Veryx ATTEST MPLS-TP Conformance Test Solution provides Equipment Manufacturers and Service Providers an easy and efficient solution for verification of MPLS-TP data plane for Point-to-Point (VPWS) and Multipoint-to-Multipoint (VPLS), DCN, ITU-T G.8113.1 (OAM for MPLS-TP PTN), ITU-T G.8131 (Linear Protection Switching) and ITU-T G.8032 (Ring Protection Switching) implementation in devices deployed in transport networks. ATTEST enables significant speeding up of testing cycles and reduces the "time-to-market".

Veryx ATTEST MPLS-TP test solution relies on ATTEST – a powerful test framework that requires minimal time for set-up and enables efficient use of time and resources.

Veryx ATTEST MPLS-TP conformance testing solution consists of a set of six test suites for verifying MPLS-TP data plane for Point-to-Point (VPWS) and Multipoint-to-Multipoint (VPLS), DCN, G.8113.1 OAM functions, G.8131 linear protection switching and G.8032 ring protection switching in transport network equipment:

- MPLS-TP Data Plane (Point-to-Point, Multipoint-to-Multipoint)
- MPLS-TP-DCN
- MPLS-TP G.8113.1 OAM
- MPLS-TP G.8131 LPS, and
- MPLS-TP G.8032 Ring Protection Switching

SPECIFICATIONS

- ★ IETF RFC 5654
- ★ IETF RFC 5960
- ★ IETF RFC 5718
- ★ IETF RFC 5860
- ★ IETF RFC 5586
- ★ IETF RFC 4665
- ★ ITU-T G.8113.1
- ★ ITU-T G.8131
- ★ ITU-T G.8032

KEY TESTS

- ★ Label processing
- ★ On-demand CV
- ★ Proactive CC
- ★ Loss and Delay measurement
- ★ 1:1 bidirectional trail switching
- ★ MTU
- ★ Forwarding Information Base
- ★ Ring Protection

PLATFORM REQUIREMENTS

- ★ VT 400 / XenaCompact / XenaBay
- ★ ATTEST 6.x Framework
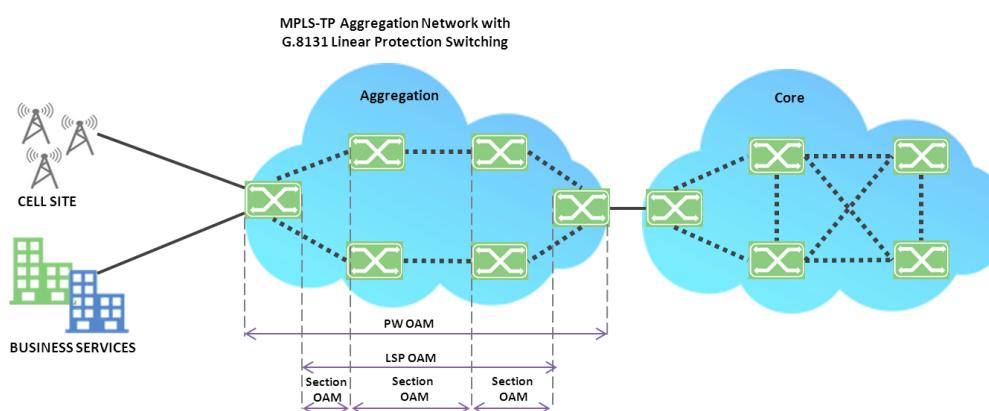
Figure 1: Sample MPLS-TP network

Veryx ATTEST MPLS-TP test cases have been conveniently grouped for each category of functions, in each of the test suites.

MPLS-TP Data Plane (Point-to-Point)

- PW multiplexing on a LER
- LSP demultiplexing
- Label processing
- Invalid label handling
- MPLS TTL handling
- VLAN PCP - MPLS EXP mapping
- OAM transparency on a LSR

MPLS-TP Data Plane (Multipoint-to-Multipoint)

- PW multiplexing on a LER
- LSP demultiplexing
- Label processing
- Invalid label handling
- MPLS TTL handling
- VLAN PCP - MPLS EXP mapping
- Flooding
- Learning and Forwarding
- VLAN Bundling
- Split Horizon
- MAC overlapping across VSI
- MTU
- FIB (Forwarding Information Base)

MPLS-TP G.8113.1 OAM

LER tests

- Proactive CC
- MEP / MIP ID Discovery
- Remote Defect Indication
- On-demand loss measurement
- Client Signal Fail
- Per node / per interface MP location
- Frame format verification
- On-demand CV
- CV failure detection
- On-demand delay measurement
- Alarm Indication Signal
- Locked Signal and Test
- GAL and G-Ach header verification
- Invalid packet handling

LSR tests

- Section MEP on-demand CV
- MEP / MIP ID Discovery
- CV failure detection
- Per node / per interface MP location
- GAL and G-Ach header verification
- Frame format verification for LBM and LBR

MPLS-TP G.8032 Ring Protection Switching

- State machine
- RPL Owner, Neighbour, Normal
- Revertive and Non-Revertive
- Protocol timers – WTR, WTB, Hold-off
- Flushing and non-flushing of FDB
- Data forwarding
- Operator control commands (FS, MS, Clear)
- Frame format test
- Version v1 and v2
- Sub-ring (with/without Virtual Channel)

MPLS-TP G.8131 Linear Protection Switching

- Protocol timers – WTR, Hold-off
- 1:1 bidirectional trail protection switching state machine
- Frame format test
- User traffic forwarding
- Revertive operation
- Operator control commands (LO, FS, MS, Clear)

MPLS-TP DCN

- Maintenance Communication Channel (MCC) on a LSR

ATTEST Test Suites are written in industry standard Tcl scripts. Well defined APIs and source files provide the flexibility to add, customize or modify the test cases for specific requirements.

Veryx ATTEST Framework helps customers to easily integrate device under test for automation – using CLI / SNMP (v1 / v2 / v3). It also provides a standard interface to integrate with home-grown automation systems.

For more information, kindly visit our website or contact us.
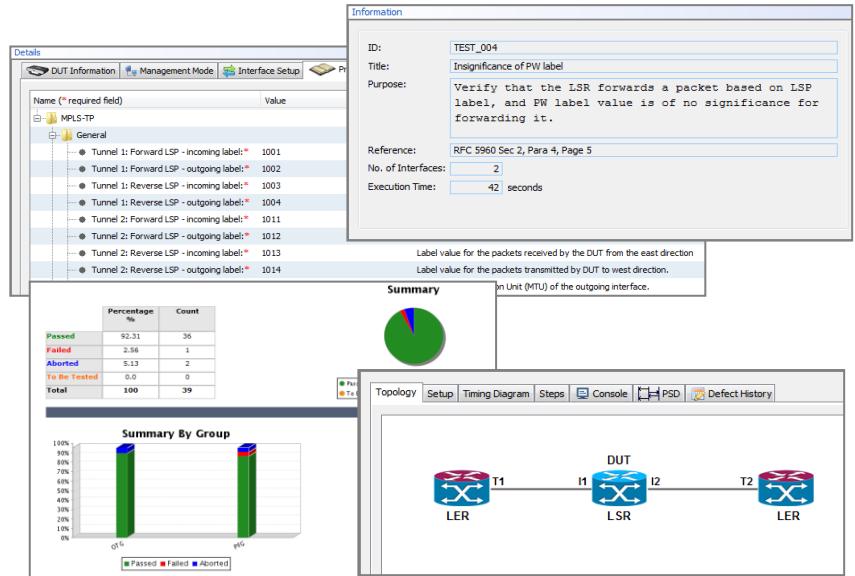
ORDERING INFORMATION

PRODUCT	PART NUMBER
ATTEST-CTS MPLS-TP Bundle (MPLS-TP Data plane, MPLS-TP DCN, G.8113.1 OAM, G.8131 LPS, G.8032 Ring)	CTS-MPLS-TP-B-B
ATTEST-CTS MPLS-TP Data Plane	CTS-MPLS-TP-DP-B
ATTEST-CTS MPLS-TP Data Plane M2M	CTS-MPLS-TP-DP-M2M-B
ATTEST-CTS G.8113.1 OAM	CTS-G.8113.1-B
ATTEST-CTS G.8131 LPS	CTS-G.8131-B
ATTEST-CTS MPLS-TP G.8032 Ring	CTS-MPLS-TP-G8032-B
ATTEST-CTS MPLS-TP DCN	CTS-MPLS-TP-DCN-B

About Veryx Technologies

Veryx Technologies (formerly Net-O$_2$ Technologies) provides innovative Verification and Measurement Solutions for the global communications industry. ATTEST solutions verify networking equipment being used for Access, Carrier Ethernet, Data Center, Edge, Enterprise, Industrial and Security. The unique offerings from Veryx enable customers to reduce the "time-required-to-test" and enhance their "time-to-market".

Email : info@veryxtech.com

Web : www.veryxtech.com

USA: +1 267 440 0140

International: +44-203-371-8691