



LFN Developer & Testing Forum

# ONAP 5G Slicing with ETSI Network Services

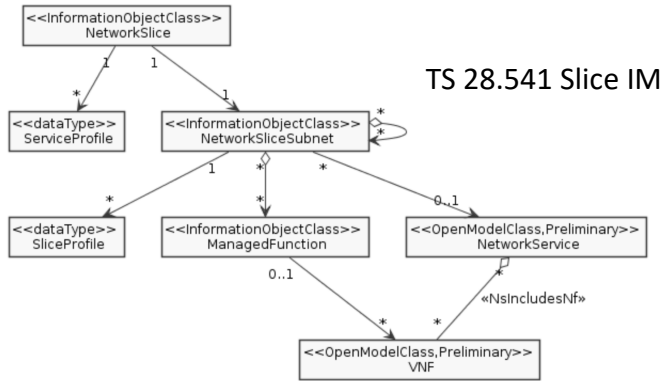
**ONAP ETSI NFV Alignment  
Fred Oliveira, (Verizon)**

**Orchestration Scenarios (a.k.a. ETSI-Alignment) Task Force**

<https://wiki.onap.org/display/DW/Orchestration+Scenarios>

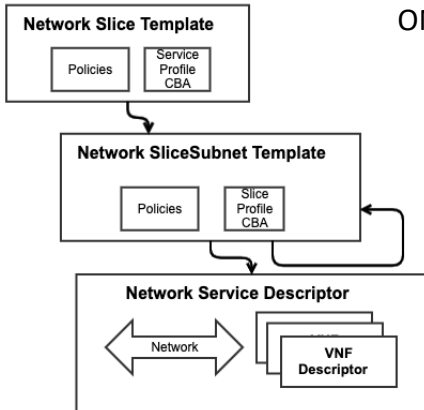
<https://wiki.onap.org/display/DW/ETSI+Network+Service+for+5G+Network+Slicing>

# Mapping 3GPP Slice Info Model



TS 28.541 Slice IM

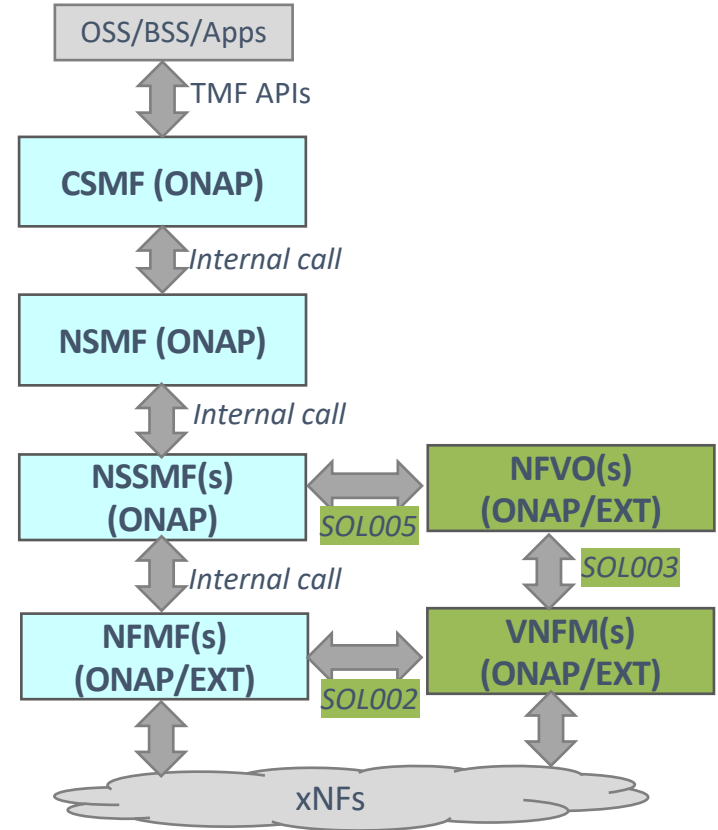
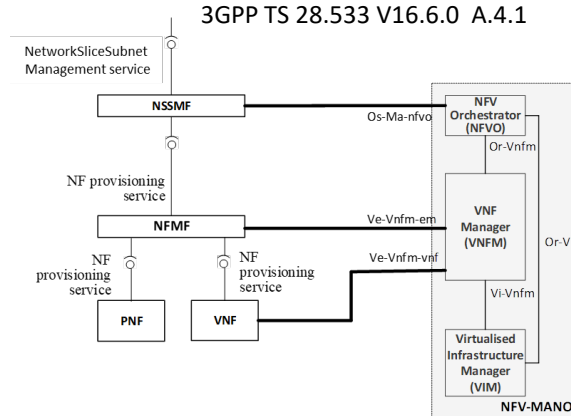
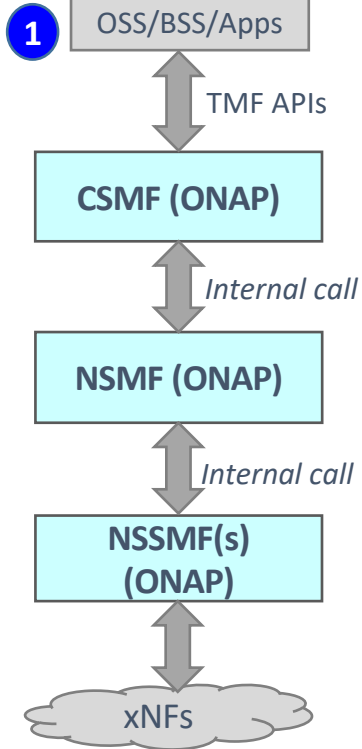
ONAP Service/NS IM



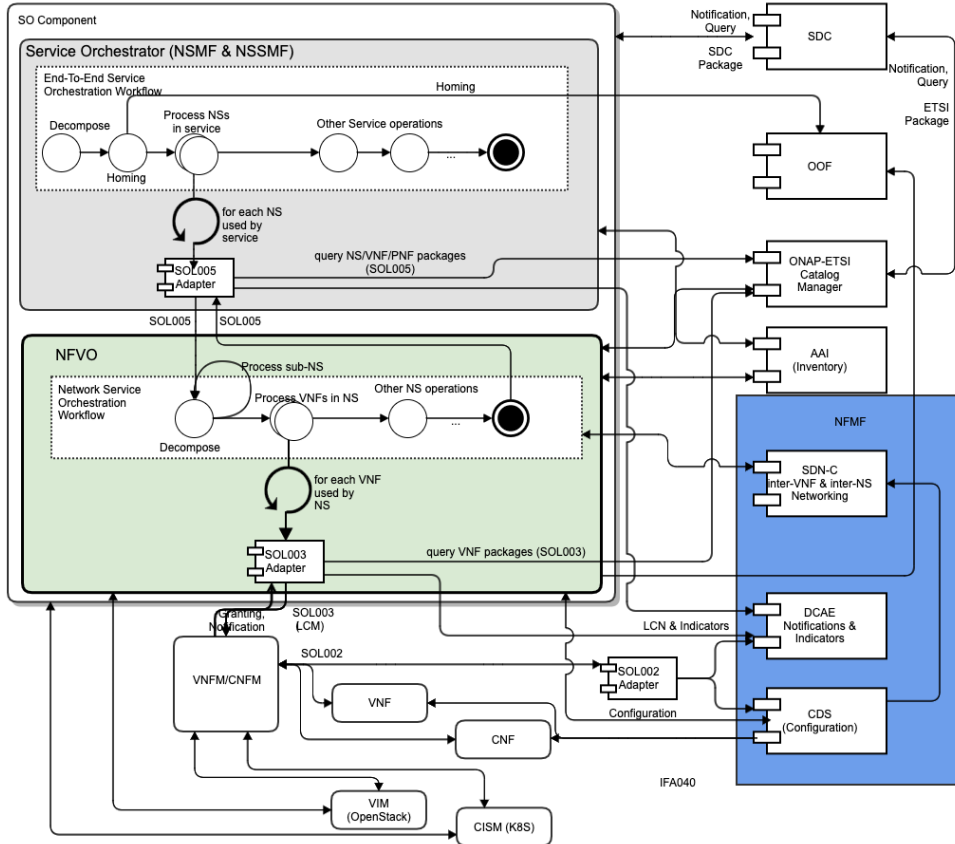
- NetworkSlice and NetworkSliceSubnet → ONAP ServiceComposite
  - The Network Slice Template would include ServiceProfile CBA and required policies
  - The Network SliceSubnet Template would include the SliceProfile CBA, required policies and a reference to a Network Service Descriptor
- NetworkService → Network Service
  - The Network Service Descriptor would include the Transport Networks and/or VNFs/CNFs/PNFs
- Managed Function → CBA/CDS and Policies/DCAE

# ONAP 5G Slice Management: Architecture Extension with NFMF, NFVO & VNFM

ONAP E2E Network Slicing Project



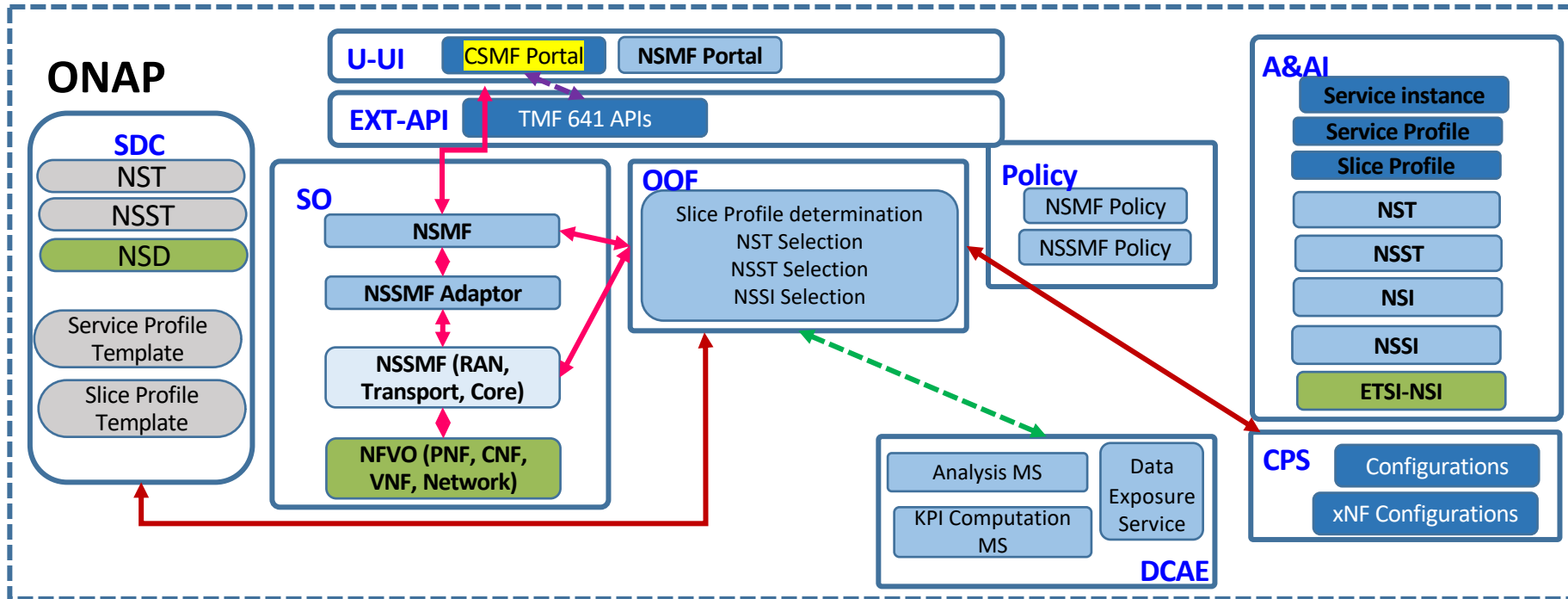
# 5G Slice Management: ETSI NFV MANO Architecture



- SOL005 Adapter to NFVO
- NFVO to LCM NS-D associated with NSST
  - Mixed xNFD + Network (VL)
  - Network(VL) + PNFD Only
- SOL003 Adapter to V/CNFM
- SOL002 Adapter for events and configuration

# ONAP ETSI 5G Slice Impact

ONAP E2E Network Slicing Project  
+ ETSI



# ONAP ETSI 5G NSST/NSD Examples

## Central 5G Network Slice Subnet Service Template

Policies CBA

## Central 5G Network Service Descriptor

NRF PCF UDM AUSF NEF

Control Network

## UP 5G Network Slice Subnet Service Template

Policies CBA

## UP 5G Network Service Descriptor

Control Network

AMF SMF UPF

RAN Network

Data Network

## RAN 5G Network Slice Subnet Service Template

Policies CBA

## RAN 5G Network Service Descriptor

Control Network

LFH Links LFH Links LFH Links LFH Links

FH Links

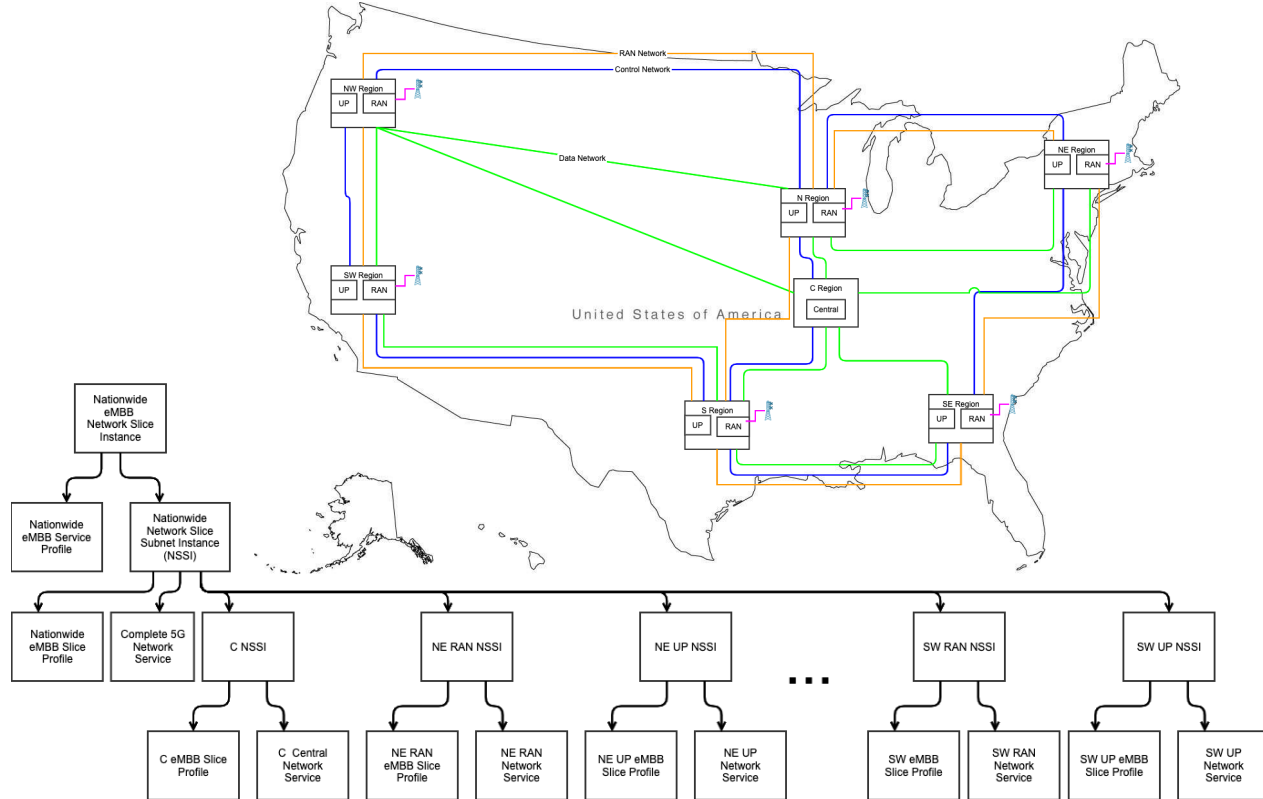
RAN Network

vDU vCU



# ONAP ETSI 5G NSI/NSSI/NS Examples

<https://wiki.onap.org/display/DW/ETSI+Network+Service+for+5G+Network+Slicing>



- US mainland
  - 6 regional DC
  - 1 Central DC
  - Partial Mesh Network
- Nationwide eMBB Slice
  - Nationwide TN NSST/NSD/NSSI
  - RAN and UP NSSI/NS at Regional DC
  - Central NSSI/NSD at Central DC

# Istanbul Proposal

- Engage with E2E Network Slicing Project to Enhance with ETSI NSD/NFVO model
- Enhance ETSI NFVO to support enhanced LCM of VNF/CNF/PNF
- PoC 5G Slice Core/RAN/TN using ETSI NS/NFVO





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