
- Bug fix: Prevent filter removal if used by capture or histograms.
- Bug fix: Check if port references in testbeds refer to unknown chassis and remove any such orphaned ports.
- Bug fix: Improved performance of global stats stream grid.
- Bug fix: Improved performance of port and stream configuraton grid.
- Bug fix: Fixed handling of filter match term position and mask.
- Bug fix: Disable "React to PAUSE Frames" property for 40/100G ports.
- Bug fix: Also clear counters when starting traffic in Global Stats view.
- Bug fix: Fixed stuck stats polling after chassis reconnect.
- Bug fix: Only show valid loopback options for 40/100G ports.
- Bug fix: Only display "TX - RX" error counter when traffic is not running on TX port.
- Bug fix: Fixed missing histogram chart update when other histogram selected bug.

XenaManager:

- Added support for configuring MIX weight distribution for packet lengths.

Xena2544:

- Added support for configuring MIX weight distribution for packet lengths.
- Bug fix: Failed to import Xena2544 v1 configuration file with topology != PAIRS (ticket #689).
- Bug fix: Fixed crash opening context menu when selecting both modules and ports.

Xena2889:

- No changes

Xena3918:

- No changes

XenaIntegrator:

- No changes

Release 56, released on: May 26, 2014

Versions : XenaServer S.379
Module I.247
XenaManager-2G v1.0
XenaIntegrator v1.13
Xena2544 v2.8
Xena1564 v1.10
Xena2889 v1.3
Xena3918 v1.6
XenaManager v361

Special remarks:

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator applications versioning methodology has been changed from a single (X) to a double revision numbering scheme (X.X)

Test Module functionality:

- Support for new Test Module: M2QSFP+
- Support for new Test Module: M12QSFP10
- Support for new Test Module: M2RJ45+
- Support for new XenaCompact: C1-M2SFP+4SFP
- Added support for new capture-until-user-stop feature (except for 40/100G port speeds)
- Support for GTP v1 and GTP v2 with optional GTP header fields.
- M2SFPT: Increased number of Modifiers from 2 to 6 (per stream)
- New extended 24-bit Modifier for 40/100G ports
- Support for optical Rx power reading on CFP SR10 optical transceivers (2nd gen transceivers)
- New Port Property : configurable weights (per 16 pre-defined packet lengths) for the MIX packet length distribution, configurable from scripting
- Support for TCP packet header protocol format with hardware-generated checksum
- Reduced number of filters per port from 6 to 4 for older 1st generation M2SFP/XFP Test Modules

- Bug fix: no false Link Sync reporting for unconnected 10G from M1CFP100/M2CFP40 in 10G modes
- Bug fix: traffic stop, when transmitting from 100G port to 10G port, could result in spurious falsely reported packet losses
- Bug fix: false reporting of packet loss for certain streams with small packets/burst-profiles
- Bug fix: spurious (rare) temporary reporting of packet loss on M1CFP100/M2CFP40 test ports
- Bug fix: removing and re-inserting a new CFP module would stop traffic when the new CFP transceiver type is identical to the previous used CFP transceiver type
- Bug fix: reversed QSFP+ port numbering on M2QSFP+ module
- Bug fix: corrected SFP type/name reporting for 100FX transceivers
- Bug fix: solved long-term stability issues for XFP OTN scripting
- Bug fix: removed option for selecting stream “Suppressed” state for 40/100G ports
- Bug fix: removed option for enabling “React to pause frames" for 40/100G ports
- Bug fix: removed option for selecting “Rx-to-TX" and "Port-to-Port" loopback modes for 40/100G ports.

XenaManager-2G:

- First release of the second generation XenaManager application.

XenaManager:

- Added support for TCP packet header protocol format with hardware-generated checksum.
- Added more sensible default values for TCP segment header.
- Added support for G.8113.1 OAM packet header protocol format
- Added option for making port reservation using right-click in port tree window
- Added support for GRE packet header protocol format (RFC 2784), both with and without checksum.
- Fixed MPLS-TP OAM LCK OpCode definition.
- Bug fix: Fixed definition of TCP segment header: "Flags" field is 9 bit, not 8 bit.
- Bug fix: removed option for selecting stream “Suppressed” state for 40/100G ports
- Bug fix: removed option for enabling “React to pause frames" for 40/100G ports
- Bug fix: removed option for selecting “Rx-to-TX" and "Port-to-Port" loopback modes for 40/100G ports.

XenaIntegrator:

- Bug fix: Unable to edit protocol field values
- Bug fix: Fixed excessive memory consumption during long-term execution.
- Bug fix: "Elapsed" time display 1 hour too large for minutes > 30.

Xena2544:

- Added checkbox to Physical Ports tree for easier adding/removing ports.
- Added flow-based learning preamble support.
- Added Bit/s and Fps counters to Latency/Jitter test results.
- Added Pass Threshold option to Throughput test.
- Bug fix: Prevent the user from selecting a non-writable directory as the reporting directory.

- Bug fix: Failed to correctly calculate average latency and jitter for mesh configurations with port count > 2.
- Bug fix: Burst size calculation did not take different port speeds between pairs into account.
- Bug fix: Activate flow-based learning preamble for each trial.
- Bug fix: Fixed crash when starting a test with the Results Panel closed.
- Added missing log of intermediate results.

Xena2544:

- The older Xena2544 application is now end-of-life, and all future feature upgrades are based on the new Xena2544-2G application (which is now generally referred to as Xena2544)

Xena2889:

- Bug fix: Fixed excessive memory usage for storing counter samples.
- Bug fix: Fixed MAC learning for value iterations with long durations.
- Bug fix: Fixed display of current duration in status line.
- Bug fix: Working with test parameters when no connection was established with the chassis would crash the program.

Xena3918:

- Bug fix: Not possible to modify Join-to-Traffic Delay value in Aggregated Multicast Throughput test.

Release 55, released on: Januar 22, 2014

Versions : XenaServer S.368
XenaDriver D.30
Module I.242 (I.244 for M6SFP/M2SFPT, I243 for M6RJ45P)
XenaManager M.351
Xena2544 v27
Xena2544 2G v2 Beta
Xena2889 v2
Xena3918 v5
XenaIntegrator v11

Test Module functionality:

- Support for new test module: M6RJ45+
  - Knows bugs: poor latency accuracy for 1G/100M port speed modes
- Added support for IPv6 address wildcarding (port property)
- M2SFPT, M2SFP+T (Advanced Timing): support for presenting the recovered port0/1 clk on SMA output in 2.048MHz format (in addition to 10.0MHz format)
- Added new Auto-Negotiation modes: F10M HDX, F100M HDX, and AUTO 10+100
- Improved accuracy of inherent latency calibration, cancellation of transceiver delay

- Scripting support for Menara OTU-2 transceivers
- Bug fix: Fixed overrun (signed) problem for average latency, for long term high latency tests
- Bug fix: Improved Rx framing functionality for 10/100/1000M interfaces.
- Bug fix: IPv6 NDP will now also work for ICMPv6 packets which includes a VLAN tag
- Bug fix: improved accuracy in scheduling of very low packet rates, such as 1 pps
- Bug fix: fixed scheduling errors for large packets sizes, on 100G ports
- Bug fix: ANEG did not work while in tx2rx loopmode (M6SFP)

XenaManager:

- ARP-all function across all IP/IPv6 streams of a port
- Replay of pcap files with big-endian encoding
- Connect to chassis using DNS domain name
- Copy/paste raw hex bytes in stream definitions
- Port-level error count, and testbed-level error count in Global Control
- Bug fix: do not allow auto-neg disable when in auto mode
- Bug fix: show jitter statistics even if source port is non-local
- Bug fix: fix enforcement of maximum number of packets in sequential TX mode

Xena2544-2G Beta Release:

- Compared to the original Xena2544 application the Xena2544-2G has been improved with the following features:
  - Ability to specify separate protocol headers for each port. It is thus now possible to specify for instance a different VLAN for each port.
  - Ability to set modifiers on virtually any protocol field in the protocol headers using a Wireshark-like tree view.
  - Support for asymmetric port rates and DUT throughput rates. The Throughput test can be configured to either measure the least common throughput rate or measure a per-port rate.
  - Ability to create a CSV-formatted report in addition to the existing PDF and XML reports.

Xena2544:

- Added display of packet loss per port.
- Added option to specify the latency offset value for each port.
- Bug fix: Command line tool failed to use configured port speed when different from current port speed.
- Bug fix: Changed all instances of "Bps" to "Bit/s".
- Bug fix: Command line tool now more robust towards invalid characters in path strings.
- Bug fix: Fixed crash when using custom report directory and default report directory has not been created.
- Bug fix: Added more significant digits to loss values.
- Bug fix: Fixed unit string for frames/sec from "Frames" to "Fps".
- Bug fix: Prevent setting MAC modifier for L3 when IP gateway is specified.
- Bug fix: Enable MAC modifier for L2 traffic when not in modifier mode.
- Bug fix: Fixed misaligned CSV columns for intermediate results.

- Bug fix: Fixed bad jitter values in intermediate results CSV log.

Xena2544 G2:

- First official release of 2nd generation RFC 2544 with asymmetrical test support

Xena2889:

- Bug fix: Improved handling of invalid Duration values.
- Bug fix: Added missing support for iteration handling.
- Bug fix: Added check for no testtypes enabled.

Xena3918:

- Added option to specify maximum Join/Leave packet rate.
- Added display of current duration counter.
- Added option to specify the latency offset value for each port.
- Bug fix: Stop Join refresh timer when test is cancelled by user.
- Bug fix: Fixed crash during report generation for Capacity Test when no valid results had been obtained.
- Bug fix: Fixed inability to edit segment MC and UC protocol segment definition fields.
- Bug fix: Fixed handling of default client protocol value in server protocol segment.

XenaIntegrator:

- Added support for ARP wildcards on destination testport when using modifier on IP destination address field.
- Bug fix: Fixed crash starting a poll when not all chart types was selected.
- Bug fix: Fixed failure to correctly display loop configuration for an ASD port.

Release 54, released on: October 24, 2013

Versions : XenaServer S.350
XenaDriver D.30
Module I.237 (I.241 for M6SFP/M2SFTT)
XenaManager M.344
XenaIntegrator v9
Xena2544 v22
Xena1564 v10
Xena3918 v2
Xena2889 v1
Excel2544 v74
Excel2889 v17

Special remarks:

Xena2544, Xena1564, Xena2889, Xena3918, and XenaIntegrator now require the Microsoft .NET 3.5 Framework. It is necessary to have the full framework installed and not just the "Client Profile"

The location for Xena2544, Xena1564, Xena2889, Xena3918 application data (configuration files, log files, report files, etc) have been moved to the user "Documents" directory. This is done to enable write-access for non-administrative users. Each tool will automatically migrate existing files from the old location to the new location the first time the tool is started.

Test Module functionality:

- Bug fix: after power-on, some statistics would not be cleared to zero
- Bug fix: after power-on, the first received packet would be FCS corrupted (on M6SFP module)
- Bug fix: just after traffic ON, one random packet length could exceed the specified maximum
- Bug fix: additional fix to overrun issue with dynamic loss detection on 100G ports
- Bug fix: reduced CFP MDIO interface speed to sub-standard to support non-compliant CFP tvcrs
- Bug fix: fixed overrun issue with dynamic loss detection
- Bug fix: included 8b/10b decoding error in Rx framing for 10/100/1000M interfaces
- Bug fix: short 7B preamble for 10/100M copper/electrical interfaces, changed to 8B preamble

XenaManager:

- Single-step replay of pcap files
- Bug fix: Improved check when deleting filter that is used by capture
- Bug fix: Removed assertion in global stats

Xena2889:

- First release of RFC 2889 test suite

Xena2544:

- Added option to log intermediate results to a CSV text file.
- Upgraded to require Microsoft .NET 3.5 Framework (the full framework, not just the Client profile).
- Changed report date format to YYYY-MM-DD instead of DD-MM-YYYY.
- Add support for specifying the unit of port speed limits.
- Allow user to select the unit for data in Throughput charts (Fps or Bps).
- Show total throughput rate in report for both layer1 and layer 2.
- Bug fix: Moved Xena application data to user "Documents" directory to enable write-access for non-admin users.
- Bug fix: Don't show auto-negotiation on/off option for ports that does not support it.
- Bug fix: Don't react to P_INTERFACE changes while in port reset stage.
- Bug fix: Fix averaging of multiple iterations for latency test.

- Bug fix: Added detection of traffic stop before proceeding.
- Bug fix: B2B-test initial burst calculation was wrong when using software-controlled per-port speed limit.
- Bug fix: Update TestPassed field when averaging a result from a series of iterations.
- Bug fix: Fixed problems formatting invalid total latency values in report.
- Bug fix: Fixed program hang problem following loss of connection to chassis.
- Bug fix: Fixed Tx/Rx packet counter overflow in report.
- Bug fix: Prevent iteration from looping endlessly.
- Bug fix: Report would show wrong duration if actual duration was larger than 30 minutes.

Xena1564:

- Upgraded to require Microsoft .NET 3.5 Framework (the full framework, not just the Client profile).
- Changed report date format to YYYY-MM-DD instead of DD-MM-YYYY.
- Bug fix: Don't react to P_INTERFACE changes while in port reset stage.
- Bug fix: Moved Xena application data to user "Documents" directory to enable write-access for non-admin users.
- Bug fix: Don't show auto-negotiation on/off option for ports that does not support it.
- Bug fix: Report would show wrong duration if actual duration was larger than 30 minutes.

Xena3918:

- Upgraded to require Microsoft .NET 3.5 Framework (the full framework, not just the Client profile).
- Changed report date format to YYYY-MM-DD instead of DD-MM-YYYY.
- Bug fix: Don't show auto-negotiation on/off option for ports that does not support it.
- Bug fix: Report would show wrong duration if actual duration was larger than 30 minutes.

XenaIntegrator:

- Upgraded to require Microsoft .NET 3.5 Framework (the full framework, not just the Client profile).
- Moved Xena application data to user "Documents" directory to enable write-access for non-admin users.
- Changed report date format to YYYY-MM-DD instead of DD-MM-YYYY.
- Bug fix: Fixed failure to get non-existent port from port map.
- Bug fix: Report would show wrong duration if actual duration was larger than 30 minutes.

Release 53, released on: July 26, 2013

Versions : XenaServer S.344
XenaDriver D.30
Module I.237 (I.236 for M2CFP40/M1CFP100)
XenaManager M.343
XenaIntegrator v8
Xena2544 v20

Xena1564 v9
Xena3918 v1 (beta release)
Excel2544 v74
Excel2889 v17

Test Module functionality:

- New Port Property: support for IPv6 addresses with NDP support
- New Port property: user configurable transmit period, and display of time elapsed since Tx start.
- New Port property: Selectable 128B or 256B header sizes (256B reduces number of streams to half)
- New Module property: Latency timing reference can be set to Local Module Clock
- New Stream Payload type: random payload
- M2SFPT, M2SFP+T: new SMA out format = 125 MHz reference clock
- M1CFP100 and M2CFP40: support for generating UDP headers with UDP checksum field inserted
- Added script command 'P_XMITONETIME'
- Bug fix: service defect monitoring showing false results for 1G ports being in tx-2-rx loop mode
- Bug fix: potential packet loss on 10 Gbps ports for Rx2Tx loop mode, for certain traffic loads
- Bug fix: dynamic loss counter would saturate at 16M when packets are experiencing misordering as they traverse the DUT/network
- Bug fix: when using a stop trigger to capture packets, the timestamp will now be valid for the previous 16 seconds period leading up until the stop event (improved from 2 secs to 16 secs)
- Bug fix: improved loss detection algorithm so that loss is detected correctly even when there is significant reordering, but still with some exceptions at the first/last packet:
    - first packet lost => is not detected!
    - first packet mis-ordered => the packet will be counted as lost
    - last packet mis-ordered => the reported loss is less than the actual loss

XenaManager:

- Support for joining up to eight multicast sessions.
- Global Statistics save function – the ability to save global statistics in CSV format (Tx and Rx statistics in the same file, and for all used ports)
- Support for IPv6 addresses with NDP support
- Added support for a user configurable transmit period, and display of the time elapsed since transmit start.
- Bug fix: SR4 ports used in 10G mode, would show as CFP unknown in XenaManager port browser

Xena2544:

- Added full support for IPv6 including NDP for MAC address resolution.
- Increased all test rate value decimals from 2 to 3.
- Added option to allow control of Address Range for looped ports. Before this change both ends of a looped port would automatically be affected by a defined Address Range but now it can be controlled if both ends or only the source or destination end of the looped port should be affected.
- Added option to set a speed reduction value sweep on all used ports. This will improve latency measurements for multipoint configurations (block and mesh) for ports on the same test module.

- Now showing total average latency and jitter in progress and results panels, and also in the final PDF report.
- Bug fix: Throughput result for multiple iterations was reported as the max value and not as the average value as it should.
- Bug fix: Fixed handling of chassis login error due to invalid password.
- Bug fix: Fixed validation of latency values which could be invalidated by an invalid current value.
- Bug fix: Fixed port reservation problem if ports were reserved on configuration load and user initially declined to forcibly relinquish the ports.
- Bug fix: Fixed packet rate rounding error for L2 non-native MAC address mode.
- Bug fix: Fixed crash in Xena2544 command line client for PCs with .NET 2.0 SP1.

Xena1564:

- Added full support for IPv6 including NDP for MAC address resolution.
- Improved burst tests so that larger burst sizes can be used. Before the maximum burst size was equal to <framesize> x 500. Now it is virtually unlimited.
- Fixed validation of latency values which could be invalidated by an invalid current value.
- Added tooltips to result grid column headers explaining the various results.
- Bug fix: Fixed EIR and TP test validation for P-to-MP tests. These tests could be failed incorrectly.
- Bug fix: Fixed validation of latency values which could be invalidated by an invalid current value.
- Bug fix: Fixed exception when CIR or EIR was set to a value larger than 2147483.
- Bug fix: Fixed port reservation problem if ports were reserved on configuration load and user initially declined to forcibly relinquish the ports.
- Bug fix: Fixed EIR and TP test validation for P-to-MP tests. These tests could be FAILED incorrectly.
- Bug fix: Fixed polled incorrect loss calculation
- Bug fix: Fixed bug preventing looped port configuration.
- Bug fix: Fixed crash when stopping a performance test.
- Bug fix: Fixed erroneous incrementing display of polled loss rates.
- Bug fix: Fixed missing update of service tree when UNI config changed.
- Bug fix: Fixed missing mark of passed CIR stepload test step.

Xena3918:

- First release of RFC 3918 test suite (beta version).

XenaIntegrator:

- Added logging of FCS errors. Note that this introduces a new header in the CSV file. Existing CSV parsing code that depended on absolute column location may have to be updated.
- Added option to set port auto-negotiation mode and PAUSE mode.
- Bug fix: Fixed precision issue with logging large integer values to CSV file. All integer values will now be logged with full precision.
- Bug fix: Fixed autozoom problem when larger values was scrolled out of view.
- Bug fix: Application crash when starting port polling with file logging disabled.

- Bug fix: Changed command term for control buttons from "Logging" to "Polling".
- Bug fix: Fixed application freeze when trying to change chart color for stream.
- Bug fix: Fixed bug in calculation of simple modifier byte offset.
- Bug fix: Fixed inability to override IP address specified in protocol header.

Excel2889:

- Added settings to control how long the link is down when bouncing
- Added settings to control how long the link must have been up after the disruption (see above) before resuming the iteration.
- Minor layout fixes in the TestCfg sheet.
- Bug fix: Fixed error in the "Forwarding Test" report.

Release 52, released on: April 15, 2013

Versions : XenaServer S.328
XenaDriver D.30
Module I.230, I.232 (M1CFP100/M2CFP40)
XenaManager M.332
XenaIntegrator v3
Xena2544 v16
Xena1564 v6
RFC2544 v74
RFC2889 v11

XenaIntegrator:

- Introducing the Realtime Charting feature.
- Added support for multiple Port Logging Definitions
- Added support for selecting XML logfile format.
- Added TID offset option to Advanced Stream Editor to allow prevention of TID clash with other active configurations.
- Added new application-specific icon.
- Added "Explorer Xena Data Directory" menu option to the File menu.
- Added "Create Support Archive" menu options to the Help menu.

Xena2544:

- Added new application-specific icon.
- Added new option to Latency test to let initial and max rates be derived from the Throughput Maximum rate instead of the port rate.
- Added "Explorer Xena Data Directory" menu option to the File menu.
- Added "Create Support Archive" menu options to the Help menu.

- Enabled setting the port Auto-negotiation property from the Ports panel
- Also show the Tx and Rx rate in Bps in the Throughput counter progress grid.
- Also show the Tx rate in Bps in the Throughput counter result grid.
- Allow mixed port speed in PAIRS configuration. The port speed used in calculations for a pair is now forced to lowest speed in pair, similar to setting a custom port speed in the port panel.
- Added option to keep intermediate test results in the result grid. The default value is Disabled, as this was the behavior before the change. The option can be enabled by clicking the "Options - Keep Intermediate
- Added an experimental option to improve the search for the zero-loss throughput rate. The default value for this option is Disabled, which means that the traditional search algorithm is used. The option can be enabled by clicking the "Options - Use Optimised Rate Search" menu item.
- Bug fix: Don't crash if commandline-loaded config does not exist.
- Bug fix: Fixed crash when using the "Reconnect to chassis "option.
- Bug fix: Don't try to set auto-negotiation for ports that does not support it.
- Bug fix: Add missing loss and B2B results (i.e. all but the last) to the report.
- Bug fix: Increased limit for iterations from 1.000 to 1.000.000.
- Bug fix: Theoretical Max Throughput was missing in bar chart when iterations > 1.
- Bug fix: Results for Loss and B2B was missing in report for all rates except the last.
- Bug fix: Removed initial check for sync on ports which could cause problems if the port configuration was necessary for obtaining a sync.
- Bug fix: Individual port rate in percent in PDF report was always shown as 100%.
- Bug fix: Disable all streams after test has completed to allow setting port speed and IFG.

Xena1564:

- Added new application-specific icon.
- Added "Explorer Xena Data Directory" menu option to the File menu.
- Added "Create Support Archive" menu options to the Help menu.
- Don't crash if command line loaded config does not exist

Release 51, released on: February 28, 2013

Versions	: XenaServer S.326
	XenaDriver D.30
	Module I.230, I.232 (M1CFP100/M2CFP40)
	XenaManager M.331
	XenaIntegrator v2
	Xena2544 v12
	Xena1564 v5
	RFC2544 v74
	RFC2889 v11

Test Module functionality:

- Support for sub 1 packet per second scheduling rates for all packet sizes.
- M1CFP100 and M2CFP40 : support for port-2-port (inline) loop mode for 10 and 40 Gbps ports.
- M1CFP100 and M2CFP40 : support for Rx IFG histograms (at port level).
- M1CFP100 and M2CFP40 : byte accurate measurement of IFG between captured packets.

XenaManager:

- Add user friendly IPv6 IP address formatting in stream header configuration window.
- Add Rx statistics for 1-second latency and jitter.
- Global RX log, creates of log file containing all per-port log file entries.
- Bug fix: Save test case - name can now accept ")" and other special chars.

XenaIntegrator:

- Introducing the new Advanced Stream Editor
- The port Logging CSV log file format has changed so that each value is no longer prefixed with the value name (like <name>:<value>). Instead a standard CSV column header has been introduced.
- Special log messages will now be encapsulated in brackets notation, i.e. [<message>]. These special messages can indicate logging start/stop,connection loss and restoration, etc.
- Added support for logging latency and jitter counters for selected ports.
- Bug fix: The Log Archive File Size field value should have been in Mbytes but was treated as if the unit was bytes. It will now use a unit of Mbytes as intended. Note: Existing configurations will have to be updated if they tried to deal with the bug by entering a value expressed as bytes.
- Bug fix: Prevent removal of chassis with ports used in current configuration.

Xena2544:

- New option to automatically load last used configuration.
- Prevent removal of chassis with ports used in current configuration.
- Accurate test duration for small test periods (1400 sec for 1G ports, 140 sec for 10G ports, 35 sec for 40G ports, 14 sec for 100G ports).
- Bug fix: Un-reserving a module would crash the program.

- Bug fix: Removing a chassis would not trigger chassis renumbering.
- Bug fix: Packet loss reported in progress counter display was inaccurate.
- Bug fix: Ensure that all used ports are released before exiting the program.
- Bug fix: Prevent removal of chassis with ports used in current configuration.
- Bug fix: Fixed report table overflow for large counter values.
- Bug fix: Fixed latency chart display when inheriting threshold levels.

Xena1564:

- Added performance test session log which shows the time for any threshold crossing events.
- New option to automatically load last used configuration.
- Enabled use of single UNI in remote loop mode.
- Bug fix: Fixed port reservation and release at load and shutdown.
- Bug fix: Prevent removal of chassis with ports used in current configuration.

Release 50, released on: February 17, 2013

Versions	: XenaManager M.329
	XenaServer S.324
	XenaDriver D.30
	Module I.230
	Xena2544 v11
	Xena1564 v4
	RFC2544 v74
	RFC2889 v11

Test Module functionality:

- Improved scheduling accuracy (rates, packet spacing)
- Adjusted transceiver latency calibration for “T” series Test Modules
- The SMA output can be set to Port 0/1 Recovered Rx clock, independent of the selected Tx clock source
- Bug fixed, when SMA output = Recovered clock 10MHz, the clock was at nominal 10.3MHz

Release 49, released on: January 28, 2013

Versions	: XenaManager M.327
	XenaServer S.322
	XenaDriver D.30
	Module I.230
	Xena2544 v11
	Xena1564 v4
	RFC2544 v74
	RFC2889 v11

Test Module functionality:

- Support for new M2SFPT test module
- Support for negative latency measurements.
- 24 ns latency accuracy on latency measurements for 40/100G test ports (improved from 64 ns).
- Bug fix: false packet generation for certain low rate stream configurations.

XenaManager and Scripting:

- Stream cut&paste mechanism.
- Compact grid based stream configuration view, with limited multi-stream edit functions.
- Cut and paste from Capture buffer to Stream Packet Header.
- Bug fixed: 100/40G Loss statistics were not updated properly for higher stream ID values.

Xena1564:

- First official release.
- CBS and EBS tests.
- Graphs in PDF reports.
- XML reports.
- Automation support
- Sub-folder support in service tree.
- Complete Wiki manual available.

Xena2544:

- Throughput test: Added the L2 rate in Bps to the report in addition to the L1 rate.
- Don't require all port-pairs to have the same speed as long as each port in a pair has the same speed.
- Option to override the default Xena TCP port number to support NAT gateways.
- Display test status (running/stopped) and elapsed test time in status line.
- Program is now releasing used ports when closed down.
- Now able to display negative latency values.
- Bug fixed: Enable Remote Loop MAC Address field immediately after setting port in loopmode.
- Bug fixed: Fixed broken validation of test parameters. Dependencies between values will now be "lazy" evaluated, i.e. when the test is attempted started and not when the value is changed.
- Bug fixed: Force 96x96 DPI resolution for custom report logos to avoid unwanted image scaling.
- Bug fixed: bug in counter poll timer calculation.
- Bug fixed: failure to properly apply a "Mixed" frame size selection.
- Bug fixed: failure to set configured port speed when loading configuration.

Excel2544

- Bug fixed: Connect -> "Save Results":
    a. Charts are now saved correctly under Excel 2007.
    b. Deletion of the "dummy" sheets (Sheet 1, 2, 3) in the saved results file now also works in non-English versions of Excel

Release 48, released on: November 16, 2012

Versions : XenaManager M.314
XenaServer S.317
XenaDriver D.30
Module I.220, except I.228 for M2XFP[b], M2SFP+T, M2SFP+[c]
Xena2544 v8
RFC2544 v72
RFC2889 v10

New features:

- Support for Menara XFP OTN (OTU-2) optical transceivers

Excel2544

- Initial support for IPv6 - Port gateway MAC addresses must be filled in manually
- Improved IP-to-MAC mapping when using multiple IPs
- New preference for automatic ARP table keepalive (Preferences -> Layer 3 IP/MAC announcment interval (sec))
- Added legacy support for older tester software which does not measure latency jitter.
- Added possibility to use non-default TCP port to connect to the chassis using the standard IP:Port notation (ex. 192.168.1.120:22612). Usefull when multiple chassis are sitting behind the same NAT.

Bug fixes

- Removed (rare) instability for M2SFP+T, M2XFP[b] power-on/reset process

Release 47, released on: October 24, 2012

Versions	: XenaManager M.314
	XenaServer S.316
	XenaDriver D.30
	Module I.220, I.227 for M2XFP[b], M2SFP+T
	RFC2544 v69
	RFC2889 v9

Bug fixes for M2SFP+T test module

- When selecting module Tx Clk = SMA input, for a specific loop filter bandwidth, the effective loop filter bandwidth was twice as high as the loop filter bandwidth selected loop bandwidth
- The SMA output = 2.048 Tx Clock reference option was not supported

Release 46, released on: October 31, 2012

Versions	: XenaManager M.314
	XenaServer S.315
	XenaDriver D.30
	Module I.220, I.227 for M2XFP[b], M2SFP+T
	RFC2544 v69
	RFC2889 v9

New features:

- Module Local Clock adjustment now with 1/1000 ppm resolution

Bug fixes for M2SFP+T test module

- Non-stable boot operation, could cause Ethernet ports to enter non-SYNC state
- Module Tx Clk Filter for low bandwidth value, could require a long convergence period before now clock settings were effectuated
- Adjusted Tx Clk Filter for Tx Clk Source = SMA Input, for values 103, 207, and 416 Hz

Release 45, released on: October 23, 2012

Versions	: XenaManager M.310
	XenaServer S.313
	XenaDriver D.30
	Module I.220, I.227 for M2XFP[b], M2SFP+T
	RFC2544 v69
	RFC2889 v9

Bug fixes for M2SFP+T test module

- The SMA output signal was not locked precisely to Tx Clk
- The Tx Clk Filter setting were not effectuated
- Clk filter bandwidths up to 7000 Hz now supported by SMA output

Release 44, released on: October 22, 2012

Versions	: XenaManager M.310
	XenaServer S.312
	XenaDriver D.30
	Module I.220, I.227 for M2XFP[b], M2SFP+T
	RFC2544 v69
	RFC2889 v9

New features:

- Changes to the module local clock ppm setting, will now be reflected in packet per second statistics.

Bug fixes

- Non-effective setting of module local clock ppm (a problem in XenaRelease_43)

Release 43, released on: October 16, 2012

Versions	: XenaManager M.310
	XenaServer S.311
	XenaDriver D.30
	Module I.220, I.227 for M2XFP[b], M2SFP+T
	RFC2544 v69
	RFC2889 v9

New features:

- Added script command C_TIMEOUT n, which sets the timeout for TCP/IP script connections to n seconds, so you can effectively disable the session timeout function by setting it to a number like 1000000 (in which case the script user must be careful to explicitly close all script TCP/IP sessions, to avoid exhausting the chassis resources).
- Added option to enable/disable auto-negotiation on copper 10/100/1000M ports

Bug fixes

- Port level multicast join would stop when traffic generation was started
- Sequential scheduling did not work properly for 40/100G
- No default ICMP checksum inserted into packet
- Latency falsely reported as N/A in XenaManager when using NTP between two chassis
- M1CFP100 : stream suspend did not work after a Tx N packets command for certain N values
- M2SFP+T :
    - When selecting clk 0 Rx clk as Tx clk source, it would select clk 1 Rx Clk instead
    - The input SMA connector now also support the selected loop bandwidth. However, loop bandwidth above 4000Hz cannot be supported by the SMA input ref clk.
    - The output SMA connector now also supports the selected loop bandwidth. However, loop bandwidths above 4000Hz cannot be supported by the SMA output
    - Improved capability to recover from a missing Clk source (such as during link sync error, or fault on SMA input ref clk)

Release 42, released on: September 16, 2012

Versions	: XenaManager M.295
	XenaServer S.304
	XenaDriver D.30
	Module I.220, I.224 for M2XFPB/M2SFP+T
	RFC2544 v69
	RFC2889 v9

New features:

- Support for M2XFP[b]
  - Transmit line clock adjustment (+/- 1000 ppm)
- Support for M2SFP+T with advanced clocking features:
  - Tx line rate can be referenced to either local clock oscillator (adjustable in steps of 1 ppm), SMA input, or from the Rx line rate for Synchronous Ethernet applications (). The Tx line rate complies with SONET/SDH/SyncE with respect to wander and jitter
  - Selectable loop bandwidth for jitter attenuation: 114 Hz, 229 Hz, 460 Hz, 1864 Hz, or 7834 Hz loop bandwidth
  - 10.0 MHz, or 2.048 MHz Tx line rate reference clock SMA input (Drift/wander is passed from SMA input to Tx line rate)
  - Selectable as either Tx Line Rate Reference (10 MHz, 2.048 MHz, or 156.25 MHz), a trigger output indicating Ethernet start of frame, or as a slave mode pass-through (SMA output = SMA input)

Release 41, released on: July 30, 2012

Versions	: XenaManager M.294
	XenaServer S.300
	XenaDriver D.30
	Module I.220
	RFC2544 v69
	RFC2889 v9

New features:

- Jitter statistics according to MEF10 (min, ave, max) for up to 32 streams (test payload ID 0 - 31)
- Jitter histograms
- Tx disable (disable of optical laser or 10/100/1000M copper link) port property
- Transmit line clock adjustment (+/- 1000 ppm) for M6SFP+, M1CFP100, M2CFP40
- Transceiver latency calibration for CFP optics
- Tcl scripting example + library
- QualiSystems TestShell driver for Xena testers
- Maximum number of concurrent client connections increased from 10 to 24 per chassis

XenaManager improvements:

- Link to Wiki help URL
- Link to .PDF version of Wiki help

Excel2544

- Added Expanded "Configured Maximum Rate" feature to calculate maximum rates for Ethernet frames mapped into SONET/SDH or other custom format (TestCfg)
- Added new "Pass Criteria" feature (TestCfg) to mark measured throughputs below a certain thresshold in red (Charts)
- "Configured Maximum Rate" can optionally be listed as "Customer Service Bandwidth" in the Reports and Charts (option under Preferences)
- Fixed background color on optional IP and MAC information on the TestPairs sheets
- Support for 64-bit versions of Excel
- Formulas and charts no longer links to the original RFC sheet when saving results to a new sheet using the "Save Results" button on the "Connect" sheet.
- New Preference field added: Account for the ±100ppm Ethernet clock uncertainty when determining if the goal set in "Passed Rate" is achieved.
- "Configured maximum rate" now works correctly with Back-to-Back test
- Added Jitter (MEF 10 compliant) testing for port-2-port test pairs
- New Layer 3 Learning feature for IPv4 using "Gratuitous ARPs" to update the gateway's ARP table. Makes it possible for a port to emulate 1-253 IP addresses without the need for ARP requests from the gateway.
- Ethertype in MAC (L2) learning packets changed from "0000" to "FFFF" for better DUT

compatibility.

- Bug fix : Back-to-Back test running with zero rate % in some configurations.

Bug fixes

- Latency measurements for packet sizes > 16237 bytes on 10/100/1000M ports
- Payload Error statistics shows ‘N/A’ when stream not configured for Payload Error measurements
- Saturation of Service Defect Gap monitor events when reaching 262k events (no rollover of)
- For port MAC learning packets, changed ETH TYPE from 0x0000 to 0xFFFF
- Bit Error Rate now also included in saved port statistics .CSV file

Release 40, released on: June 2, 2012

Versions : XenaManager M.278
XenaServer S.290
XenaDriver D.30
Module I.218
RFC2544 v64
RFC2889 v8

New features:

- Added new packet scheduling modes
  - Normal (stream interleaved mode). Standard scheduling mode, precise rates, minor variation in packet inter-frame gap.
  - Strict Uniform. New scheduling mode, with 100% uniform packet inter-frame gap, minor deviation from configured rates
  - Sequential packet scheduling (sequential stream scheduling). Streams are scheduled continuously in sequential order, with configurable number of packets per stream
- JAVA scripting library (http://xenanetworks.com/html/resources.html)
- Xena help changed into online wiki - http://wiki.xenanetworks.com/

XenaManager improvements:

- After loading a port config in XenaManager, the file name is now shown on port properties

RFC2544

- Added new basic functions for faster TCP communication with the testers.
- Added support for Mesh->Mesh testing when using UDP packet headers and small 64B packets

Bug fixes

- For bursty traffic profiles, the packet burst will now always include the number of specified packet in the burst period bursts (no occasional “half” bursts)
- IPv6 header length field with incorrect value
- Improved CAUI noise immunity for 100/40G CFP modules
- UDP checksum error when used with IPv6 on 10G ports
- False link sync status for 10G ports on 100/40G module when using optical MPO<->LC splitter cabling (depending on optical transceiver type)
- Potential false logging of packet loss errors in the log function for 100/40G interfaces

Release 39, released on: April 23, 2012

Versions : XenaManager M.272
XenaServer S.280
XenaDriver D.30
Module I.214
RFC2544 v63
RFC2889 v5

New features:

- Optional configuration of the packet offset from where the “Payload Checksum” is calculated. The default is 14 bytes (after Ethernet header) which is backward compatible
- Saving a port configuration or a test case now includes service disruption type, RX logging checkmarks, and the global Stop-at duration.
- For the Mix packet length distribution the minimum size is now 78 bytes, accommodating UDP

XenaManager improvements:

- XenaManager statistics: Show jitter = max - min latency in RX statistics
- XenaManager capture: The size of the Capture Results panel shrinks to fit the width of the packets
- XenaManager testbed: Relinquish of all ports in testbed, still prompting for each reserved port
- XenaManager windows "Maximize" button for pulled-out panels
- XenaManager global statistics:
    - Adjust all column widths at once by dragging the left-most divider
    - The size of the statistics panels now track the size of the main application window
    - Filter traffic statistics for filters 0 and 1
    - Show own reserved ports using boldface type
    - For streams only show RX chassis name when different from TX chassis
    - Show description for each port

Other:

- For latency mode, terminology is inverted so that ‘in’ and ‘out’ are seen from DUT’s perspective
- The default MAC address for each test port now uses a unique ‘Xena’ prefix of 04:F4:BC
- For 1-click Wireshark invocation the temporary pcap file is stored in the windows users application data folder
- For capture, the per-packet latency now takes account of the latency offset
- Defaut packet Ethertype is now 0xFFFF, instead of 0x0000 which is actually invalid

RFC2544

- The default MAC address for each test port now uses a unique ‘Xena’ prefix of 04:F4:BC
- Default Ethernet Type changed from 0x0000 to 0xFFFF for Ethernet-only packet headers
- Added preferences for specifying the rate margin which is subtracted from Throughput rates used in Latency testing

RFC2899

- The default MAC address for each test port now uses a unique ‘Xena’ prefix of 04:F4:BC
- Default Ethernet Type changed from 0x0000 to 0xFFFF for Ethernet-only packet headers

Bug fixes

- Incorrect ARP requests were generated when “Payload Checksum” mechanism is enabled
- 100/40G CAUI/XLAUI Rx lane skew could rollover to 2048 instead of 0
- Improved response time to incoming Pause flow control frames with quanta = 0
- Setting packet sizes to random with a min-to-max range greater than 8192 could cause FCS errors

Release 38, released on: March 13, 2012

New Features:

- IGMPv2 repeat join packet format enhanced with “Router Alert” IPv4 optional fields
- Support for packet MTU of 9200 bytes for 40/100G test ports (up from 2000 byte MTU)

Bug Fixes

- M6SFP+ test ports experience FCS errors on Rx test port #1 for large size packets (depending on the line rate differences between DUT and Xena testers)
- Auto-Negotiation on 10/100/1000M could sporadically be reported with a false port speed

RFC2544

- Added color scheme support for Excel 2003
- Bug fix. Could cause a runtime error when all rates failed in Throughput, BacktoBack and Loss tests
- Bug fix. For false reporting of no chassis connectivity when using multiple test ports across multiple chassis
- Bug fix. When testing with minimum size packets (64B) and long packet headers(UDP, …), statistics were not interpreted correctly
- Bug fix. Fixed counter overflow runtime error for large port count testbeds
- Bug fix. Runtime error when using mesh testing for a 2-port testbed
- Bug fix. Fixed round up/down accuracies

RFC2899

- Added Broadcast Forwarding testing
- Fixed bug for false reporting of no chassis connectivity when using multiple test ports across multiple chassis
- Fixed bug for Counter overflow runtime error for large port count testbeds

Release 37, released on: January 20, 2012

New Features:

- IGMPv2 continuous multicast join, configurable repeat interval
- New default field values for IPv6 packet headers

Bug Fixes

- Polarity of 100G CAUI and 40G XLAUI PCS layer lane skew insertion function swapped, so that a positive Tx skew insertion is also measured as a positive skew on Rx side
- Payload Error Injection function not working correctly on 10/100/1000M ports when the Payload Checksum was disabled.
- Scripting error for script command “PS_HEADERPROTOCOL [n] ?” when protocol list is empty
- Improved stability when retrying a failed module image upgrade (extremely rare)

RFC2544

- Included Min and Max latencies in the Latency test (in addition to Average latency)
- Added Preference for selection between Last-2-Last or Last-2-First latency measurements

RFC2899

- First beta release with Throughput, Forwarding, Address Caching, Address Learning, and Broadcast Latency tests

Release 36, released on: November 29, 2011

New Features:

- Auto calibration (removal) of transceivers delays in latency measurements
- L3 RX-2-TX loopmode (except 100/40G ports)
- Capture triggering/keep for packets errored with payload integrity errors
- Simultaneous start of traffic across port (not perfect, but much faster)
- “Hot button” for launching WireShark
- UDP checksum calculation on 10, 40, and 100G ports (not 1G ports)
- Histogram saved .CSV now includes x-values
- IGMPv2 multicast join/leave (preliminary)
- Injected Payload integrity errors now modify Payload instead of payload CRC value
- RFC2889 (alpha)

Bug Fixes

- Incoming Pause frames could be dropped on 10/100M ports
- An incoming Pause frame with quantity = 0 would not reset overwrite previous received Pause quantities (1 and 10G ports)
- Fixed “leaking” of script socket handles

RFC2544 v53

- Added optional Packet Header Field Modifiers for Src IP, Dest IP, Src UDP, and Dest UDP field values
- Redefined Store-and-Forward latency measurements from "First-2-Last" to "Last-2-First"
- Added support for testing with minimum size packets (64B) and long packet headers (UDP, …) for the Throughput, Loss, and Back-2-Back test (not the latency test)
- Scaled from max 24 ports to max 72 ports
- when using the Optional IP addreses (instead of default port IP addresses), the corresponding Optional Dest MAC was not used (the port's default gateway MAC address was still used)
- Mesh testing did not work when using UDP header and 64-65B packets
- Fixed bug in ETH-VL-IP header template, causing the VID value to be multiple with 16

Release 35, released on: November 4, 2011

Bug Fixes

- When reaction to incoming Pause Flow Control is enabled (port property), some of the incoming Pause Flow Control frames could be dropped (i.e. not reacted to) when the test port speed is 10/100M

Release 34, released on: October 12, 2011

New Features:

- Automatic UDP checksum calculation for the 2-port SFP+ test modules M2SFP+b (only for packet sizes in the 56 – 1950 byte range. UDP checksum = 0 for Jumbo packets)
- L3 rx-2-tx loop mode for the M2SFP+b card (will be added to all test module types in next release)

Bug Fixes

- When using a random packet size range in certain min-max combinations, a very small fraction of the packet could be generated with a packet size exceeding the maximum configured packet size

Release 33, released on: October 7, 2011

New Features:

- Global statistics view for ports and streams in XenaManager GUI

Bug Fixes

- Certain stream rates on 100/40G test ports could cause a server abort
- L2 Rx-2-Tx port loop did not work on test ports in a XenaBay chassis

Release 32, released on: September 7, 2011

New 100/40G Features:

- Service defect monitoring
- Bandwidth profiles per stream (bursty/uniform)
- Real time packet loss counters
- Latency measurement with 64 ns accuracy
- Latency calibration
- MAC training
- Payload checksum error analysis
- Enable/disable FCS checksum insertion per stream

Bug Fixes

- For 100/40G ports, entering streams rates are entered in unit “Mbps” resulted in a negative rate value

Release 31, released on: September 5, 2011

Bug Fixes

- Latency measurements on 10G ports on test modules: M2XFP, M2SFP+, M6SFP+ are corrupted when located in a XenaBay chassis (during certain chassis boot scenarios).
- When forcing a triple speed 10/100/1000Mbps port to 10/100Mbps speed, stream rate entered in Mbps or Pps unit does not result in the correct stream rate (rates entered in % worked correctly)
- Packet loss counters per Rx stream does not work when the streams packet length distribution is random, and the span of the min-to-max packet size range is a power of 2.

Release 30, released on: September 1, 2011

New Features:

- Temperature status per test module (excl 1G card)
- Enable/disable of auto-neg on 1000M optical ports
- ARP/PING with multiple MACs
- Tx LED symbol in GUI testbed explorer window
- Stream name displayed in stream configuration title panel
- Optical power readout from CFP modules
- Start/stop (suppress) streams while traffic is ON
- IMIX length distribution
- PRBS payload patterns
- Five modifiers per stream on 10G ports
- Replay of PCAP files
- DiffServ, PBB-TE, MPLS-TP, and MPLS templates
- FCoE, IGMP packet templates
- Service Defect Monitoring for packet gaps
- Logging of events (errors, rx-sync, gaps, etc)
- NTP based timing synchronization between remote chassis for delay measurements in WAN
- Real time packet loss counter (seq. error redefined)
- Payload checksum error analysis
- Statistics for number of errors injected on Tx side
- Larger counters for measuring inter-packet gaps
- Capture packets with latency logging
- Display loss as % (in addition to number of packets)
- Improved upgrade procedure (automated SW installer)
- CFP based 100/40G test modules (P/N M1CFP100, P/N M2CFP40)
- 6xSFP+ test module (P/N M6SFP+)
- CAUI/XLAUI PCS and PRBS testing (40/100G only)
- XenaMation – browser based test automation
- XenaMation – browser based RFC 2544

New 100/40G Features:

- Test ports with 100GBASE-SR10 / LR4 Interface
- Test ports with 40GBASE-SR4 / LR4 Interface
- Test port tri-speed capability (100/40/10G)
- Port statistics
- Adjustable Minimum Inter Frame Gap (IFG)
- ARP/PING
- 64 transmit streams per port
- Stream statistics
- Field modifiers

- Packet length controls
- Packet payload patterns
- Error injection (FCS, …)
- Packet headers (Ethernet, Ethernet II, VLAN, ARP, IPv4, IPv6, UDP, TCP, LLC, SNAP, GTP, ICMP, RTP, RTCP, STP, MPLS, PBB, custom)
- PCAP replay
- Length and Latency Histograms
- RFC 2544 test suite (throughput, loss, latency, back-2-back)
- Stream statistics (Mbps/pps)
- FCS and payload integrity checking
- Packet loss calculation
- Filters with statistics
- Packet capture
- Length and Latency histograms
- Skew insertion per Tx virtual lane
- User defined virtual lane to SerDes mapping
- Relative virtual lane skew measurement
- Sync header and PCS lane marker error counters
- Indicators for loss of sync hdr and lane marker
- BIP8 errors
- Ability to adjust the parts per million (ppm) Tx frequency
- PRBS testing per virtual lane
- Optical power readout

Bug Fixes

- A flood of errored PING packet can cause a server crash during very special circumstances

Support Information

Please contact support@xenanetworks.com or your local Xena partner.