Deutsche Telekom Deploys ONAP in O-RAN TOWN

LFN Webinar November 18th, 2021

LIFE IS FOR SHARING.

PRESENTERS

Andreas Geissler

Deutsche Telekom

OSS Architect,
Architecture Lead T-NAP

Marc Fiedler

Deutsche Telekom

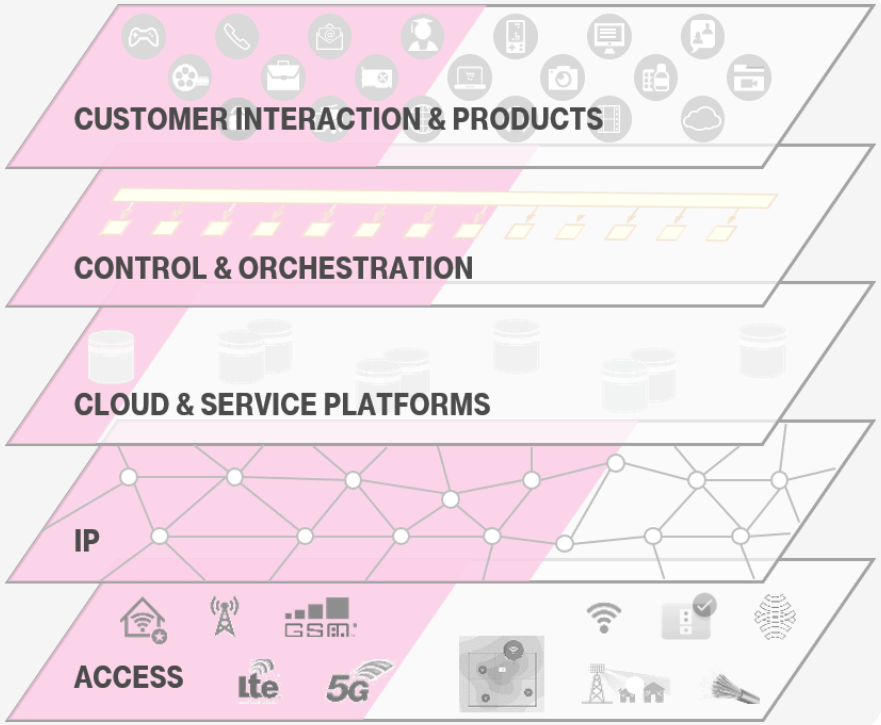
OSS Architect, Stream Lead T-NAP

Sebastian Zechlin

Deutsche Telekom

Head of OSS Architecture &
Innovation

NETWORK DIFFERENTIATION – DEUTSCHE TELEKOM'S JOURNEY TO BECOME A SOFTWARE TELCO



DISAGGREGATION
to drive flexibility and scalability - and renewal of supply ecosystem

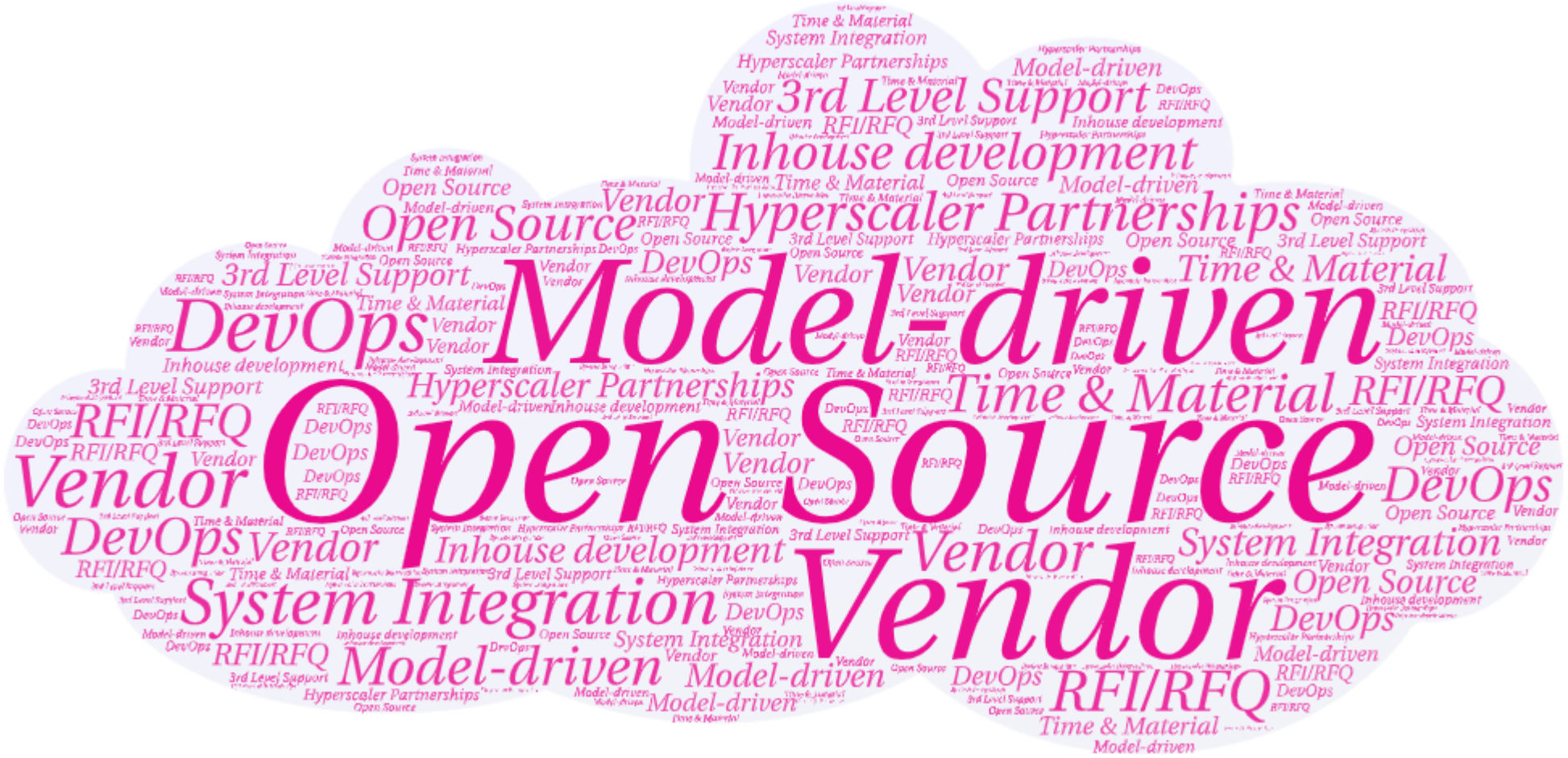
CLOUDIFICATION
NT and IT production in fully virtualized and eventually cloudified way

SOFTWARE DEFINED NETWORKS
across domains for quicker lifecycles and efficient ops

OPEN APIS
to optimize TCO, push innovation, enable global reach and direct network monetization

Mastering the network Automation is key to enable benefits of software-defined, cloudified, disaggregated networks

What is the best automation sourcing/production model?



As a leading Telco we want to be able to provide the best services for our customers

Key Challenges in RAN

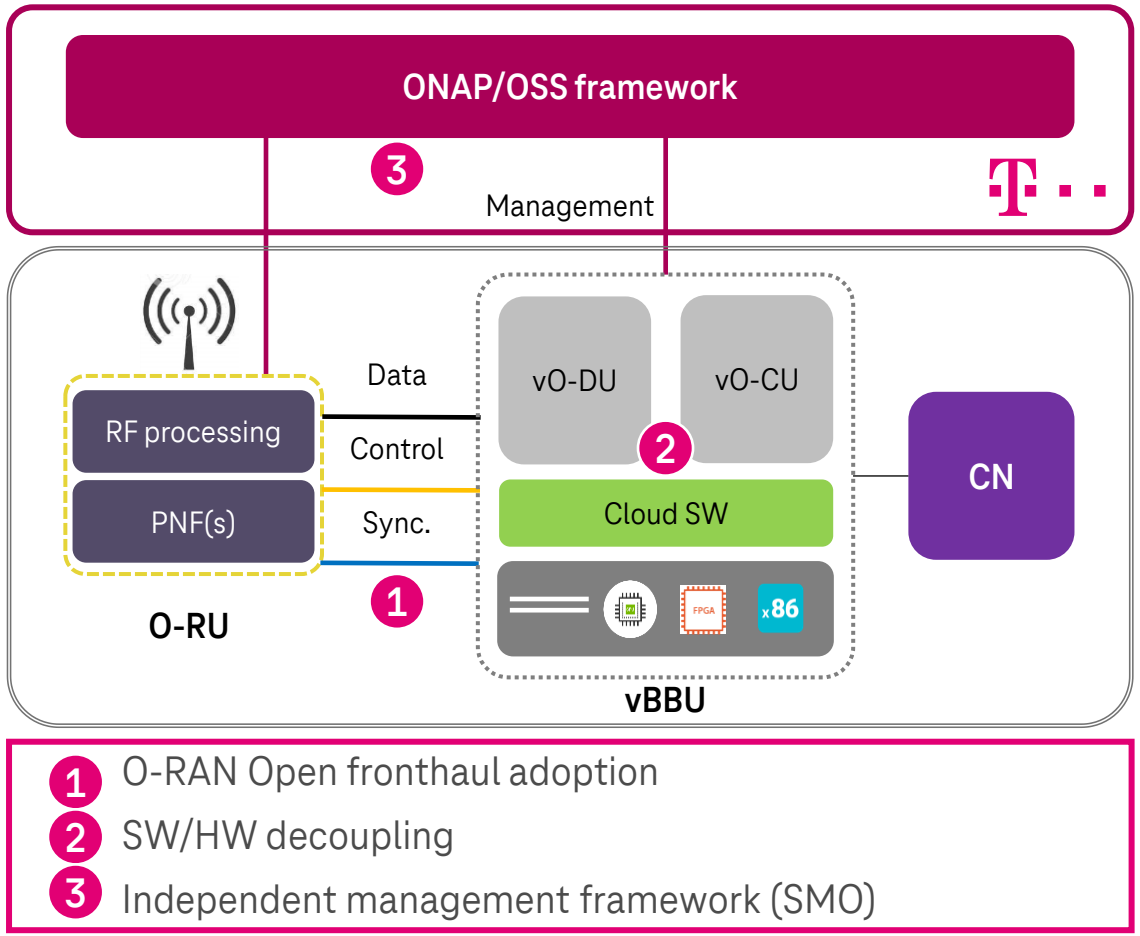
Ecosystem challenge

Deployment cost & flexibility

Cumbersome & costly RAN swap

Low flexibility limits innovative power

What do we expect from RAN Disaggregation/O-RAN



- **Enrich the vendor landscape, avoid vendor lock-in effect**
- **Less complex and shorter RAN modernization**
- **New use cases via intelligence and programmability**
- **Lower TCO vs. S-RAN** (to be proven)

Operating model: integration responsibility moves towards the operator

1 O-RAN Vendor/Supplier

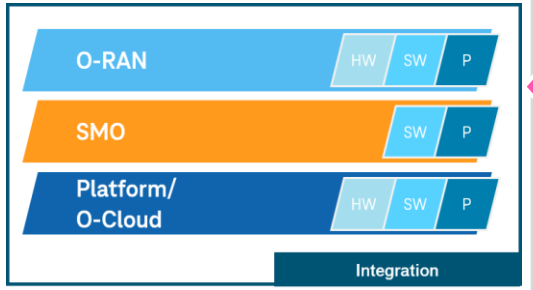
ILLUSTRATIVE

- RU vendor A, B, C, …
- vDU/vCU vendor A, B, C, …
- O-Cloud vendor A, B, C, …
- Server vendor A, B, C, …
- SW xyz vendor A, B, C, …

Demand

Delivery

2 Integration and Testing according to DT requirements



Demand

Delivery

3 NatCo specific deployment scenario/vendor combination

ILLUSTRATIVE

VENDOR

INTEGRATION RESPONSIBILITY TODAY

INTEGRATION RESPONSIBILITY TOMORROW

Integration by Vendor

Integration by DT

DT SMO introduction strategy

01

Open Standards

O-RAN and 3GPP have defined (open) standards to manage cloud network functions in the radio access network.

02

Open interfaces / models

DTs network services will be based on aligned data models and interfaces to manage the upcoming complexity.

03

State of the art technology

The management of PNF, VNF and CNF functions requires a future proof architecture of network service management functions.

Goal

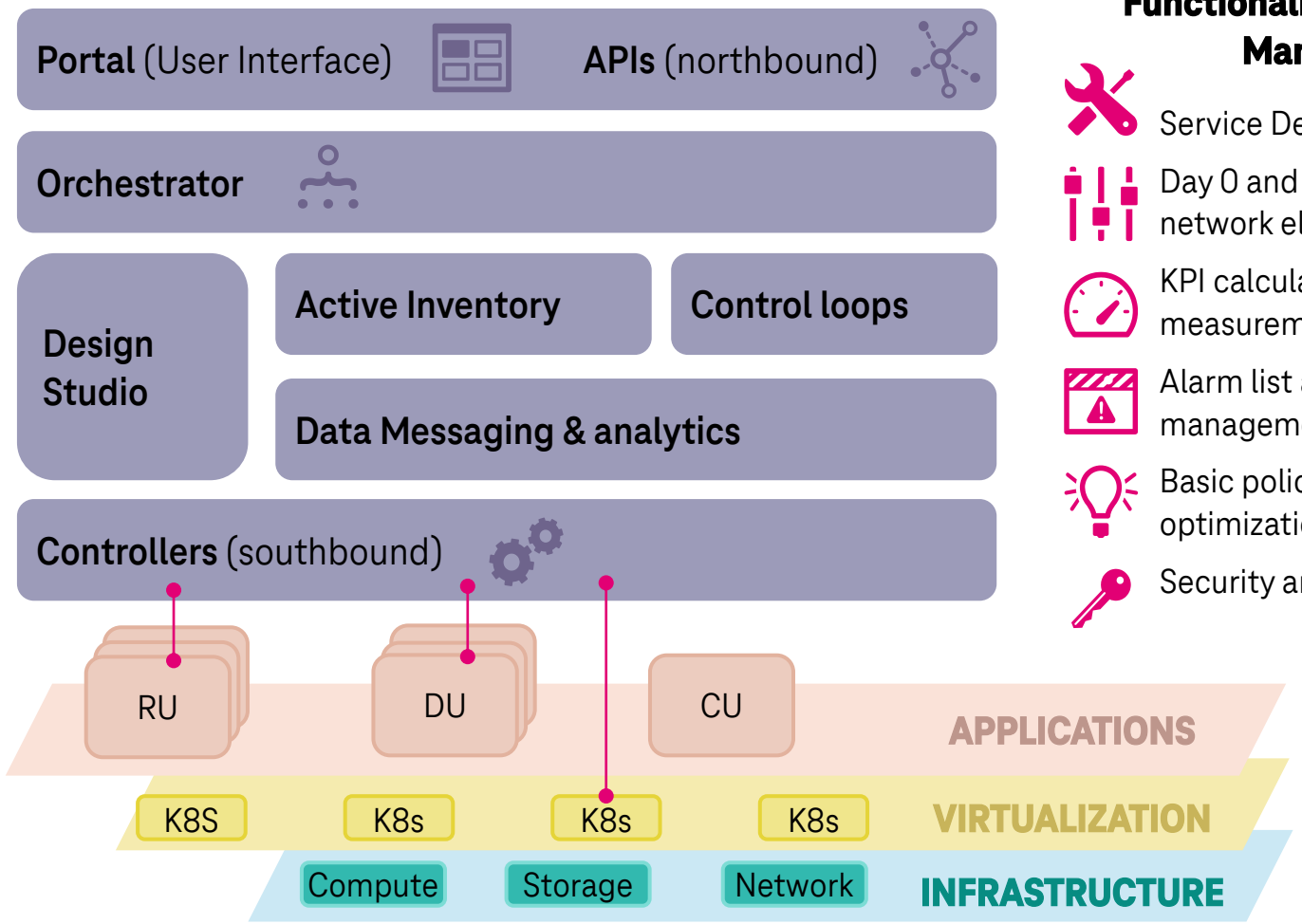
DT wants to leverage the benefits of an independent, integrative approach of the management of our future network functions.

T-NAP pilots the SMO concept for O-RAN Town.

Platform for Service Management and Orchestration (SMO)

- **Integration with O-RAN cloud native functions (CNF)**
- **Integration with O-RAN compliant RUs as physical network functions (PNF)**

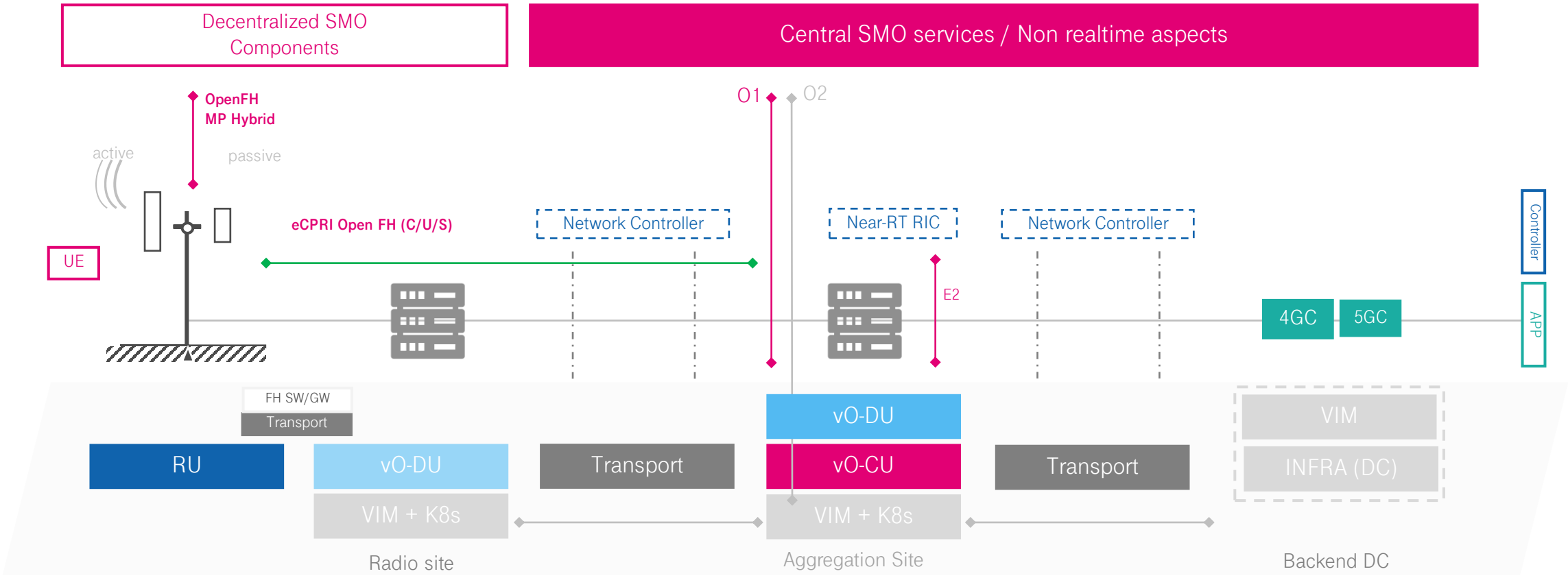
T-NAP



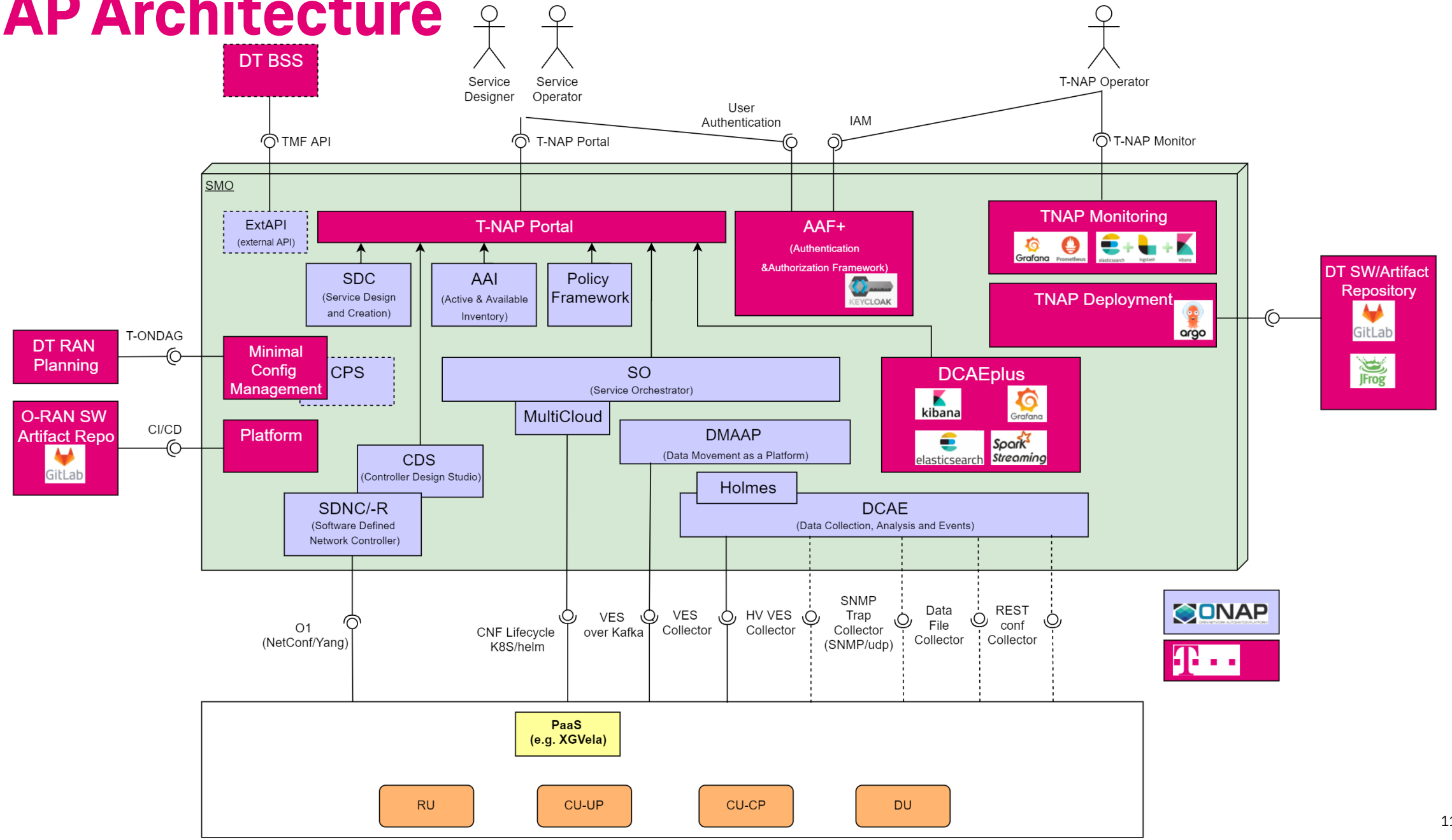
Functionalities for Lifecycle Management

- Service Design 4G and 5G
- Day 0 and Day 1 Configuration of network elements
- KPI calculation and Performance measurement
- Alarm list and dashboard for fault management
- Basic policies for Network optimization
- Security and access management

O-RAN SMO architecture



TNAP Architecture



Key take-aways

01

What is good

- ONAP platform can be used in several different network domains / contexts
- Platform has matured over the releases
- Open Source is one means to lowering the implementation efforts

02

What we've learned

- Mastering the automation is key
- NT & IT skills need to be combined for proper network automation
- Agile development is an imperative
- Partnerships are helpful

03

What we wish for

- Richer eco-system (developers, startups, etc.)
- Plug & Play integration of network functions into the platform
- Truly cloud-native network functions

Network Differentiation

In a software-defined network a relevant part of the customer experience is defined on the automation layer

Questions & Answers