



Ethernet v testerech VeEX

Jednotlivé platformy, novinky a unikátní vlastnosti

Ethernet v jednotlivých přístrojích

TX300S

Single port module: 300S

Dual port module: 320S

40/100G module: CFP4

RXT1200

3000 (Combo): Single Port 10M to 10G

RXT6000 100G module

3200: Dual Port 10M to 10G

3900: CPRI 10.1G and 16G FC

UX400

1GE, 10GE, 40/100GE, and Fibre Channel modules available

MLX100 series

Loopback only device. Metallic box with no screen. Operated with ReVeal only.



TX300SM – rel. 2.0.5

- Layer 2 Control Protocol transparency testing
- Runt frame injection (1G/10G)
- Advance traffic monitoring: 10 filters with 4 triggers each
- IEEE 1588 Slave mode PDV measurements now used the external clock reference (external clock or internal Atomic/GPS)
- VLAN Scan enhancement: 3-VLAN stacked VLANs
- Ethernet test application auto-launch after a low battery shutdown
- SDT Measurement – IPG based with microsecond triggers
- VLAN tag support in ESMC/SSM messages
- OAM CCM frames at 3.3ms
- Enable/disable MPLS-TP CW settings
- 10GE V-PERF



TX300SM – rel. 2.0.5

Improvements

- STB simulation
- IP DHCP Options for host name (used for IPTV)
- IPTV channel zapping
- IGMP support to IPTV feature
- VeEX-Sunrise Signature Field compatibility like the MX100e+

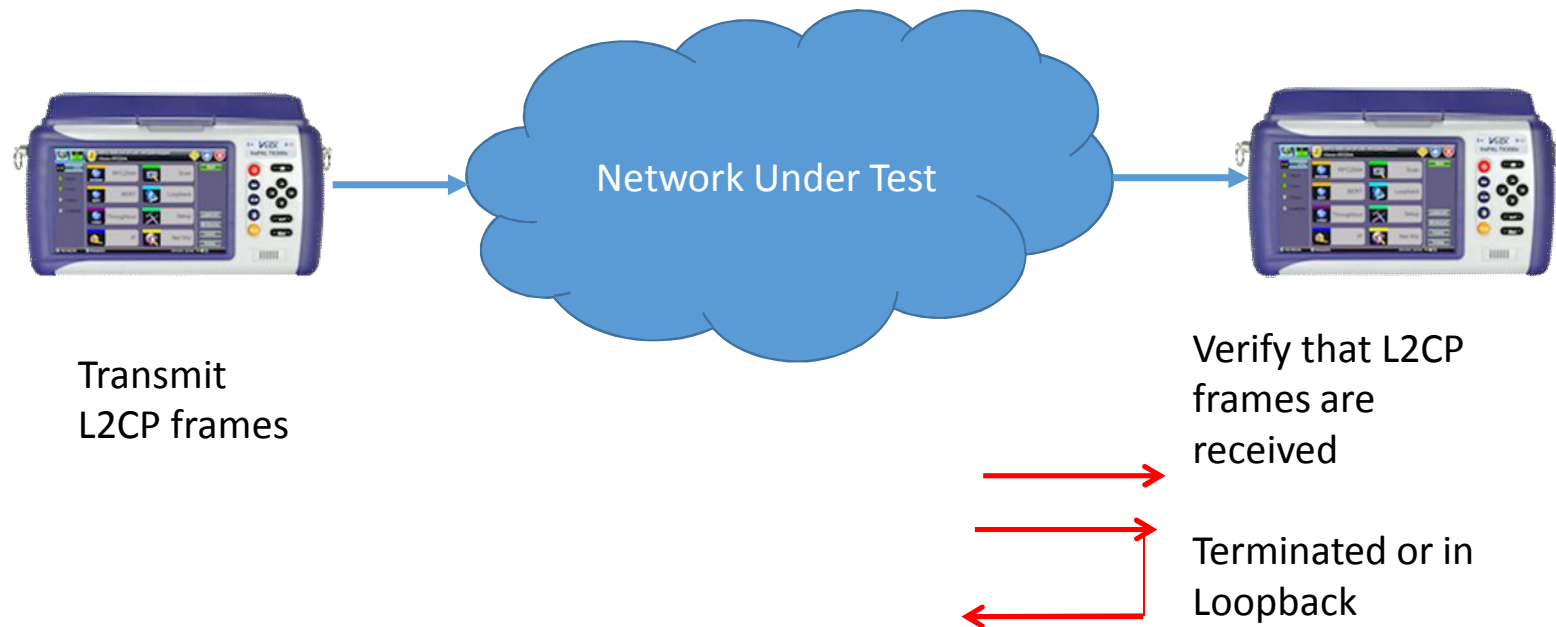
Roadmap

- Ethernet test traffic via a PPPoE session: symmetric and asymmetric testing
- V-SAM and RFC2544
- PPPoE support for Layer 4 testing (V-Test, V-FTP)
- IEEE 1588 Dual Port operation (with two 300SM modules)



L2CP Transparency Test

Test network transparency to Layer 2 Control Protocols by transmitting a number of preselected L2 control protocol frames from Test set A and making sure that they are received on Test set B through the network under test.



Volby měřených protokolů, výsledky

L2CP Transparency Test Step 6

Select All Clear All

PNAC 802.1X	<input checked="" type="checkbox"/>
SPB	<input checked="" type="checkbox"/>
MMRP	<input checked="" type="checkbox"/>
MVRP	<input checked="" type="checkbox"/>
MSRP	<input type="checkbox"/>
MIRP	<input type="checkbox"/>
PAgP	<input type="checkbox"/>
CDP	<input type="checkbox"/>
UDLD	<input type="checkbox"/>

1000-TFULL

Page 2 of 3

IP 192.168.0.147 Remote/CLI 2000-04-07 05:49:40

Results

Message	TX/RX	Message	TX/RX
Total	22/22		
STP/MSTP/RSTP	1/1	LACP	1/1
E-LMI	1/1	Link OAM	1/1
Ethernet ESMC	1/1	PTP	1/1
LLDP	1/1	VDP	1/1
PE-CSP	1/1	PNAC 802.1X	1/1
SPB	1/1	MMRP	1/1
MVRP	1/1	MSRP	1/1
MIRP	1/1	PAgP	1/1
CDP	1/1	UDLD	1/1
VTP	1/1	DTP	1/1
ISL	1/1	PVST/PVST+/RPVST	1/1
Customized Frame #1	N/A	Customized Frame #2	N/A

1000-TFULL

IP 192.168.0.147 Remote/CLI 2000-04-08 01:08:13

SDT – Service Disruption Test

The SDT Measurement can be triggered based on user thresholds in the General setup tab:

The SDT Trigger threshold tells the test set to ignore inter-frame gaps that are less than the configured threshold. In other words any inter-frame gap that is equivalent or greater than the threshold will trigger the SDT measurement. This is useful if a known threshold is expected from a given network under test. For example, if the known switchover time is 50ms, the trigger can be set to a value slightly below 50ms to assure that the SDT is measured.

The SDT Violation Threshold tells the test set to trigger a SDT Violation event in the event log. This is helpful for historical purposes during any given test. If the measured SDT is equivalent or greater than the configured threshold an SDT Violation event is counted.

SDT Measurement Definitions in the Results/SDT tab:

Total: Total cumulative SDT for the duration of the Throughput test.

Last: Last measured SDT during the test.

Min/Max: Minimum and maximum SDT values during the test.

No. of Occurrences: Number of SDT occurrences. This counter is triggered by meeting or exceeding the SDT Trigger threshold.

No. of SDT Violations: This counter is triggered by meeting or exceeding the SDT Violation threshold configured.

SDT – nastavení podmínek

The screenshot displays the SDT configuration interface. At the top, there are status indicators for '2 10GFC' and '1 10GFC', along with navigation icons. The main area is divided into 'Setup' and 'Results' sections. The 'Setup' section has sub-tabs for 'Header', 'Traffic', 'Error Inj.', and 'General'. The 'General' tab is active, showing the following settings:

RTD Measurement	Enable
SDT Measurement Trigger(>ms)	10
SDT Violation Threshold(ms)	50

On the left side, there are radio buttons for 'Signal', 'Frame', 'Pattern', and 'ALM/ERR', along with 'History' and 'Active-10G' buttons. On the right side, there are 'Start' and 'LASER Off' buttons. The bottom status bar shows 'Down', 'Remote/CLI', and the timestamp '2015-07-06 13:09:20'.

SDT – výsledky

The screenshot displays the HKE SDT (Service Disruption Test) results interface. The interface is split into two main sections: a summary view on the left and a detailed event log on the right.

Summary View (Left):

- Setup:** Shows test configuration for 10GFC.
- Results:** Displays overall test statistics under the 'SDT' tab.
- Service Disruption:**
 - Total: 60.07981ms
 - Last: 50.05714ms
 - Min/Max: 10.02268ms / 50.05714ms
 - No. of Occurrences: 2
 - No. of SDT Violations: 1
- Buttons:** Stop, Restart, TX Stop, SDT Reset, Active-10G.

Detailed Event Log (Right):

Time	Event Type	# of Events	Test
2015-7-6 13:42:41	Test Started		Throughput
2015-7-6 13:42:55	Lost Frames	628	Throughput
2015-7-6 13:43:22	Lost Frames	3140	Throughput
2015-7-6 13:43:22	SDT Violation	50ms	Throughput

Additional Interface Elements:

- Navigation:** Home, Run, Stop, Restart, TX Stop, Err Inj., LASER Off.
- Status:** Active-10G, Page 1 of 1.
- Footer:** Remote/CLI, 2015-07-06 13:43:34.

L4 měření

Full support of Layer 4+ applications: TCP, HTTP, and FTP protocol support

All applications support full line rate

Competition focuses on TCP, but market is interested in HTTP, TCP, and FTP.

V-PERF (RFC6349)

1GE

10GE

V-FTP

1GE

V-Test

VeEX server available

Asymetrická měření s ovládáním na jednom konci

Evolved version of the known RFC2544 Asymmetric option

(was difficult to configure and not consistent across platforms (v100+, v300, v400))

Common Peer-to-Peer (P2P) UI with common control protocol

RFC2544 first

V-SAM to follow

Available on (RFC2544 and V-SAM)

UX400

TX300S

MX100e+

TX320S, dvouportové aplikace

Current version 2.0.4

Improvements

SDT IPG-based measurements for all Ethernet and Fibre Channel speeds

10GE Passthrough monitor

1GE Advance Passthrough monitor

1GE/10GE SyncE with ESMC message support

OWD with GPS

MPLS-TP

VeEX-Sunrise Signature Field compatibility like the MX100e+

CPRI Layer 2 Pass-through monitor

Roadmap

1588v2 Pass-through with PDV analysis

Bi-directional packet capture and decode

10GE V-PERF

