MEF 3.0 SD-WAN & SASE:

Frequently Asked Questions

November 2020, v10

Summary

This FAQ will bring you up to speed on the latest perspectives from MEF and shed light on a host of new SD-WAN and SASE-related initiatives that will benefit service end-users, service providers, and technology vendors. We address 18 common questions with a balanced level of detail and links to helpful material that should be of value to a wide range of industry professionals.

Contents

SD-WAN Market

1. How would you characterize today's SD-WAN market?

The SD-WAN market is one of the hottest in the communications industry, with tens of billions of dollars in revenue at stake throughout the next 5 years.

The following includes analyst estimates developed before the effect of COVID-19.

- The global managed SD-WAN services market is expected to reach nearly $6.4 billion by 2023 (CAGR of 42% during 2018-2023), according to Frost & Sullivan.
- The US managed SD-WAN services market alone is projected to be $4.5 billion by 2023 (CAGR of 74% during 2018-2023), according to Vertical Systems Group.
- IDC estimates that the global SD-WAN infrastructure market (excluding managed services) will reach $5.3 billion by 2023 due to strong enterprise demand and the embrace of SD-WAN by leading service providers seeking to provide enterprises with dynamic management of hybrid WAN connections with guaranteed QoS on a per-application basis.

Although the pandemic has negatively impacted the SD-WAN service and technology markets in 2020, leading analysts have expressed optimism about a return to strong market growth as economies recover.

- Following triple-digit revenue in 2019 for the US managed SD-WAN services market, Vertical Systems Group now expects sales to "slump" to 17% in 2020 but rebound to higher growth in 2021.
- Futuriom expects the SD-WAN tools and software market to accelerate to a growth rate of 34% CAGR, reaching $2.0 billion in 2020, $2.85 billion in 2021, and $4.6 billion by 2023. The firm expects acceleration will be spurred by demand for more agile, high-performance, and secure connections to cloud applications.

2. What is MEF's role in the SD-WAN market?

MEF is the world's leading communications industry organization shaping the direction and growth of the SD-WAN services market through standardization and certification of services, technologies, and professionals.

In July 2019, MEF published the industry's first global standard defining an SD-WAN service and its service attributes to help accelerate SD-WAN market growth and enable creation of powerful new hybrid networking solutions optimized for digital transformation.

SD-WAN service standardization has been conducted within the context of the MEF 3.0 Global Services Framework. It is part of a transformational initiative to define, deliver, and certify a family of dynamic Carrier Ethernet (CE), Optical Transport, IP, SD-WAN, SD-security, and SASE services orchestrated across automated networks using LSO APIs.

Combining standardized SD-WAN services with dynamic high-speed underlay connectivity services will enable service providers to offer MEF 3.0 hybrid networking solutions with

unprecedented user- and application-directed control over network resources and service capabilities.

SD-WAN is the way to interface policy with an intelligent software defined network. Standardization makes it easier for integration to work across multiple types of underlying transport services. In the end, the combination of standardized and orchestrated overlay and underlay services will provide a better customer experience with improved service capabilities and guaranteed resiliency.

MEF SD-WAN & SASE Standards

3. What is in the SD-WAN standard and why is it relevant?

MEF's SD-WAN Service Attributes and Services (MEF 70) standard describes requirements for an application-aware, over-the-top WAN connectivity service that uses policies to determine how application flows are directed over multiple underlay networks irrespective of the underlay technologies or service providers who deliver them.

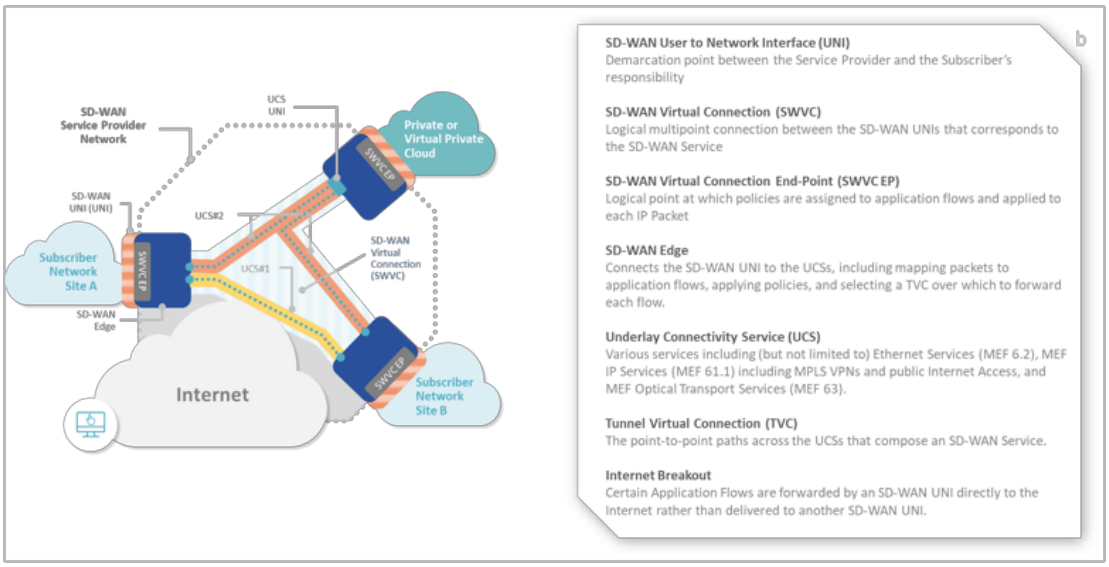
MEF 70, among other things, defines:

- Service attributes that describe the externally visible behavior of an SD-WAN service as experienced by the subscriber.
- Traffic handling rules.
- Key technical concepts and definitions like an SD-WAN UNI, the SD-WAN Edge, SD-WAN Tunnel Virtual Connections, SD-WAN Virtual Connection End Points, and Underlay Connectivity Services (UCS).

SD-WAN standardization offers numerous benefits that will help accelerate SD-WAN market growth while improving overall customer experience with hybrid networking solutions. Key benefits include:

- Enabling a wide range of ecosystem stakeholders to use the same terminology when buying, selling, assessing, deploying, and delivering SD-WAN services.
- Making it easier to interface policy with intelligent underlay connectivity services to provide a better end-to-end application experience with guaranteed service resiliency.
- Facilitating inclusion of SD-WAN services in standardized LSO architectures, thereby advancing efforts to orchestrate MEF 3.0 SD-WAN services across automated networks.
- Paving the way for creation and implementation of certified MEF 3.0 SD-WAN services, which will give users confidence that a service meets a fundamental set of requirements.

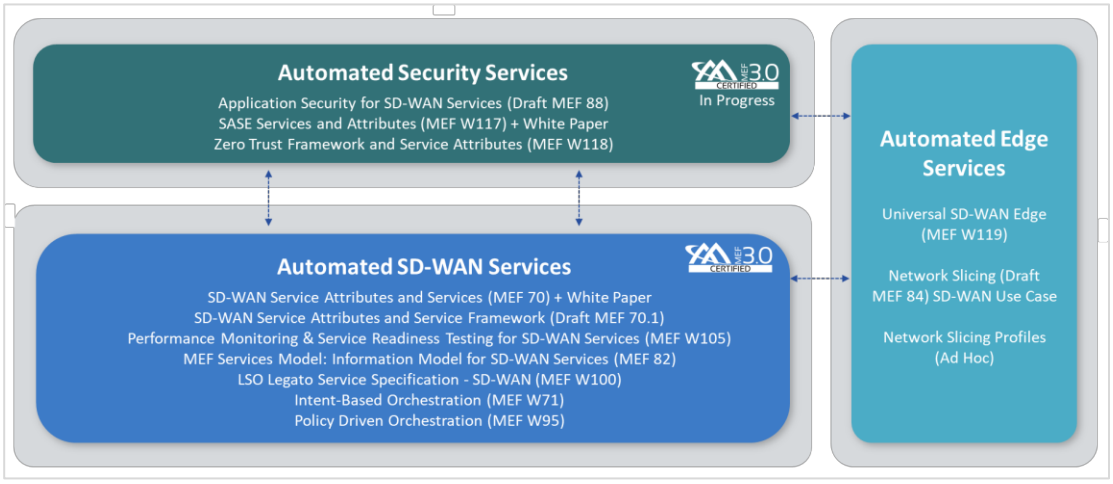
MEF 70 – SD-WAN Service Components



4. What is the status of SD-WAN and SASE standardization work?

MEF has advanced work on 12 major SD-WAN and SASE-related initiatives during 2020.

MEF SD-WAN and SASE Standardization Initiatives



In July 2020, MEF published the **MEF Services Model: Information Model for SD-WAN Services** (MEF 82) standard. This document is strategically important to MEF's SD-WAN work as it describes the MEF 70 specification in a programming object model representation that can be used to build LSO APIs to orchestrate SD-WAN services.

In August 2020, MEF released two new closely associated draft standards with the goal of moving these through the final stage of MEF member and Board approval in 1Q 2021.

- The draft **SD-WAN Service Attributes and Service Framework** (MEF 70.1 Draft Release 1) standard is the next phase in the evolution of the original MEF 70 standard.
- The draft **Application Security for SD-WAN Services** (MEF 88 Draft Release 1) standard is MEF's first specific to security. It leverages the concept of zones in MEF 70.1.

Other SD-WAN and SASE-related standards projects include:

- **SASE Services and Attributes** (MEF W117)
- **Zero Trust Framework and Service Attributes** (MEF W118)
- **Universal SD-WAN Edge** (MEF W119)
- **Performance Monitoring & Service Readiness Testing for SD-WAN Services** (MEF W105)
- **LSO Legato Service Specification - SD-WAN** (MEF W100)
- **Intent-Based Orchestration** (MEF W71)
- **Policy Driven Orchestration** (MEF W95)
- **Network Slicing** (MEF W84) – SD-WAN Use Case

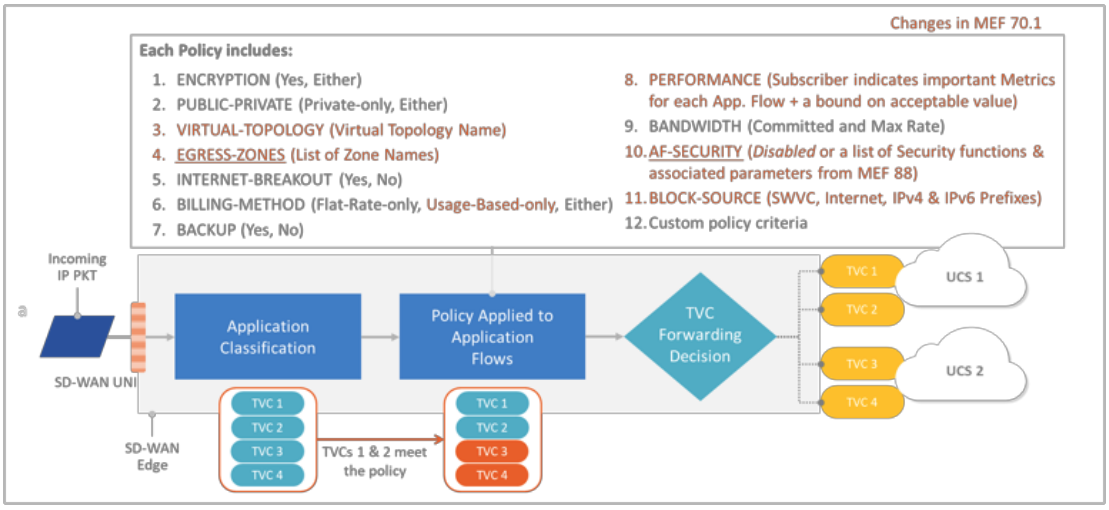
5. How does the MEF 70.1 SD-WAN standard compare to MEF 70?

The draft **SD-WAN Service Attributes and Service Framework** (MEF 70.1 Draft Release 1) standard makes a number of significant changes to the foundational MEF 70 standard. Detailed in Appendix C, key changes include:

- New service attributes for Underlay Connectivity Services, UCS UNIs, and UCS end points.
- New Performance Ingress Policy Criterion to specify performance goals for an Application Flow.
- New AF-Security Ingress Policy Criterion to invoke security functions listed in MEF W88 for an Application Flow.
- Support for partitioning the Subscribers IP Hosts into Zones.
- Support for multiple Virtual Topologies that can be assigned by Policy.

The diagram below illustrates changes in the draft 70.1 standard related to SD-WAN Application Flows and the Policy function.

MEF 70.1 Draft Release 1 Standard: SD-WAN Application Flow & Policy Function



6. Can you explain MEF's work on application security for SD-WAN?

The draft **Application Security for SD-WAN Services** (MEF 88 Draft Release 1) standard focuses on defining policy criteria and actions to protect applications (application flows) over an SD-WAN service. This includes defining threats, security functions, and security policy terminology and attributes, and then describing what actions a security policy should take in response to certain threats. Threats being addressed can come from within the SD-WAN subscriber's network or externally from the Internet when connecting to public clouds and other Internet hosts.

MEF 88 leverages the concept of Zones defined in MEF 70.1. With Zones, an enterprise subscriber defines a grouping of subnets, using business function naming, where unique security policies are applied. Examples of Zones include a Point-of-Sales (POS) Terminal Zone where POS terminals are segregated from the rest of the network to protect payment card transactions connecting to a data center from being scanned and information stolen. Another Zone could be a Guest Wi-Fi Zone where visitors are allowed access to the Internet but are segregated from the corporate network. For each Zone, security policies would be applied for various defense postures.

7. What is MEF's approach to SASE (Secure Access Service Edge) services?

In August 2020, MEF announced its work to define Secure Access Service Edge (SASE) services within the MEF 3.0 Global Services Framework. SASE is a developing market that combines network connectivity and security functions with subscriber policies to meet a higher level of performance and assurance required by the modern enterprise. MEF's goal is to achieve industry consensus on a standardized, converged software-defined networking, security, and policy

framework that can be used by enterprises and service providers to transform consumption of cloud services and applications in the form of SASE services.

MEF work underpinning the type of consensus needed to standardize SASE services is well underway against a backdrop of accelerated change at the network edge.

- In July 2020, MEF published a groundbreaking MEF SASE Services Framework white paper that outlines a framework to standardize SASE services based on existing SD-WAN, security, automation, and other standardization work within MEF (noted above in response to Question 4).
- Also, in July, MEF formally launched the **SASE Services and Attributes** (MEF W117) project that will leverage this standardization work.

As MEF's CTO stated, the SASE concept adjusts for a fundamental change in how enterprise users access business systems and the associated increased demand for lower-latency edge compute capabilities closer to the user. The well-defined and static network edge of the past is being replaced by more users working outside corporate walls and accessing business systems beyond corporate data centers. SASE shifts the focus from site-centric to user-centric security. The user can be anything (human, IoT, etc.) and anywhere, and security and network functions can be distributed away from the enterprise data center to maximize the availability of high performance edges (e.g. PoPs) and security clouds.

See On-Demand MEF Webinar: SD-WAN Security and SASE (August 2020) for details on standards work related to SD-WAN, Application Security for SD-WAN, SASE, and Zero Trust.

8. Does MEF standards work focus on interoperability among SD-WAN technology vendors?

MEF is now developing a new **Universal SD-WAN Edge** (MEF W119) standard that defines a common approach to facilitate interoperability of SD-WAN equipment from different vendors with a Universal SD-WAN Edge deployed at cloud and service provider locations. This project is backed by major service provider and cloud provider MEF members.

9. Can you elaborate on MEF's LSO work related to orchestration of SD-WAN services?

Within a broader MEF Services Model (MSM) project related to orchestration of MEF 3.0 services, MEF has modeled the SD-WAN specifications in UML in the **MEF Services Model: Information Model for SD-WAN Services** (MEF 82) that can be used in LSO APIs across many reference points within the LSO framework.

The initial focus of the SD-WAN work centers on LSO Legato, which supports interactions between business applications and service orchestration functionality. The SD-WAN work also has applicability for the LSO Cantata and LSO Allegro interfaces associated with product- and service-related management interactions between a customer and a service provider.

10. Can you explain MEF's approach to Intent-Based Networking (IBN) for SD-WAN?

MEF's IBN work aims to enable an SD-WAN service subscriber to set intent-related performance and security objectives and have that be translated into granular technical policies at the network level. Toward this goal, MEF is building Domain Specific Languages (DSLs) – using restricted natural languages – that will simplify APIs that sit between end-users and service providers.

11. Can you describe the SD-WAN use case for network slicing?

Enterprise users are looking for a frictionless end-to-end experience with guaranteed performance and security from their devices to their applications/services, regardless of a user's location. The idea with network slicing is to carve out a subset of the end-to-end network infrastructure that could carry performance objectives and, in the future, security objectives. The end-to-end network slice needs to be orchestrated across all of the individual networks involved in providing a subscriber's end-to-end experience, including the subscriber network, the service provider network(s), and the cloud provider network.

MEF currently is developing a Network Slicing (MEF 84) standard that describes network slicing within the context of MEF LSO (Lifecycle Service Orchestration) and MEF services. MEF 84 uses the term "Network Service" to define a network slice offered as a service to one or more subscribers. The idea is that service providers can structure and organize subsets of their infrastructure into network slices that can be managed, controlled, and orchestrated independently from other network slice subsets.

In an example SD-WAN use case, an enterprise could buy a set of several network slices (i.e., real-time, premium, or business) and overlay their SD-WAN performance objectives onto each of these slices. The end-to-end network slice could be based on networks involving both wireline and wireless resources, including 5G.

See the MEF CTO Chat: MEF End-to-End Slicing, SD-WAN, and 5G (September 2020) for a deeper discussion of this topic with illustrations.

12. How long will it take for industry players to align on SD-WAN standards?

Different service and technology providers will have their own pace, but companies generally will want to align to MEF 70 and follow-on standards because of the confidence that this helps instill in customers.

Dozens of service provider and technology companies already have certified SD-WAN services and technology, contributed to standards development, participated in SD-WAN-related Proof of Concept demonstrations, and/or otherwise aligned with the SD-WAN standard. This includes players like AT&T, Comcast Business, Colt, Lumen, Orange Business Services, PCCW Global, Spectrum Enterprise, Telia Company, Verizon, Vodacom South Africa, Fortinet, Fujitsu Network Communications, Nuage Networks, Versa Networks, VMware, Infovista, Cisco, Spirent, Amdocs, Silver Peak, and other MEF member companies.

MEF's SD-WAN standardization work already is starting to draw the attention of some big purchasers of WAN services. As an example, the US federal government's General Services Administration has formally added SD-WAN to their Enterprise Infrastructure Solution (EIS) Service Guide used by government agencies and has called upon EIS contracted suppliers to comply with current and future MEF SD-WAN standards. The US government is the largest buyer of connectivity services in the world.

SD-WAN Certification

13. How would you characterize the importance of MEF SD-WAN services, technology, and professional certification?

Research from Heavy Reading indicates that 76% of 125 surveyed service provider professionals worldwide believe that SD-WAN services certification is "critical" or "important" for accelerating SD-WAN market growth. Seventy-three percent of this same group believe SD-WAN technology and professional certifications are also critical or important for market growth.

14. What is the status of MEF 3.0 SD-WAN service and technology certification and how many companies have been certified?

In November 2019, MEF publicly introduced the MEF 3.0 SD-WAN Certification Program, with Spirent as the SD-WAN Authorized Certification and Test Partner (ACTP). Certification involves rigorous tests of the service attributes and requirements defined in MEF 70 and described in detail in the **MEF SD-WAN Certification Test Requirements** (MEF 90) standard.

The following 10 companies have achieved MEF 3.0 SD-WAN certification:

- **Service providers**: Comcast Business, PCCW Global, Spectrum Enterprise, Telia Company, and Vodacom South Africa
- **Technology vendors**: Fortinet, Infovista, *Nuage Networks*, *Versa Networks*, *and VMware*.

Complete lists of MEF 3.0 certified SD-WAN certified companies can be found in the MEF Services Certification Registry and the MEF Technology Certification Registry.

Companies interested in participating in the MEF 3.0 SD-WAN Certification Program should contact MEF.

15. What are the next steps for MEF 3.0 SD-WAN certification?

MEF 3.0 SD-WAN certification will evolve with SD-WAN standards. The evolution of MEF 70 to MEF 70.1 will be accompanied shortly thereafter by an evolution of MEF 90 to MEF 90.1.

16. What is the status of MEF SD-WAN professional certification?

In November 2019, MEF announced the SD-WAN Certified Professional (MEF-SDCP) program. MEF's SD-WAN professional certification is the industry's only exam verifying knowledge, skills,

and abilities in the domains of SD-WAN based on the MEF 70 standard as well as other fundamentals of SD-WAN solutions. This exam is designed for technically-oriented SD-WAN professionals ranging from pre-sales to network/service engineering and operational personnel in the service provider, technology vendor, and enterprise communities.

As mid-November 2020, there are more than 350 MEF-SDCPs from 90+ companies in 33 countries. Adoption is strong and growing as service providers enlarge their SD-WAN teams to meet customer demand for managed SD-WAN services. Click here to learn about and register for the MEF-SDCP exam.

Visit the MEF Professional Registry to see a list of MEF-SDCP and other certified professionals.

Participate in MEF

17. How can service, technology, or enterprise professionals participate in or learn more about MEF's SD-WAN and SASE work?

The following links offer useful information available to all industry professionals:

- On-Demand MEF Webinar: SD-WAN Security and SASE (August 2020)
- MEF YouTube Channel – includes perspectives of service and technology providers
- SD-WAN Service Attributes and Services (MEF 70) standard
- SD-WAN Service Attributes and Service Framework (MEF 70.1 Draft Release 1) standard

MEF's Enterprise Advisory Council (EAC) offers an excellent opportunity for enterprises to learn more about and influence MEF work related to SD-WAN, application security, SASE, and other initiatives. The EAC is a collaborative group of leading enterprises designed to strengthen the channels of communications among end-users, service providers, and vendors involved in digital transformation initiatives. We have a limited number of seats open on the council for large enterprises, and participation is free. Learn more about this program by contacting MEF.

Detailed information on active projects is available to MEF members on the following wiki pages:

- MEF 3.0 SD-WAN Hub
- MEF 3.0 SD-Security Hub
- MEF 3.0 SASE Hub

Contributions to the SD-WAN and SASE work are welcomed. Contact MEF to express your interest and to obtain details on how you can participate.

Industry Perspectives on MEF SD-WAN & SASE

18. What are leading industry professionals saying about MEF's SD-WAN standardization work and certification?

Below are more than 20 examples of public comments from leading service, technology, and market research professionals on MEF's SD-WAN and SASE standardization work and SD-WAN certification.

Bob Victor, *SVP Product Management, Comcast Business*

"Becoming one of the first service providers to achieve MEF 3.0 SD-WAN certification underscores our commitment to being a technology and standards leader to improve the quality, management and interoperability of Ethernet and IP services for our customers. We're proud to lead the industry as the combination of SD-WAN, Ethernet and broadband connectivity displaces legacy networking and transport technologies." (MEF PR, March 2020)

Frederick Chui, *Chief Commercial Officer, PCCW Global*

"PCCW Global's managed SD-WAN service is available in 80 countries and provides our customers with intelligent path selection on a dynamic high-speed underlay of IP-MPLS, Global Internet Access (GIA) and broadband connections. We are proud to be among the first few service providers in the world to be certified for MEF 3.0 SD-WAN services and applaud MEF for their efforts in setting up the first industry-wide SD-WAN standard (MEF 70). Our enterprise and wholesale customers embarking on their digital transformation journey can therefore expect better interoperability and improved application performance across disparate service providers' domains." (MEF PR, March 2020)

Satya Parimi, *Group Vice President, Data Products, Spectrum Enterprise*

"We are proud that Spectrum Enterprise is one of the first MEF-certified SD-WAN service providers because it demonstrates our commitment to industry standards and innovation. As wide area networks evolve, enterprises can confidently partner with Spectrum Enterprise to guide them on their WAN journey and match the right SD-WAN design and access service to the client's specific network needs and at the client's preferred pace." (MEF PR, March 2020)

Tomi Airola, *Head of Business Networking, Telia Company*

"Telia is proud to be one of the first service providers to have successfully achieved the MEF 3.0 SD-WAN certification milestone. We view our MEF 3.0 certification as a key step in addressing the requirements of our enterprise customers. Certification is especially important for helping customers simplify the process of selecting a service provider that is committed to standardized

global services. SD-WAN has become an essential part of Telia's managed services portfolio to accelerate our customers' digital transformation journey." (MEF PR, March 2020)

Marten Scheffer, *Managing Executive for Enterprise Technology and FTTX, Vodacom Business*

"The MEF 3.0 certification underscores Vodacom Business's commitment to being a technology and standards leader which improves the quality, management and interoperability of Ethernet and IP services for all our clients across the continent. The accolade highlights that indeed Vodacom Business offers best in class SD-WAN service offerings. (Vodacom Business PR, October 2020)

Roman Pacewicz, *Chief Product Officer, AT&T Business (formerly)*

"We're seeing a significant change in how customers are using SD-WAN now versus two years ago, and that evolution is what makes service standards from MEF so critical. Today, and moving forward, SD-WAN is about delivering application performance. As the underlying networks — Optical Transport, Carrier Ethernet, and IP — are under greater pressure to be more ubiquitous, easy to provision, on-demand and elastic, that is where the MEF 3.0 construct comes into play. MEF's role is creating a standards-based, intelligent network across multiple carriers that will eliminate friction as we work with each other to deliver application performance at the level of efficiency our customers are seeking." (MEF PR, August 2019)

Mirko Voltolini, *Global Head of Network of Demand, Colt Technology Services*

"The MEF 70 standard sets the foundation for the adoption of common SD-WAN service attributes between service providers. The definition of a common standard for SD-WAN services will allow the industry to coordinate and align on the technology development. It will enable us to build end to end services across disparate service providers' domains and serve our global customer needs." (MEF PR, May 2019)

Laurent Perrin, *Head of Application Driven Networks, Connectivity, Orange Business Services*

"Orange Business Services is very pleased to support the first MEF SD-WAN standard. Our customers are expecting agile and application driven network services and we believe that this new standard will facilitate the adoption and deployment of SD-WAN and meet their expectations. We look forward to working with MEF on ongoing initiatives to develop the interoperability of SD-WAN solutions and to define standardized APIs that will allow to integrate SD-WAN in a simplified and fully secured end-to-end orchestration model, from the end user to the applications." (MEF PR, October 2018)

Shawn Hakl, *Senior Vice President Business Products, Verizon (formerly)*

"Verizon is pleased to support MEF's industry-leading SD-WAN standardization work. SD-WAN is the way to interface policy with an intelligent software defined network, and standardization makes it easier for integration to work across multiple types of underlying transport services. What that means for our end customers is it lets them get a better overall experience relative to their applications, with support for a broader range of use cases, guaranteed service resiliency, and improved service capabilities in an always on, always connected world." (MEF PR, August 2019)

Michael Strople, *President, Allstream*

"Customers are embracing SD-WAN to improve network performance, obtain affordable and reliable connectivity to cloud applications, and gain greater visibility and control over network services. MEF's SD-WAN service standardization will benefit all industry stakeholders by eliminating confusion regarding SD-WAN service components, core capabilities, and concepts. Standardization also will enable service and technology providers to focus on providing a core set of common capabilities and then building on that for differentiated offerings, helping ensure maximum flexibility for customers." (MEF PR, May 2019)

Ralph Santitoro, *Head of Digital Services, Fujitsu Network Communications*

"SD-WAN services are transformative and have raised the expectations for network services. They enable subscribers to focus on application performance and visibility and apply policies to regulate compliance based on business importance and security. SD-WAN services also facilitate and accelerate an enterprise's multi-cloud digital transformation. The MEF 70 standard is the commencement of several MEF SD-WAN projects that I anticipate will simplify operations and accelerate the time to sell, deploy and support SD-WAN services." (MEF PR, May 2019)

Nan Chen, *President, MEF*

"Combining standardized SD-WAN services with dynamic high-speed underlay connectivity services – including Carrier Ethernet, Optical Transport, and IP – enables service providers to deliver powerful MEF 3.0 hybrid networking solutions with unprecedented user- and application-directed control over network resources and service capabilities." (MEF PR, August 2019)

"MEF has a proven track record of standardizing abstract constructs, attributes, and architectures for network services such as SD-WAN, Carrier Ethernet, Optical Transport, and IP. By achieving consensus on what a converged networking and security framework and associated SASE services should look like, MEF can empower technology and service providers to focus on providing a core set of common capabilities and then building their own innovative, differentiated offerings beyond those core features." (MEF PR, August 2020)

Pascal Menezes, *CTO, MEF*

"The SASE concept adjusts for a fundamental change in how enterprise users access business systems and the associated increased demand for lower-latency edge compute capabilities closer to the user. The well-defined and static network edge of the past is being replaced by more users working outside corporate walls and accessing business systems beyond corporate data centers. SASE shifts the focus from site-centric to user-centric security. The user can be anything (human, IoT, etc.) and anywhere, and security and network functions can be distributed away from the enterprise data center to maximize the availability of high performance edges (e.g. PoPs) and security clouds." (MEF PR, August 2020)

Sunil Khandekar, *Head of Nuage Networks from Nokia*

"Demand for SD-WAN is growing rapidly in all market segments and geographies, and there is strong momentum for it to be delivered as a managed service. The availability of the MEF 3.0 SD-WAN technology vendor certification is an important step in providing enterprises an industry benchmark for vendor selection and Nuage Networks from Nokia is proud to demonstrate its SD-WAN market leadership as a member of the first group to achieve this certification milestone." (MEF PR, January 2020)

Kumar Mehta, *Co-founder and CDO, Versa Networks*

"SD-WAN has become a key part of the managed services portfolio of service providers globally in order to accelerate their enterprise customers' digital transformation journey. With more than 60 percent of enterprises projected to deploy SD-WAN over the next two to four years, service providers needed to come together and establish standards, to help enterprises understand what they are buying and evaluate different solutions to accelerate services across automated networks. We congratulate MEF in taking a leadership role and are pleased to demonstrate our commitment to the standards by achieving MEF 3.0 SD-WAN certification." (MEF PR, January 2020)

Apurva Mehta, *Co-Founder and Chief Technology Officer, Versa Networks*

"MEF and its members continue to be at the forefront of driving industry standardization, collaboration, and innovation across leading technologies. Versa is excited to be participating in the MEF SASE initiative and sharing our expertise based on Versa SASE enabling businesses and organizations to deliver, enforce, and monitor networking and security in the cloud and on-premises for comprehensive security, application performance, multi-cloud connectivity, and consistent policy." (MEF PR, August 2020)

Mike Wilkinson, *CPO, Infovista*

"Infovista is proud to have successfully completed the MEF 3.0 SD-WAN certification. We view our MEF 3.0 certification as a key milestone in addressing the requirements of both service providers and enterprises. We believe that it will help SD-WAN users in selecting a vendor that is committed to a market model that provides service consistency and interoperability." (MEF PR, January 2020)

Marc Cohn, *Head of Virtualization, Spirent*

"Spirent joins MEF in congratulating Comcast Business, PCCW Global, Spectrum Enterprise, and Telia Company in attaining the first MEF SD-WAN service certifications. By participating in the pilot, the four leading SD-WAN MSPs validated and enhanced the industry's first SD-WAN Certification Program, building upon the three initial pilot SD-WAN product certifications announced in January. We are proud to contribute as the neutral SD-WAN testing/validation/assurance authority." (MEF PR, March 2020)

Rosemary Cochran, *Principal and Co-Founder, Vertical Systems Group*

"These first MEF 3.0 SD-WAN certifications achieved by Comcast Business, PCCW Global, Spectrum Enterprise, and Telia Company are very important. This signifies that MEF 3.0 certification is a new competitive differentiator for SD-WAN service providers, as well as the benchmark for assuring compliance with globally recognized SD-WAN specifications. Our research shows a direct relationship between a commitment to MEF certification and the business success of market leading companies. We anticipate similar results for MEF 3.0 SD-WAN certification." (MEF PR, March 2020)

Ron Westfall, *Research Director and Senior Analyst, Futurum Research*

"Enterprises are swiftly expanding their digital workforces, increasing the number of users, devices, and services touching their network. As a result, the attack surfaces of their networks are enlarged, increasing exposure to malicious attacks across cloud and on-prem environments. Service providers' ability to offer secure enterprise connectivity services is essential to boosting the value of their evolving cloud-based offerings. There are many SASE attributes that, once standardized on the basis of MEF SASE Services, will create a strong foundation to deliver innovative security services and solutions that enterprises will value in meeting their unified network and security business objectives." (MEF PR, August 2020)

Jennifer Clark, *Principal Analyst, Heavy Reading*

"The momentum of SD-WAN adoption, along with the large and ever-growing community of players in the SD-WAN ecosystem – vendors, service providers and enterprises – has created an information vacuum in terms of how we deploy SD-WAN over multiple underlay connectivity

services and across multiple service provider networks. The MEF SD-WAN standard is the first step to addressing this vacuum with a common language by which we can define SD-WAN services and service attributes. This and the MEF follow-on SD-WAN standards are the building blocks leading to a MEF SD-WAN certification process, which enterprise SD-WAN customers will need as they evaluate and deploy SD-WAN services." (MEF PR, August 2019)

Greg Bryan, *Senior Manager, Enterprise Research, TeleGeography*

"Our WAN Manager Survey indicates that in 2018 fewer than 1/5th of enterprises had already installed SD-WAN and 1/3 were still researching their SD-WAN options. With dozens of potential suppliers to choose from – from technology start-ups to large SD-WAN managed service providers – WAN managers will benefit from the standards MEF has worked to create in this space." (MEF PR, May 2019)

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