Industry Collaboration for Open Lifecycle Service Orchestration (LSO) APIs

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Outline

• Who we are & what we’re up to (and why it matters to OCP)

• MEF 3.0

• LSO: abstractions & realities

• Community, open source (SW & HW), proof points, OCP
MEF: Who, What, How

1. Who: 200+ Communication service providers, vendors (enterprises)
2. What: Agile, assured, orchestrated, revenue-producing services
3. How: Service definitions, LSO APIs, certification, community
Automated, Virtualized, Application-Aware
Key Principles

• SDN, NFV, Cloud, *disaggregation*, open source
  • For MEF community: easily include OCP as an implementation option
  • For OCP community: understand large OCP market opportunity enabled by MEF 3.0 & LSO abstractions

• Brownfield

• Healthy ecosystems: operators, vendors, enterprise customers

• Business success (despite transformation pain)
MEF 3.0: Four Pillars for Agile, Assured, Orchestrated Services

**Orchestrated & Dynamic**
- Wavelengths
- Carrier Ethernet
- IP VPNs
- SD-WAN
- Security-as-a-Service
- Application Services

**Agile**
- Cloud-based test and certification platform
- Subscription-based
- For both services & LSO APIs

**Open**
- Multi-provider service orchestration
- Multi-technology network orchestration
- SDKs and specifications

**Expanded**
- Global membership
- Developer community
- Certified professionals
- Open source projects & SDOs
- Enterprise advisory council
- MEFnet platform
LSO – Lifecycle Service Orchestration

- Framework of abstractions
- Components defined by function, separated by ref. points
  - Customer Application Coordinator; Business Applications; Service Orchestration Function; Infrastructure Control & Management; Element Control & Management
- Abstraction boundaries described by APIs
  - East-West: Cantata, Allegro, Sonata, Interlude
  - North-South: Legato, Presto, Adagio
- Purposes:
  - Enable service providers to compose & concatenate services using their choice of components: closed, proprietary, open, open-source, integrated, bare metal
  - Foster a supplier ecosystem that optimizes organically
Formalities

- API definitions
- Information models
- Data models
- Interface profile specifications
- Service definitions
- Certifications

Informalities

- LSO Hackathons
- Developer Community
- “SDK”s before IPSs
- MEFnet
- Example implementations
- Reference implementations
LSO APIs, SDKs

- Based on MEF 55: LSO Framework Specification
- Released as SDKs
- Available in experimental or published states
- 3-6 month sprint cycles

- Define epics, user stories for the LSO Reference Point
  - Example: Sonata Epic1: availability capabilities; Epic2: ordering capabilities
- Implement the Data Model on MEFnet
- Test on MEFnet and feed results back to refine Data Models
- Share with other SDOs, open source projects
- Showcase at the end of sprint
MEF Expanded Community

- MEF Developer Community
- Hackathons to accelerate code development
- Open source project & SDO collaboration
- MEF 3.0 Implementations
- Certified Professionals
- Enterprise Advisory Council
Information Models

• Collaborative effort with TMF, ONF, ETSI, LF/ONAP
  • Goal: common or federated modeling approach
• Modeling language, patterns, extensibility, hierarchy, metadata
• Tooling
MEF 3.0 Implementation Projects

- Multi-Vendor SD-WAN
- SECaaS
- Real-Time Media
- Fulfillment and Activation
- Optical Transport
- Closed Loop Control
- Service Telemetry
- Multi-ONAP
- Connected Venue
LSO Incorporating SDN, NFV, Open Source, OCP
Proof Point: ONAP-Based Global Virtual Fabric

Global Enterprise

France - Lannion
- Media Server
  - UNI-O-Z

United States - Dallas
- Media Client 1
  - UNI-O-A
- Media Client 2
  - UNI-C-Z
- ciena
  - Enterprise device

United Kingdom - London/Ireland
- ciena
  - Enterprise device

AT&T Network
- UNI-C-A

Orange Network
- BSS
  - LEGATO
- Virtuosa SDN-C
- Ennı

AT&T SDN-C
- Portal
  - Amdocs
  - ENNI

Amdocs
- Service Orchestrator
  - LEGATO
  - SONATA

Amdocs
- Media Server
  - UNI-O-Z

Cloud Tenant
- Media Server VM
  - UNI-C-C1
  - UNI-C-C2

Cloud Controller
- Cloud Tenant Media Server VM
  - Cloud Tenanted

Legato
- CANTATA

Sonata
- Cloud Controller

ciena
- Cloud Controller

Blueplanet
- Service Catalogue / Enterprise Orchestrator

Colt
- Network

Virtuosa SDN-C
Operator Degrees of Freedom

- Greenfield/brownfield
- Transport technology
- Telco cloud, public cloud, edge cloud, premises DC, out in the network
- Open source, open I/F, closed source
- SW/HW, integrated, bare metal, OCP, TIP

Enabled by LSO abstractions
Conclusions, Implications

- Telco transformation inevitable
  - New technologies, architectures (networking, computing)
  - Services, apps invariant over technology choices
  - Breakdown of rigid, monolithic solutions into SDN, NFV, OCP
  - New supply chain
  - New skills

- MEF transformation inevitable
  - Not just specifications but SDKs, POCs, IMs, experience
  - Global ecosystem of partner cos., orgs., .orgs
  - Pace, cadence, tension, agility

Many opportunities to incorporate OCP