MEF White Paper

MEF 3.0 Carrier Ethernet Certification Business Case for Service Providers

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Disclaimer

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1   Executive Summary

MEF's service and technology certification programs are designed to accelerate availability and adoption of MEF 3.0 solutions that address the most demanding networking needs of the digital economy. MEF 3.0 certification enables companies to validate that their services and technologies have met the highest levels of performance, assurance, and agility established by the industry's defining authority for standardized network services. Certification also plays a critical role in accelerating the industry transformation to dynamic services across a global federation of automated networks by validating that the inter-provider commercial and business interface based on the MEF's LSO Sonata Interface Reference Point ("IRP") and orchestrated services are ready to interact in a seamless, standardized manner between business partners worldwide.

MEF 3.0 certification currently is available for numerous MEF 3.0 Carrier Ethernet subscriber services and operator services.

This document focuses on the business case for service providers to certify MEF 3.0 CE services. We explore how certification can strengthen customer relations, increase revenue opportunities, and improve operational efficiencies for retail and wholesale service providers. MEF 3.0 CE certification validates performance excellence, provides competitive differentiation, and enables service providers to establish a standards-compliant presence within a federation of automated networks, among other business benefits. Participation in such a federation is particularly valuable because it creates an opportunity to provide higher margin, highly differentiated inter-provider services that leave behind commoditized, low-margin fixed-bandwidth services.

This document is designed to assist service provider decision makers to successfully drive the process of certifying MEF 3.0 CE retail and wholesale services and, as a result, to maximize the sales and marketing potential of these services.

2   Introduction

MEF 3.0 drives continuous development of the world's most advanced network services based on global standards. MEF 3.0 services provide an on-demand, cloud-centric experience with unprecedented user- and application-directed control over network resources and service capabilities. The MEF 3.0 service family includes CE, SD-WAN, Optical Transport, IP, and security services that will be orchestrated over programmable networks using LSO (Lifecycle Service Orchestration) APIs.

MEF 3.0 CE is the 3_{rd} generation of MEF-defined CE services and represents the most developed set of standardized services in the MEF 3.0 family – incorporating dozens of published standards, substantially increasing capabilities, and raising the performance bar well above globally ubiquitous and widely certified CE 2.0 services.

Orchestration-ready MEF 3.0 CE services provide the highest level of performance, assurance, and agility available in the $60+ billion global CE services market. The comprehensive MEF 3.0 CE service portfolio includes a set of subscriber services (E-Line, E-LAN, E-Tree) and a set of operator services (Access E-Line, Access E-LAN, Transit E-Line, and Transit E-LAN). Certification currently is available for all these services except Access E-LAN and Transit E-LAN.

Below, we explore the many business benefits of becoming MEF 3.0 CE certified, describe service provider adoption of certification, and explain how to certify MEF 3.0 CE services.
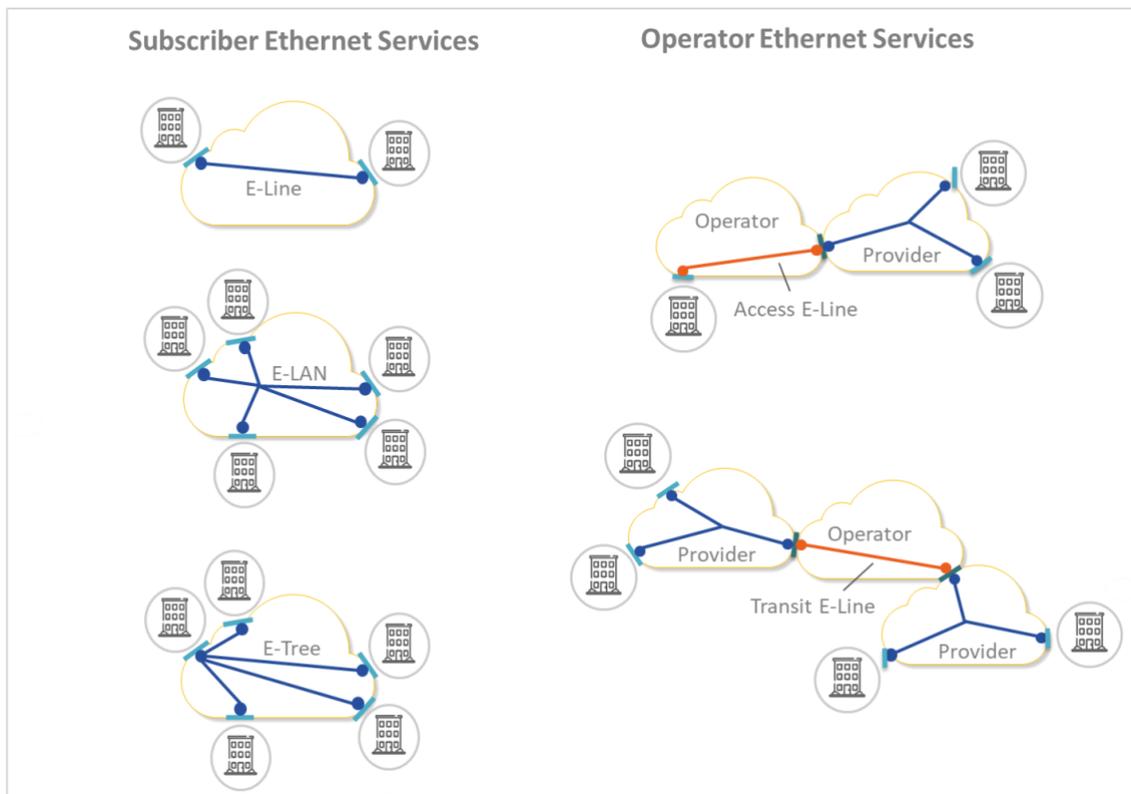

Figure 1 – MEF 3.0 Carrier Ethernet Services That Can Be Certified Today

3   Benefits for Service Providers

MEF 3.0 services certification offers numerous business benefits that collectively can strengthen customer relations, increase revenue opportunities, and improve operational efficiencies for retail and wholesale service providers of all sizes in every geographic region.

Many benefits of MEF 3.0 CE certification can be realized by retail and wholesale providers independent of their relationships with other service providers.

- *Validation of performance excellence*. Customers who purchase certified solutions can have greater confidence that they have met the highest levels of performance, assurance, and agility established by the world's defining authority for standardized network services.

- *Competitive differentiation*. Service providers can compete more effectively by setting themselves apart from the crowd with higher-value services proven capable of addressing the demanding connectivity requirements of digital transformation.

- *Faster RFI/RFP response and customer evaluation*. Service providers can reduce their time and operational costs when responding to RFIs/RFPs by using certification to validate service capabilities specified in RFI/RFP checklists. Customer evaluation especially can be simplified and accelerated when a customer has clarified their desire for MEF 3.0 CE certified services and can begin their selection process leveraging a shortlist of providers in MEF's Service Certification Registry.

- *Confidence boost for sales force*. Service provider sales teams can operate with greater confidence in pursuing business with even the toughest customers when armed with certified solutions and certification logos signifying proven quality and value. The quality of customer engagement is further enhanced when certified services are supported by a team of MEF Carrier Ethernet Certified Professionals (MEF-CECPs).

- *Quicker R&D for advanced services*. The automated, cloud-based platform used for MEF 3.0 CE certification testing liberates service providers to run their own compliance tests in an on-demand fashion. This helps service providers tighten up their service development process, enhance their product offering through in-depth validation of advanced features, and speed overall service time-to-market.

- *Better internal coordination*. Experience with MEF's certification program suggests that service providers can accelerate internal coordination among different departments (e.g. operations and engineering) in the process of introducing a new certified service.

The greatest benefits of MEF 3.0 CE certification, however, can be realized when service providers transition from operating as independent islands to participating in a federation of cloud-like networks that support dynamic services across multiple providers within a frictionless commercial environment. This is made possible by combining MEF 3.0 CE services with MEF 3.0 LSO Sonata APIs that enable automated business-to-business interactions between providers.

- *Faster, efficient interconnection*. Certification allows service providers to streamline inter-provider interconnection by aligning on common, well-defined service attributes.

- *On-demand ordering and provisioning*. Service providers are able to shift from a cumbersome legacy wholesale model – characterized by fixed bandwidth connections, complex manual processes, and a mix of email, spreadsheets, and proprietary portals and APIs – to an agile MEF 3.0 standards-based wholesale model that enables on-demand ordering and provisioning using end-to-end lifecycle service orchestration across multiple providers. This initially relates to automated ordering of certified MEF 3.0 Access E-Line services but will be expanded to include other MEF 3.0 services.

- *Accelerated service delivery*. Service providers can dramatically shorten service delivery for inter-provider MEF 3.0 CE services from months/weeks to hours/minutes with near-instantaneous cycle times enabled by LSO Sonata APIs.

- *Faster time to revenue*. Improved operational efficiencies with certified APIs can help service providers reduce their time to revenue from days to hours/minutes and avoid potential lost revenues.

- *Additional revenue from new orders*. Improved quote-to-order conversions with faster response times strengthens customer loyalty and can lead to new orders.

- *New revenue from on-demand/dynamic services*. Automation of inter-provider MEF 3.0 CE services – with currently available and planned LSO APIs – opens opportunities to offer enterprise customers on-demand/dynamic connectivity with coveted global reach, a key component of lucrative multi-cloud IT solutions.

In summary, the combination of certified MEF 3.0 CE services and MEF 3.0 LSO Sonata APIs enables service providers to better address enterprise demand for on-demand, customizable data services that are available beyond the network footprint of any individual service provider.

4 Service Provider Market Adoption

We are in the early days of ramping availability of MEF 3.0 CE services, but the track record of MEF certification suggests that MEF 3.0 CE certification will drive market growth and that providers of these certified services ultimately will collectively own a large portion of the market.

More than 115 service providers worldwide have received MEF 3.0 CE or CE 2.0 certification of 725+ Ethernet services, including 19+ service providers offering 66+ MEF 3.0 certified services. MEF certified services account for the vast majority of revenue in the global CE services market, dominate the high-speed WAN market, and form the high-performance connectivity service fabric underpinning the global digital economy.

- *Tier 1 Service Providers Worldwide.* Slightly more than 70% of the top 25 Ethernet service providers worldwide offer CE 2.0 or MEF 3.0 CE certified services, according to MEF's

worldwide service provider database. Nearly all Tier 1 Ethernet service providers have received at least one of MEF's three CE certifications in the history of the program.

- *Global Ethernet Services Leaders*. Five of the top six global Ethernet service providers, as ranked by Vertical Systems Group, offer CE 2.0 or MEF 3.0 CE certified services.

- *US Ethernet Services Leaders*. The top seven US Ethernet service providers ranked by Vertical Systems Group are CE 2.0 certified, and some are poised for MEF 3.0 CE certification this year.

- *Asia-Pacific Market Leadership*. APAC accounts for half of MEF 3.0 CE certified service providers worldwide, and more than 25% of certified providers in Asia already are MEF 3.0 CE certified.

- *European Market Traction*. Multiple Tier 1 European Ethernet service providers with international reach now offer MEF 3.0 CE certified services.

The number of companies providing certified MEF 3.0 CE services is expected to jump significantly in 2020, especially as wholesale buy/sell partners advance initiatives to orchestrate inter-provider services with LSO Sonata APIs.

5   Certifying MEF 3.0 CE Services

The MEF 3.0 CE Certification Blueprint specifies the service attributes and parameters to be verified in MEF 3.0 CE certification testing of MEF 3.0 CE subscriber services (E-Line, E-LAN, and E-Tree). The upcoming CE Services Test Requirements (MEF W91) standard currently specifies the service attributes and parameters to be verified in MEF 3.0 CE certification testing of operator Access E-Line and Transit E-line services and will in the future also cover subscriber services.

MEF 3.0 CE certification is delivered through MEF's testing partner, Iometrix, on an on-demand cloud-based virtual test platform.

Certification steps include:

1. **Engagement with MEF**. Contact MEF (certification@mef.net) for MEF 3.0 Certification Program information.

2. **Engagement with Iometrix.** Contact Iometrix (info@iometrix.com) to (1) create an account, (2) receive comprehensive information on the certification program and certification process and deliverables, and (3) place an order online for one or more subscriber or operator services available for MEF 3.0 certification.

3. **Certification Testing Process.** Testing is carried out by the Iometrix Lab in the Sky cloud-based test platform and virtualized test probes connected to the external interfaces of the service to be tested. To launch tests, service providers (1) install virtualized x86 probes at

the service end-points, (2) configure the service to be tested on the network, (3) access their account in the Lab in the Sky portal to enter the attributes and parameters of the service to be tested, (4) initiate the certification test run automatically performed by the cloud-based test platform and virtualized probes, and (5) submit test results for validation when all mandatory test cases pass.

4. **Deliverables**. After successful validation of test results and associated documentation by Iometrix, certified service providers: (1) receive a Test Report with a description of the test environment, test conditions, and all test results (the Test Report is the property of the certified service provider that maintains complete control over its distribution to third parties such as customers, potential customers, and partners); (2) are listed in the MEF Service Certification Registry; and (3) may use the MEF 3.0 certified logo as per MEF policies.
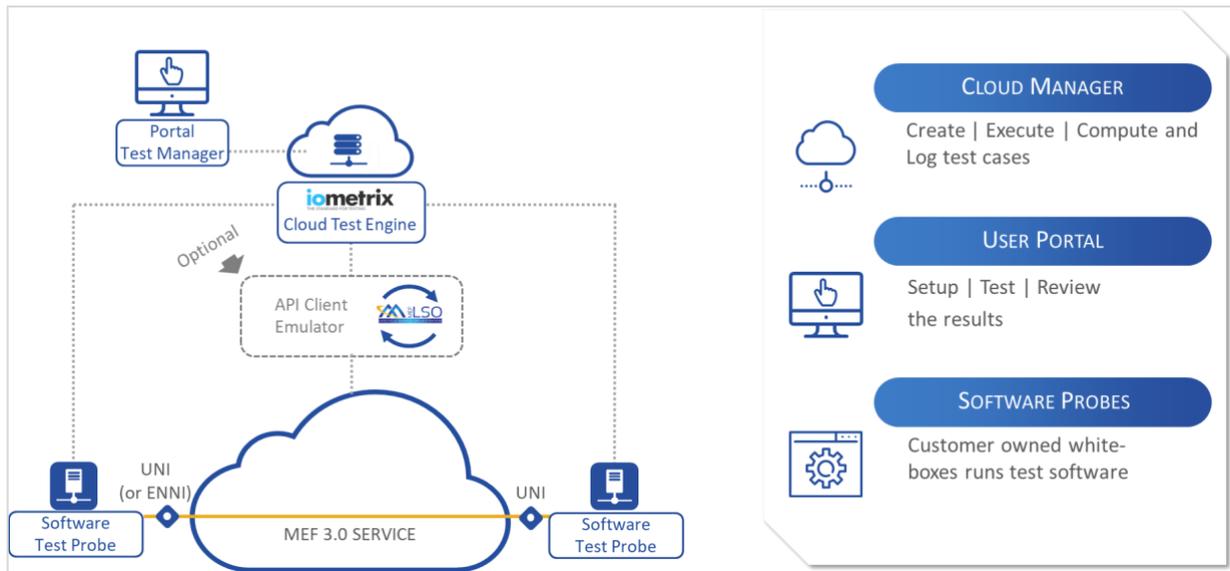

Figure 2 – MEF 3.0 CE Certification Test Environment

6   Conclusion

MEF-certified Carrier Ethernet services form the foundational high-performance connectivity fabric empowering digital transformation, and certified MEF 3.0 CE services represent the premium connectivity fuel for the global digital economy.

Independently certified MEF 3.0 CE services are a win-win for service providers and their customers. Providers can offer a better customer experience, increase revenues, and improve operational efficiencies by delivering the most advanced standardized network services available in the industry. Customers can navigate their own transformation journey with greater confidence in the superior performance, reliability, and agility inherent in certified MEF 3.0 CE services.

The greatest benefits for service providers and their customers are likely to be realized when a growing number of providers partner to orchestrate on-demand/dynamic MEF 3.0 CE services across a federation of automated networks.

In the coming quarters, we will see more providers rolling out MEF 3.0 CE Access E-Line services and LSO Sonata APIs for automated business-to-business interactions between providers. Service providers who offer certified MEF 3.0 services and collaborate with partners to more rapidly deliver these services to off-network locations are likely to be at a competitive advantage as the market evolves.

MEF intends to evolve this document with ROI information as well as RFI/RFP language useful to service providers and enterprises. Service providers and technology vendors are encouraged to contribute to updates of this document.

7   About MEF

An industry association of 200 member companies, MEF is driving development of a global federation of dynamic, trusted, and certified network services that power enterprise digital transformation. MEF 3.0 services are designed to provide an on-demand, cloud-centric experience with user- and application-directed control over network resources and service capabilities. MEF 3.0 services are delivered over automated, virtualized, and interconnected networks powered by LSO, SDN, and NFV. MEF produces service standards, LSO frameworks, LSO APIs, MEF 3.0 Proof of Concept Showcases, and certification programs for services, technologies, and professionals. MEF 3.0 work will enable automated delivery of standardized SD-WAN, Carrier Ethernet, Optical Transport, IP, Security, and other Layer 4-7 services across multiple provider networks. For more information: https://www.MEF.net and follow us on LinkedIn and Twitter @MEF_Forum.

8   Acknowledgements

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