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5G Slicing: The Orchestration Story

Panel discussion

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Dr. Ishan Vaishnavi
Area Leader, Multi-Domain Orchestration and Management
Huawei Technologies, European Research Centre Munich
ishan.vaishnavi@huawei.com

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What is a “Slice”?

3GPP SA2 TR23.799 definition:

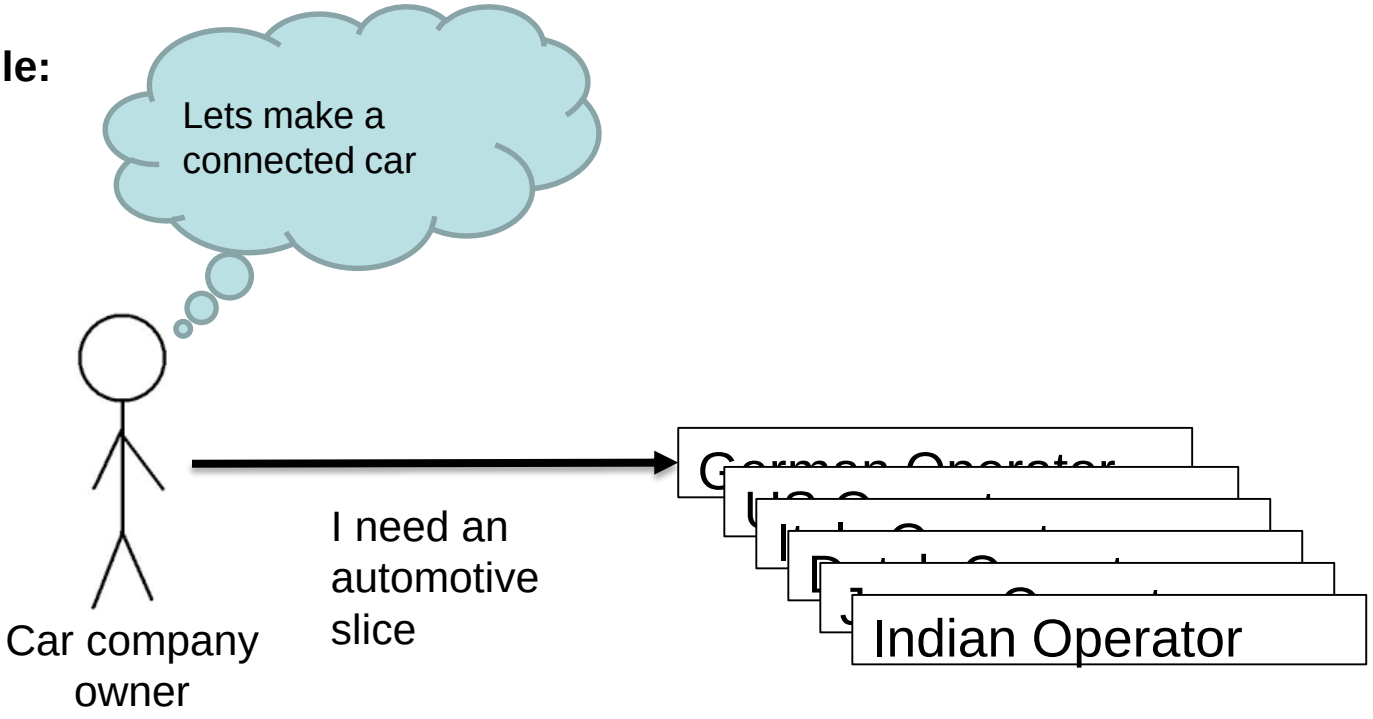
- **Network Slice: is a concept describing a system behaviour which is implemented via Network Slice Instance(s).**
- **Network Slice Instance (NSI): is an instance created from a Network Slice Template (NST).**
- **Network Slice Template (NST): is a logical representation of the Network Function(s) and corresponding resource requirements necessary to provide the required telecommunication services and network capabilities.**

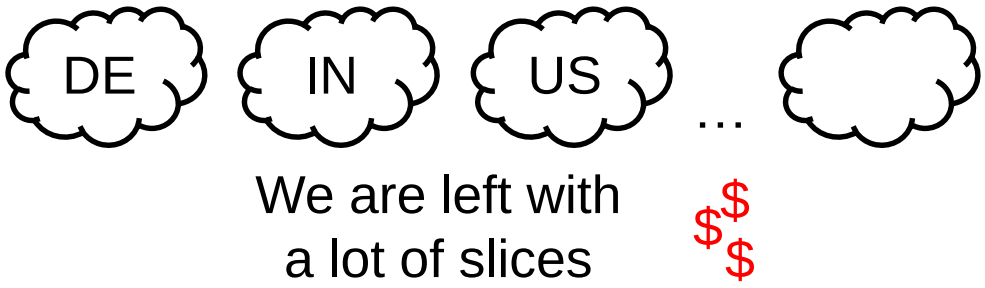
Therefore a slice is a concept describing a system behaviour which is implemented via an instance created from a logical representation of the Network Function(s) and corresponding resource requirements necessary to provide the required telecommunication service and network capabilities.

How are those slices created?

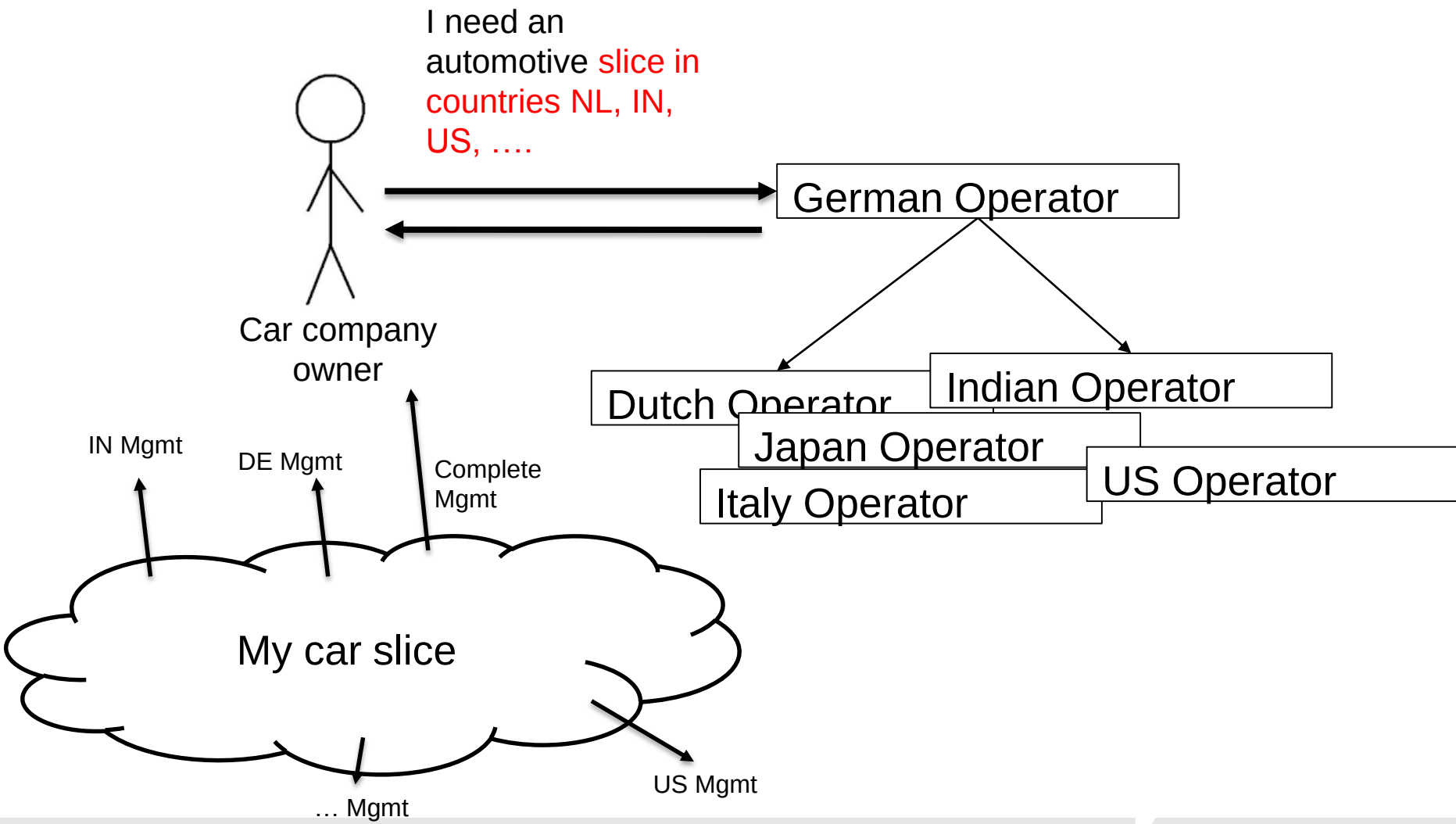
- **Automotive Example:**

I have sales in:
Germany
Netherlands
Italy
US
Japan
India
…20 more

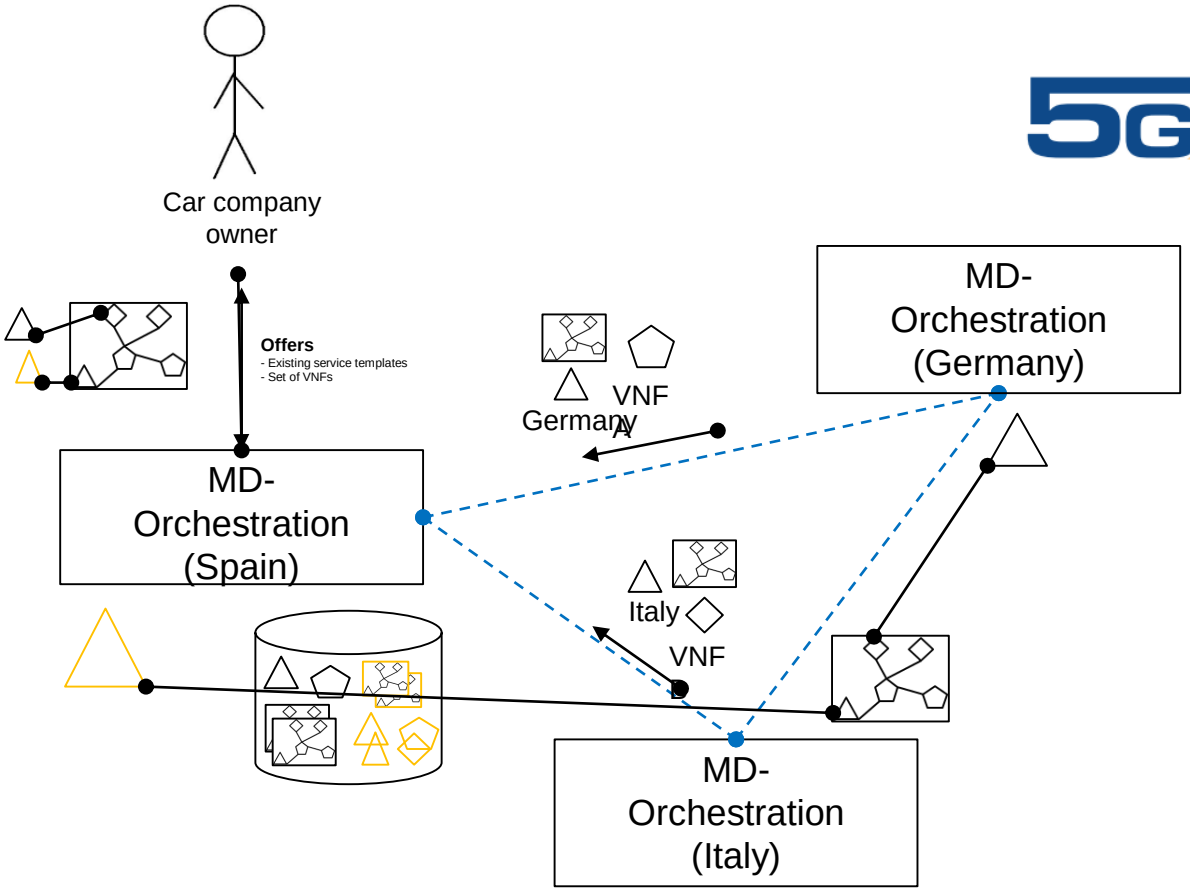




Solution

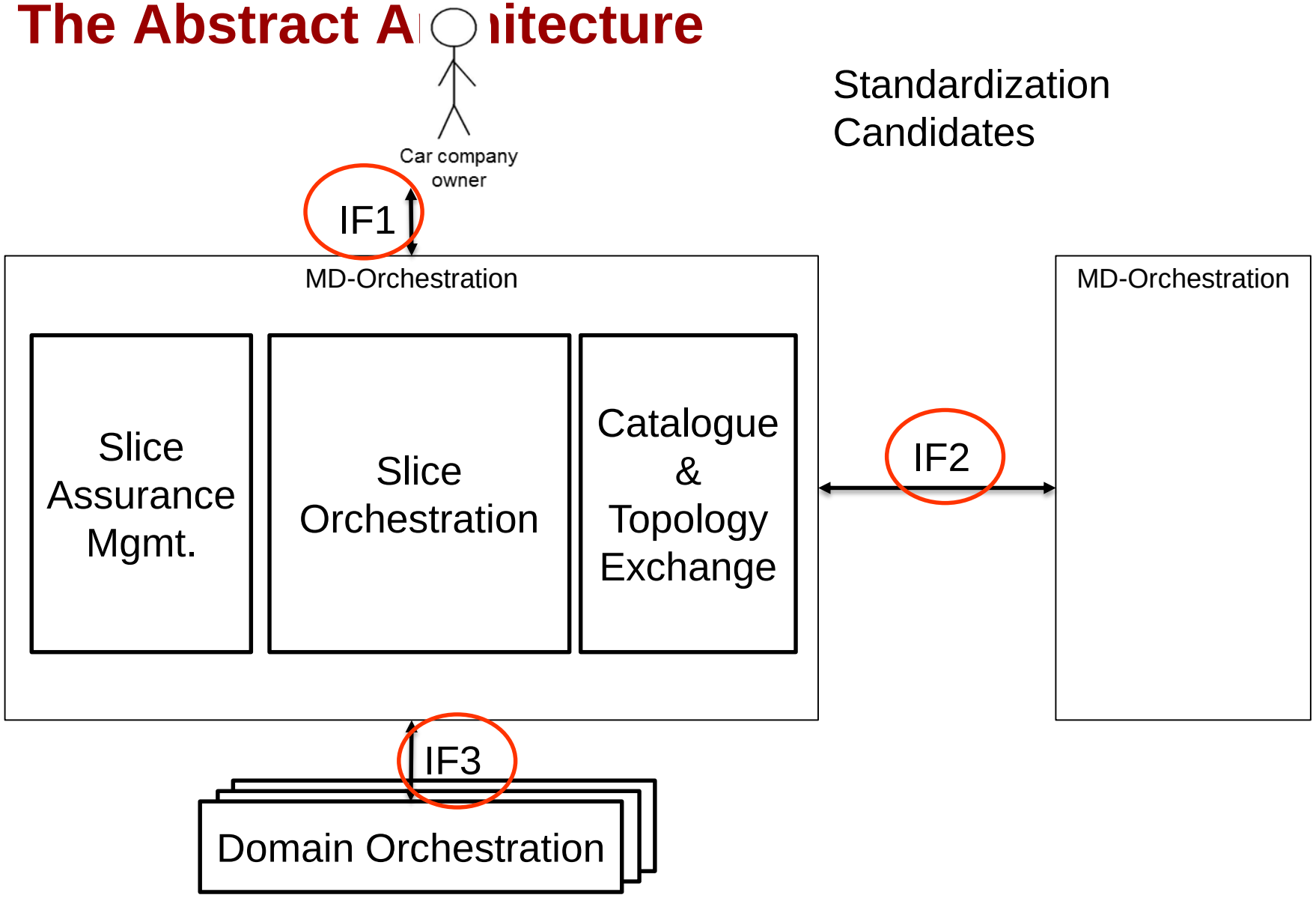

I need an automotive slice in countries NL, IN, US, ….
Car company owner
German Operator
Dutch Operator
Indian Operator
Japan Operator
US Operator
Italy Operator
IN Mgmt
DE Mgmt
Complete Mgmt
My car slice
US Mgmt
… Mgmt

The Goal


Car company owner
Offers
- Existing service templates
- Set of VNFs
MD-Orchestration (Spain)
MD-Orchestration (Germany)
MD-Orchestration (Italy)
VNF Germany A
Italy VNF

The Abstract Architecture

Standardization Candidates



Challenges

- **Abstracting topologies**
  - what level is abstract enough but still useful?
  - What if the operators do not wish to abstract their topologies at that level?
- **Service instantiation**
  - Price negotiation
  - Creating service instances for deployment
  - The embedding problem – over abstract topologies
- **Assurance**
  - How do you monitor such an infrastructure?
  - How are SLA ensured?
  - Who pays for violations?
- ...

Thank You

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