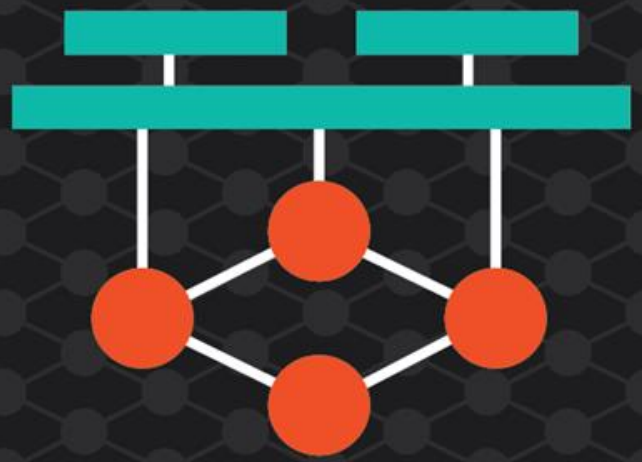
September 25 - 27, 2018
Amsterdam, The Netherlands



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SDO + Open Source
When TMF APIs Meet ONAP

René Robert & Matthieu Geerebaert, Orange

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The need

- ONAP R1 came with several specific API definitions and design rules
- Problem : integration with existing BSS/OSS systems
  - time to develop all those adaptations
  - extra cost for each existing system
  - no roadmap space
- Solution : provide standardized API to ONAP

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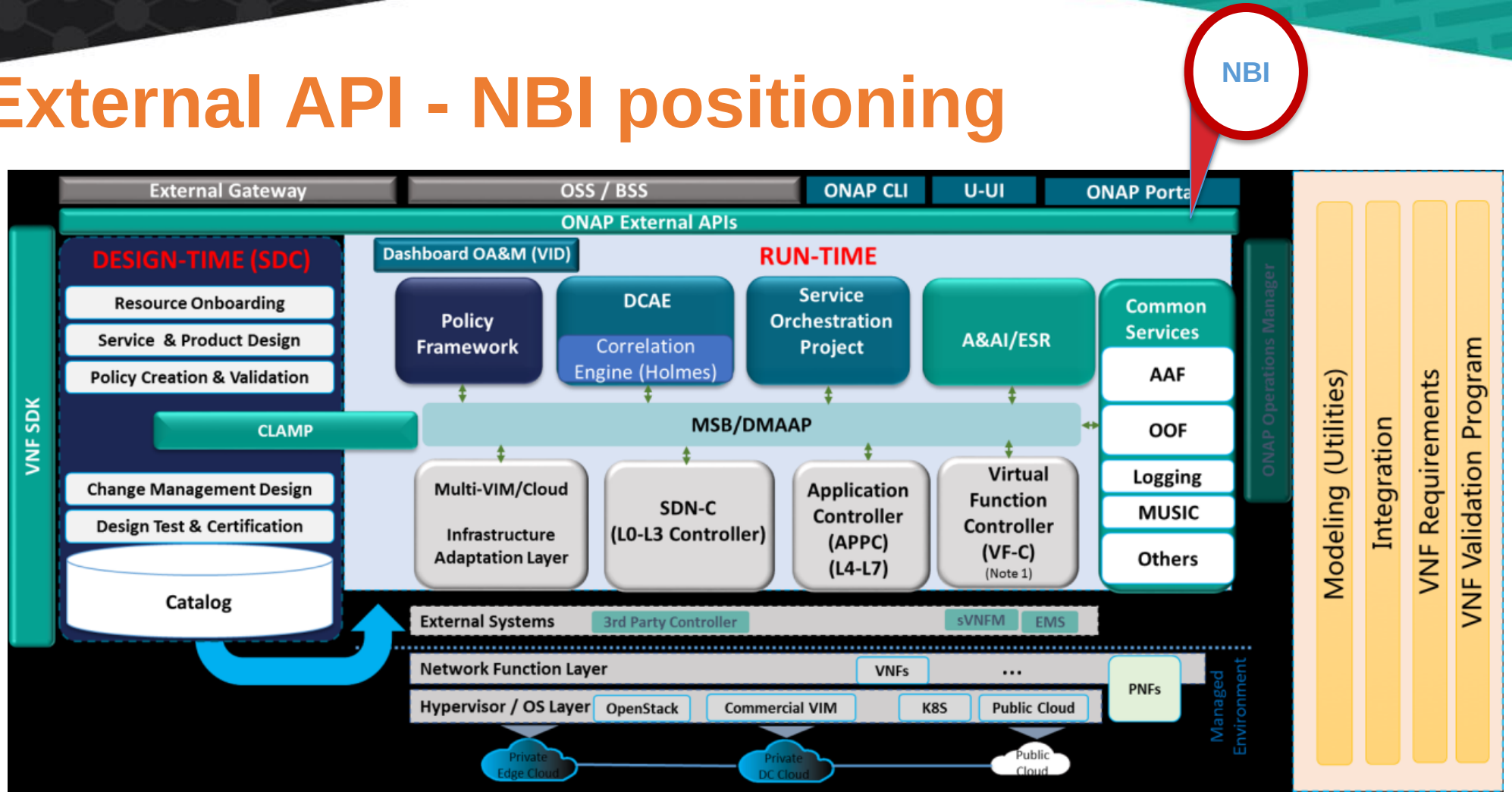
Bringing standardization to ONAP

- ONAP brings the software
- Standardization helps for interoperability

"*Bringing together standards and opensource contributions is THE way forward!* said Thierry Souche, Orange Global CIO.

External API - NBI positioning



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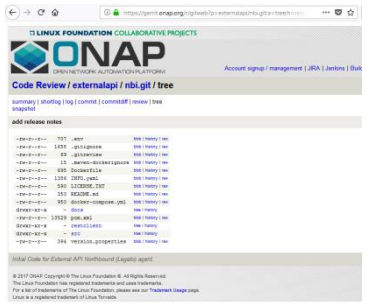
Why TM Forum OpenAPI ?

- MEF POC (end 2017) : a first implementation
- Open source specification (Apache 2.0)
- Leverage industry-recognized APIs to enable ONAP introduction with existing BSS
- A motivated team

Not only “Paper Spec” but Code for real !

- NBI was designed & coded with ♥ by Orange under PTL Andy Mayer (AT&T) leadership
- Feedbacks & tests were provided by the TMF/ONAP/MEF communities (special mention to Amdocs team for testing, Huawei for design support and Infosys to use it in TMF catalysts)
- 8 people involved operationally for design, code, testing, integration – not full time – effort started in January’18
- 11 K lines of code

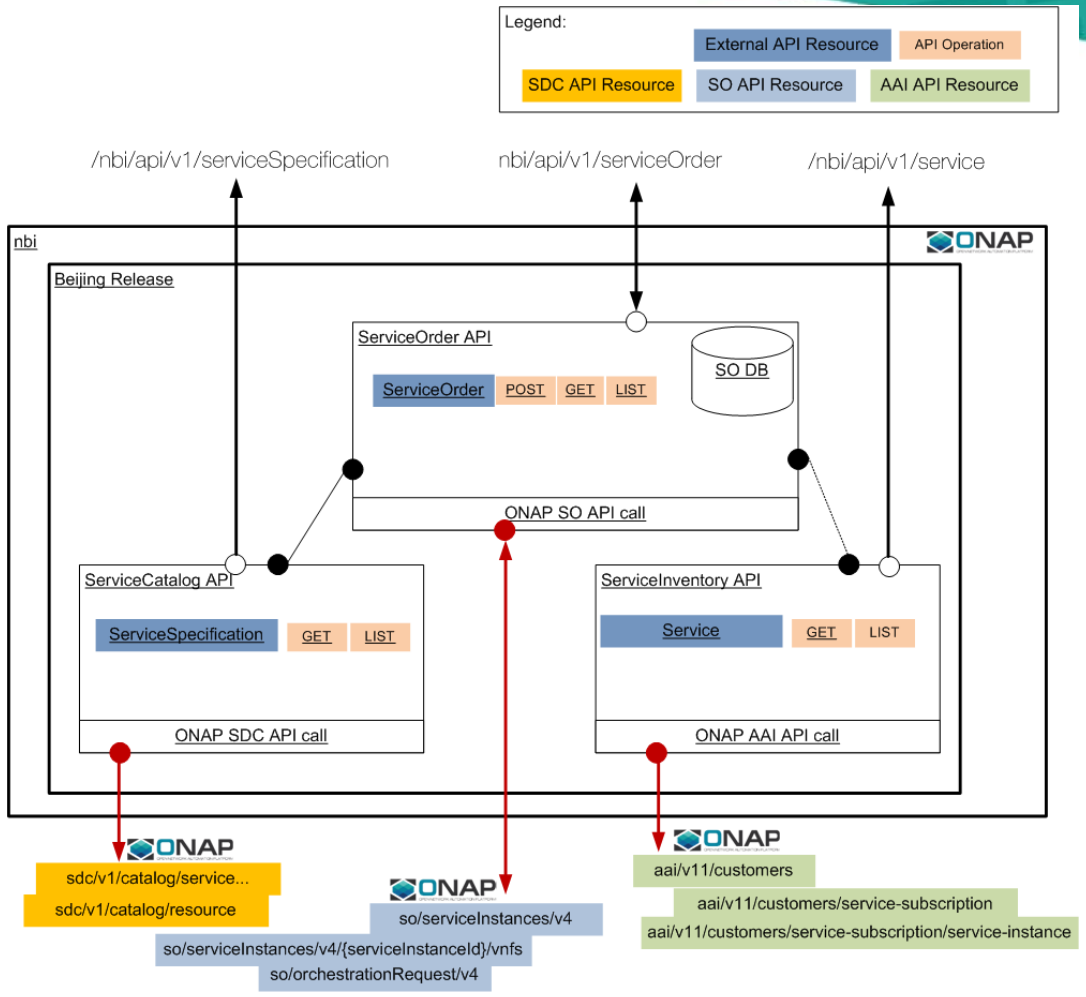


git clone https://gerrit.onap.org/r/externalapi/nbi

NBI scope

- Service Catalog (find & get)
- Service Ordering (including Service Instantiation) (create, find and get)
- Service Inventory (find & get)

Key point : no change, no impact on existing ONAP Projects !



Typical use-cases

- Service Order to add/delete one or several service Instances
- Service Order with dependencies between services
- Service Order with service parameters (bandwidth, VLANid, Route Target…)
- Order follow up: acknowledged, in Progress, Completed

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Technical choices

- Java 8 web application built over Spring Framework.
- Spring Boot 1.5.10 dependencies, standalone application with embedded Tomcat server.
- Embedded both MongoDB and MariaDB local instance.
- Maven dependency management tool

Lesson's Learnings

- Introduction strategy was good
  - no change, no impact on existing ONAP Components

- Coding is not enough
  - Understanding the ONAP project lifecycle
  - Understanding ONAP toolings
  - Integration test with other components is difficult
  - Documentation need to be improved also

Casablanca

- Add TMF-based notification (HUB/EVENT) for Service Order
- Tackle service modification UC though serviceOrder (minimum)
- Expose NBI API to ONAP MicroServiceBus
- Improve Service Order API to manage E2E service provisioning
- Integrate NBI in a complete E2E use case (CCVPN)

Code contributors

orange

HUAWEI

DEMO

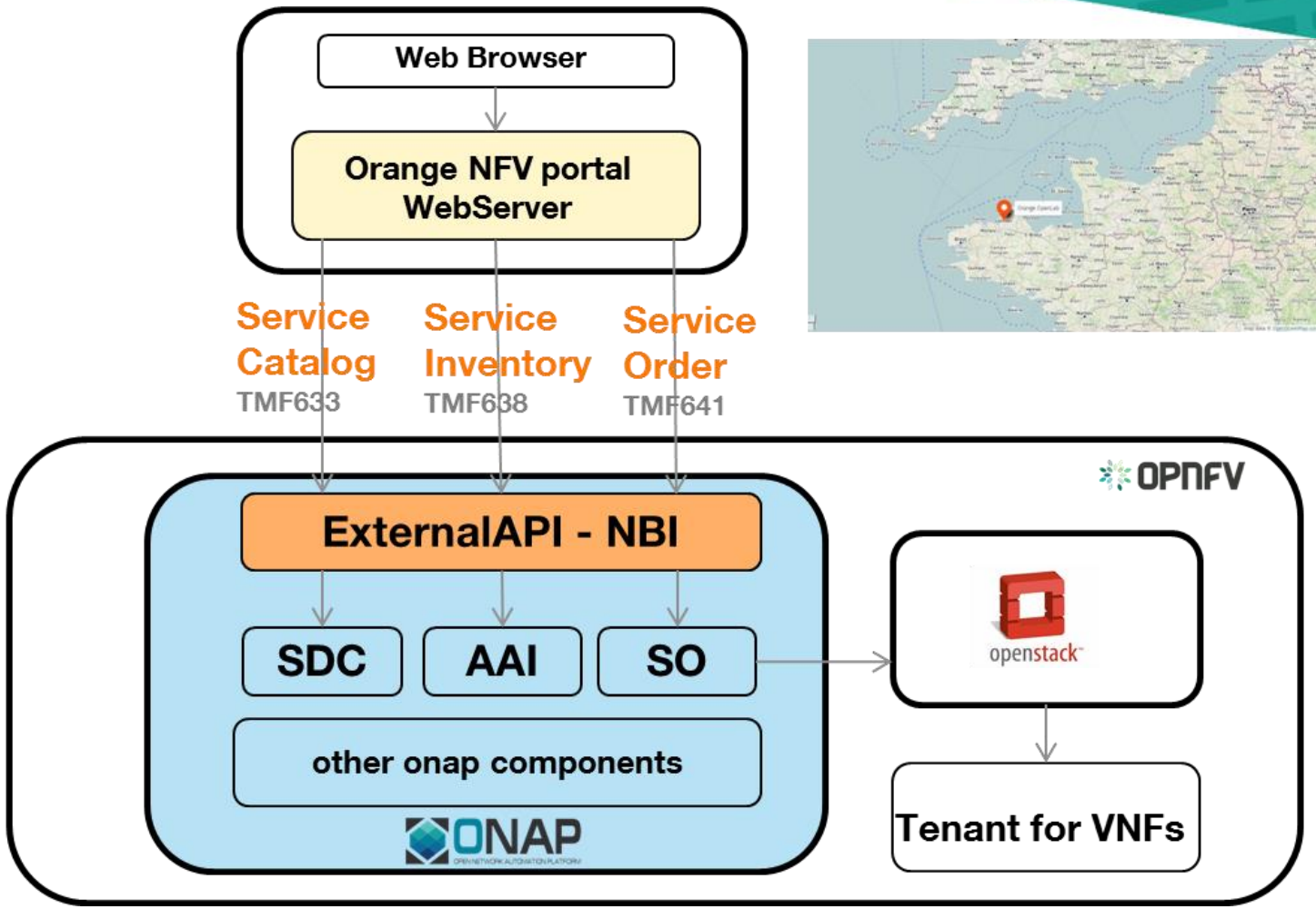
My Laptop

TMF APIs

tmforum

Orange OpenLab

https://wiki.onap.org/display/DW/Orange+OpenLab



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DEMO

- Get service from catalog
- Pick one and ‘order’ it
- Check in the inventory for instantiated service
- Delete this service instance

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Thank you

Visit our booths during ONS

- OpenLab on LFN booth
- NBI/TMF API for ONAP on Orange booth

orange™ OpenLab

Other presentations during ONS

26/9 13:50: Lightning Talk: Artificial Intelligence the Next Digital Wave for Telcos - Jamil Chawki, Orange

26/9 14:30 Accelerate the VNF Integration - Jehanne SAVI, Orange

27/9: 11h15 LFN Xcommunities Testing - Morgan Richomme & Cedric Ollivier, Orange

27/9 14:30: Be Active in Networking Open Source when you are a Service Provider - Eric Debeau & Morgan Richomme, Orange

27/9 16:05: SDO + Open Source: When TMF APIs Meet ONAP - René Robert & Matthieu Geerebaert