End-to-End Cognitive Network Slicing and Slice Management Framework in Virtualised Multi-Domain, Multi-Tenant 5G Networks

5G-PPP Project SLICENET

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Innovations

- One-stop slicing API (and P&P slice control) for verticals
- End-to-end scalable slicing as a service over multiple administrative domains
- Integrated FCAPS management in a single administrative domain
- Integrated FCAPS management in multiple administrative domains
- Cognition/intelligence based QoE management for optimising slicing
- Cross-plane, cross-domain orchestration
- Slicing-friendly infrastructure with MEC and enterprise networking support
- Representative 5G verticals’ use cases
Main 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. Enable slicing-friendly infrastructure
5. Empower orchestration for cross-plane coordination of management, control, service and data planes to achieve system-level slicing control and slice operation
Detailed Architecture & Scope

L5 – Sliced Service Layer

L4 – SDN Control Layer

L3 – NFV Data Service Layer

L2 – Virtual Infrastructure Layer

L1 – Physical Infrastructure Layer
Use Cases Overview

1. 5G Smart Grid Self-Healing Use Case

2. 5G eHealth Smart Ambulance Use Case

3. 5G Smart City Use Case

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