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Optical Transport Networking

Partially disaggregated and ONOS-controlled transport network for 5G services demonstration

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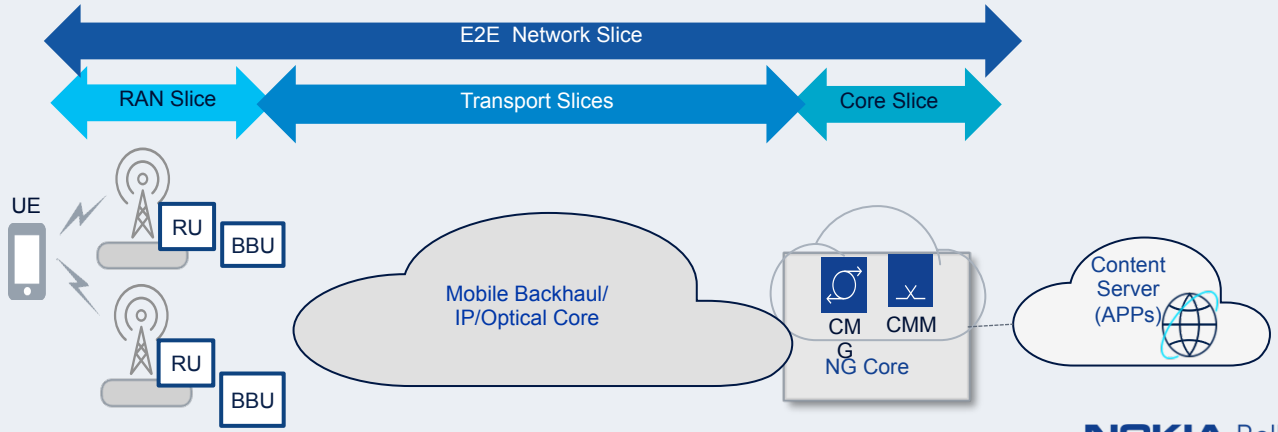
Santa Clara, December 4th 2018

E2E Network slice

- virtual and physical resources (e.g. vBBU, BBU, SGW etc.)
- **transport slices**
- the **RAN slices** and **Core slice** which are created by 5G RAN and 5G core controller

Important: Transport slice IS NOT only transport tunnels. It is much more



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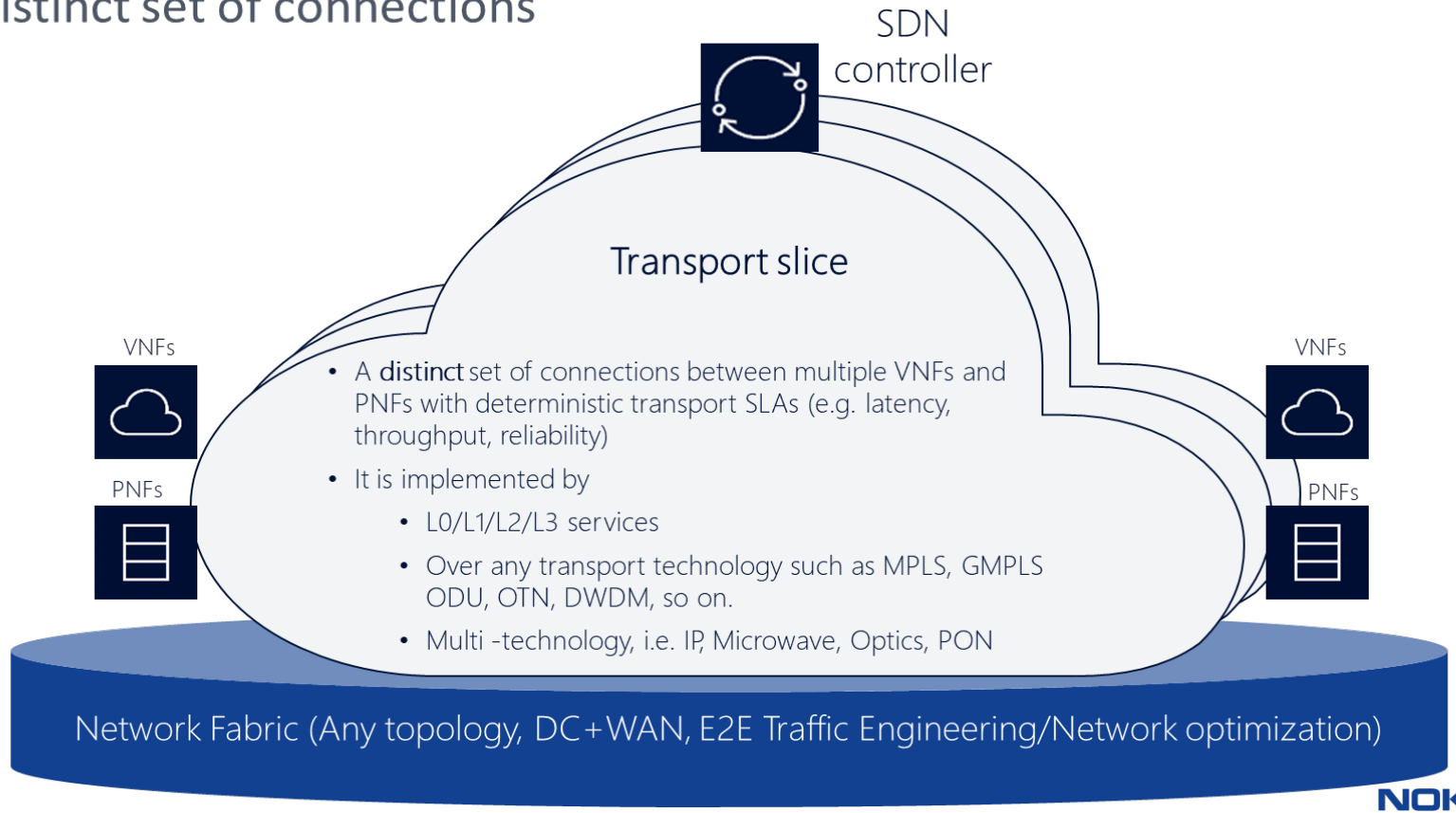
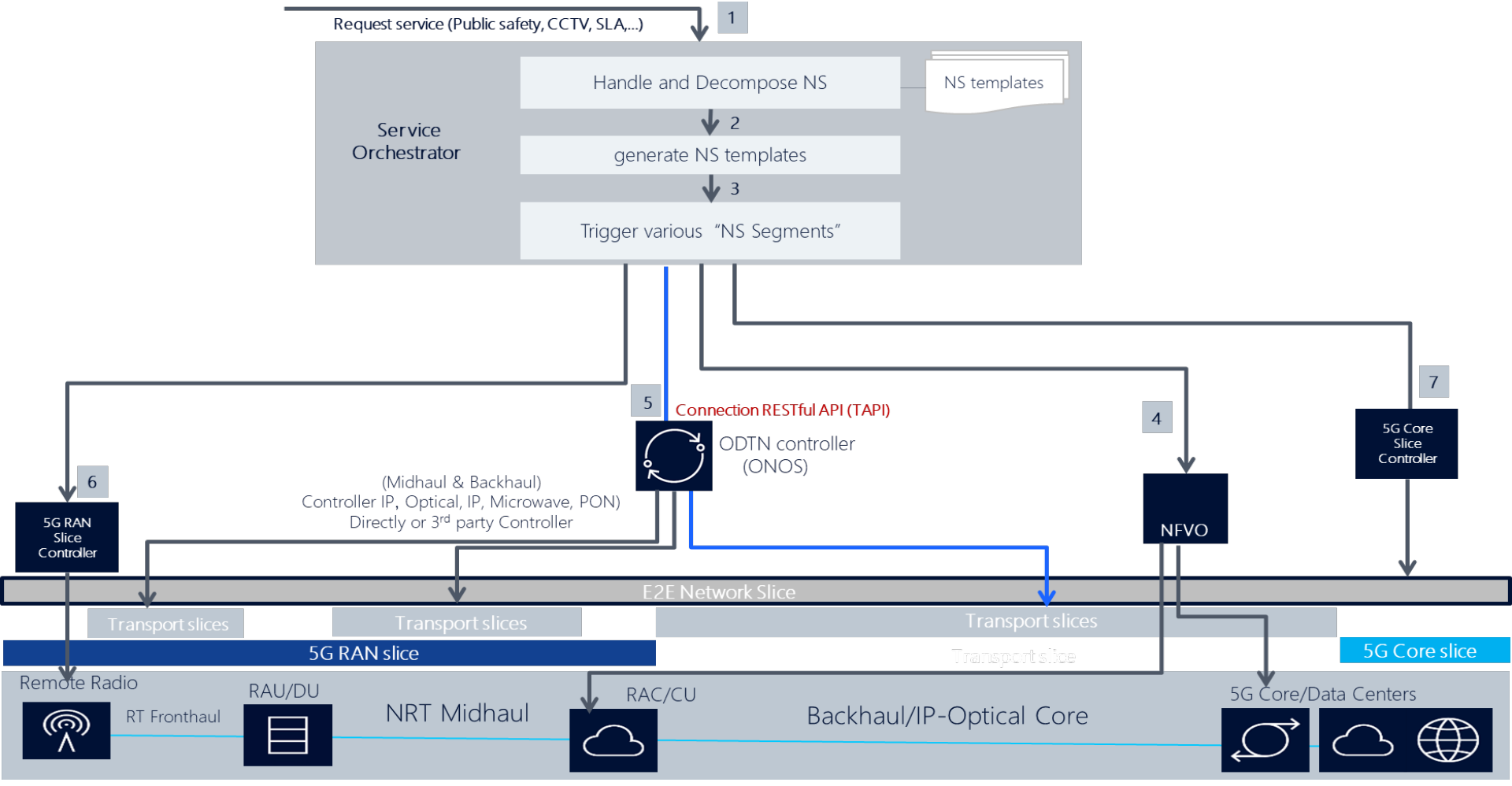
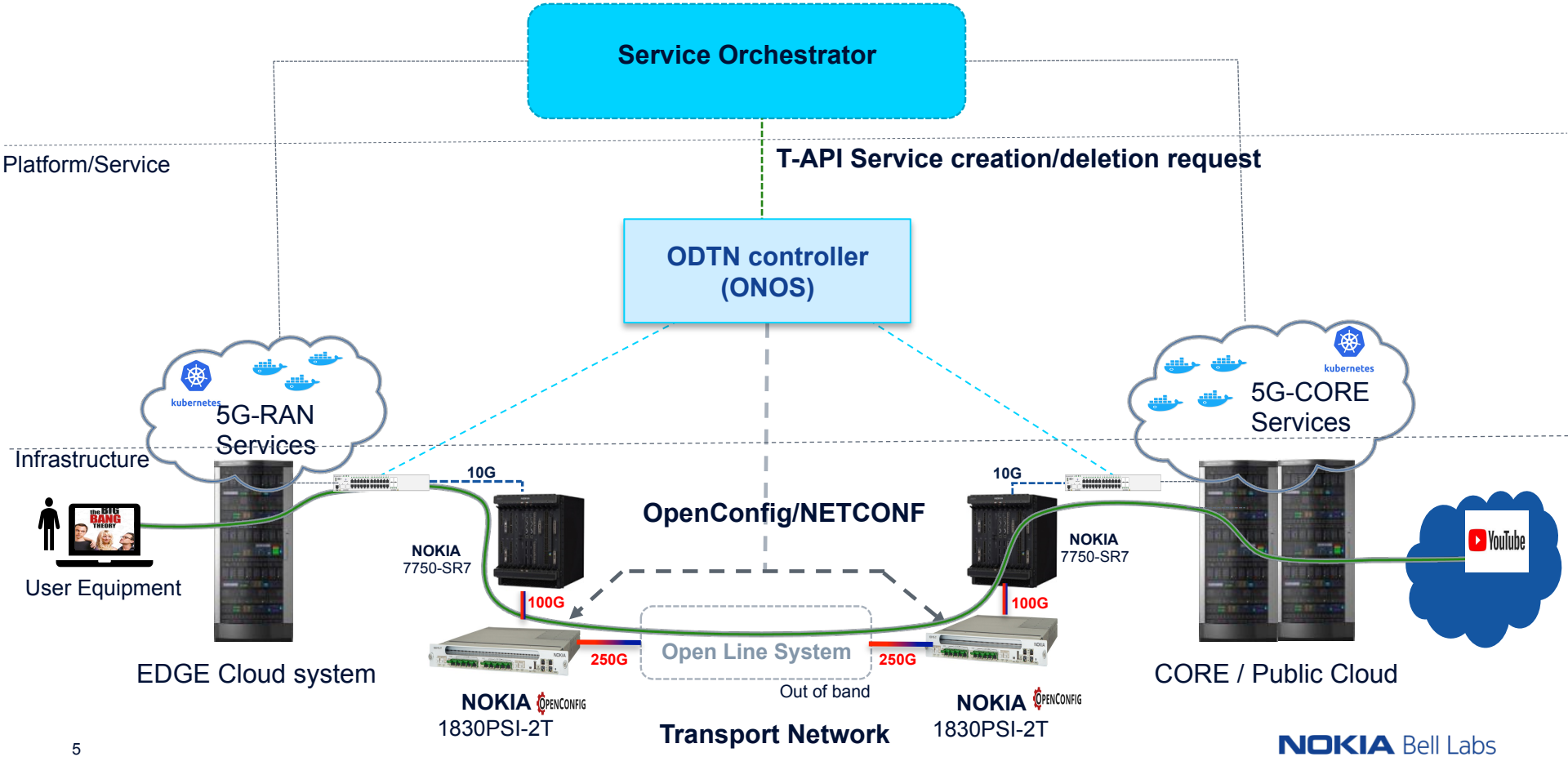
Transport slice definition

A distinct set of connections




Request service (Public safety, CCTV, SLA,...)
1
Service Orchestrator
Handle and Decompose NS
NS templates
2
generate NS templates
3
Trigger various "NS Segments"
5
Connection RESTful API (TAPI)
ODTN controller (ONOS)
4
7
5G Core Slice Controller
6
5G RAN Slice Controller
(Midhaul & Backhaul)
Controller IP, Optical, IP, Microwave, PON)
Directly or 3rd party Controller
NFVO
E2E Network Slice
Transport slices
Transport slices
Transport slices
5G RAN slice
5G Core slice
Remote Radio
RT Fronthaul
RAU/DU
NRT Midhaul
RAC/CU
Backhaul/IP-Optical Core
5G Core/Data Centers



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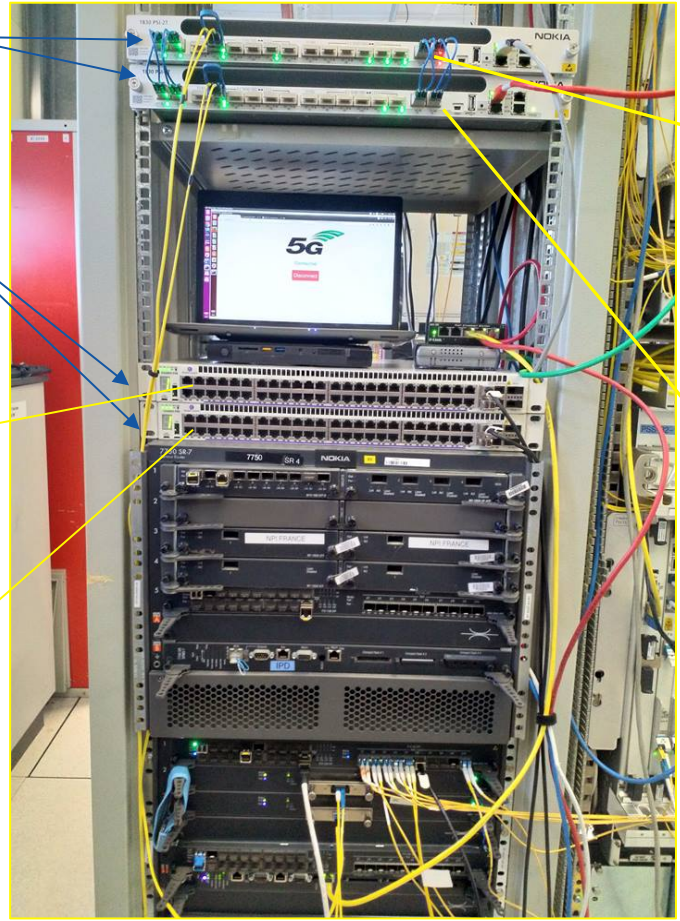
Transponder PSI-2T

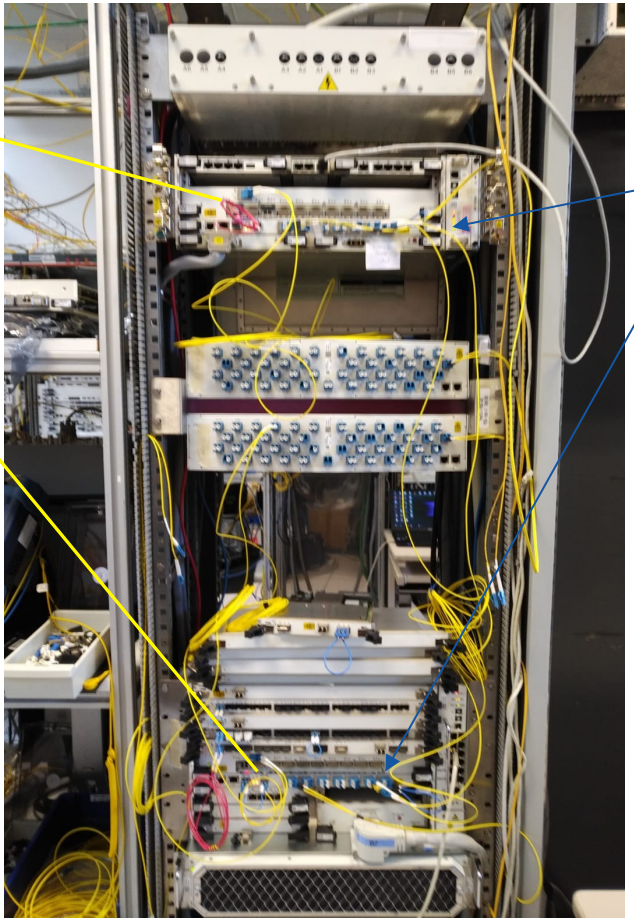
OF Switch

Core server
10.1.0.10

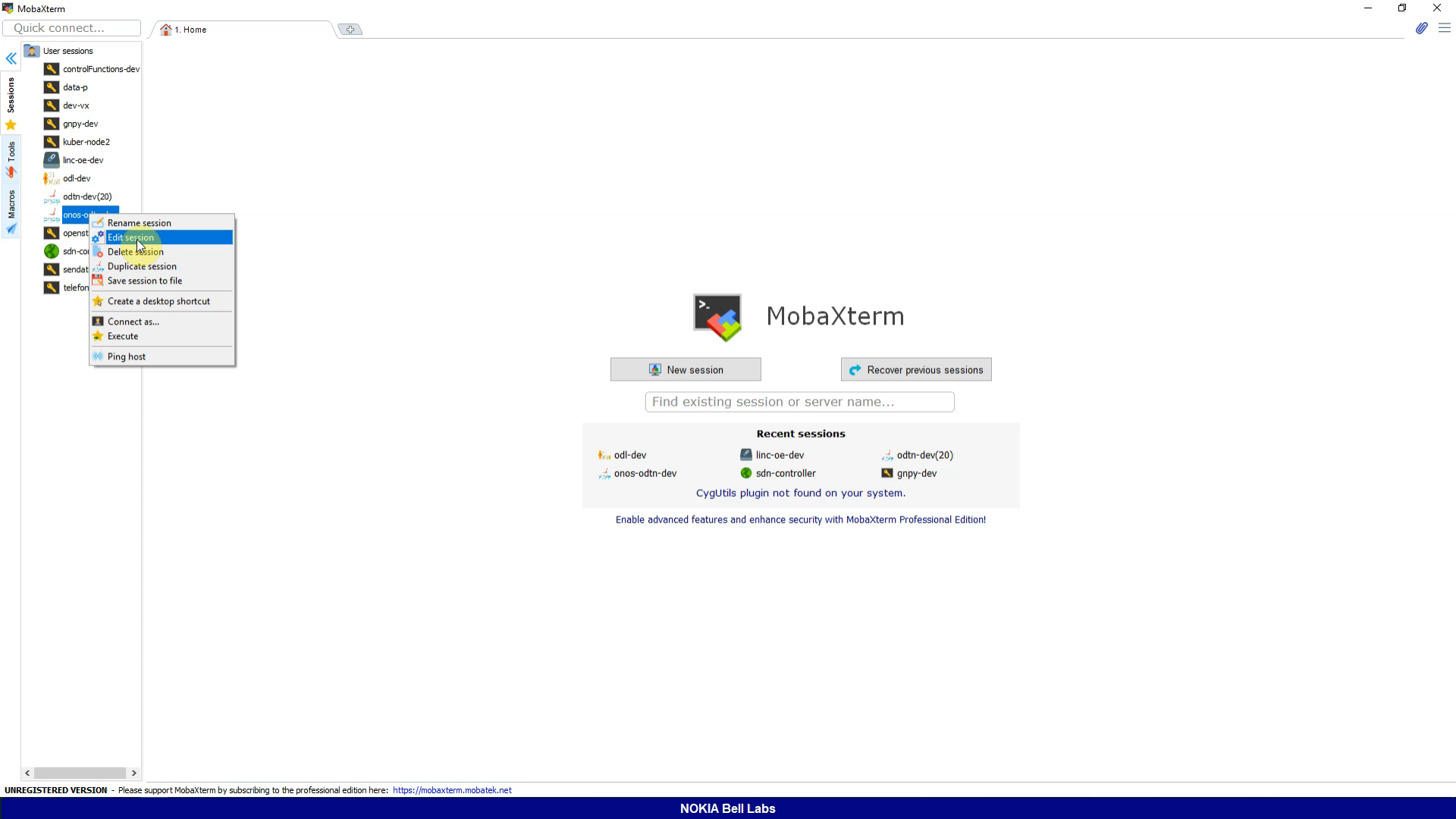
Edge server
10.1.0.18

Service orchestrator





ROADM


MobaXterm
Quick connect...
1. Home
User sessions
controlFunctions-dev
data-p
dev-vx
gnpy-dev
kuber-node2
linc-oe-dev
odl-dev
odtn-dev(20)
Rename session
Edit session
Delete session
Duplicate session
Save session to file
Create a desktop shortcut
Connect as...
Execute
Ping host
Sessions
Tools
Macros
MobaXterm
New session
Recover previous sessions
Find existing session or server name...
Recent sessions
odl-dev
linc-oe-dev
odtn-dev(20)
onos-odtn-dev
sdn-controller
gnpy-dev
CygUtils plugin not found on your system.
Enable advanced features and enhance security with MobaXterm Professional Edition!
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
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- **Thank you very much!**

- Questions?

This work is partially supported by the SENDATE project


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Architecture of E2E 5G Network Slicing