

# ALCATEL-LUCENT AND MEF CARRIER ETHERNET 2.0



**The commercial value of MEF Carrier Ethernet (CE) 2.0 is moving many service providers to “CE 2.0 certify” their Ethernet services. To enable service certification, the following Alcatel-Lucent Products are MEF CE 2.0 Certified across all four MEF service types – E-Line, E-LAN, E-Tree and E-Access:**

- **Alcatel-Lucent 7750 Service Router (SR):**
- **Alcatel-Lucent 1830 Photonic Service Switch (PSS)**
- **Alcatel-Lucent 7210 Service Access Switch (SAS)**

The CE 2.0 product certification designation applies to the tested configuration and, through compliance to currently supported hardware and software in general. The MEF CE 2.0 certification program recognizes the use of both certified and compliant products towards service certification. This removes the requirement to test every product permutation and allows the equipment vendor and service provider to use whatever configuration is best for the planned service offering. Alcatel-Lucent has carefully assessed related product configurations to assure compliance to MEF CE2.0 vendor certification. In this way, service providers can leverage CE 2.0 compliant products to deliver CE 2.0 Certified services.

## OVERVIEW

The Metro Ethernet Forum (MEF) was formed in 2001 to help the industry develop ubiquitous metro Ethernet business services for enterprise users to connect their LANs. Since then, metro Ethernet has expanded into Carrier Ethernet, with networks enabling national and international reach. The MEF is now well established as the defining body for Carrier Ethernet networks and has helped grow Carrier Ethernet services into a US\$38.1 billion market in 2013 (Infonetics Research: Ethernet and IP MPLS VPN Services [June 6, 2013]).

Today, the MEF is looking to advance Carrier Ethernet networking and eliminate deployment headaches. To make operations for Carrier Ethernet elements quick, efficient and simple, the MEF developed Carrier Ethernet (CE) 2.0. CE 2.0 defines the next generation of Carrier Ethernet with standardized multi-CoS, as well as interconnect and manageability attributes across eight service types. It serves as a framework for service providers and equipment vendors who want to demonstrate compliance with MEF specifications. For more details, see [MEF's Carrier Ethernet and CE 2.0](#).

Figure 1. MEF's CE 2.0 overview

|                       | Service Types (8 Port and VLAN-Based Services)   |       |        |          |
|-----------------------|--|-------|--------|----------|
|                       | E-Line   | E-LAN | E-Tree | E-Access |
| <b>Multi-CoS</b>      | <ul style="list-style-type: none"> <li>Standardize Performance across geographic performance tiers and applications types</li> <li>3 Classes of Service enables efficient operations</li> <li>Classification based on methods defined in MEF 23.1</li> </ul> |       |        |          |
| <b>Managed</b>        | <ul style="list-style-type: none"> <li>Fault Management and Performance Monitoring for Services</li> </ul>   |       |        |          |
| <b>Interconnected</b> | <ul style="list-style-type: none"> <li>Enable Multi-CoS and Managed services spans more than one service provider, regionally, nationally, globally as defined in MEF 6.1 and E-Access</li> </ul>  |       |        |          |

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There are three primary commercial benefits to certifying services.

- From a sales perspective, the ability to offer CE 2.0 services provides a competitive advantage over non-certified services, and requests for CE 2.0 are increasing in enterprise RFPs. Perhaps more importantly, it builds buyer confidence and speeds up the sales process.
- From a marketing perspective, CE 2.0 provides industry-wide recognition, aligning services with Carrier Ethernet standards and ensures a high level of consistency in products and services.
- Operationally, having a single testing process reduces costs for product conformance testing. It also simplifies the task of finding a partner for inter-carrier connectivity, and reduces inter-carrier testing time.

## DELIVERING MEF CE 2.0 CERTIFIED SERVICES

Alcatel-Lucent is committed to helping service providers meet their goals for delivering MEF CE 2.0 certified services. The commercial value of CE 2.0 is moving many service providers to CE 2.0 certify their Ethernet services. Alcatel-Lucent has put significant focus and investment into MEF specifications over the years while ensuring vendor differentiation and leadership in Ethernet services.

CE 2.0 certification ensures service compliance to specifications and interworking between vendors by testing product compliance across the four MEF service types – E-Line, E-LAN, E-Tree and E-Access.

The following Alcatel-Lucent Products are MEF CE 2.0 Certified across all four MEF service types (as shown in the [MEF Equipment Certification Registry](#)):

- [Alcatel-Lucent 7750 Service Router \(SR\)](#): E-Line, E-LAN, E-Tree and E-Access
- [Alcatel-Lucent 1830 Photonic Service Switch \(PSS\)](#): E-Line, E-LAN, E-Tree and E-Access
- [Alcatel-Lucent 7210 Service Access Switch \(SAS\)](#): E-Line, E-LAN, E-Tree and E-Access

Service providers with any of the Alcatel-Lucent CE 2.0 Certified products deployed can deliver CE 2.0 Certified services for any MEF service type. The CE 2.0 product certification designation applies to the tested configuration and, through compliance, to currently supported hardware and software in general.

## LEVERAGING THE VALUE OF MEF CE 2.0 PRODUCT COMPLIANCE

Product certification is platform, hardware and software release specific. The MEF/Iometrix certificate identifies the product and hardware tested. It also lists the areas that were certified and provides reports for service provider reference. The CE 2.0 framework also allows service providers to certify their Ethernet services as CE 2.0 Certified when they use CE 2.0 Compliant products. This removes the requirement to test every product permutation and allows the equipment vendor and service provider to optimize the configuration best suited for the planned service offering.

Alcatel-Lucent played an active role in the CE 2.0 initiative and helped ensure the availability of the CE 2.0 Test Plan to define product and service compliance. Although vendor certification is a comprehensive test of a single hardware configuration and software release, the CE 2.0 framework allows the vendor to apply the certificate more broadly. Iometrix strongly advises vendors to use integrity and common sense when applying the designation to other hardware, software and product portfolio options. Alcatel-Lucent has carefully assessed related product configurations to assure compliance to MEF CE2.0 vendor certification. In this way, service providers can leverage “compliant products” to deliver CE 2.0 Certified services. This allows for service certification in two distinct scenarios.

## Certifying services using a different hardware configuration to that used in certification testing

Alcatel-Lucent determined that the test scripts will also run and pass successfully on the older generation 7750 SR hardware, making it CE 2.0 compliant. This means that service providers with other hardware configurations can also CE 2.0 certify their services.

For the Alcatel-Lucent 1830 PSS, the 11QPE24 Carrier Ethernet Switching Muxponder card was used for certification testing. The 1830 PSS family of Integrated Packet Transport cards leverages a common architecture, chipsets, hardware and Service Router Operating System (SR OS). As a result, certification will subsequently apply to the entire family of 1830 PSS SR OS-based Integrated Packet Transport cards, including the 11QCE12X, 11OPE8, 11OPE80 and 103SCEC. This means that service providers will be able to certify their services on Alcatel-Lucent 1830 PSS systems using any of these hardware muxponder cards.

## Certifying services using other platforms within the product portfolio

The Alcatel-Lucent 7450 Ethernet Service Switch (ESS) leverages the same architecture, chipsets, hardware and SR OS software that were used in the 7750 SR certification testing. The Alcatel-Lucent 7950 Extensible Routing System (XRS) also leverages the same architecture,

chipset and software that were used in the 7750 SR certification testing. Alcatel-Lucent determined that the test scripts verified on the 7750 SR platform will run and pass successfully on the 7450 ESS and 7950 XRS platforms, making them CE 2.0 compliant. This means that service providers with deployed Alcatel-Lucent 7450 ESS and 7950 XRS systems are also able to certify their CE services that use these platforms.

For the Alcatel-Lucent 7210 SAS, a product family that leverages common hardware and the SR OS software, Alcatel-Lucent certified the 7210 SAS-D, 7210 SAS-M and 7210 SAS-X variants. Alcatel-Lucent determined that the test scripts verified on these variants will also run and pass successfully on the 7210 SAS-R and 7210 SAS-T. This means that service providers deploying the 7210 SAS-R and 7210 SAS-T are also able to certify their Ethernet services that use these variants as well.

**Table 1. Summary of Alcatel-Lucent Certified and compliant MEF CE 2.0 products**

| MEF CE 2.0 CERTIFIED PRODUCTS      | MEF CE 2.0 COMPLIANT PRODUCTS                        |
|------------------------------------|--|
| 7750 SR                            | 7450 ESS, 7950 XRS                                   |
| 1830 PSS with the 11QPE24          | 1830 PSS with the 11QCE12X, 11OPE8, 11OPE80, 103SCEC |
| 7210 SAS-D, 7210 SAS-M, 7210 SAS-X | 7210 SAS-R, 7210 SAS-T                               |

## LEARN MORE

To learn more about the MEF's Carrier Ethernet 2.0 standards, go to [MEF's Carrier Ethernet and CE 2.0](#).

Alcatel-Lucent will be continuing its active participation in the CE 2.0 initiative, so information on certification and compliance is dynamic. For the latest updates on Alcatel-Lucent CE 2.0 Certified products, go to [Techzine from Alcatel-Lucent](#).



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