

VERYX ATTEST™ MEF CE2 CONFORMANCE TEST SUITE



Assures equipment manufacturers and service providers that Ethernet devices are delivering services conformant to MEF CE 2.0 specifications.



HIGHLIGHTS

Verifies Ethernet Subscriber Services (E-line, E-LAN and E-Tree) and Ethernet Access Services

Measures behavior in real-time deployment scenarios

Validates control and invalid frames

Ensures preservation of attributes (VLAN, CoS)

Continuous performance measurement for different frame sizes

BENEFITS

Enables significant speeding up of testing cycles and reduces the “time-to-market”

Test suites written in industry standard TCL scripts. Well defined APIs provide the flexibility to customize the test cases for specific requirements.

Built in Automation and Reporting Capabilities

Veryx ATTEST-CTS CE2 is aligned with MEF Carrier Ethernet 2.0 test cases for Service Attributes and Traffic Management. It relies on ATTEST -- a powerful test framework that requires minimal setup time and enables efficient use of time and resources.

SPECIFICATIONS

- | | |
|------------|------------|
| ✓ MEF 6.1 | ✓ MEF 23.1 |
| ✓ MEF 10.2 | ✓ MEF 26.1 |
| ✓ MEF 13 | ✓ MEF 30 |
| ✓ MEF 20 | ✓ MEF 33 |

Veryx ATTEST CTS MEF CE2 coverage

Veryx ATTEST-CTS MEF CE2 Conformance Test Suite verifies conformance to MEF Carrier Ethernet 2.0 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. With Veryx ATTEST-CTS CE 2, equipment manufacturers and service providers can ensure that Ethernet devices under test are capable of delivering services conformant to MEF CE 2.0 specifications.

The test suite is composed of test cases to validate the conformance of all the eight service types defined in CE 2.0, namely, E-Line (EPL and EVPL), E-LAN (EP-LAN and EVP-LAN), E-Tree (EP-Tree and EVP-Tree) and E-Access (Access EPL and Access EVPL) services.

Ethernet Services - Subscriber

ATTEST-CTS MEF CE2 test suite supports test cases for verification of attributes for all the six subscriber focused Ethernet services namely EPL, EVPL, EP-LAN, EVP-LAN, EP-Tree and EVP-Tree as defined by MEF. Figure 1 provides the set-up for EP-LAN verification in the Lab.

Ethernet Access (E-Access) Services

ATTEST-CTS MEF CE2 test suite supports test cases for verification of attributes for both Access EPL and Access EVPL services defined by MEF. Figure 2 provides the set-up for Access EPL verification in the Lab.

Functional Test Grouping

ATTEST-CTS MEF CE2 test cases are functionally grouped according to related Ethernet services attributes, performance attributes, Ingress bandwidth profile and Egress bandwidth profile attributes that they verify.

Table 2 and Table 3 provide the related grouping of test cases into service attributes and traffic management testing for each of the subscriber and access services respectively.

Table 1: Ethernet Service Types

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)

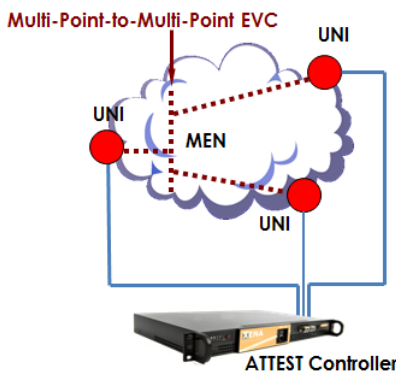


Figure 1: EP-LAN Verification in Lab Setup

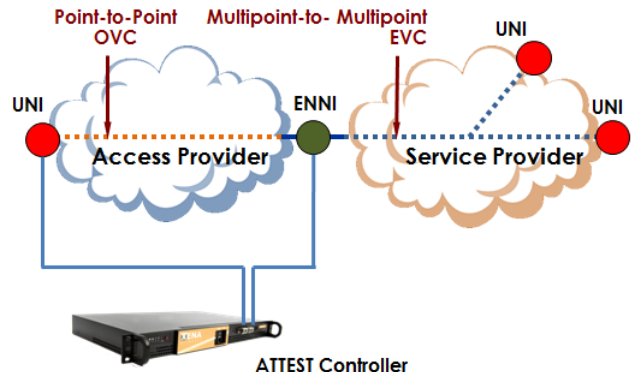


Figure 2: Access EPL Verification in Lab Setup

Table 2: Ethernet Subscriber Services Test Group

Test Group	EPL	EVPL	EP-LAN	EVP-LAN	EP-Tree	EVP-Tree
Services Attributes Test Groups						
Non looping frame delivery	✓	✓	✓	✓	✓	✓
Frame format	✓	✓	✓	✓	✓	✓
EVC Leakage	✓	✓	✓	✓	✓	✓
L2CP Service frames handling	✓	✓	✓	✓	✓	✓
CE-VLAN ID Preservation	✓	✓	✓	✓	✓	✓
UNI Physical Layer	✓	✓	✓	✓	✓	✓
UNI MAC Layer	-	-	✓	✓	✓	✓
Service OAM frames handling	✓	✓	✓	✓	✓	✓
UNI Bundling	-	✓	-	✓	-	✓
All to One Bundling	✓	-	✓	-	✓	-
EVC Instances	✓	✓	✓	✓	✓	✓
Traffic Management Test Groups						
Bandwidth Profile Service Attributes						
Ingress Bandwidth Profile – CIR/CBS Enforcement	✓	✓	✓	✓	✓	✓
Egress Bandwidth Profile – CIR Enforcement	✓	✓	✓	✓	✓	✓
Ingress Bandwidth Profile – EIR/EBS Enforcement	✓	✓	✓	✓	✓	✓
Ingress Bandwidth per UNI	✓	✓	✓	✓	✓	✓
Egress Bandwidth per UNI	✓	✓	✓	✓	✓	✓
Ingress Bandwidth per EVC	✓	✓	✓	✓	✓	✓
Egress Bandwidth per EVC	-	-	✓	✓	✓	✓
Ingress Bandwidth per CoS – PCP/DSCP/L2CP	✓	✓	✓	✓	✓	✓
Egress Bandwidth per CoS – PCP/DSCP/L2CP	-	-	✓	✓	✓	✓
Multiple Ingress Bandwidth per UNI	✓	✓	✓	✓	✓	✓
Performance						
One-Way Performance – FD/MFD/FDV/FLR	✓	✓	-	-	-	-

Table 3: E-Access Services Test Groups

Test Group	Access EPL	Access EPL	Access EVPL	Access EVPL
	UNI to ENNI	ENNI to UNI	UNI to ENNI	ENNI to UNI
Service Attributes Test Groups				
CE-VLANID Preservation	✓	✓	✓	✓
CE-VLANID CoS Preservation	✓	✓	✓	✓
Unconditional Frame Delivery	✓	✓	✓	✓
Service OAM frames handling	✓	✓	✓	✓
Service OAM frames handling	✓	✓	✓	✓
Maximum number of CE-VLAN IDs per OVC	-	-	✓	✓
Traffic Management Test Groups				
Bandwidth Profile Service Attributes				
Ingress Bandwidth Profile – CIR/CBS Enforcement	✓	✓	✓	✓
Egress Bandwidth Profile – CIR Enforcement	✓	✓	✓	✓
Performance				
One-Way Performance – FD/MFD/FDV/FLR	✓	✓	✓	✓



VERYX ATTEST CTS MEF CE2 | DATASHEET

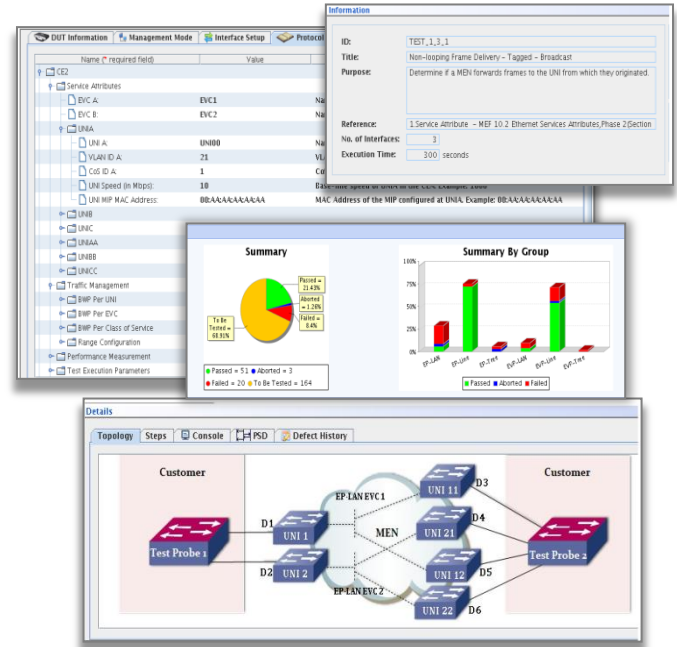
Figure 3: Sample ATTEST Screen shots

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.

ATTEST-CTS MEF CE2 Field Test suites are available for verification of Carrier Ethernet services for conformance to MEF CE 2.0 specifications by service providers.

Veryx also provides ATTEST-CTS MEF 9 and ATTEST-CTS MEF14 to perform tests in preparation for MEF CE 1.0 conformance. Veryx ATTEST-CTS and ATTEST-XP Carrier Ethernet test suites provide comprehensive verification for Carrier Ethernet functionality. Test suites for IPv4, IPv6 and Layer-2 bridging are also available. For more information, kindly visit our website or contact us.



ORDERING INFORMATION

PRODUCT	PART NUMBER
SOFTWARE	
ATTEST-CTS MEF CE2.0 Conformance test suite for E-line, E-LAN, E-Tree and E-Access - LAB	CTS-MEF-CE2-B
ATTEST-CTS MEF CE 2.0 E-Line Conformance test suites-LAB	CTS-MEF-CE2-ELINE-B
ATTEST-CTS MEF CE 2.0 E-LAN Conformance test suites-LAB	CTS-MEF-CE2-ELAN-B
ATTEST-CTS MEF CE 2.0 E-Tree Conformance test suites-LAB	CTS-MEF-CE2-ETREE-B
ATTEST-CTS MEF CE 2.0 E-Access Conformance test suites-LAB	CTS-MEF-CE2-EACCESS-B
FRAMEWORK	
ATTEST-Framework-Server 6.x with 1 Remote ATTEST-Clients - WinXP & FC	FW6S-1FW6C-B
HARDWARE	
XenaCompact 6 port SFP slots (optical 100/1000M, 10/100/1000M BASE-T), excl tcvrs	C1-M6SFP
XenaCompact 6 port 10-GigE SFP+ 10GBASE-SR/LR optical, excl tcvrs	C1-M6SFP+
XenaBay chassis 12 slots with management unit controller (with one of the following)	C4-12
XenaBay test module 6 port SFP slots (optical 100/1000M, 10/100/1000M BASE-T), excl tcvrs	M6SFP
XenaBay test module 6 port 10-GigE SFP+ 10GBASE-SR/LR optical, excl tcvrs	M6SFP+

About Veryx Technologies

Veryx Technologies is an innovative enterprise providing solutions that enable companies significantly reduce their testing related investments, while simultaneously enhancing the Product Quality and Efficiency of Testing. Bringing this same innovation to the Ethernet Service Provider market, Veryx offers an increasing number of flexible, cost-effective products that enhance the Service Assurance capability of our customers. Leading equipment vendors rely on the ATTEST range of products for testing applications in Access, Carrier Ethernet, Data Center, Edge, Enterprise, Industrial Networking and Security domain.

Veryx™ and Veryx ATTEST™ are trademarks of Veryx Technologies. All other trademarks of respective owners are acknowledged.

Email : info@veryxtech.com

USA : +1-408-850-1247

Web : www.veryxtech.com

International : +44-203-371-8691

