5GTANGO

5G DEVELOPMENT AND VALIDATION PLATFORM FOR GLOBAL INDUSTRY-SPECIFIC NETWORK SERVICES AND APPS

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5GTANGO

About us

- 5GTANGO is an EU-funded project (Horizon 2020) and part of the 5G-PPP initiative
- 30 month work plan, started in June 2017
- 17 partners representing telecom operators, manufacturers, system integrators, service providers, SME developers, research and academic institutes

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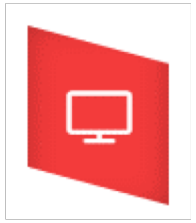
5GTANGO Objectives

Reduce the time-to-market for networked services by shortening the service development cycle and by qualifying those network services to be adopted.



Reduce the entry barrier to 3rd party developers and support the creation and composition of Virtual Network Functions (VNFs) and application elements as "Network Services".

Enable **new business opportunities** with the customisation and adaptation of the network to **vertical** application’s requirements.

Accelerate the NFV uptake in industry via an **'extended' DevOps** model and the **validation at scale** of Network Service capabilities of the 5GTANGO platform in vertical show cases.

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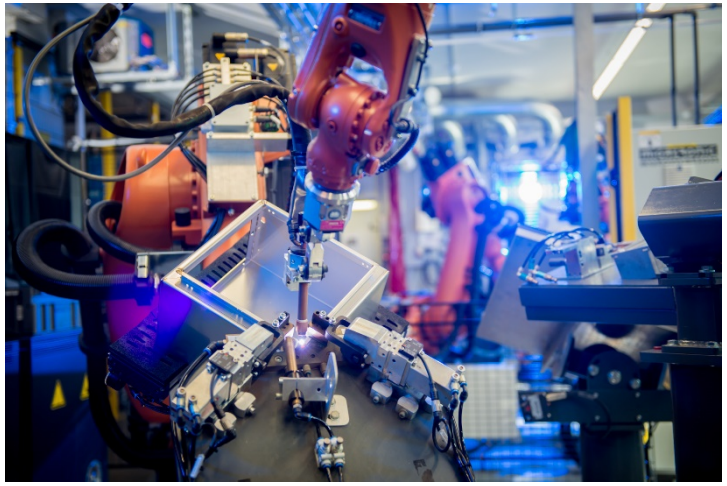
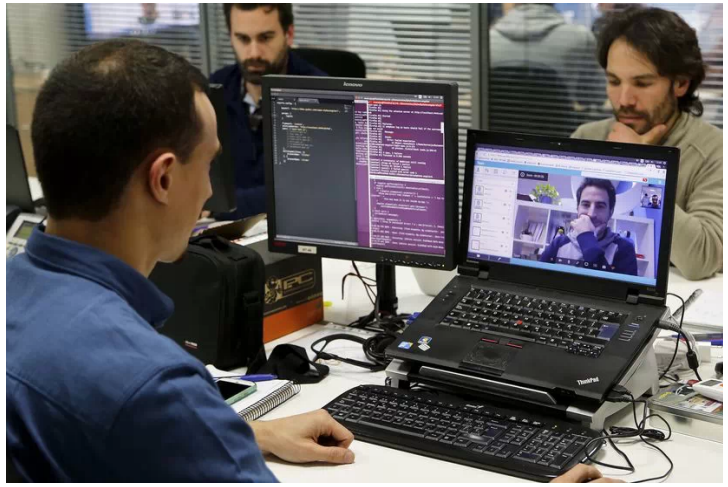
5GTANGO vertical pilots

SMART MANUFACTURING



IMMERSIVE MEDIA

REAL TIME COMMUNICATIONS



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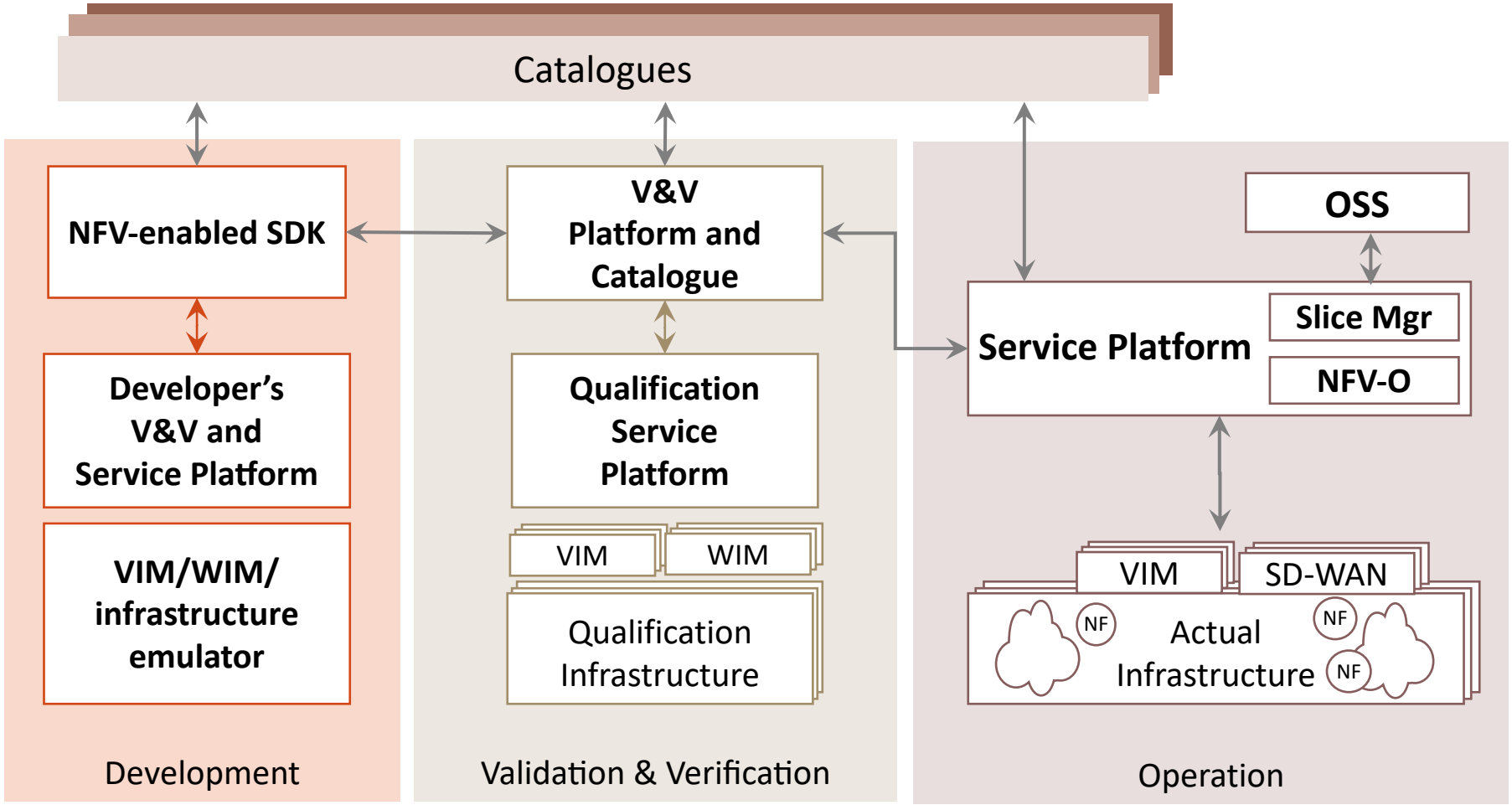
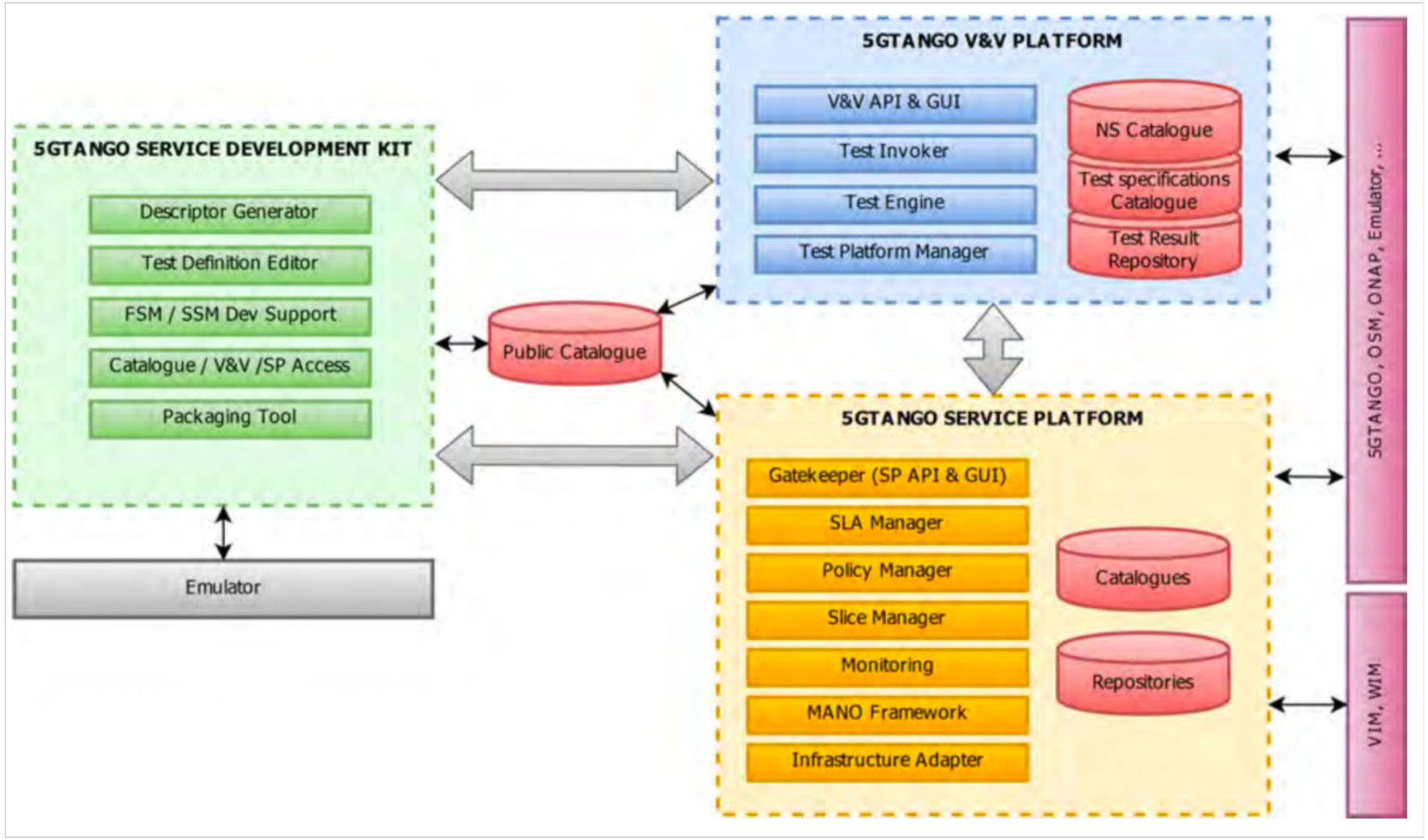
5GTANGO High-Level Architecture



5GTANGO Workflow

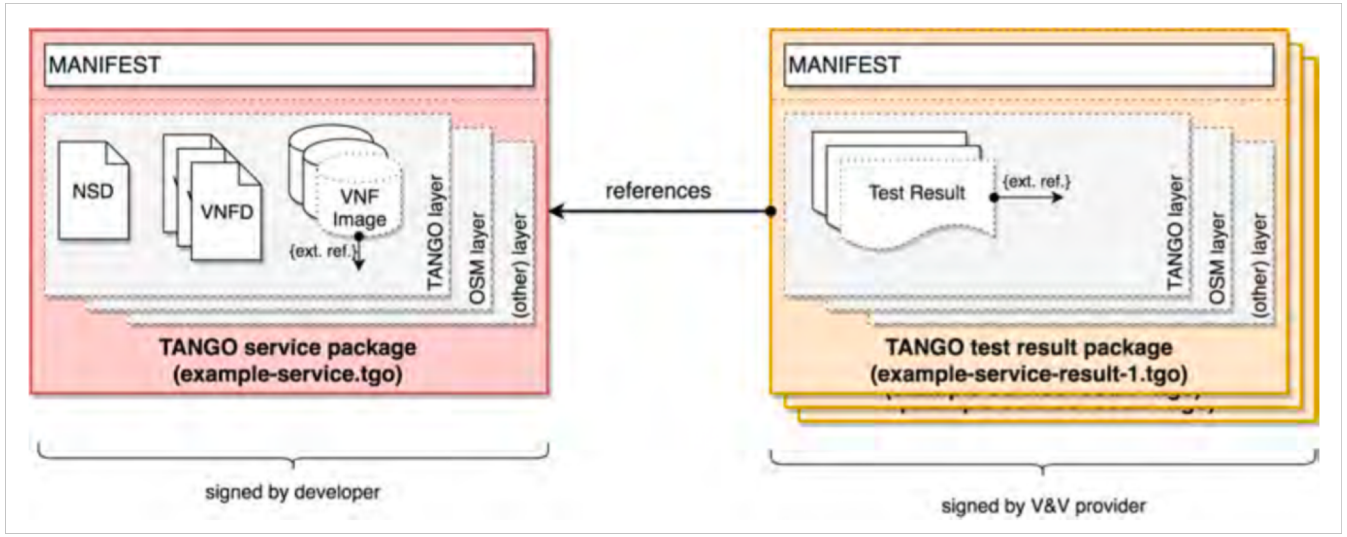
- Three phases in the service lifecycle
  - Holistic, end-to-end view
  - Service-centric
  - Coordinated by a shared catalogue
- Development  Service Developer
  - Supported by a SDK
  - Service is initially published at the catalogue
- Validation and verification  V&V Provider
  - Automated V&V platform
  - Results published on the catalogue
- Deployment and operation  Operator
  - Selected from the catalogue
  - Policy and SLA enforcement

The 5GTANGO Architecture



Model-Based Approach

- Descriptors defining functions and services
  - Used in all phases
  - SDK: Descriptor generation, management, validation, packaging
- Package layering
  - Multi-platform support
  - Support integrity checks



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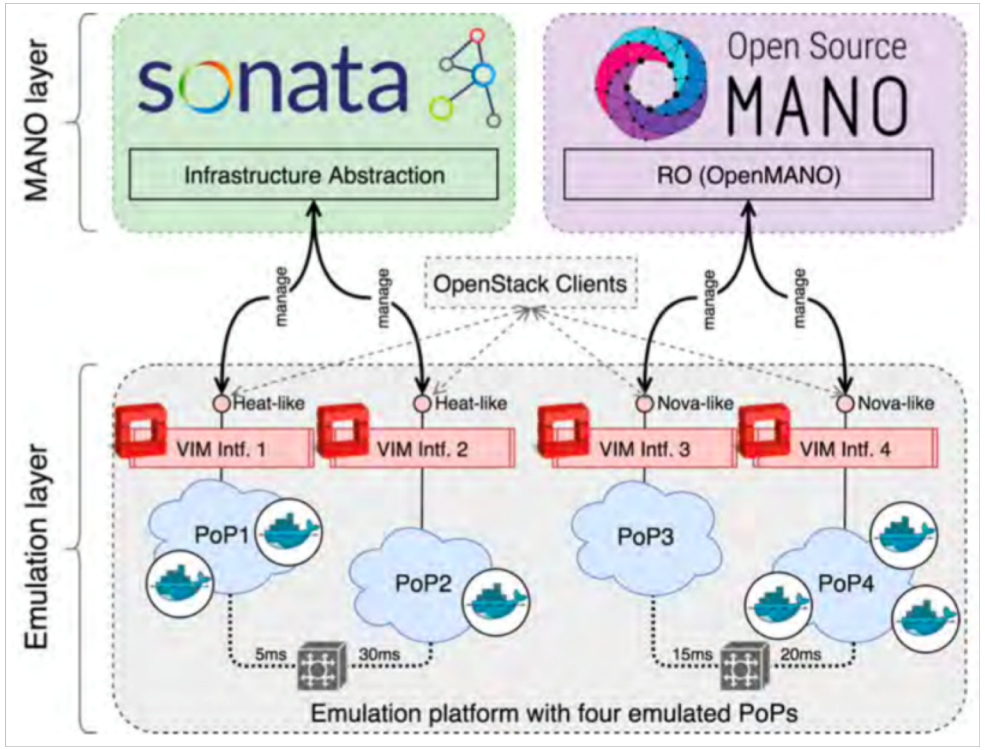
SDK: Emulator

- Emulate multi-PoP infrastructure
- Run real VNFs and services (Docker)
- Orchestrate with real MANO systems
  - SONATA powered by 5GTANGO
  - OSM
- Standard VIM interface
- Running locally on a developer's laptop

→Quick prototyping of new services

→DevOps approach



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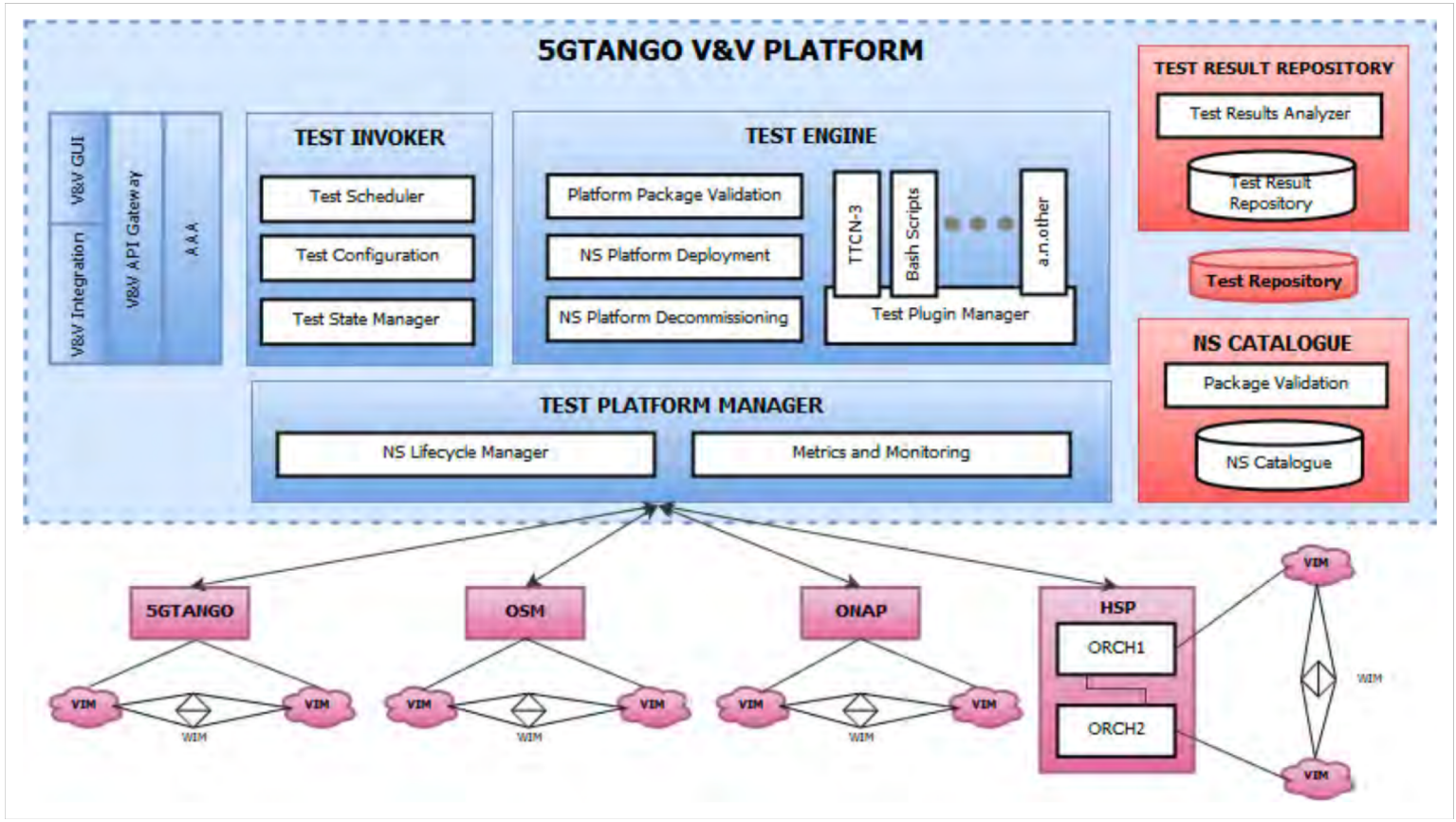
Verifying and Validating (V&V)

- Support for
  - Different test specification sources
  - Automated test execution
  - Linked test results
- Continuous Testing
  - Model-based
  - As an essential part of the automation loop
- Qualification



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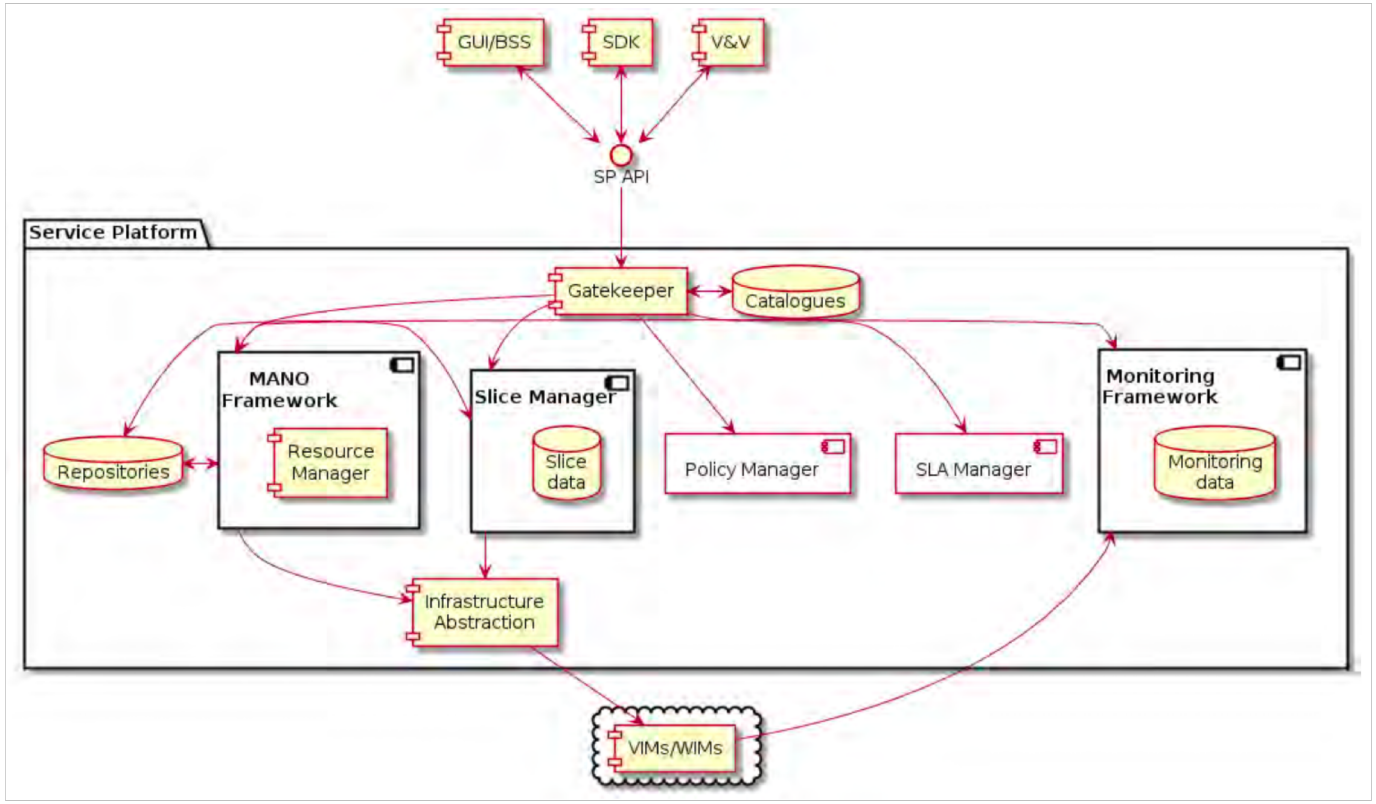
Service Platform (SP): Closing the Loop

- Usable in two *flavors*
  - Test platform for V&V
  - Production service
- Mediated by the Gatekeeper
  - Access control
  - Sanity checks
- Operational support
  - MANO
  - Slice support
  - Policy enforcement
  - SLA management
  - Monitoring



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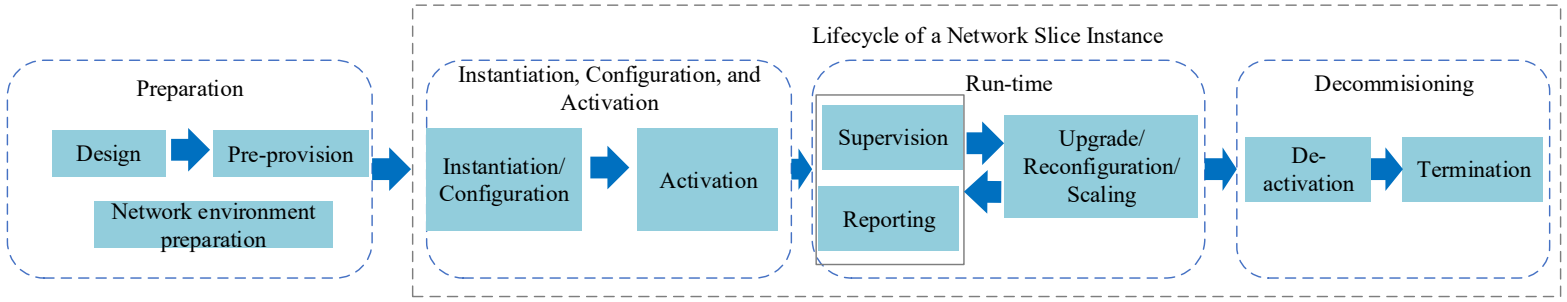
SP: Network Slicing

- Network slice instance (NSI): **Set of network functions/services** and the resources for these which are arranged and configured, forming a complete **logical network** to meet certain network characteristics.
- Model-based: NSI defined by a Network Slice Template (NST)



- Slice manager:
  - Slice lifecycle manager
  - Slice2NS mapper

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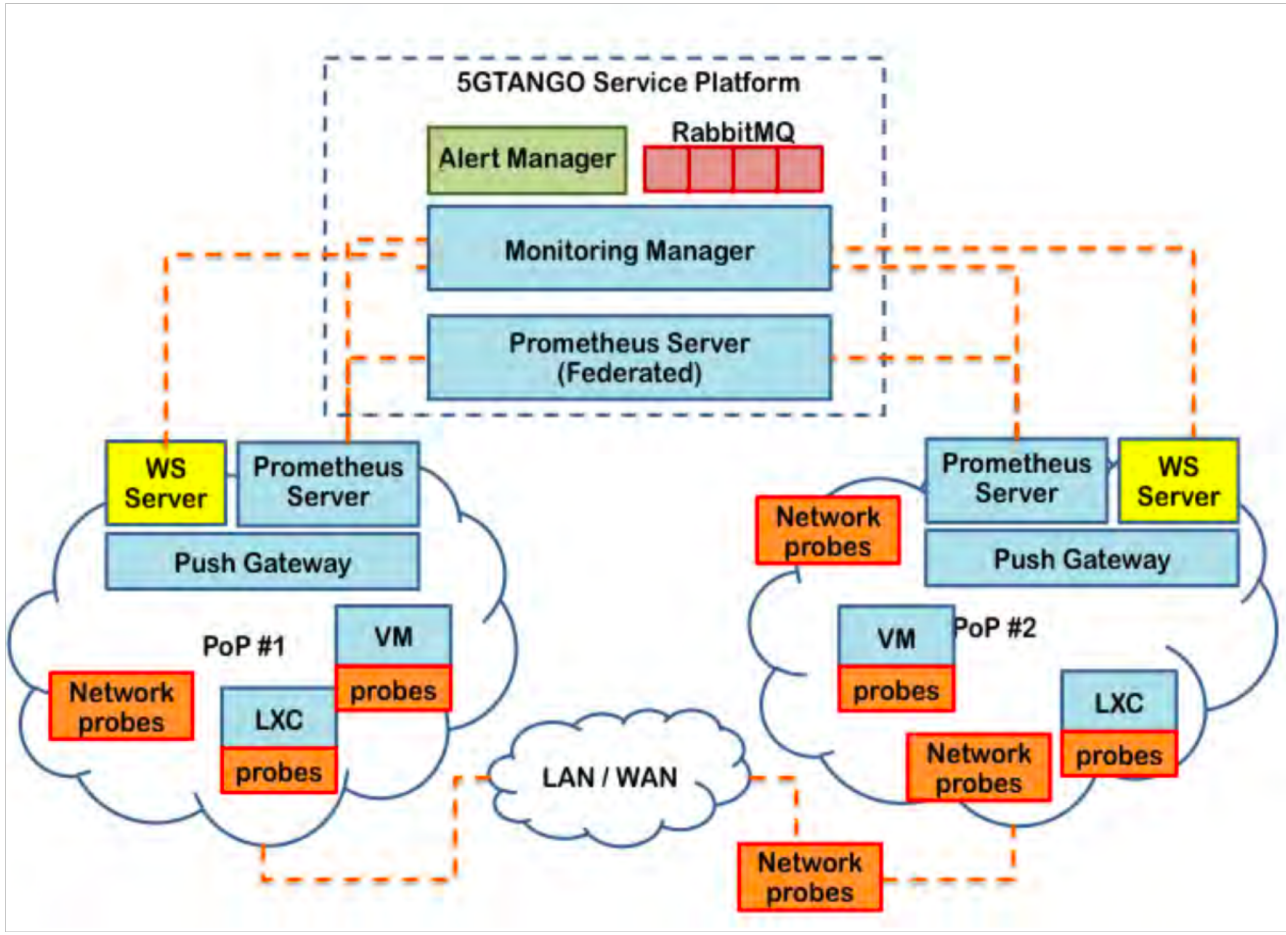
SP: Data-Driven Management

- Monitoring infrastructure
  - Data provenance
  - Flow optimization
  - Monitoring data analysis
- Policies
  - Rules created by developers
  - Refined by operators
  - Translated into orchestration actions
- SLAs
  - Between service provider and user
  - Aligned with policies



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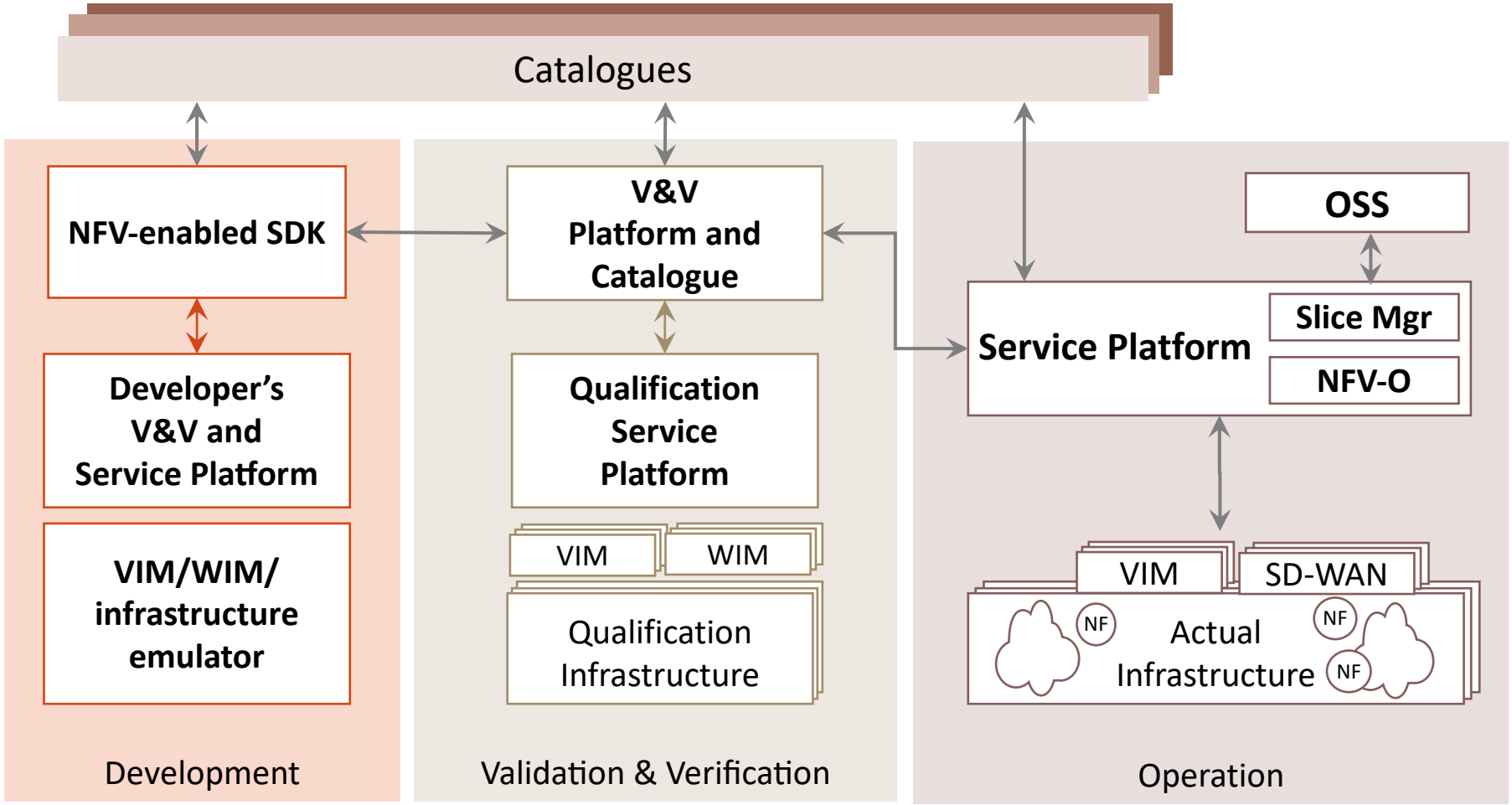

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5GTANGO on the web

www.5gtango.eu

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