Developing a blueprint for zero touch, end-to-end service orchestration across hybrid and multiple networks

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President and CTO
Company overview

70+ Customers worldwide

8 out of 10 Largest global CSP groups

#1 Ranked By industry analysts

- Leading independent provider of Next Generation Assurance, Automation and Analytics software and solutions to manage Customer Experience, evolve to Network Virtualization and deliver Digital/IoT services
- Deep telecoms expertise serving the world’s largest Communications Services Provider groups
- Integrates network, service and customer assurance data to support key initiatives and use cases such as:
  - reducing churn
  - improving quality of service
  - monetizing infrastructure
  - reducing costs
- Headquartered in London, UK, with 250+ employees worldwide

2016 Innovations in Big Data & Analytics

#1 in Unified Network Performance Management

#1 Customer Experience Enabling Solution

2016 Outstanding Contribution to Enabling Improved Customer Centricity

2015 Product Line Strategy Leadership Award

2015 Network Management Excellence

2015 Most Promising Telecom Solution Providers
The CSP to DSP evolution

DSP Initiatives: Network virtualization, Deliver digital/IoT services, Manage customer experience

<table>
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<tr>
<th>Business Drivers</th>
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<tr>
<td>• Growth through evolution from CSP to DSP</td>
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<td>• Digital services to consumers and connectivity services to industry verticals</td>
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<td>• Value-addition to industry verticals as MSP</td>
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<tr>
<td>• Monetize QoE</td>
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<tr>
<td>• Monetize network and customer data</td>
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<td>• Achieve order of magnitude gain on agility and opex</td>
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<th>Business Enablers</th>
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<td>• Transform to Telco Cloud (NFV, SDN, SD-WAN)</td>
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<td>• Develop a portfolio of digital and IoT services/platform</td>
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<td>• Management and orchestration of hybrid networks</td>
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<td>• Massive use of automation (ZOOM)</td>
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<td>• Big Data/Analytics for QoE and IoT monetization</td>
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<td>• Customer Experience Management</td>
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Digital Service Orchestrations and Assurance

Automated Orchestration Governance

- Ready for **digital** services and future networks
- Management of **hybrid** NFV, SDN and physical networks
- **Closed loop** assurance automation (ZOOM)
- **Predictive** operations with analytics/Machine Learning
- Major **efficiency/opex gains**
- Integration with Service Lifecycle Service
- Contribute to **Smart Data Lake**
- Enable **monetization**: IoT SQM, enterprise service SLAs
- Fully orchestrable **in the cloud** (DevOps, open APIs, cloud-native support)
- **5G-ready** (network slice assurance, real-time, on-demand)
7-step transformation plan to consolidate and migrate to Digital Service Orchestration & Assurance architecture

1. Rollout of a cloud-based Digital Service Assurance data platform with a converged Service Assurance CMDB

2. Migration to Unified Performance Management and Unified Fault Management tied to a converged Service Assurance CMDB

3. Roll out of Digital Service Quality Management and integration with Telco Cloud ecosystem

4. Roll out of dynamic closed loop integration with Service Lifecycle orchestration

5. Introduction of advanced analytics and Machine Learning to enable predictive operations

6. Integration with big/smart data lakes

7. Integration with IoT management platform for monetization of IoT managed services
Zero-touch Digital Service Orchestration & Assurance

Customer Experience Management

Service Lifecycle Orchestration
- Service Catalog
- UD Inventory
- Service Orchestrator
- Policy Mgt

Virtualized NFV Network
- VNF Manager
- VNFs
- VNF Orchestrator

Virtualized SDN Network
- SDN Orchestrator
- PNFs
- EMS

Physical Network
- SON

Next Generation Platform
- Assurance
- Automation
- Intelligence

Closed loop digital assurance orchestration

CRM
BSS/Billing
Order Mgt
Cust.
Analytics
Marketing

IoT Management platform
Big Data Lake
Unified Streaming Platform
Cloud native architecture

The IT heart of Digital Service Orchestration & Assurance

- Scalable and reliable platform
- Cloudification support
- Integrated Assurance platform

Cloud-native technologies

- Automation: Ansible
- Containers: Docker
- Distributed computing: Spark
- Distributed messaging bus: Kafka, Mesos
- Orchestration: Swarm
- Private cloud operation: Openstack
- Public cloud: AWS
- Distributed document store: Elastic

- Compatible in next gen IT ecosystem
- DevOps based microservice architecture
- Future-proof
Use cases

1. Closed-loop QoS-driven orchestration in hybrid networks
2. Prediction of SLA breaches
3. Service impact analysis
4. Automating outage recoveries
5. Assurance of 5G network slicing for IoT services
Tier 1 DSP Case study

Challenge

• Major transformation
• Complex corporate and consumer service quality use cases
• 30+ fixed and mobile digital services (IP-VPN, IPTV, VoLTE, IM)
• Automated modelling, discovery, monitoring, alerting and analysis of services

Solution

• Prioritize high value corporate customers and offer superior service levels
• Pre-emption and resolution of service degradations
• Monetization through rapid service introduction
• Lower cost and increased efficiency of operations through a consolidated surveillance center
Thank you

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