

SliceNet Introduction

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slicenet.eu

Project overview



EURESCOM

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NEXTWORKS
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Creative Systems Engineering

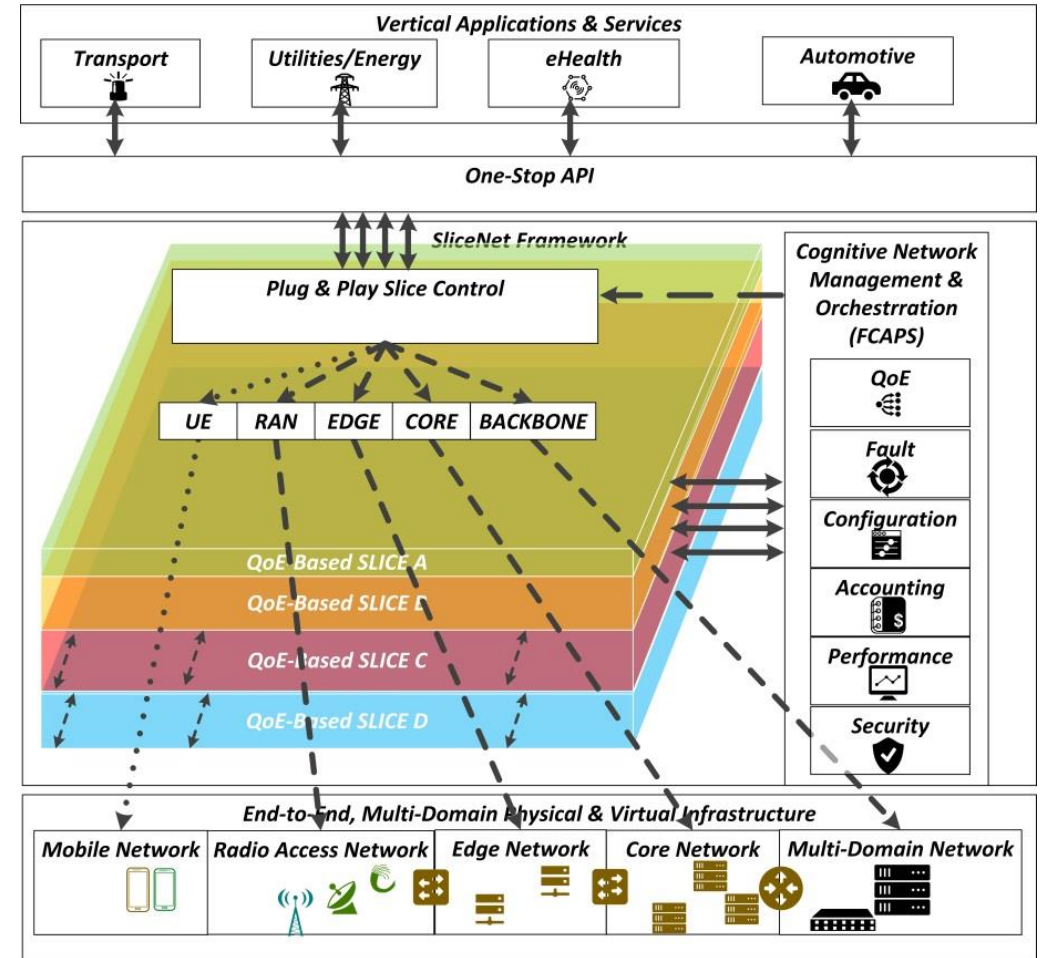
CIT CORK INSTITUTE OF TECHNOLOGY
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Start/End: June 2017 / May 2020

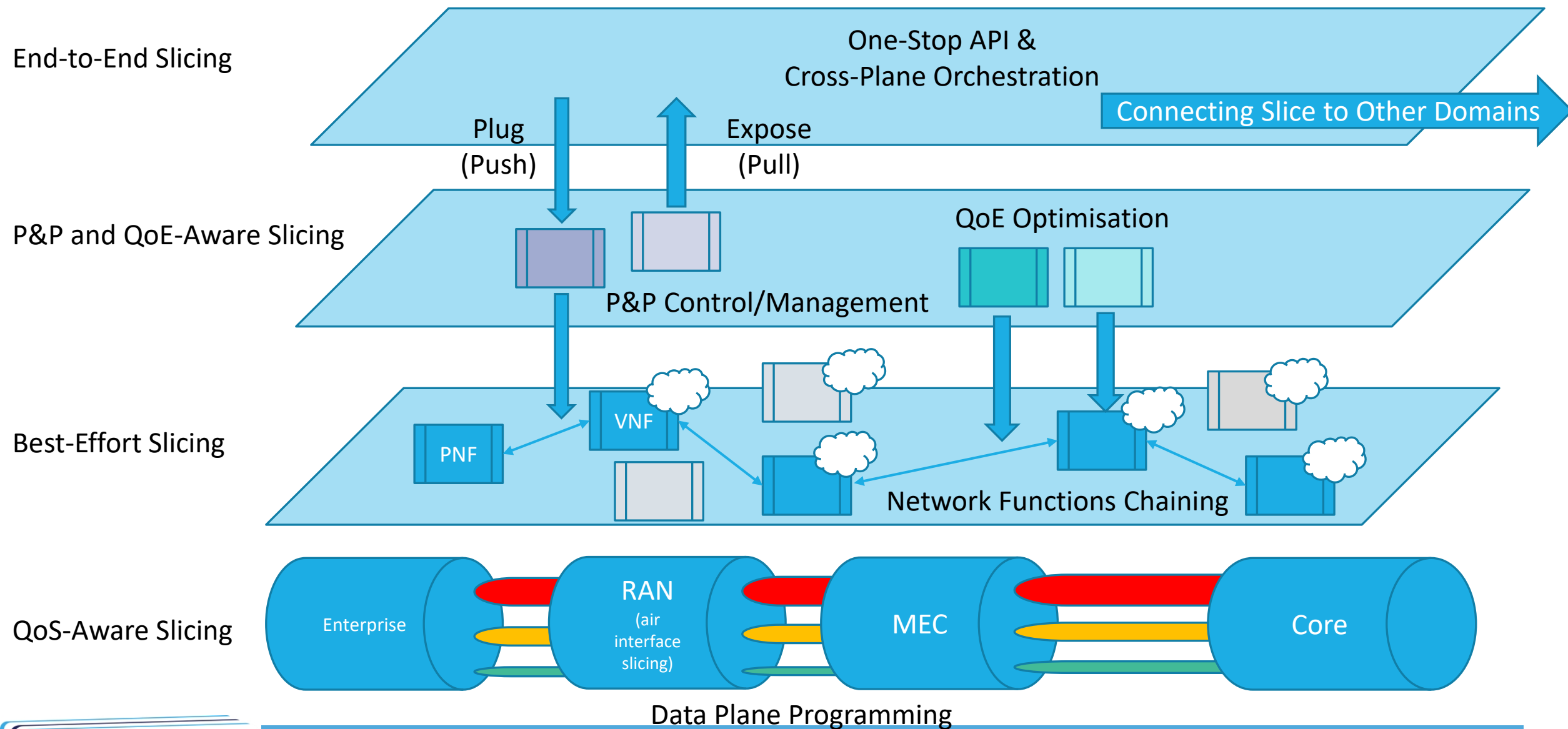
Budget: 7.9 M€

Project objectives

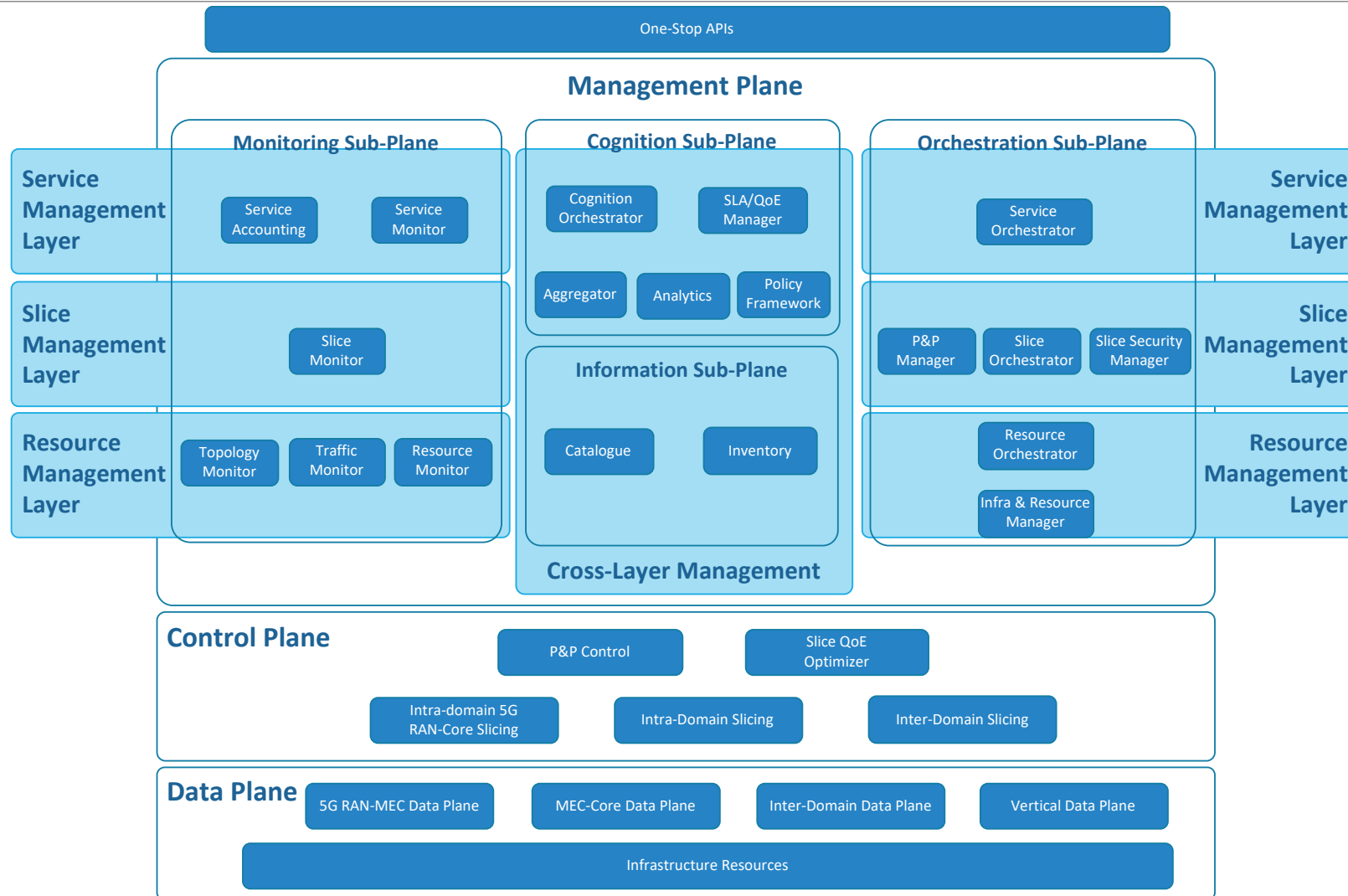
1. Achieve an innovative, cognitive, integrated **'one-stop shop' 5G slice management framework** for **vertical businesses** and co-designed by vertical sectors
2. Enable extensible, **end-to-end slice FCAPS management** across multiple planes and operator domains
3. Establish **cognitive, agile QoE management of slices** for service assurance of vertical businesses
4. Empower **orchestration** for cross-plane coordination of management, control, service and data planes to achieve **system-level slicing** control and slice operation



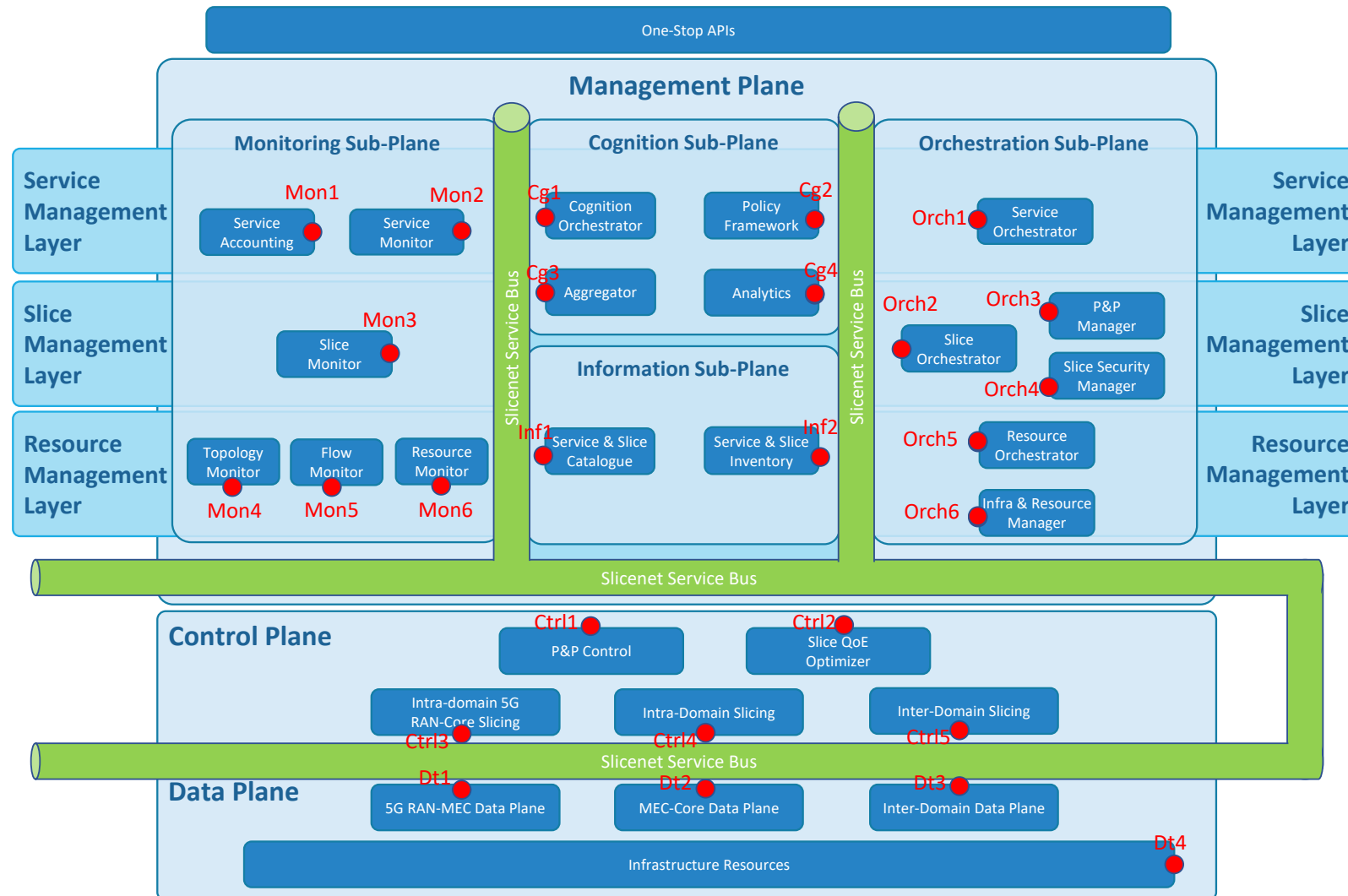
Slicing Logical Architecture in SliceNet



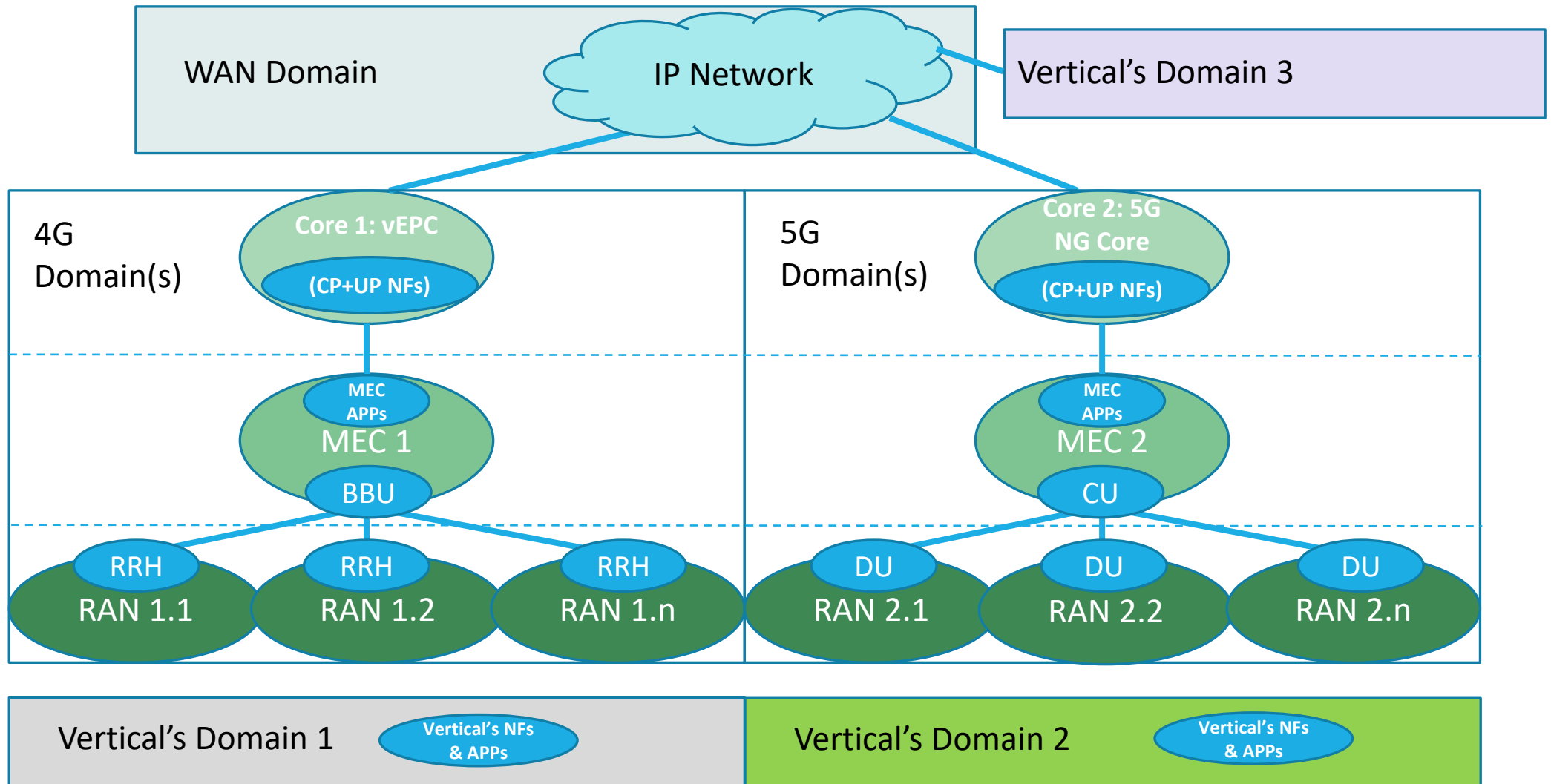
SliceNet overall architecture



APIs/Reference points



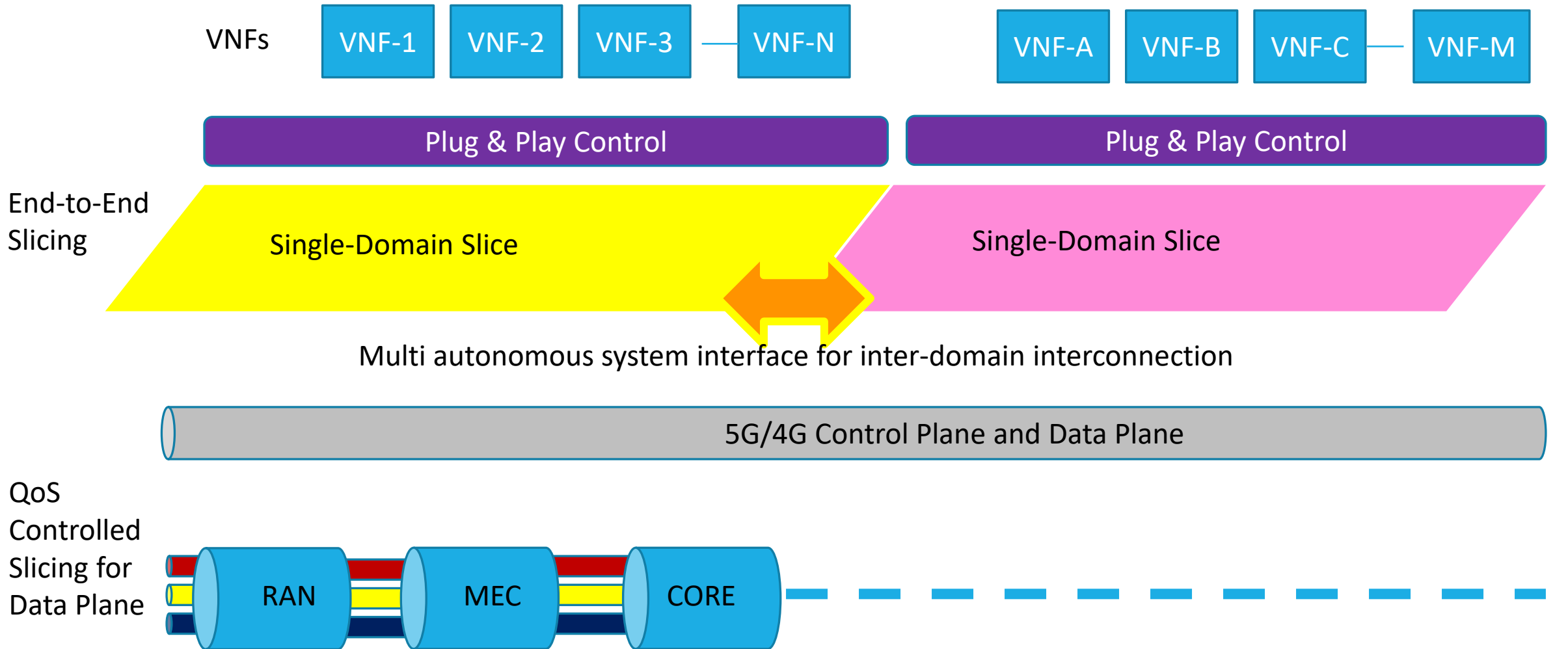
Multi-domain view



SliceNet use cases & requirements

| | Smart Grid | eHealth | Smart City |
|-------------------------------------|---|--|--|
| Alignment to 3GPP UCs | URLLC (Ultra-Reliable and Low Latency Communications) | eMBB (enhanced Mobile Broadband) | mMTC (massive Machine Type Communications) |
| QoS requirements | High reliability; low delay | High bandwidth; high mobility; low delay | High density |
| UE mobility/handover control | No | Yes (ambulance) | No |
| Multi-domain | Yes (static) | Yes (mobile) | Optional |

End-to-end inter-domain slicing for use cases



Cognition considerations

- ❑ Closed cognition control loop (MAPE) for slice FCAPS management
 - ❑ Liaising with ETSI ENI
 - ❑ Operator Experience optimisation
- ❑ QoE optimisation for slice-based use cases
 - ❑ Vertical Business Experience optimisation

Prototyping highlights

- ❑ RAN slicing (demoed in EuCNC 2018)
- ❑ QoS-aware programmable data plane
- ❑ MEC
- ❑ P&P control