JDSU TrueSpeed and SAMComplete
– experience the network as your customers do
OSI-Layer4 testing based on standards Y.1564 & RFC 6349

Instrument Workshops

The fact that Ethernet has become an important access and transport technology of broadband transmission networks requires the adaptation of test methods to assure the quality of broadband transport services from a user´s perspective. Until today RFC 2544 was the test method of choice to evaluate the basic function of L2 and L3, but it was known that user´s reality was much more complex than the one of the test.

With the transition of telecommunication from transparent transmission and "Circuit Switched Networks" to "Packet Transport Network (PTN)" and "Next Generation Network (NGN)" it became more important than ever to develop further test methods and procedures. For example the effect of "shaping" and "policing" was almost unclear although their behavior has high influence on application performance.

In 2011 the new standards **Y.1564 (ITU.T) and RFC 6349 (IETF)** were defined, new standards which represent an important basis for examination, qualification and documentation of transfer characteristics of modern Ethernet / IP transmission paths and services - they give a much more realistic view.

This seminar explains these standards, what they mean, what they do, their result and how to use. **JDSU implementations "SAM Complete" (Y.1564) and "True Speed" (RFC 6349)** on JDSU´s MTS allow the practical use of these new methods and help to understand the partially complex things that are behind.

1/3 of the seminar time refreshes basics about the protocols of layer 4 (TCP and UDP), brings back the necessary technical terms and discusses QoS methods like "shaping" and "policing".

Practical exercises (2/3 of the time) in the lab give the chance to use the things learned.

Engaged participants learn to know by personal made experience the very interesting and exciting topics. By this each one can build up his knowledge that is helpful in the design, configuration, commissioning and performance analysis of packet-based Transport networks in the WAN.

Contents

Overview and Introduction
▶ Basics on packet networks
▶ the influence of QoS functions (shaping, policing) on application performance
▶ Why to test on different protocol layers?

Functions of Layer 4 protocols
▶ Basics about TCP & UDP
▶ TCP window, packet delay and usable bandwidth
▶ Slow Start and Congestion Avoidance
▶ Influence of Retransmissions and Buffer Delay on TCP throughput
▶ Sockets and buffers

Classical L2 & L3 Turn Up Testing
▶ Pre-qualification of end-to-end services
▶ KPI detection
▶ MTU detection (RFC4821)

Classification of Test Methods
▶ Overview and application
▶ Usage and parameters

Layer2/3 Test Methods:
▶ RFC 2544 performance testing
▶ Y.1564 SLA verification

Layer 4 Test Methods
▶ TCP Efficiency, Buffer Delay (RFC6349)
▶ True Speed Testing

Lab Session
▶ Small groups, different exercises
▶ Care by experienced trainer
▶ Test configuration & execution
▶ Interpretation of results

Course objectives

The participant is able to use L4 test applications on JDSU MTS-platform, knows how to define tests, how to set up tests, how to understand and evaluate results

Target group

Network technicians and engineers who want to get familiar with L4 testing; user of JDSU tester who need to use L4 capabilities of JDSU testers. Network architects, planners, engineers, technician, consultants, administrators

Prerequisites

Knowledge in LAN/WAN/ Ethernet/IP technology, basic in TCP; user experience with MTS-platform is helpful but not mandatory

Related seminars

▶ Ethernet/TCP/IP Basics & Technology
▶ MTS-8000/MTS-6000A/MTS-5800 Ethernet Module

Seminar info

▶ Duration
3 days, from 9.00 to 16.30 h
▶ Date, location and price on request or see under www.viavisolutions.com Training
▶ On-site or customized seminars and E-Learning on request

Contact

Fax +49 7121 86 2145
Tel +49 7121 86 1259
seminars.europe@viavisolutions.com