SPIRENT TESTCENTER

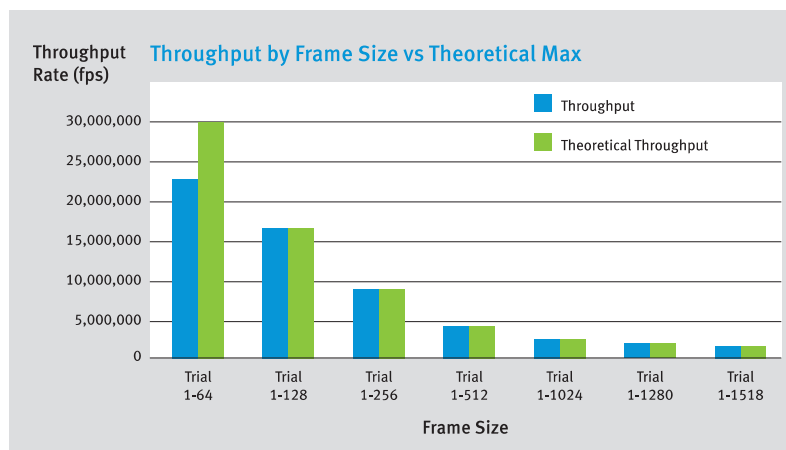## RFC 2544 BENCHMARKING TEST PACKAGE

RFC 2544 is the industry leading network device benchmarking test specification since 1999. Utilizing Spirent TestCenter™ next generation architecture, RFC 2544 benchmarking can execute faster with nanosecond accuracy at 10 Gigabit, high-density scale.
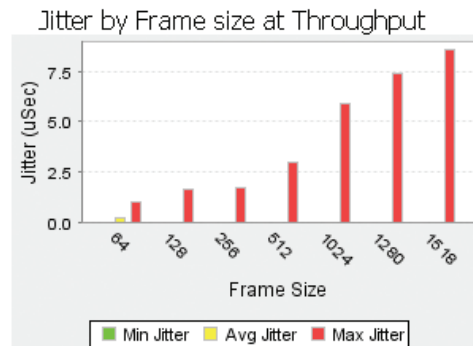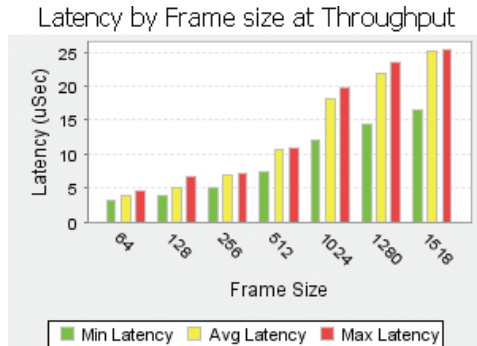
FEATURES & BENEFITS

- Measure latency and jitter as part of Throughput in a single test
- All RFC 2544 tests over any topology including VLANs, MPLS and other available protocols on Spirent TestCenter
- Test performance in mixed IPv4 and IPv6 configurations
- Test with jumbo frames and verify low-latency and wire-rate
- Test performance of different IMIX distributions
- Measure impact of QoS/DiffServ and latency types, including LILO/LIFO/FIFO with jitter, latency and throughput in a single test
- Large port, full mesh tests through millions of available streams
- Reduce time-to-test through easy configuration wizards and fast execution
- Summary and comprehensive detailed results using the Spirent TestCenter Results Reporter

This package provides automated performance testing of L2/L3 network devices per IETF RFC 2544, Benchmarking Methodology for Network Interconnect Devices. Included in this package are test cases for the following:

- Device Throughput by finding the maximum rate at which none of the offered frames are dropped
- Latency by measuring the minimum, average and maximum transmit delay
- Frame Loss rate throughout the entire range of rates and frame sizes
- Back-to-back frames processing of the network device

Throughput by Frame Size vs Theoretical Max

RFC 2544 BENCHMARKING TEST PACKAGE

Latency by Frame size at Throughput

Jitter by Frame size at Throughput

TECHNICAL SPECIFICATIONS

Key Tests

- Throughput
- Latency (LIFO, FIFO, and LILO) for store and-forward and cut-through DUTs
- Frame loss
- Back-to-back frames

Traffic Control

- Ports, MAC, and IP addresses can vary with step value
- Ethernet II frame support
- IP Next Protocol setting
- TTL (time to live) setting
- DiffServ Code Point (DSCP) with Class Selector or Assured/Expedited

Forwarding controls

- Multiple 802.1p,Q VLANs per port or subnet
- Customization of editable streams after using the wizard
- Optionally enable or disable streams

Test Control

- Stagger start
- Delay after transmission
- Traffic start delay
- Duration in seconds or by frame burst

Learning Parameters

- L2 learning
- Learning rate
- Repeat count
- Frame sizes same as stream or userdefined
- L3 learning (ARP-IPv4, neighbor discovery-IPv6)
- ARP rate via gap setting
- Cyclic flow ARP requests
- Retry count
- Delay before learning
- Per test, per trial and per frame size learning
- Learning verification

SUPPORTED MODULES & PLATFORMS

- TPK-1000 is supported on all Spirent TestCenter Ethernet modules

ORDERING INFORMATION

RFC 2544 Benchmarking Test Package: TPK-1000

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