MPLS-TP Test Solution

MPLS-TP is designed as a low-cost L2 technology that supports connection-oriented packet transport services with a similar degree of predictability, reliability, and OAM found in existing transport networks. It has garnered tremendous interest from the service provider community and will be a key area of product development for network equipment manufacturers over the next several years.

Test equipment will play a critical role in the functional, interoperability, and performance validation of MPLS-TP. IxNetwork is the only test application that supports new MPLS-TP technologies:

<table>
<thead>
<tr>
<th>IxNetwork: Comprehensive MPLS-TP Test Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MPLS-TP Function</strong></td>
</tr>
</tbody>
</table>
| LSPs and PW encapsulation | • G-Ach/GAL encapsulation  
• Control Word (CW) inclusion | • Message exchange (correct encoding and interpretation)  
• Label switching |
| LSPs and PW establishment | • Static label assignment  
• Dynamic provisioning | • Interoperability of static SS-PW and dynamic SS-PW  
• Label space compatible |
| OAM: Continuity Check (CC) and Connectivity Verification (CV) | • OAM message generation @ various intervals  
• Failure detection  
• On-demand LSP connectivity verification | • OAM message exchange  
• CC/CV sessions established  
• Ping encoding follows G-ACh Channel Type+ Echo or G-ACh Channel Type + IP/UDP/Echo |
| On-demand Alarm generation and Fault Notification | • Alarm generation and detection  
• Generation of AIS/LDI/LCK/PW Status  
• Auto generation of RDI  
• CCCV Pause/Resume | • Alarm encoding and interpretation  
• AIS suppression state  
• Alarm propagation |
| Automatic Protection Switching (APS) | • Ingress, Egress and Transit Node  
• Different protection modes | • PSC interoperability  
• Switchover time measurements per LSP/PW |
| MPLS-TP and MPLS Interoperability | • OAM status translation  
• CW handling | • End to end service verification  
• MS-PW (mix of MPLS-TP and IP/MPLS segments) |

- Ixia’s MPLS-TP test solution
- Results/whitepapers from MPLS-TP public interoperability tests
- Detailed MPLS-TP test methodologies in Ixia’s Black Book
- MPLS-TP webinar with experts from Ixia, Cisco, and Verizon
Ixia is currently working with many vendors and service providers to further the development and deployment of MPLS-TP, and has successfully demonstrated CC/CV interoperability using BFD and Y.1731, at sub-50ms APS, in multiple tests.

Ixia’s test equipment was used to troubleshoot and resolve vendor interoperability issues in the three public MPLS-TP interoperability tests illustrated below.

For more information, go to: http://www.ixiacom.com/solutions/mpls_tp/index.php.