



- ONAP Casablanca Developer Forum
- June 21st, 2018

Orange ONAP introduction strategy

Vincent Colas

Agenda

1. **Orange Strategy**
2. Adopting ONAP
3. Introduction strategy

Orange in a nutshell



4G

46 million 4G customers worldwide



Fibre

N°1 FTTH in Europe : 26.5 million homes that will be able to be connected...



Cable

450,000 km of undersea cables.
Enough to go around the earth 10 times!



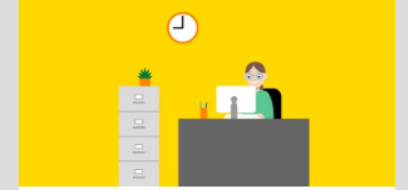
Patents

6,498 patents in our portfolio



Start-ups

500+ start-ups supported as part of our programs



Employees

152,000 employees in the world



Innovation

€700 million invested in research and innovation



Orange Money

37 million Orange Money customers in 17 countries



Customers

273 million customers worldwide



Brand

N°51 in 2018 global brand rankings



Networks

N°1 best mobile network in France for the seventh time in a row



Foundation

8,000 Orange volunteers working for the Orange Foundation in 30 countries

AGILITY, the key driver for Automation, VNF Management and OSS Transformation

Essentials2020

To be always responsive and in touch with what is essential for the customer

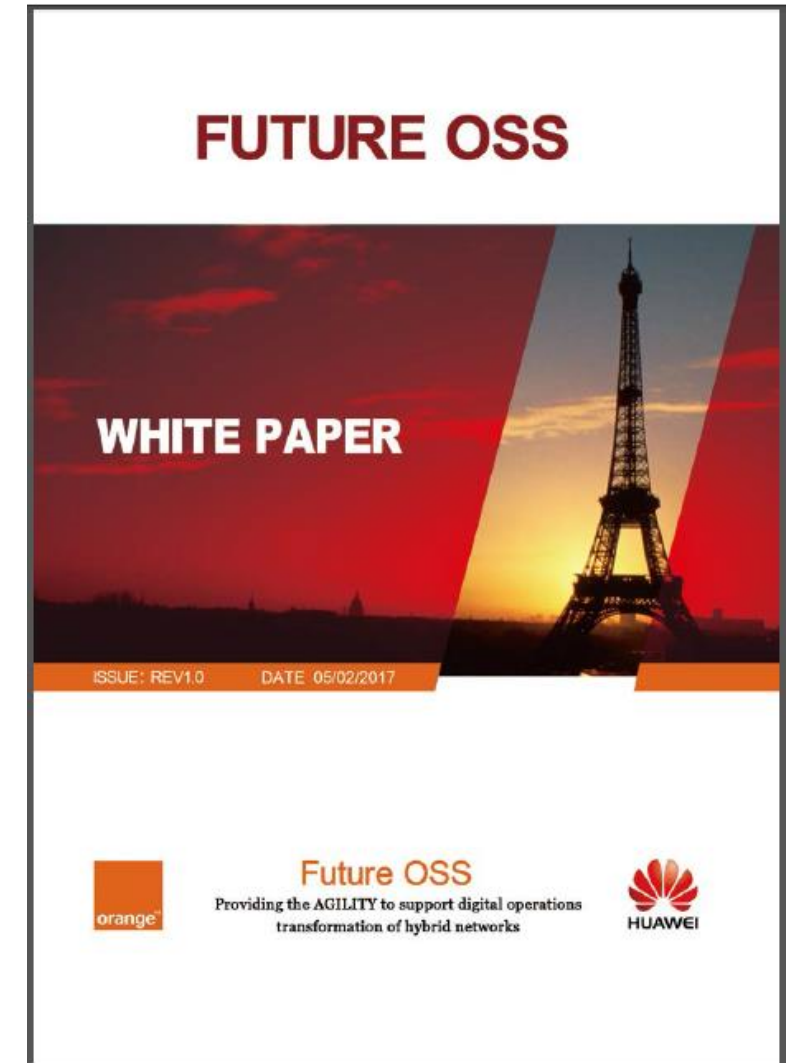
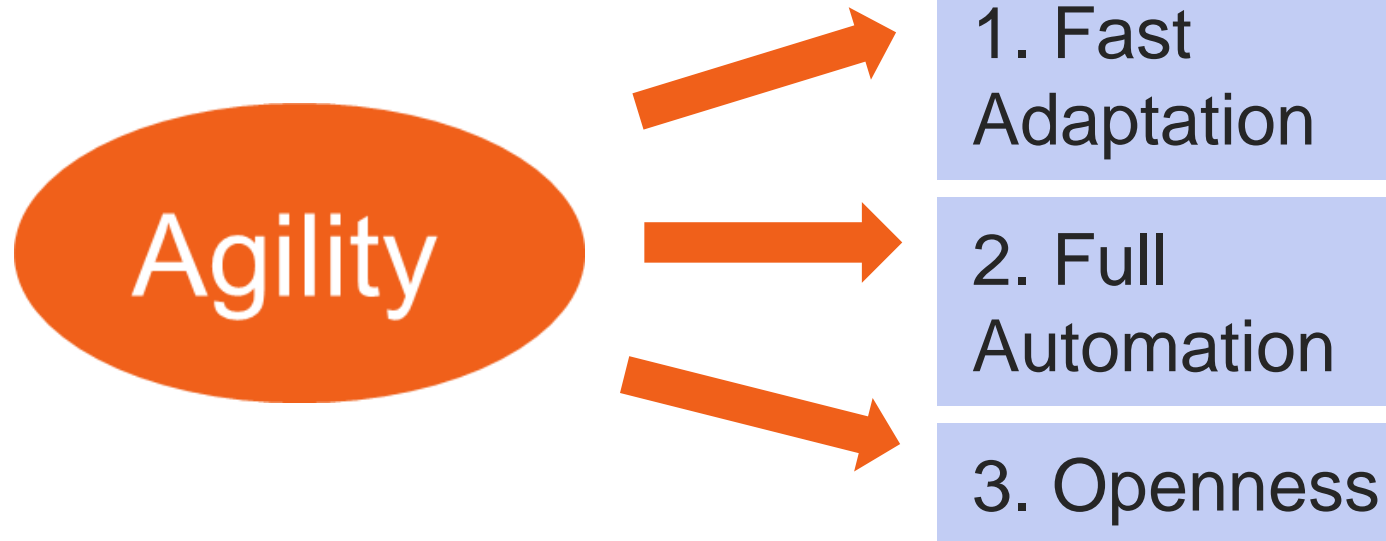
This implies overall transformation, in particular for Operation *Agility*



A digital, efficient and responsible company

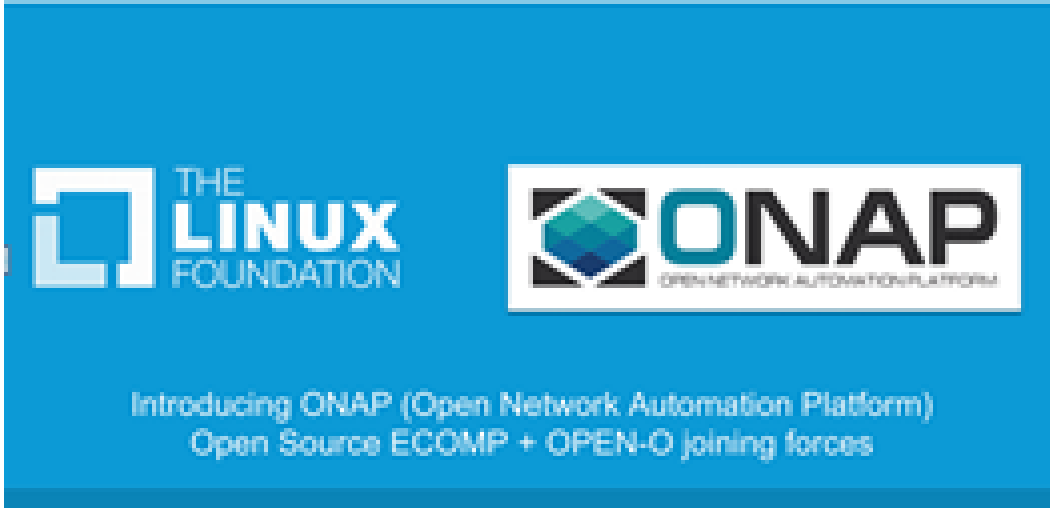
Orange External

Future OSS: the key principles to enable AGILITY



ONAP is our choice for implementing Future OSS

For Orange, the Future OSS acts as a standardized framework that can be adopted by the whole industry, including CSPs and Open Source communities.



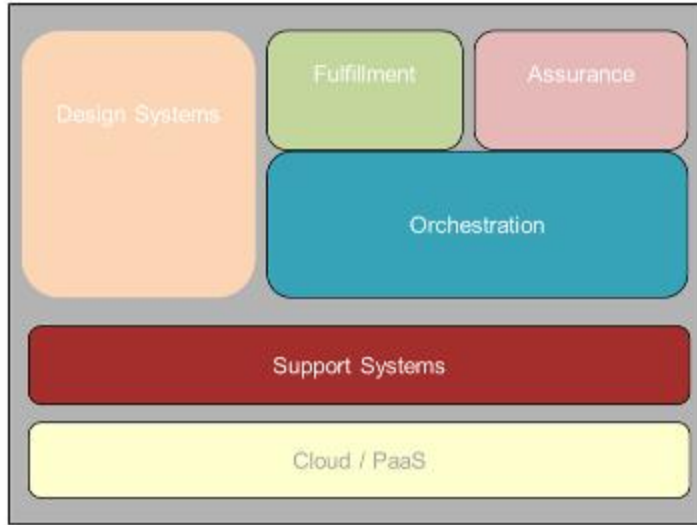
ONAP is the best foundation to build this Future OSS for SDN/NFV



Agenda

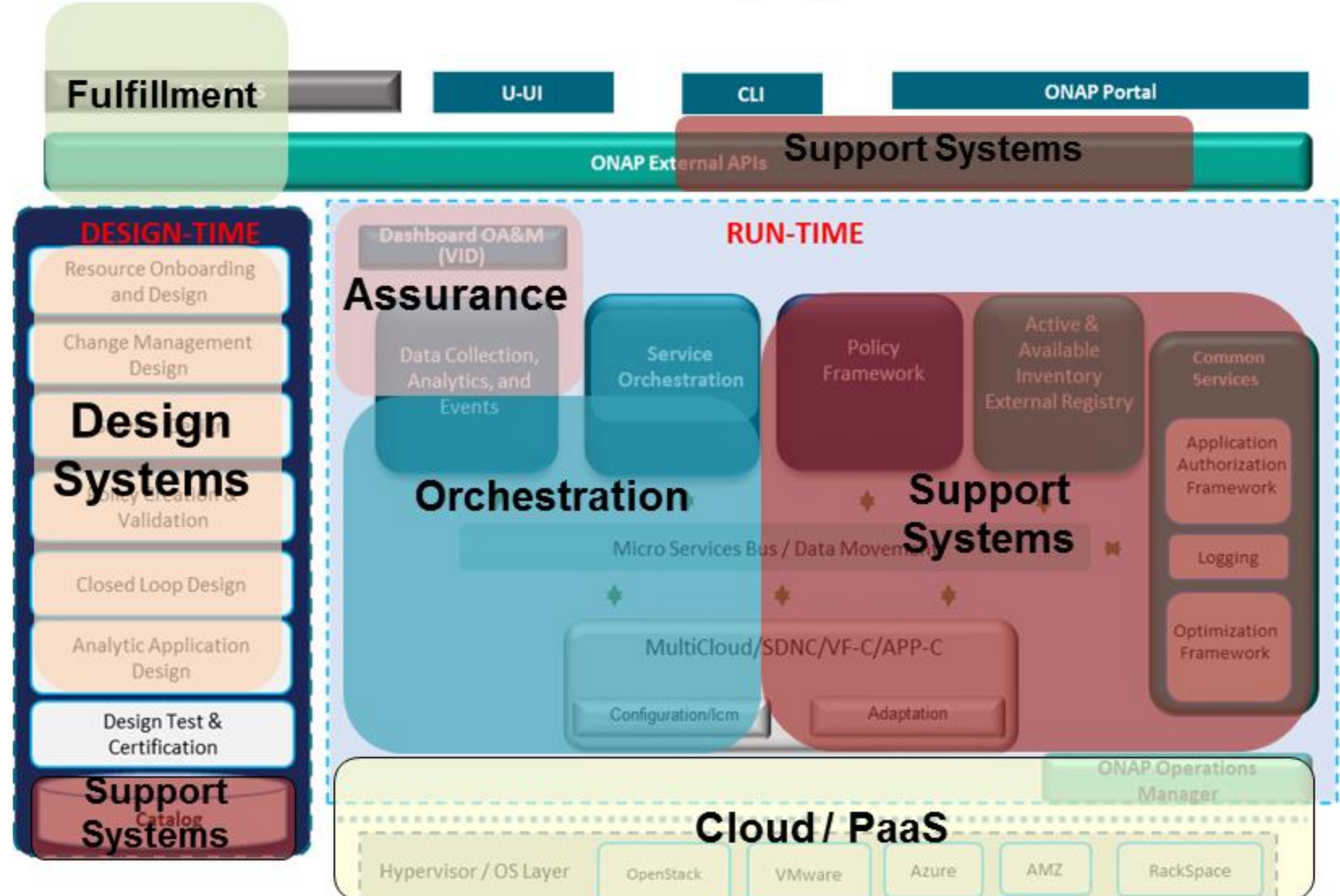
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Mapping Future OSS and ONAP Beijing Architecture



Future OSS Functional Domains

ONAP – Based on Beijing Architecture



Strategic Approach for ONAP Adoption in the Orange Group

Our Positioning about ONAP

- ONAP is a platform offering a comprehensive toolkit to automate fulfillment and assurance processes in the Network Management domain.
- Starting in 2018, every new project or enhancement in Orange concerning VNF Management, OSS Transformation and Automation should be based on ONAP

Our Expectations on ONAP

- ONAP is chosen by Orange Group as the automation layer for:
 - The entire MANO domain, with the exception of VIM functions (VNF/NS Life Cycle Management)
 - Service Orchestration both for virtualized and physical functions

Our Approach for ONAP Implementation

1. Understand how ONAP functionalities can be used
2. Introduce ONAP through concrete use cases

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Introduction strategy

1. Split ONAP functionalities into **Operational Functions (OF)** to help appropriation
 - Push modular and gradual integration in countries to begin working with ONAP and avoid diverging through local solutions
2. For each project vMasterPlan, propose some ONAP OFs.
 - In 2018, indicate in VNF RfX that the supplier should take into account ONAP compliance, through the ONAP VNF requirement, even if the onboarding and Life Cycle management is done with specific orchestration.
 - in 2019, make the ONAP compliance compulsory for all RfX
3. Experience and demonstrate ONAP through POCs
4. Build a complete training program to allow broad ONAP comprehension
5. Build deployment and operations guidelines to define best practices common ground
6. Consolidate ONAP industrialization
 1. consolidate needs
 2. setup partnerships
 3. setup internal organization

Orange External

ONAP Operational Functions (OF) as defined by Orange

- OF1. Onboard and instantiate resources/services (Network services, VNF, PNF, connectivity,..)
- OF2. Manage and provide dynamic inventory
- OF3. Monitor fault/performance data
- OF4. Apply analytics on data
- OF5. Manage open or closed-loops for resource or service assurance
- OF6. Manage VNF lifecycle (eg scale-in/scale-out, software management...)
- OF7. Automate or orchestrate operations not directly linked to VNF lifecycle

Mapping Operational Functions (OF) with ONAP Modules

	Design onboarding/ Policy/API...	Closed Loop Design and performance	Instantiation portal	Automation rules execution	Data Collection Analytics and Events	Real time Inventory	Camunda-based Orchestration	VIM adaptation	SDN Controller	Application Controller (VNFs/PNFs)
	SDC	CLAMP	VID	Policy	DCAE	A&AI	SO	Multi VIM	SDN-C	APP-C
OF1	X		X			X	X	X	X	X
OF2						X				
OF3					X					
OF4	X				X	X				
OF5	X	X	X	X	X	X	X	X	X	X
OF6	X	X	X	X	X	X	X	X	X	X
OF7	X		X			X	X	X	X	X

Orange External

Orange POCs to understand and demonstrate ONAP

Various POCs on-going, to address various Operational Functions:

Project	Functions
SDWAN phase I : ONAP in charge of onboarding and provisioning endpoints	OF1
Virtualized operations robot tool operations with ONAP	OF1-7
Onboarding, instantiation of in-house vProbes	OF1
Long Distance Ethernet	OF1, 7
vProbe on Demand with Astellia	OF1,6
vMRF with Radisys	OS1,5,6

And others to come in S2 2018/2019:

Project	Functions
SDWAN phase II : add DCAE collection and analytics	OF2,3
Automate vEPC/GiLan configuration	OF1,6,7
Storage of in-house vProbes data in big data lake	OF3
vIMS direct integration with ONAP	OF1,3,6

Training Program setup

Complete Training program RFP launched in Q2 2018

Two years program for 300+ people, with first trainings to take place in Q3 2018

Objectives are to address all ONAP main activities topics:

And to cover all concerned populations:

Managers
Corporate support teams
ONAP Devloppers (incl. SKC)
Service engineering teams
Installation teams
ONAP Maintenance teams
Service Maintenance teams
Policy design teams

SDN/NFV and Orchestration Background

ONAP Principles and Architecture

ONAP Installation

Configure ONAP

ONAP Modules In-Depth

Develop ONAP Compliant VNF

Write VNF Package

VNF Certification and Testing

ONAP Operations

ONAP Service Operations

Service Design, Instantiation

Closed Loop Design and Monitoring

Develop Analytics/CDAP applications

Develop Workflow for SO

Develop workflow for SDN Controller

Develop workflow for Application Controller

Building Guidelines and industrialization consolidation

ONAP is a platform, not a product

- Need to build a solution adapted to our needs and intergated to our BSS/OSS

ONAP is complex and documentation is not yet completely user oriented

- Need to simplify and complete documentation for the different populations:
 - Deployment
 - Operations

POCs bring feedback and begin to show specific needs:

- Partners RFI/RFP to happen in Summer 2018
 - Should provide complementary support for POCs in 2018/2019 and first rollouts in 2019
- Internal organization adjustments to begin EoY 2019
 - ONAP central corporate support activities (Skill Centers) to be created
 - Network and OSS Skill Centers activities to be ajusted to take ONAP into account

Orange External



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Thanks

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