



NETWORK PLANNING, DESIGN TESTING & BENCHMARKING FOR IP and ETHERNET

Enables service providers and equipment vendors to quickly validate and fine tune networks to meet SLAs

HIGHLIGHTS

- IP and Carrier Ethernet and testing based on RFC 2544, ITU-T Y.1564 and MEF CE 2.0 methodologies
- Verifies all CE 2.0 service types
- Burst Testing in accordance with MEF 10.3
- Validates Control (L2CP, SOAM)
- L4-L7 Benchmarking tests
- Multi-CoS Service Testing
- Auto Diagnostics
- One Touch Execution
- Test Queuing

SAMTEST is well suited for testing during Network Planning covering:

- Validation of service design
- Network dimensioning
- Network benchmarking and scalability testing

SAMTEST automated test libraries deliver substantial reduction in time and effort in performing these testing tasks with ease.

BENEFITS

- Enables significant speeding up of testing cycles and reduces the "time-to-market"
- Built in automation and reporting Capabilities
- Ensures conformance for every cycle of service customization



Veryx SAMTEST provides a rapid and comprehensive test solution to facilitate the engineering of IP and Carrier Ethernet 2.0 services. SAMTEST's pre-built automated test suites enable validation for service design, benchmark and scalability of services before actual roll-out. Using SAMTEST network planning teams can perform task such as:

- Verification of network dimensioning
- Validating service design
- Testing network scalability
- Benchmarking network equipment
- Ensuring interoperability of equipment

SAMTEST PLATFORM

SAMTEST platform consists of a centralized controller and distributed hardware/software probes.

SAMTEST RFC 2544 Test Library

SAMTEST RFC 2544 test library provides verification of services based on the popular IETF RFC 2544 benchmarking methodology for throughput, latency, and frame loss for a range of frame sizes.

SAMTEST Y.1564 Test Library

SAMTEST Y.1564 test library provides verification of services for verification of both performance (throughput, latency, and frame loss) and configuration. The tests verify performance at CIR, EIR, and Discard Rates, and validate QoS parameters for multiple services over the network. Further, SAMTEST improves on the methodology by additional tests for CBS and EBS, step load CIR testing and Traffic Policing.

SAMTEST MEF CE 2.0 Test Library

SAMTEST MEF CE 2.0 test library for both Ethernet Subscriber Services (E-Line, E-LAN and E-Tree) as defined in MEF 6.1 and Ethernet Access (E-Access) services as defined in MEF 33.

Ethernet Services - Subscriber

SAMTEST MEF CE 2.0 test suite supports test cases for verification of service attributes, bandwidth profile and performance parameters for all the six subscriber focused Ethernet services namely E-line (EPL and EVPL), E-LAN (EP-LAN and EVP-LAN) and E-Tree (EP-Tree and EVP-Tree).

Ethernet Access (E-Access) Services

SAMTEST MEF CE 2.0 test suite supports test cases for verification of service attributes, bandwidth profile and performance parameters for both Access EPL and Access EVPL services.



Figure 1 : Hardware Probe Configurations for SAMTEST

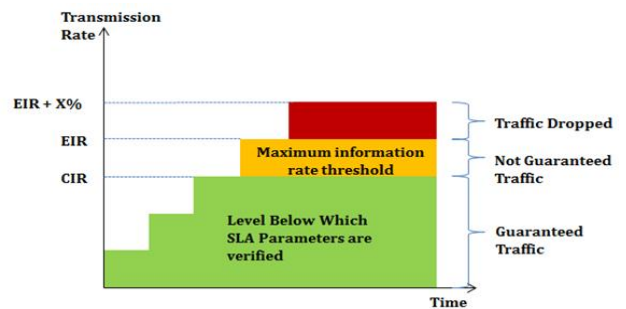


Figure 2 : Y.1564 Service Configuration Test

Service Type	Private Service Port-based	Virtual Service VLAN-based
E-line (Point-to-point EVC) Ethernet Subscriber Service	EPL (Ethernet Private Line) 	EVPL (Ethernet Virtual Private Line)
E-LAN (Multipoint-to-Multipoint EVC) Ethernet Subscriber Service	EP-LAN (Ethernet Private LAN) 	EVP-LAN (Ethernet Virtual Private Line)
E-Tree (Rooted-Multipoint EVC) Ethernet Subscriber Service	EP-Tree (Ethernet Private Tree) 	EVP-Tree (Ethernet Virtual Private Tree)
E-Access (Point-to-point OVC) Ethernet Access Service	Access EPL (Access Ethernet Private Line) 	Access EVPL (Access Ethernet Virtual Private Line)

Table 1 : MEF CE 2.0 Service Types

Using SAMTEST, network planning teams can verify their service design in the network by deploying probes at suitable points in the network.

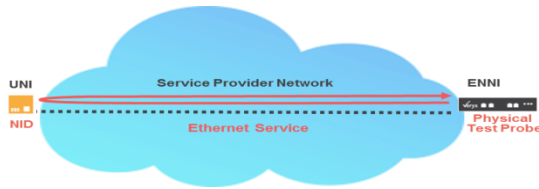


Figure 3 : SAMTEST usage for testing business services using Loopback

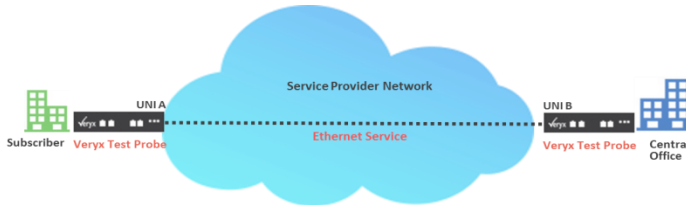


Figure 4 : SAMTEST usage for testing business services using peer probe

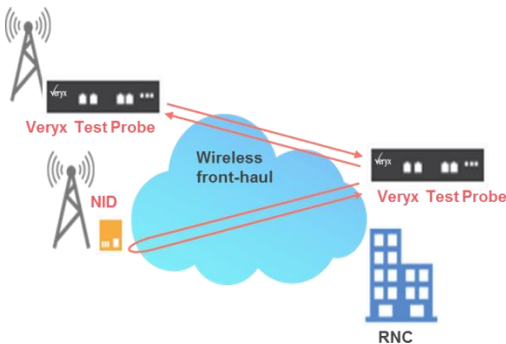


Figure 5 : SAMTEST usage for testing wireless front-haul

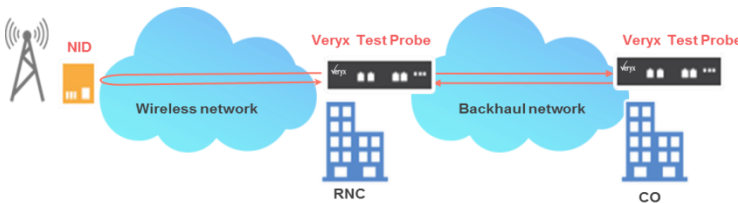


Figure 6 : SAMTEST usage for testing mobile back-haul

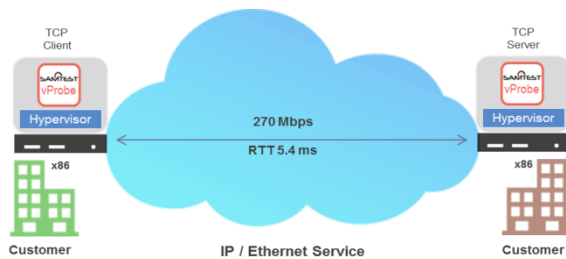


Figure 7 : SAMTEST TCP Benchmarking (RFC 6349) using Verity virtual probe

SAMTEST can be used for a verification of all types of Ethernet and IP service offerings including business services, mobile front-haul and backhaul, cloud and data center interconnects.

Service providers can test up to 3 different Classes of Service using SAMTEST and avoid false positives or latent issues that may result due to testing of different Classes of Service separately.

Performance Testing

MEF CE 2.0 defines five performance parameters – FD, MFD, FDV, FDR, and FLR. It also mandates that the measurements conform to performance objective 99.9 percentile for FD, FDV and FDR. SAMTEST measures all these performance parameters, and performs percentile calculations while validating these parameters which helps service provider ensure that the service performance meet the desired service acceptance criteria.

SAMTEST live performance graph shows the measured performance during the course of the test execution. Long duration performance tests can be executed for up to 48 hours.

L4, L7 Benchmarking library

SAMTEST L4-L7 Benchmarking Library helps quickly measure the quality of experience for end users for TCP, HTTP and VoIP services.

Virtual probes

Verity vProbes can be deployed as VNF on centralized NFVI PoPs or on distributed NFVI devices such as virtual aggregation router and vCPE.

Features

Testing and Troubleshooting

L2/L3 Tests : RFC 2544, Y.1564, MEF CE 2.0

L4 Tests: TCP (RFC 6349) Benchmarking

L7 Tests: HTTP, VoIP

802.1ag/Y.1731, Smart Loopback, TWAMP, Ping, Trace route

CE 2.0 service attribute verifications - VLAN/CoS Transparency, Bundling, MTU, Service Leakage, L2CP/SOAM

Bandwidth profile and Ethernet/IP SLA measurements such as delay, jitter, loss, etc.

Burst Testing as per MEF 10.2

Tagging Support: 802.1q, Q-in-Q

CoS – VLAN P-bits, DSCP, MPLS Experimental bits

Multi-Cos Testing

Auto diagnostics

Birth Certificate, Customer Portal, Graphical charts and PDF reports.

Hardware Test Probe

Physical

Dimensions: 1.75"H x 17.5"W x 8.8"D (44.45mm x 444.5mm x 223.52mm)

Weight: 10 Lbs.

Interface and Indicators

Test port options :

- 4x1GbE SFP ports,
- 2x10GbE SFP+ ports

Virtual Test Probe

vProbe System Requirements

1G - 2 vCPUs, 2 GB RAM, 5 GB HDD, Intel SR-IOV enabled NICs

10G - 4 vCPUs, 2 GB RAM, 5 GB HDD, Intel SR-IOV enabled NICs

Hypervisors: KVM(Qemu 2.0.0, libvirt 1.2.2) and VMWare ESXi 6.0

For more information

Contact sales@veryxtech.com

About Veryx Technologies

Veryx Technologies is a leader in IP and Carrier Ethernet testing and offers comprehensive range of test solutions to enhance the Carrier Ethernet service assurance. Veryx provides innovative testing, automation and monitoring solutions for network service providers, cloud service providers, data centers, Enterprise IT and network equipment vendors. Leading service providers and equipment vendors rely on Veryx solutions for network testing, performance monitoring and equipment testing applications for technologies such as Carrier Ethernet, IP, Cloud, SDN, NFV and Smart Networks.

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