

TCC Generic Network Management

Magnus Buhrgard
Thinh Nguyenphu
Byung-Woo Jun
Kamel Idir

ONAP SPC Priorities as approved per 9/17 TSC Mtg

2021

Priorities

1. Test Infrastructure & Testers
2. Tool Chain Infrastructure
3. Cloud Native and Security – developing a more secure and cloud native code base
4. Roadmap for standards/specification alignment
5. Use Cases as a top priority to support the development of ONAP to support various domains (RAN, wireline, optical)

Collaboration Requested

1. Upstream: ODL, Openstack, Akraino, Istio, k8s
2. Downstream: OVP PH2/OPNFV, LF Edge (Akraino)
3. Ask: Formal collaboration process with projects, OVP PH2/OPNFV, O-RAN SC, XGVela, CNCF & Acumos

Highlights from 2021 planning

1. Marketing – No input / change
2. Dev Collaboration – Increase investment in IT modernization, tools, hosting
3. LF staff support – **Secure LF Release Manager & IT Support per Region**

Technical Community Coordination – Generic Network Management

- ETSI
 - ETSI NFV update – Tinh
 - ONAP Conformance to ETSI – Byung
- 3GPP
 - RAN Slicing: 5G NR Resource Configuration Management – Kamel
- TM Forum
 - Digital Transformation World - Magnus
 - Catalysts, rapid-fire proof-of-concept projects - Magnus

ETSI NFV update

ETSI NFV Release 2, 3 & 4 updates

Separate presentation

ONAP Conformance to ETSI

NS/VNF/PNF Modeling, Onboarding/Design & Packaging Conformance

- **SOL004** for VNF and PNF packages (SDC)
- **SOL007** for NS package (SDC)
- **SOL001** for describing VNF, PNF and NS models
- **SOL003 (IFA007)** for VNF Package Mgmt (SOL003 Adapter)
- **SOL005 (IFA 013)** for NS/PNF/VNF Package Mgmt (SOL005 Adapter)
- **SEC022** for ETSI Package and API security

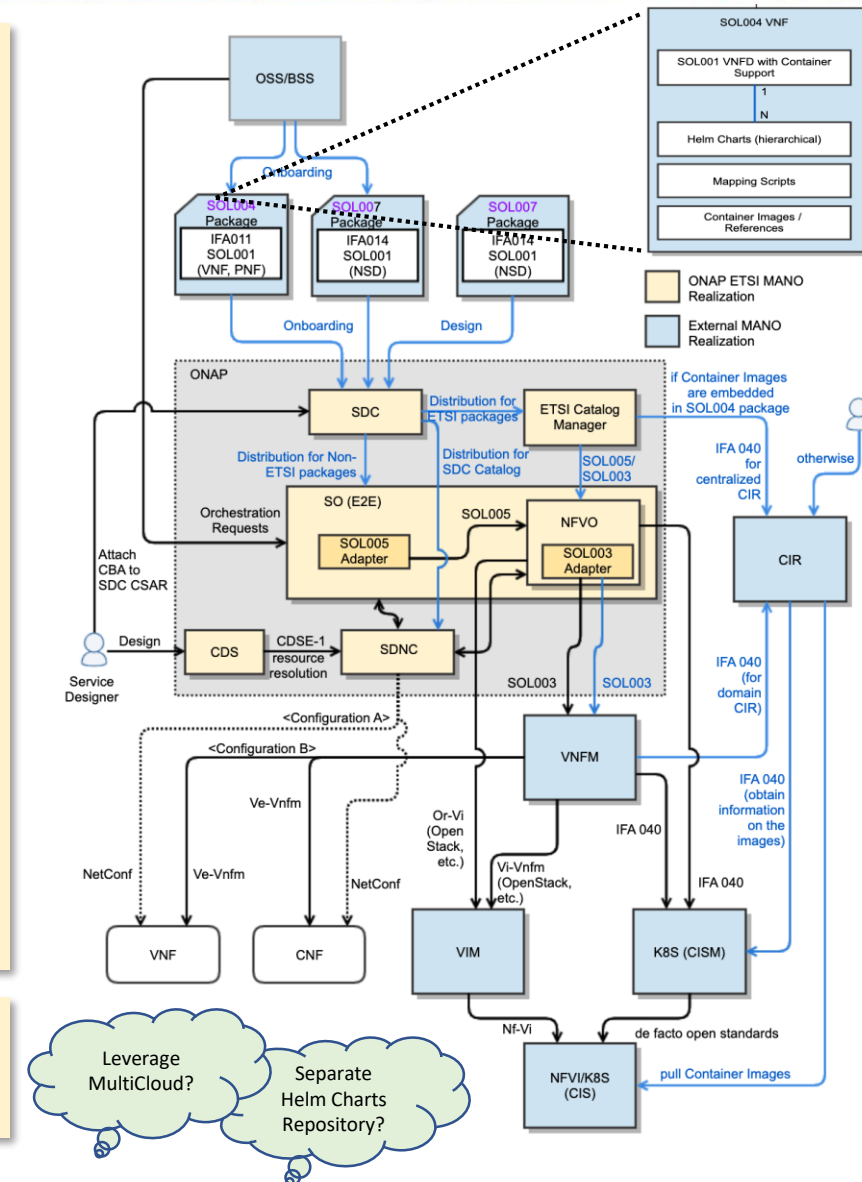
Lifecycle Management Conformance for

- **SDC** for SOL004 and SOL007 package onboarding, design and distribution
- **ONAP NFVO (VFC and SO NFVO) and External NFVO** for ETSI MANO NFVO functionalities.
- **SOL003 Adapter** for SOL003-compliant VNF LCM interfaces
- **SOL005 Adapter** for SOL005-compliant NS LCM interfaces
- **SOL002 Adapter** for SOL002-compliant VNF/VNFC LCM interfaces (currently on hold)
- **ETSI Catalog Manager** for ETSI SOL004/SOL007/SOL001 Runtime Package Management and Parsing for NS/VNF/PNF

Ongoing CNF Modeling, Packaging and Orchestration Conformance (in Honolulu)

- **IFA 011 (VNF Descriptor and Packaging Specification)**
 - ONAP VNF/CNF package and models including Helm Charts & Container Images conform to IFA 011
- **IFA 040 (Service interfaces for OS Container Mgmt & Orch)**
 - ONAP conforms to the OS container NFV object model, CISM and CIR management, based on IFA 040
- **IFA 010 (NFV Mgmt & Orchestration Functional Req's)**
 - ONAP NFVO and VNFM orchestration functions conform to IFA 010 requirements
- **ONAP also conforms to the following specifications:**
 - IFA 007 (Or-Vnfm Interfaces & IM Specifications)
 - IFA 008 (Ve-Vnfm Interfaces & IM Specifications)
 - IFA 013 (Os-Ma-Nfvo Interfaces & IM Specifications)
 - IFA 014 (NS Templates Specifications)
- **Note: ETSI SOL specifications profiling CISM solutions (K8S)?**
- **Note: ONAP is waiting for ETSI SOL specifications for CNF**
- **Note: ETSI-based Configuration (Day 0, 1, 2...) would be beneficial in ONAP (See ONAP SO Hierarchical Orch)**

On top of the ONAP ETSI package onboarding and distribution mechanism, ONAP will support enhanced VNF/CNF models, Helm Charts, CIR and interactions with CISM and VIM for LCM



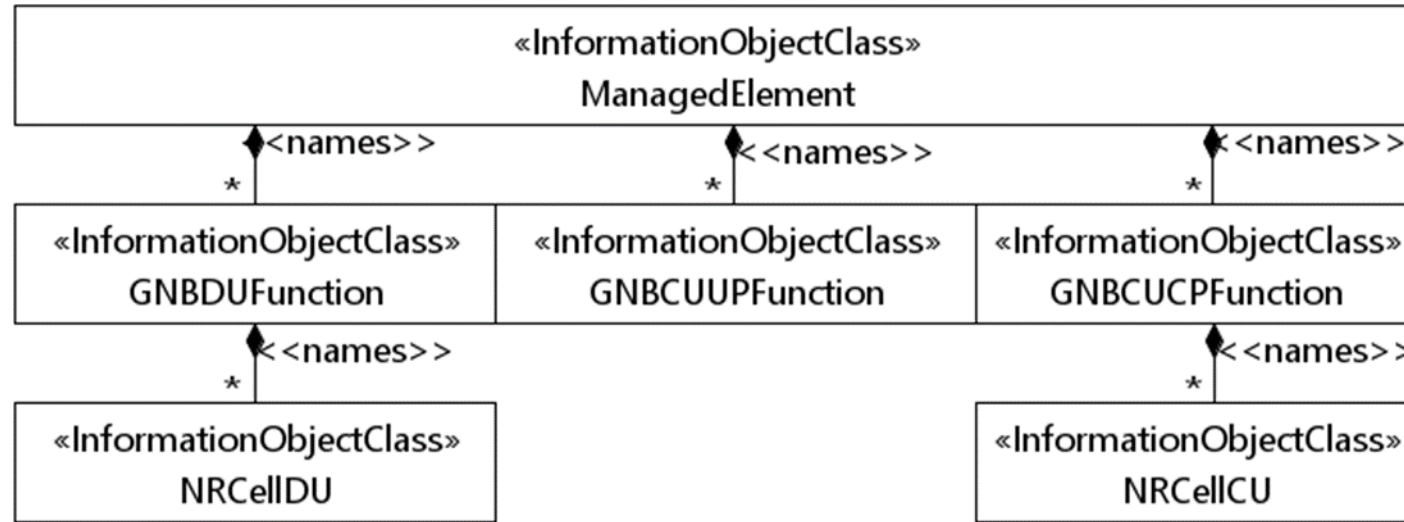
RAN Slicing: 5G NR Resource Configuration Management

Presenters: Kamel Idir (Ericsson), Magnus Buhrgard (Ericsson)

October 14, 2020

Agenda

1. 3GPP NR NRM Deployments
2. RAN Slicing Use case Description
3. GNB Auto Discovery Flow Using ONAP PnP
4. 5G NR Resource Configuration Flow



GNBDUFunction

Attribute name	Support Qualifier
gNBDUId	M
gNBDUName	O
gNBId	M
gNBIdLength	M

GNBCUUPFunction

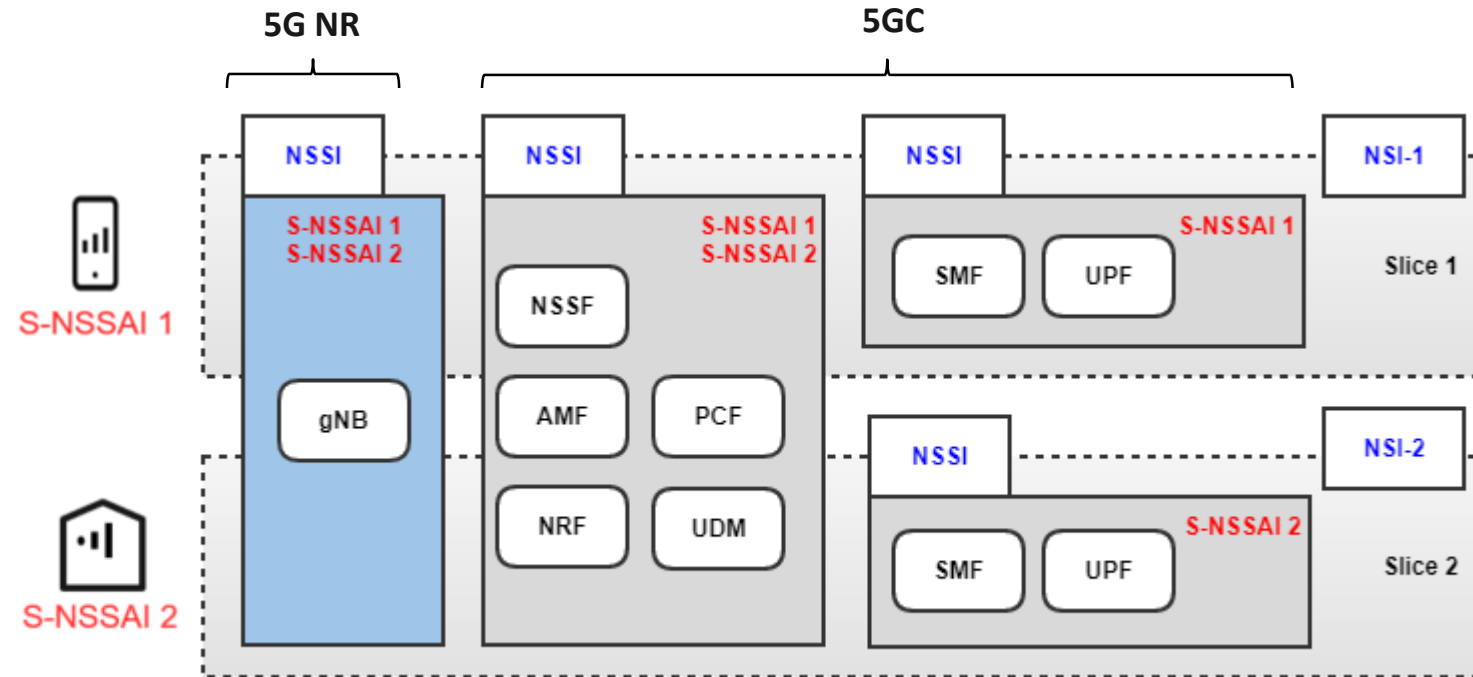
Attribute name	Support Qualifier
gNBCUUPId	M
pLMNInfoList	M
gNBId	M
gNBIdLength	M

GNBCUCPFunction

Attribute name	Support Qualifier
gNBId	M
gNBIdLength	M
gNBCUName	O
pLMNId	M

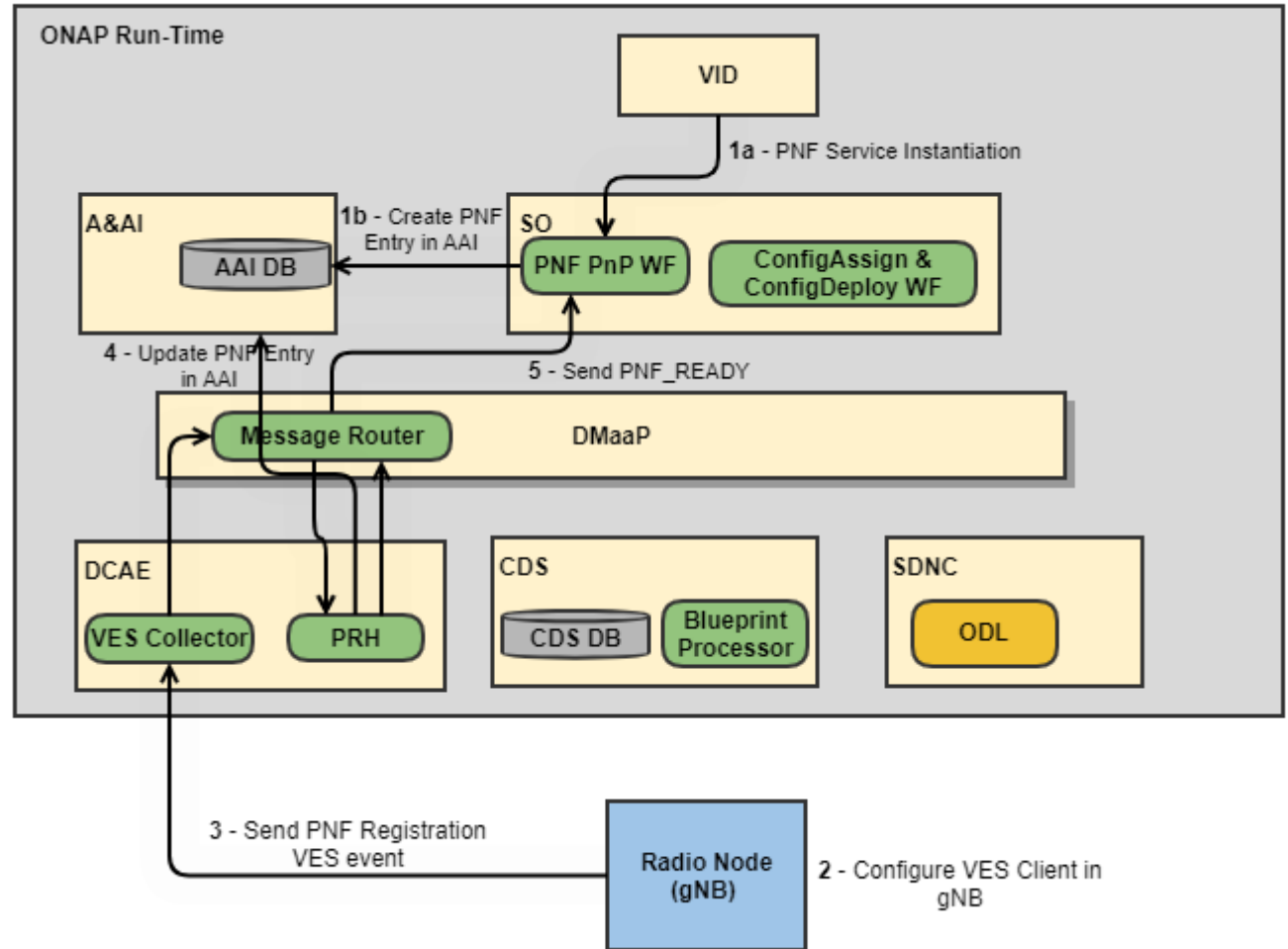
RAN Slicing Use Case Description & Goal

- › RAN gNB installed with basic configuration
- › Deploy two network slices in different edge locations
- › Configure PLMN-Id and S-NSSAIs and other parameters defining characteristics for each slice in the gNB.



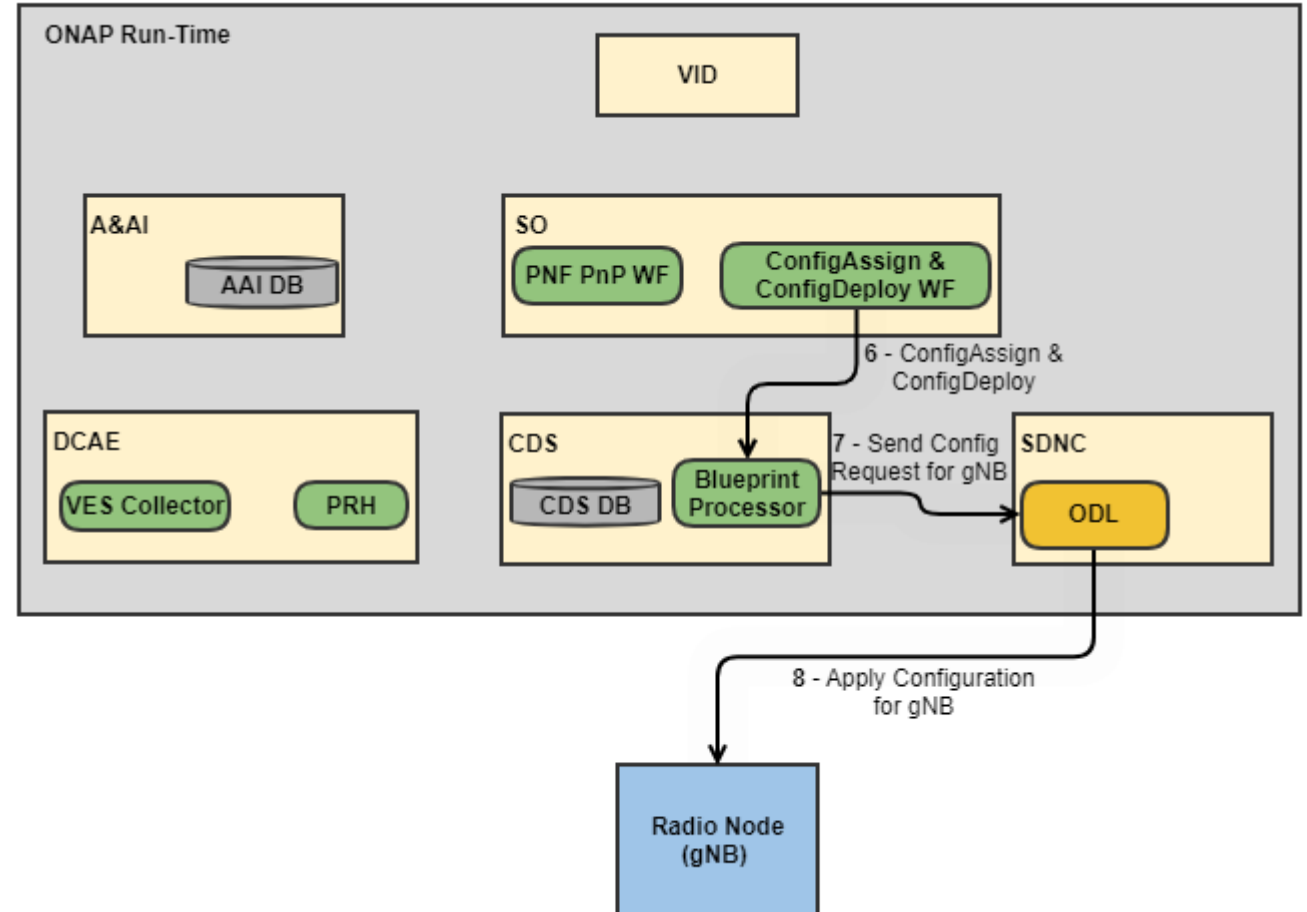
gNB Auto Discovery Flow (PNF PnP)

- The goal of this phase is to integrate ONAP with Ericsson gNB to Perform gNB auto discovery mechanism (PNF PnP).
 - Instantiate PNF Service.
 - Configure VES Client to send PnfRegistration events
 - gNB Sends PNF VES Registration event
 - PRH Updates AAI entry fir PNF
 - PNF sends PNF_READY event



5G NR Resource Configuration Runtime Flow

1. Trigger CDS ConfigAssign and ConfigDeploy actions to send gNB Resource Configuration related to slicing configuration.
2. SDNC ODL communication with gNB is based on Netconf



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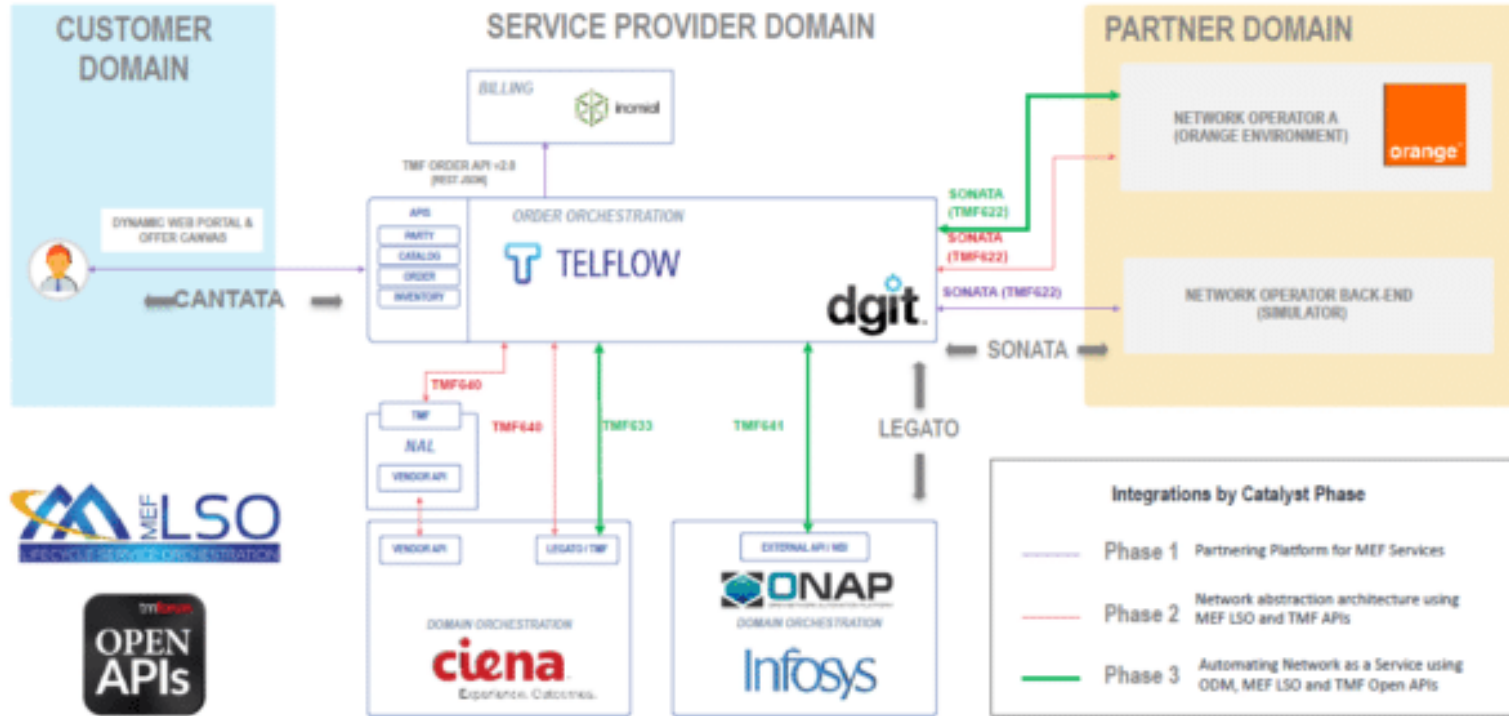
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USING ODM, TM FORUM OPEN APIS & MEF LSO



5G Intelligent Service Operations

Winner! Digital Transformation World 2018: Outstanding Catalyst Communications

TM Forum Catalysts

Meet the Catalysts demonstrating at the event



Automating NaaS Lambda (λ) services

Champions: AT&T

Participants: Amdocs, Ciena - Blue Planet, IBM and Tech Mahindra



AI driven business assurance for 5G

Champions: BT, Deutsche Telekom, Orange, T-Mobile Netherlands

Participants: Amdocs, FICO, IBM, Latro Services, Tata Consultancy Services, Optare Solutions, OmniSci, SI-TECH



Digital Business Marketplace III

Champions: Agile Fractal Grid, BT, Chunghwa Telecom Company, Digital Twin Consortium, Etisalat, Heritage AG International (USA), Maxbyte, NTT, Telenor and TELUS

Participants: Accenture, Amazon Web Services, BearingPoint//Beyond, Beautiful Ones, Cityzenith, Digiglu, Intel, Intuitus, IOTA, IoT Lab, Mvine, r3, Stratus Technologies, Tantallon, University of Surrey, University of Ulster and VETRO FiberMap

TM Forum Catalysts



Automating service problem management business operations using the TM Forum Network-as-a-Service APIs

Champions: BT and Vodafone
Participants: Cortex, OpenNMS, Tech Mahindra and Solent University



Developer is king!

Champions: Globe Telecom and KDDI Research
Participants: Ericsson, Infosys, Google Cloud, Microsoft Azure, Salesforce and VMware



AI-empowered E2E 5G operational architecture

Champions: KDDI Research
Participants: Hitachi, KDDI Research, NEC Corporation and NICT

CATALYST PROOF-OF-CONCEPT PROJECTS

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