



MEF LSO Sonata APIs – Frequently Asked Questions

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1. What is the Big Picture relevance of LSO Sonata APIs for the industry?

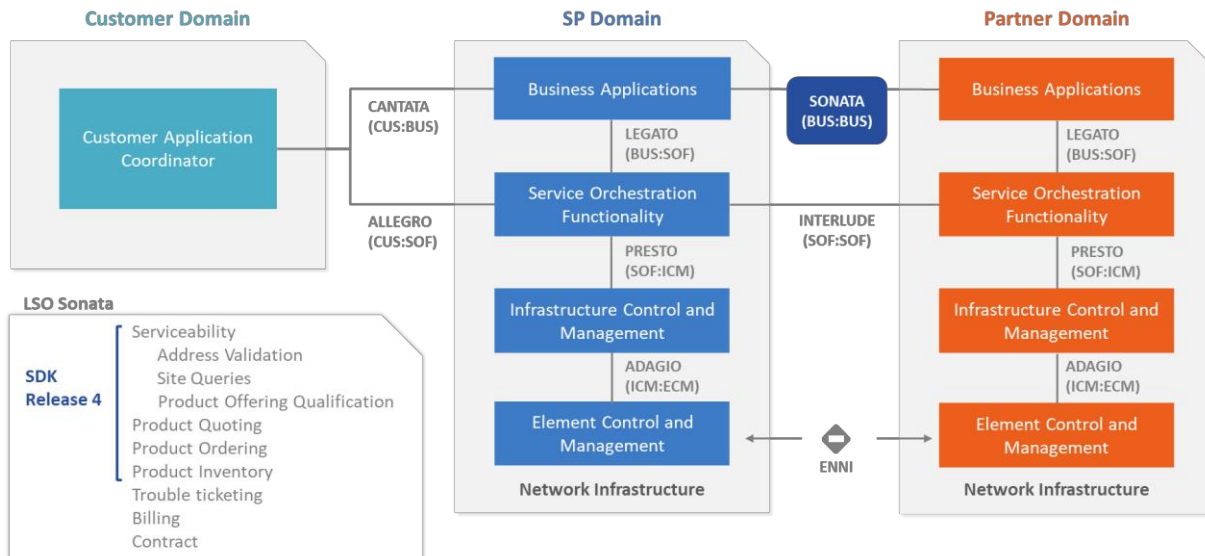
The communications industry is in the midst of a multi-year transformation to dynamic, assured, and certified services across a global federation of automated networks, as envisioned in the [MEF 3.0 framework](#). With each day, consensus builds that service providers must become more cloud-like and automated to deliver more powerful networking solutions with unprecedented user- and application-directed control over network resources and service capabilities.

It will not be enough for providers to offer dynamic connectivity and virtualized services over just their own networks. Providers must transition from operating as independent to being integral players in a worldwide business federation of cloud-like networks that support standardized dynamic services across multiple operators.

To realize this vision, MEF has advanced initiatives related to a full family of standardized MEF 3.0 services – including Carrier Ethernet, SD-WAN, Optical Transport, and IP – as well as standardized [MEF 3.0 LSO \(Lifecycle Service Orchestration\) Sonata APIs](#) that are foundational to orchestrating these services across federated networks.

2. What are LSO Sonata APIs?

MEF is standardizing LSO Sonata APIs as part of a comprehensive effort to standardize multiple sets of LSO APIs enabling service automation across providers and network technology domains. LSO Sonata APIs relate to the interface reference point within the [LSO Reference Architecture](#) that supports automated business-to-business interactions between service providers. LSO Sonata APIs combine service-agnostic TM Forum Open APIs with MEF 3.0 service definitions. The full suite of available and planned LSO Sonata APIs deals with serviceability (address validation, site queries, product offering qualification), product inventory, quoting, ordering, trouble ticketing, contracts, and billing.



3. What service provider challenges do LSO Sonata APIs address?

Consider the case of a large enterprise customer with data centers and branch offices located around the world. This customer is looking for a service provider to provide connectivity to all their locations. No single service provider has facilities to reach all customer locations. Typically, a service provider can reach some of the locations (on-net locations) but must work with a set of partners to reach the other locations (off-net locations).

The interaction between service providers and partners to deliver services to a single customer is predominantly manual – involving people, emails, negotiations, etc., resulting in long time periods and costs to set up required connectivity. Accelerating these processes through automation provides cost savings and greater business value to the end customer. It also removes much of the error potential inherent in manual processes.

With hundreds of service providers and hundreds of partners in the world, it would be prohibitively expensive to implement custom automation for each service provider – partner pair. MEF's LSO Sonata APIs provide an industry standard so that a service provider (buyer) may implement these APIs and automatically work with all partners. Similarly, a partner (seller) may implement these APIs, enabling automation with all their partner service providers.

4. Can you elaborate on the benefits of LSO Sonata APIs?

Implementation of LSO Sonata APIs enables service providers to participate in an emerging global federation with frictionless commerce. Combining MEF 3.0 LSO Sonata APIs with certified MEF 3.0 CE services offers a host of potential benefits, including:

- On-demand/dynamic inter-provider services optimized for digital transformation
- Automated ordering and provisioning
- Accelerated service delivery with near-instantaneous cycle times
- Faster time to revenue
- Additional revenue from new orders due to improved customer experience

- New revenue from multi-provider on-demand/dynamic services
- Reduced operational expenses
- Improved productivity

Automating inter-provider services with MEF 3.0 LSO Sonata APIs enables providers to rapidly deliver high-performance/on-demand data services that are available beyond the network footprint of any individual operator. Participation in the global federation creates an opportunity to provide higher margin, highly differentiated services that leave behind commoditized, low-margin fixed-bandwidth services.

5. How would you characterize industry support for LSO Sonata APIs?

More than 50 service providers around the world – including AT&T, Colt, PCCW Global, Sparkle, Orange, Tata, Verizon, CenturyLink, and others – are at various stages of evaluation, development, demonstration, and production-readiness of LSO Sonata APIs.

A number of companies involved in both MEF and in the ITW Global Leaders' Forum have supported LSO Sonata API development in order to advance frictionless commerce across communications providers worldwide. MEF looks forward to closer collaboration with GLF members in the months ahead to advance our common goals.

Numerous technology companies also have contributed to or publicly supported development and implementation of LSO Sonata APIs.

6. How many companies have implemented LSO Sonata APIs, and who are they?

In June 2020, MEF announced that eight leading service providers are on track to be production-ready in 2Q 2020 for deploying MEF 3.0 LSO Sonata APIs to automate ordering of MEF 3.0 Carrier Ethernet Access E-Line services. Of this pioneering group, five already have implemented LSO Sonata APIs in production environments and three expect to be ready for deployment before the end of Q2 2020. Multiple other service providers have informed MEF that they intend to implement LSO Sonata APIs in the second half of 2020.

The eight service providers and one multi-national enterprise who have either implemented or expect to be production-ready with LSO Sonata APIs by the end of June 2020 include:

- | | |
|-----------------------------|---|
| • AT&T | • Infonas |
| • Bestel | • PCCW Global |
| • Bloomberg | • Sparkle |
| • Colt Technology Services | • Telefónica International Wholesale Services |
| • HGC Global Communications | |

7. What LSO Sonata APIs are available today and how can companies get started with API development?

In November 2019, MEF announced the availability of LSO Sonata SDK (Software Development Kit) Release 4 with APIs for serviceability, product inventory, quoting, and ordering. Downloadable from the [MEF public GitHub](#), the SDK includes API and product payload specifications as well as other artifacts and tools that enable a developer to rapidly build out the APIs within their business systems.

MEF currently is on track to release LSO Sonata SDK R5 in late June. Companies interested in implementing LSO Sonata APIs and learning about deliverables in the upcoming SDK are encouraged to join the [SDK Community on GitHub](#) by contacting community_manager@mef.net.

MEF intends to continually enhance standards related to LSO Sonata APIs for serviceability, product inventory, quoting, and ordering while also advancing standards work related to LSO Sonata APIs for trouble ticketing, billing, and contracts.

8. What other resources are available to help accelerate LSO Sonata API development and adoption?

In recent months, MEF has released several white papers designed to drive market adoption of LSO Sonata APIs for orchestration of MEF-certified services.

- [The Case for Standardized and Automated Inter-Provider Business Interface](#)
- [Business and Operational Aspects of Implementing LSO Sonata](#)
- [MEF 3.0 Carrier Ethernet Certification Business Case for Service Providers](#)
- [Orchestrated MEF 3.0 Optical Transport Services](#)

9. Can LSO Sonata APIs be used to orchestrate all MEF 3.0 services?

While initial LSO Sonata API work relates to orchestration of MEF 3.0 Carrier Ethernet services, expected further advancements will support the full range of MEF 3.0 services – also including Optical Transport, IP, SD-WAN, etc. – without changing the basic API structure itself thanks to the polymorphic approach used in collaboration with TM Forum.

10. What is MEF 3.0 LSO Sonata certification, and why is it important?

MEF 3.0 LSO Sonata certification enables buyers and sellers of wholesale MEF 3.0 services to validate that the full suite of their APIs used for inter-provider business transactions comply with MEF standards. The certification program will help companies develop, test, and certify LSO Sonata APIs as they are released.

11. What is the process for MEF 3.0 LSO Sonata certification?

MEF recently completed a pilot LSO Sonata certification program related to the orchestration of Ethernet Access services. Stay tuned for more details as MEF evolves the program.

12. What is the relationship between the MEF LSO Sonata APIs and the TM Forum Open API Framework?

As noted above, LSO Sonata APIs combine service-agnostic TM Forum Open APIs with MEF 3.0 service definitions. The collaboration effectively secures a service provider's investment in both MEF and TM Forum while delivering an accelerated time-to-market and time-to-revenue.

13. How can I contribute to LSO Sonata API work?

Contribution to the LSO Sonata work is welcomed. Participation is restricted to active MEF member companies and their staff. Send an inquiry to LSO-Sonata@mef.net for more details.

14. What are leading industry professionals saying about MEF LSO Sonata APIs?

The following are examples of public comments from leading service, technology, and market research professionals on MEF LSO Sonata APIs and their relevance to the industry.

John Nolan, Vice President of Global Connections and Alliance Management, AT&T

“AT&T has been active in the MEF LSO Sonata API development from the start because we believe standardization of business application interoperability is a critical component in evolving the industry towards a cloud-like experience for telecoms services, building towards fully-automated networks that raise the bar for customer experience. We’re currently working with carriers in all regions and will share updates throughout 2020 as we connect our businesses using the Sonata APIs. We encourage our counterparts across the global telecoms industry to join us in driving implementation of the Sonata APIs, inter-connecting in an agile way and propagating an industry-wide many-to-many approach.” (MEF PR, June 2020)

Roman Pacewicz, Chief Product Officer, AT&T Business

“MEF continues to be the driving force in the service provider community bringing standardization of specifications promoting carrier interoperability of next generation services like Ethernet and SD-WAN. AT&T is pleased to be part of this effort and we are continually implementing these specifications to enable on-demand services, drive complexity out of our processes, and lower our operating costs. Today’s announcement demonstrates that LSO Sonata APIs have arrived, and it’s incumbent upon all of us in the service provider community to implement them in the same standardized fashion to ensure cross-carrier interoperability.” (MEF PR, June 2019)

Mirko Voltolini, Head of Network On Demand, Colt

“Colt has been a key supporter and driver of the MEF LSO Sonata standard since its inception. We see this standard as being critical for the evolution of Colt’s On Demand offering, which allows customers to take full control of their network, by managing service quoting, activation and assurance all via an online portal or via APIs. The LSO Sonata standard allows us to extend the service beyond the Colt network boundaries onto third party carrier networks. We are excited to see what can be done as this standard continues to evolve, and we feel proud to have shown the transformative nature of the LSO Sonata APIs in our industry-first production deployment with AT&T.” (MEF PR, June 2020)

Carl Grivner, CEO, Colt

“I think the biggest thing though coming up for us, for the industry, was the announcement that we made with AT&T in terms of the first API that follows the MEF standards. Now that we’ve got Colt and AT&T, our goal for this year, and certainly into next year, is to get as many carriers—on a global basis—to join that API capability because that’ll speed up everything for not only the carriers but the for customers as well. I also think that that’s another major step along the way for SDN. We’ll continue to build out SDN, but the API plays a critical role in that scenario as well. For this year and next year, we will be building out that API capability with other carriers.” (Fierce Telecom, July 2019)

Mario Di Mauro, CEO, Sparkle

“Sparkle is a strong supporter of the evolution underway of the interaction process between partner carriers to accelerate time to market and improve customer experience. Having this clear objective, we are fully committed to implement Sonata APIs in production, for both seller and buyer roles, within June 2020. At the same time, we are actively working to empower selected partner providers with a plug & play Sonata-enabling technology to expand the ecosystem with the aim to offer customers a consistent experience throughout Sparkle’s extended footprint.” (MEF PR, June 2020)

Frederick Chui, Chief Commercial Officer, PCCW Global

“We at PCCW Global are very pleased to be one of the first few services providers to have production-ready MEF 3.0 LSO Sonata APIs for serviceability, quoting and ordering of Ethernet services. These APIs are proving to be very useful when it comes to dealing with high volume transactional elements of the telecoms business. LSO Sonata APIs are vital in an inter-carrier, automated services environment where our customers are expecting to order and consume network services in real-time and on-demand, such as that offered by Console Connect. We foresee that a wider adoption of these standardized Sonata APIs would help the ICT community as a whole and pave the path to common information modeling and automated commercial settlements among them.” (MEF PR, June 2020)

Jacqueline Teo, Chief Digital Officer, HGC Global Communications

“HGC is a firm believer in standards that drive consistent and repeatable collaboration between carriers. LSO Sonata enables HGC to access markets faster and to integrate our core platforms with other carriers to provide frictionless customer experience. Such seamless integration would enable HGC to achieve our vision of digital customer journeys, improve our productivity and further down the road, make inclusion of new business models possible.” (MEF PR, June 2020)

Juan Carlos Bernal, CEO International Wholesale Business, Telefónica International Wholesale Services

"We're expecting 2 benefits [from LSO Sonata APIs]...agility to our customers and efficiency. On agility, we are envisioning that we can complete the evolution of our network and systems to provide...automated services for our customers. On the efficiency, this is something all carriers are looking for every day and every year...This is a way to get efficiency and to skip human intervention in some low-value activities, avoid errors, and dedicate our resources, our teams to more valued activities." (ITW Global Leaders' Forum Panel, June 2019)

Emmanuel Rochas, CEO, Orange International Carriers

“Orange is pleased to be part of the early adopters of MEF 3.0 LSO Sonata. The integration of these APIs into our on-demand services will provide efficiency and thus simplify cooperation between operators on existing and new on-demand services. Because digital transformation is growing at such an incredible pace, here at Orange we are convinced that automation is a key element in customer experience!” (MEF PR, June 2019)

Rafik Shafik, CTO, Infonias

"At Infonias, our focus has been on transforming and evolving our commercial interactions; and MEF's LSO Sonata has been our go-to framework for sales & B2B workflow automation. For us, it is not only about instant on-line quoting, but rather evolving to a flexible and sustainable business model to efficiently and rapidly deliver (or procure) connectivity to any location around the world." (MEF PR, June 2020)

Pascal Menezes, CTO, MEF

“MEF 3.0 LSO Sonata APIs will be the critical enabler for orchestrating MEF 3.0 services – starting with Carrier Ethernet and extending to SD-WAN, Optical Transport, and IP – across a global federation of automated networks.” (MEF PR, June 2019)

Nik Willetts, CEO, TM Forum

“MEF has leveraged the natural extension capability of the TM Forum Open APIs to enable the LSO Sonata SDKs. This is a great example of industry partnership and application of the common core capabilities of the Forum Open APIs, which enable interoperability and

connectivity across all technologies and services in open digital ecosystems.” (MEF PR, October 2017)

Rosemary Cochran, Principal Analyst & Co-Founder, Vertical Systems Group

“The top business driver for service providers migrating to new dynamic network offerings is the ability to provision services faster and more efficiently for their customers, according to results of the 2018 MEF-Vertical Systems Group survey. Standardized LSO Sonata APIs help service providers achieve this goal by automating the business-to-business interactions that take place in multi-provider environments. From our survey, the two most important benefits of implementing LSO Sonata APIs are to reduce the time from serviceability to activation and to improve quality of experience for customers.” (MEF PR, October 2018)