5G Architecture

SliceNet System Definition

slicenet.eu

Main challenges

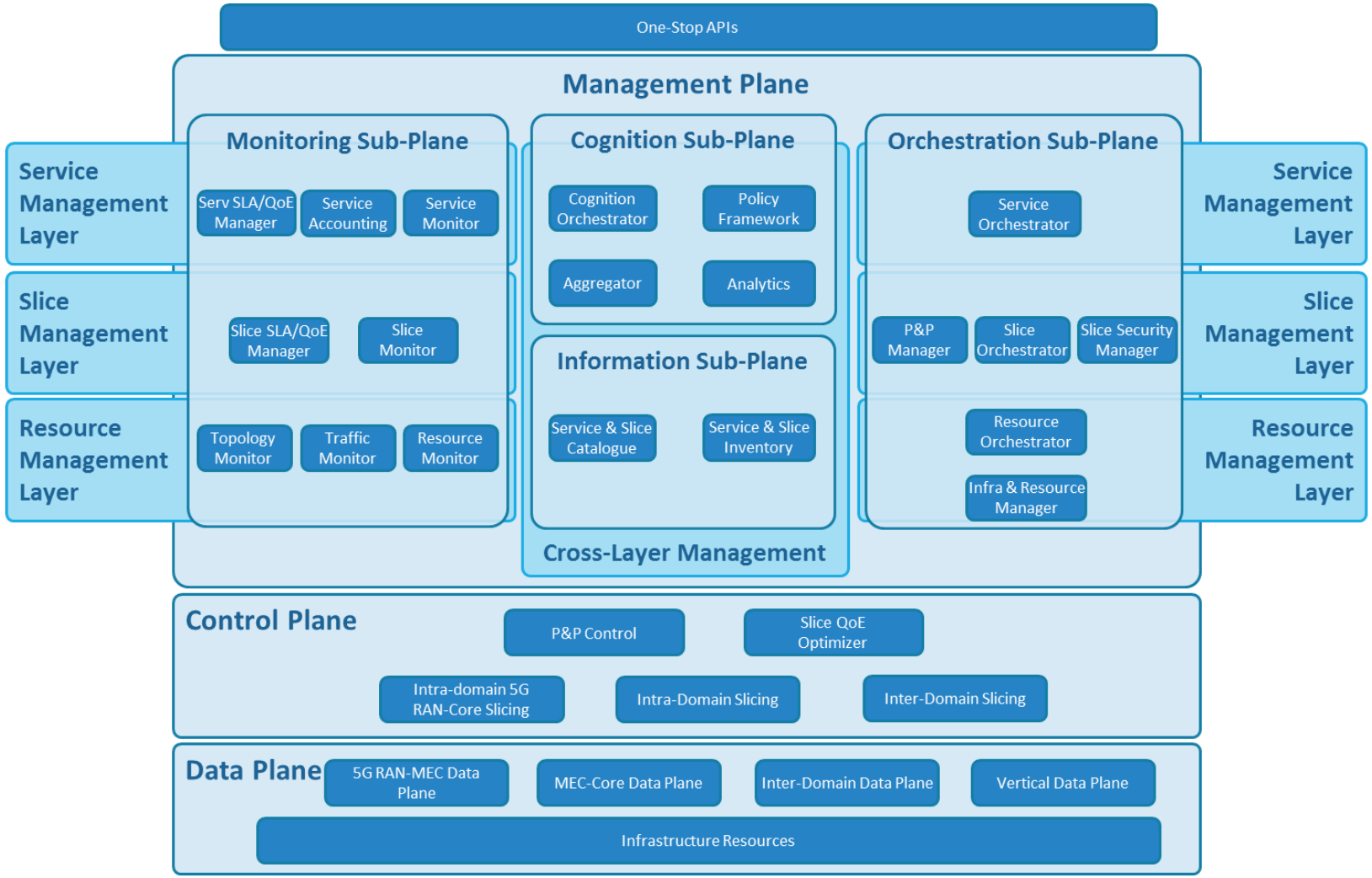
- High heterogeneity in slicing concepts definition
  - Several ongoing research activities and efforts
    - 5G-PPP projects, open source projects, standardization process
  - Proliferation of standards tackling slicing without consensus and common vision
- Alignment with ongoing 3GPP specifications development
- QoE metrics not well defined in standards and state of the art
- Cognition and artificial intelligence techniques still to be adopted in network and service management platforms
- Lack of verticals involvement in service design and lifecycle management

System Requirements and Definition of the Vertical UCs

- Use case definitions and requirements
  - Verticals involvement in requirements collection and identification process
  - Identification of 5G service and technical requirements

Requirements	Smart Grid	e-Health	Smart City
Availability/reliability	99.999 %	99.999 %	99.999 %
Wide-area coverage	Yes	Yes	City area
Connection density	< 0.5 device/km2	Low	200000 users/km2
Traffic volume density	Very low	Low	700 Gbps/km2
Multi-domain slicing/Security	Yes	Yes	Yes
End-to-end latency	≤ 10 ms (GOOSE); ≤ 5 ms (SV)	30-100 ms	Seconds to hours
Data rate, per device	≤ 20 Mbps (GOOSE); ≤ 2 Mbps (SV)	60 to 150 Mbps	Very low

Logical reference architecture



Thank You !

slicenet.eu