5G Slicing Management with ONAP

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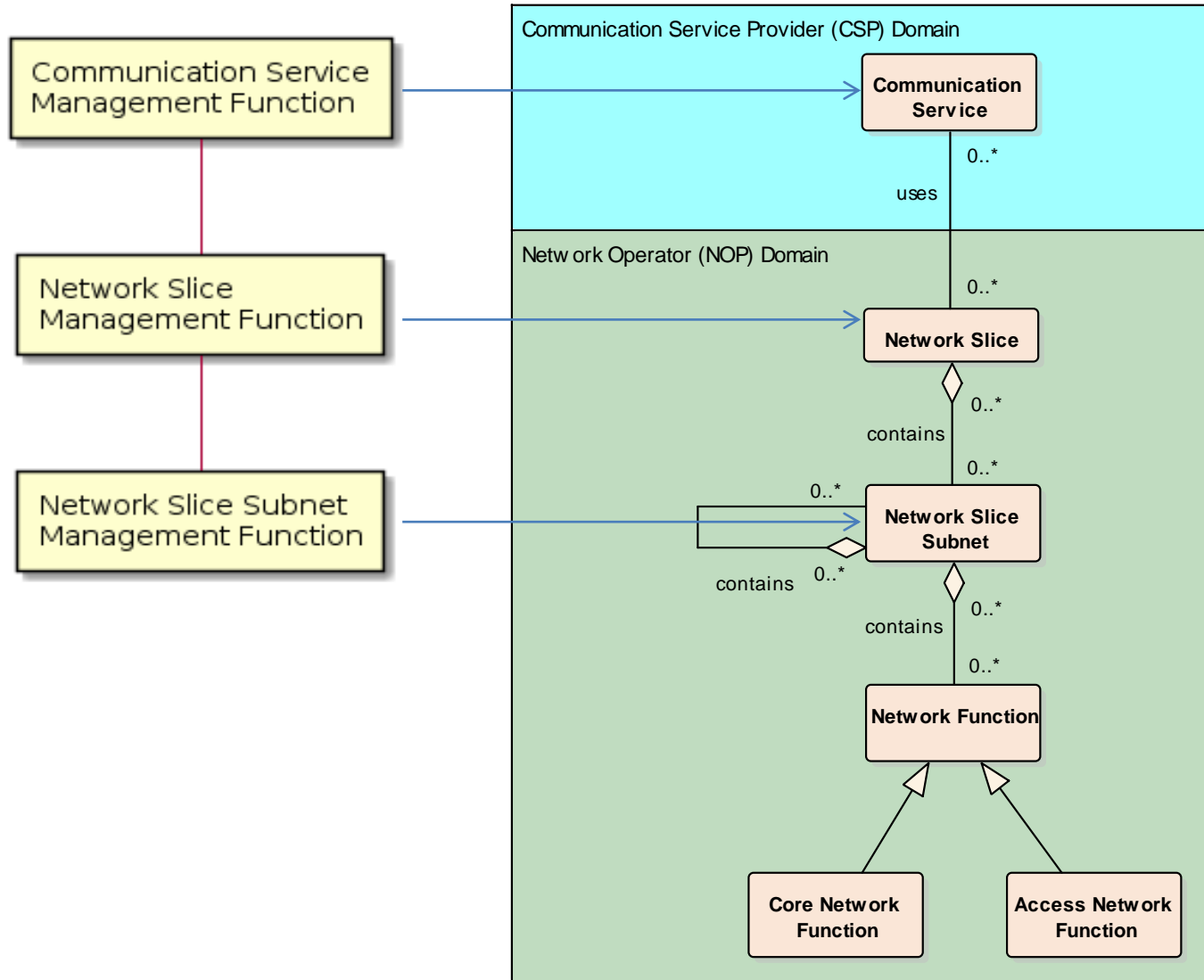
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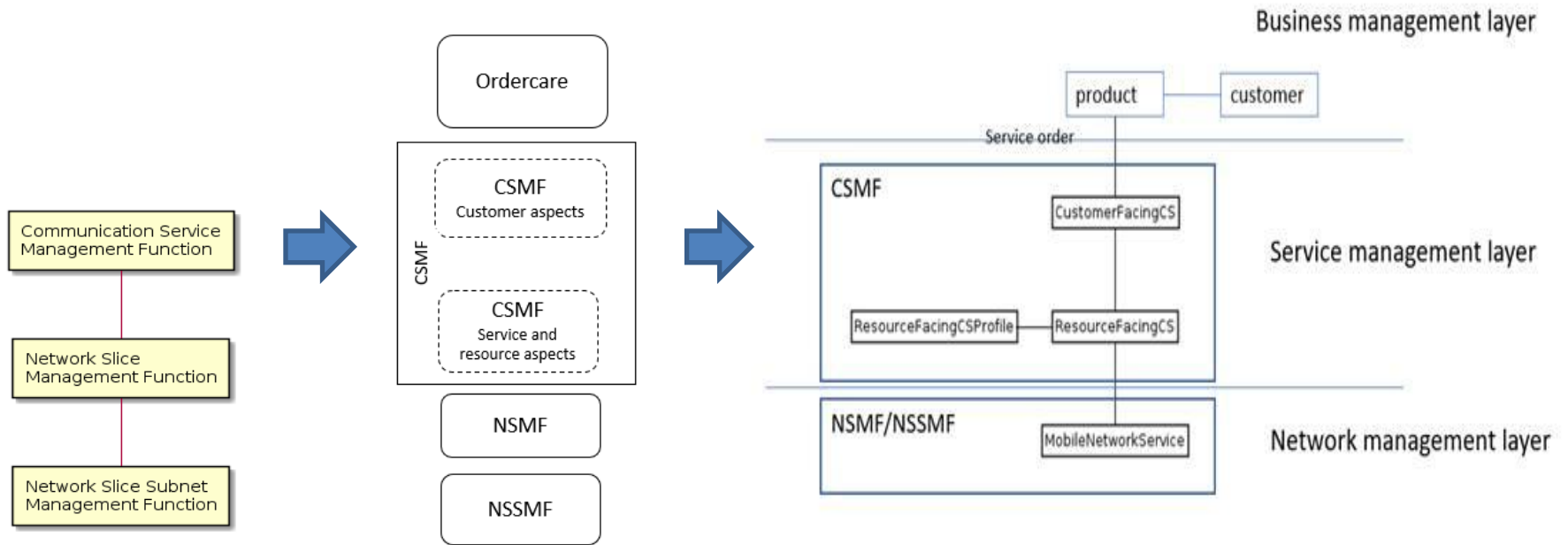LFN DDF

Outline

- 5G slicing mgmt architecture
- Demo/Solutions with ONAP
- Challenges & Gap Analysis
- Open Discussion

5G Slicing Mgmt Architecture (1/2)
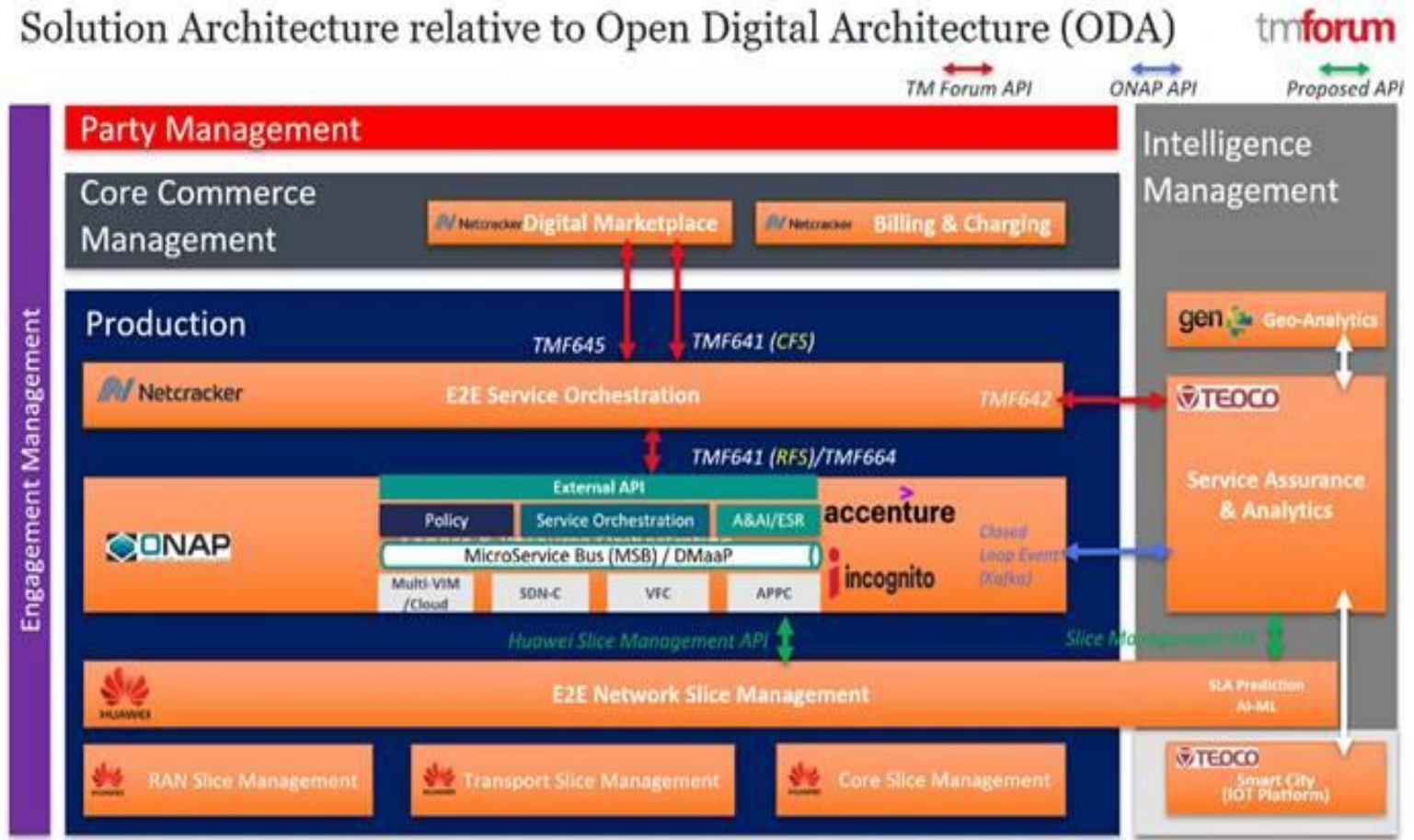
5G Slicing Mgmt Architecture (2/2)

5G Slicing Mgmt Demos with ONAP

- Pattern 1 – 4 layers
  - CFS, RFS, NSMF, NSSMF
- Pattern 2 – 3 layers
  - CSMF, NSMF, NSSMF
- Pattern 3 – 2 layers
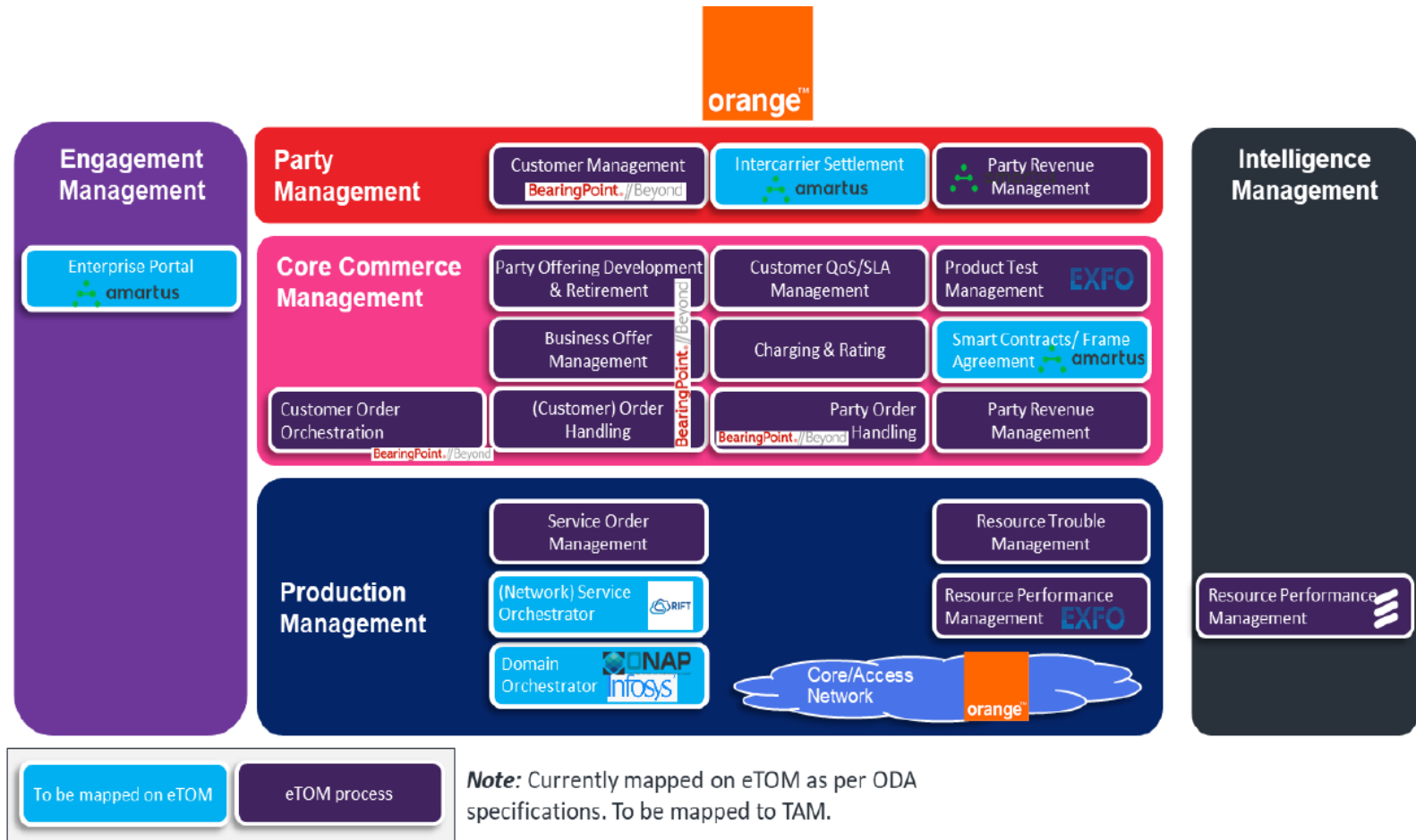 - CFS+NSMF, RFS+NSSMF
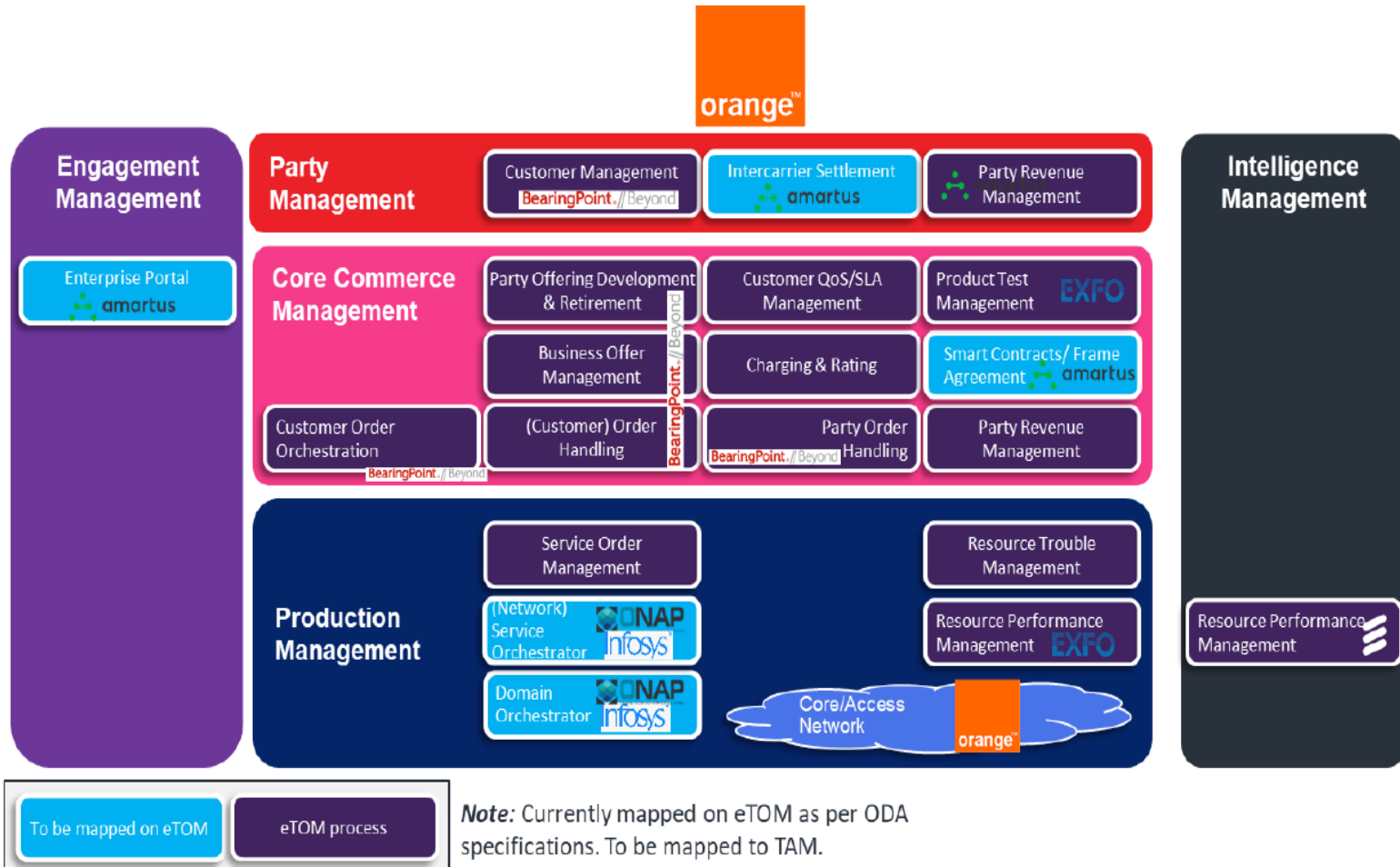
Pattern 1: 4 Layers

Source: TMF DTW 2019 Catalyst - 5G Riders on the Storm

Pattern 3-1: 2 Layers

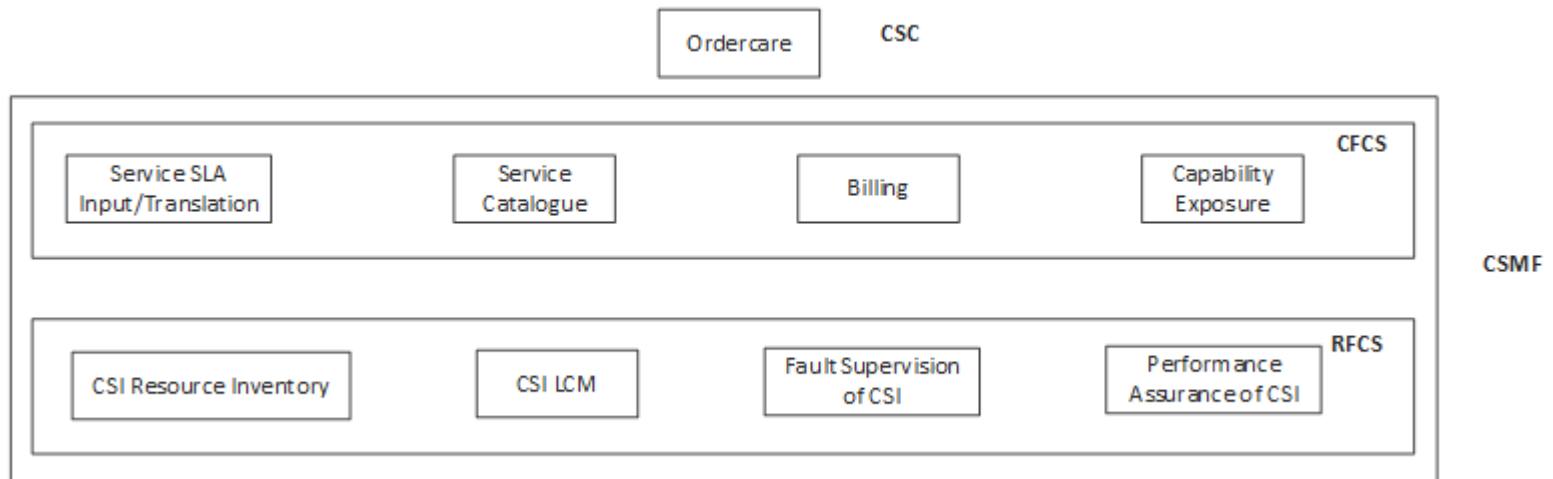Source: TMF DTW 2019 Catalyst - Skynet

Pattern 3-2: 2 Layers

Source: TMF DTW 2019 Catalyst - Skynet

Challenges

- Convergence v.s. Flexibility
  - Which way should we take?
  - All of them?
- Usability v.s. Interoperability
  - Gap in interfaces & templates in all options.
  - Gap in generally-applicable translation functionality.

Ordercare	CSC

CSMF

CFCS

Service SLA Input/Translation	Service Catalogue	Billing	Capability Exposure

RFCS

CSI Resource Inventory	CSI LCM	Fault Supervision of CSI	Performance Assurance of CSI

Gap Analysis: CSMF

Lifecycle of a communication service instance

Preparation	→	CSI Commissioning	→	CSI Operation	→	CSI Decommissioning
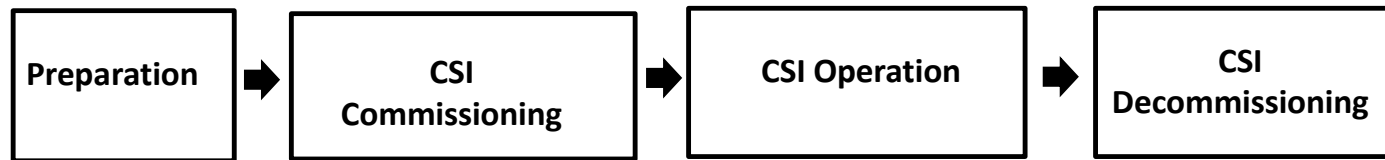
•**feasibility check,** i.e., checking the attainable service quality from both resource and service aspects,

•**negotiation of the service attributes**,

•preparing **service and network requirements derived from SLA**.

Requirement translation, converting the communication service requirement for the CSI to network requirements and creation of the CSI. When the CSI is created, it is deployed on the network resources and ready to be activated.

An activated CSI allows run-time operation of the communication service, e.g., quality assurance, data exposure, CSI modification. Optimization of CSI utilization may continue during the operation phase of the CSI.

When the CSI is no longer needed, after being de-activated, lifecycle of the CSI ends with CSI termination.

While the translation is expected to be vendor-specific knowledge enabled, would it be possible to leverage the model-driven feature of ONAP to illustrate a vendor-agnostic schema-based framework, allowing vendor knowledge input or self-learned mechanism?

Open Discussion

- What is the pattern for our 5G slicing mgmt sub-case?

- Shall we explore more options in parallel or focus on (even part of) one option first?

- If so, which would be the preferred starting point?

- If not, how shall we work together to maximize complementary efforts and avoid inconsistency?