Orchestrated Network Services
with LSO, SDN and NFV

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Important Takeaways

The Digital Economy Gap

Orchestration

Multi-operator

Collaboration

MEF (not Metro Ethernet)
The Digital Economy
Does it do...?

But the best thing with this model is...

And that's Samsung...?

D-T SVP

Telstra CSO

Orange SVP
Automated

Self-Service

On-Demand

Automated
3 Examples of Commercialized On-Demand Services

Ranked No. 2 Global Ethernet Service Provider

DCNet as-a-service
- Launched Oct 2015 (Europe)
- Elastic, on-demand, programmable network
- Integrates with cloud services
- Portal-based
- Real-time bandwidth flexibility
- Built on SDN-enabled CE platform
Select A-End DC/port (LON)
Select B-End DC/port (FRA)
Select required bandwidth (1Gbps)
Submit order request
Circuit provisioned immediately via M-MSP SDN Layer
3 Examples of Commercialized On-Demand Services

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**Network on Demand (ATT Switched Ethernet)**
- Ranked No. 1 US Ethernet Service Provider
- Launched **Nov 2014** (USA)
- Self-service, add, change, update CoS → control
- Scale bandwidth in near real-time
- SDN/NFV based platform → differentiated customer experience
- Over 350 customers

**Adaptive Network Control**
- Ranked No. 1 US Competitive Ethernet Service Provider
- (No. 4 globally)
- Launched **May 2015** (WW-Azure)
- On-demand e2e network performance visibility
- On-demand, scheduled and automated bandwidth/CoS allocation
- Able to add connections on-demand
- Came with tw telecom acquisition 2014, this launch is cloud driven
- Add-on to Ethernet service (and others)
3 Examples of Commercialized On-Demand Services

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  (No. 6 globally)
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- On-demand e2e network performance visibility
- On-demand, scheduled and automated
- Ethernet-based
- Add-on to Ethernet service (and others)

On demand BW changes

Driven by Cloud

Ethernet-based
Is the problem solved?

*By some accounts, less than 10% of PoCs convert into commercial deployments*
¿Lo que falta?
60% said current OSS/BSS lacks capabilities needed to launch new services in a timely, cost effective manner.

MEF

What has changed for the telephone company?
Addressing the Digital Economy Gap

End-to-End Network-as-a-Service
Addressing the Digital Economy Gap

Coordinate the customer intent with the underlying business processes and infrastructure

Across not one but two (or more) operators!
Addressing the Digital Economy Gap

Orchestration

End-to-End Network-as-a-Service
automatización

Lenguaje común
Standardized

APIs

Information Models
Steps For Achieving End-to-End Service Transparency

1. Agreement on what to measure
2. Agreement on how to measure
3. Agreement on how to present
4. Agreement on how to share

MEF 35.1
MEF 36.1
MEF 52
Performance Reporting Framework (MEF 52)

• Real-Time vs. Ticket based

• Multi-Level/Multi-Domain

• Different views for Customer/SP/Operator
Steps For Achieving End-to-End Service Transparency

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2. Agreement on how to measure

3. Agreement on how to present

4. Agreement on how to share

“Dial Tone” for the Third Network
How does the MEF address the Gap?
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MEF Committees

NORMATIVE SPECS, CERTIFICATIONS & MARKETING

Services
Operations
Orchestration

MEF Agile Development Lifecycle

Liaisons to SDOs
Open Source Projects
Collaboration

Open Initiative

Informative Reference Implementations

Steering Group
RULES, TOOLS, IPR, GOVERNANCE

ACCELERATOR

MEF OpenLSO
Lifecycle Service Orchestration

MEF OpenCS
Connectivity Services

MEF Hackathon

PLATFORM

GO.net
How does the MEF address the Gap?

- Smart people from operators across the globe
- Open Source Projects
  - Accelerate Standards & Adoption
- Collaboration with other SDOs
Example: MEF Service Lifecycle Projects

Technical and Operations Committee
Service Operations related projects

**Lifecycle Management**
- Carrier Ethernet Service Lifecycle Process Model (MEF 50)
- Ethernet Performance Reporting Framework (MEF 52)
- LSO Reference Architecture (MEF 55)
- Ethernet Product Catalog
- Ethernet Network Resource Provisioning

**Partnership Management**
- Ethernet Service Qualification Questionnaire (MEF 53)
- Ethernet Interconnection Point IA (MEF 54)
- Ethernet Serviceability

Bold text indicates published MEF spec.
Important Takeaways

The Digital Economy Gap • Lack of automation across multiple operators

Orchestration • Coordinating intent to infrastructure across multiple operators

Multi-operator • End-to-end is based on the perspective of the customer (OTT)

Collaboration • SDOs, Open Source and You!

MEF (not Metro Ethernet) • Layer 1-3 connectivity services, APIs and Info Models
automatización

Lenguaje común

adopción
APIs

Information Models

Standards
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