Nokia 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 Nokia products are MEF CE 2.0 certified:

- Nokia 7750 Service Router (SR)
- Nokia 7210 Service Access Switch (SAS)
- Nokia 7705 Service Aggregation Router (SAR)
- Nokia 1830 Photonic Service Switch (PSS)
- Nokia Wavence
- Nokia 7360 Intelligent Service Access Manager (ISAM) FX
- Nokia 7368 Intelligent Service Access Manager (ISAM) Optical Network Terminals (ONT)

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 variant, and allows the equipment vendor and service provider to use whatever configuration or variant is best suited for the planned service offering. Nokia has carefully assessed related product configurations to assure compliance to MEF CE 2.0 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 service revenue, which is projected to exceed $63B (USD) in 2019 (IHS).

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 100G, 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
There are three primary commercial benefits to certifying services:

- From a revenue 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 while ensuring 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

Nokia 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. Nokia 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 Nokia products are MEF CE 2.0-certified (as shown in the MEF Equipment Certification Registry):

- Nokia 7750 Service Router (SR)
- Nokia 7210 Service Access Switch (SAS)
- Nokia 7705 Service Aggregation Router (SAR)
- Nokia 1830 Photonic Service Switch (PSS)
- Nokia Wavence
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Service providers with any of the Nokia CE 2.0-certified products deployed can deliver CE 2.0-certified services for any MEF service type. In addition, the 7750 SR is also 100G certified. 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 variant, and allows the equipment vendor and service provider to optimize the configuration or variant best suited for the planned service offering.

Nokia 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. Nokia has carefully assessed related product configurations to assure compliance to MEF CE 2.0 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

Nokia 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 Nokia 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 applies to the entire family of 1830 PSS SR OS-based Integrated Packet Transport cards, including the 11QCE12X, 11OPE8, 12CE120, 12CE121, 1CE100, 30SE300 and 6SE300. This means that service providers will be able to certify their services on Nokia 1830 PSS systems using any of these hardware muxponder cards.

Certifying services using other platforms within the product portfolio

The Nokia 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 Nokia 7750 SR-e and 7950 Extensible Routing System (XRS) also leverage the same architecture, chipset, and software that were used in the 7750 SR certification testing.

Nokia determined that the test scripts verified on the 7750 SR platform will run and pass successfully on these other platforms, making them CE 2.0 compliant. This means that service providers with these deployed systems are also able to certify their CE services.

For the Nokia 7210 SAS, a product family that leverages common hardware and the SR OS software, Nokia certified the 7210 SAS-D, 7210 SAS-M and 7210 SAS-X variants. Nokia determined that the test scripts verified on these variants will also run and pass successfully on the variants listed in Table 1. This means that service providers are also able to certify their Ethernet services that use these variants.

Table 1. Summary of Nokia Certified and compliant MEF CE 2.0 products

<table>
<thead>
<tr>
<th>MEF CE 2.0 certified products</th>
<th>MEF CE 2.0 compliant products</th>
</tr>
</thead>
<tbody>
<tr>
<td>7750 SR (includes 100G certification)</td>
<td>7750 SR-e, 7950 XRS and 7450 ESS</td>
</tr>
<tr>
<td>1830 PSS with the 11QPE24</td>
<td>1830 PSS with the 11QCE12X, 11OPE8, 12CE120, 12CE121, 1CE100, 30SE300 and 6SE300</td>
</tr>
<tr>
<td>Wavence</td>
<td>Lightspan Access Node</td>
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</tbody>
</table>

Learn more

To learn more about the MEF’s Carrier Ethernet 2.0 standards, go to MEF Technology Certification Overview.

About Nokia

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