

Xena 10/40/100G

Gigabit Ethernet Test Module



Xena offers the unique “tri-speed” 10/40/100G test module for its XenaCompact and XenaBay chassis. This module delivers a breakthrough price performance benchmark for BERT, load-stress, and functional testing of Ethernet equipment and network infrastructure.

The new module is aimed at the rapidly increasing number of carriers, enterprises and research departments currently ramping up to deploy 100 Gigabit Ethernet.

Like Xena’s existing range of gigabit Ethernet test modules, the new tri speed modules provide a comprehensive suite of test features for Layer 2 and Layer 3, including protocol testing, capture, histograms, service disruption measurements, multi stream Ethernet generation & test and RFC 2544 and RFC 2889 benchmarking. This is augmented with 40/100G specific features such as virtual lane swapping, skewing and PRBS testing.

The 10/40/100G Ethernet test module supports 10, 40 and 100 Gbps CFP MSA transceivers, as well as CFP compatible transceivers with CXP and QSFP MPO connector interfaces.

Full-line-rate testing of Layer 2-3 performance of 10, 40 and 100 Gbit/s Ethernet links is provided. The high precision, stream based, Layer 2-3 wire-speed traffic generation and analysis capabilities are suited for testing of network devices under deliberate error, stress, and random conditions. Packet formats can be defined per individual packet byte, and packet spacing, transmission rates, and bursts can be defined with byte and kbps accuracy.

Ethernet is increasingly carried across a variety of layer 1 media over longer distances, which creates a need for the characterization of Ethernet transport on a bit-per-bit basis. The bit-error-rate testing (BERT) function uses a pseudo-random binary sequence (PRBS) encapsulated into an Ethernet frame, making it possible to go from a frame-based error measurement to a bit-error-rate measurement. This provides the bit-per-bit error count accuracy required for the characterization and acceptance testing of physical-medium transport systems such as Ethernet-over-DWDM.

A Windows GUI client is provided for test execution, and remote management of test equipment located in multiple locations. An open TCP/IP based text API allows users to automate testing from any software environment, using TCP/Python/VB/Java wrappers to convert to/from the generic Xena TCP/IP scripting format.

The feature set of the 10/40/100G testers is compatible with the feature set of the 10 Gbps and 10/100/1000M Ethernet XenaCompact test port interfaces, and the testers come in two variants: the C1-M1SFP100 provides one 100 Gbps, two 40 Gbps test ports and eight 10 Gbps test ports, while the C1-M2CFP40 provides two 2 ports of 40-GigE 40GBASE-LR4/SR4, or 8 ports of 10-GigE 10GBASE-SR.

www.xenanetworks.com

Features and Benefits

A new class of Layer 2-3 10/40/100G Ethernet tester

- Wire-speed hardware based traffic generation and analysis with full-line-rate Ethernet and IP packet generation at over 148 million packets per second
- Compatible with 10, 40 and 100G CFP-MSA compliant transceiver modules, and 100G CXP and 40G QSFP using MPO connectors
- For lab testing, pre-staging, field trials and early deployments, and applications where wire-speed testing, portability, and ease of use are required
- Stream based layer 2-3 traffic load generation for millions of flows, and for assessing layer 2-3 performance of 10, 40 and 100 Gbit/s Ethernet equipment and services
- BERT functionality for verifying the integrity of 100 Gbit/s and 40 Gbit/s Ethernet running on WDM networks, at L2-3
- High-precision measurement of throughput, latency, loss, data integrity, inter-arrival time, sequence and mis-ordering errors
- Wire-speed traffic capture with programmable filter and trigger criteria, and export to industry standard tool WireShark
- Ability to adjust the parts per million Tx frequency over a range of +/-400 ppm
- RFC 2544 and RFC 2889 test suites, and XenaManager GUI
- Identical XenaBay modular chassis solution for larger 40/100G port-counts

XENA
NETWORKS