

The logo for Sonata features the word "sonata" in a dark blue, lowercase sans-serif font. The letter 'o' is replaced by a stylized circular graphic composed of three overlapping segments in green, orange, and blue. To the right of the text is a network diagram consisting of five nodes (circles) connected by dark blue lines. The nodes are colored red, grey, blue, green, and grey. The background of the slide includes large, curved, semi-transparent shapes in orange, blue, and green.

sonata

agile service development and orchestration in 5G virtualized networks

WP6 - Infrastructure setup, validation and pilots

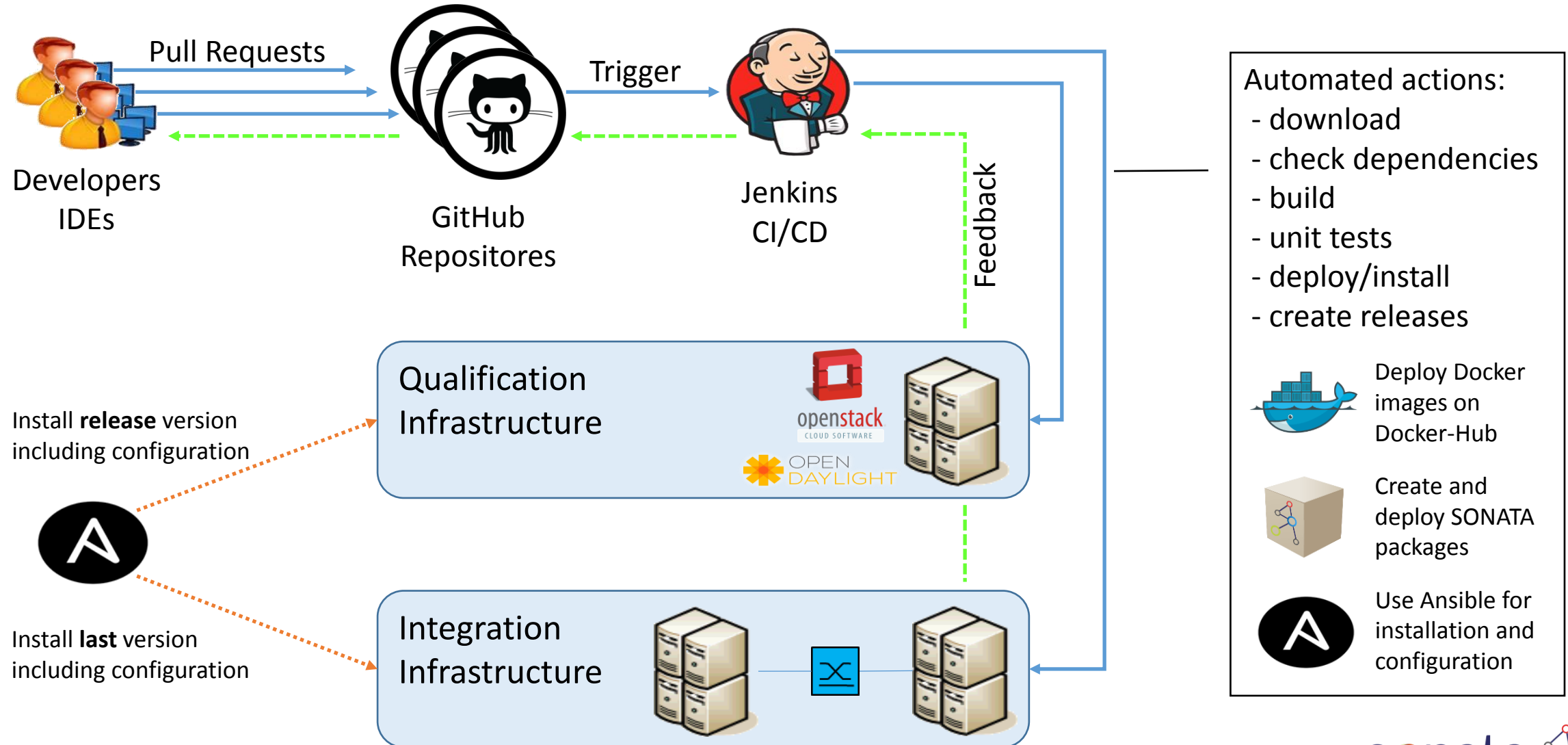
George Xilouris (NCSRD)

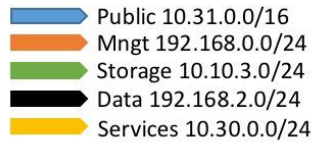
Presentation Outline

- SONATA Operation Model
- SONATA Infrastructure
- Integration Infrastructure
- Monitoring Framework
- Qualification Infrastructure
- SONATA Architecture
- Infrastructure Abstraction

- Next Steps

SONATA Operation Model

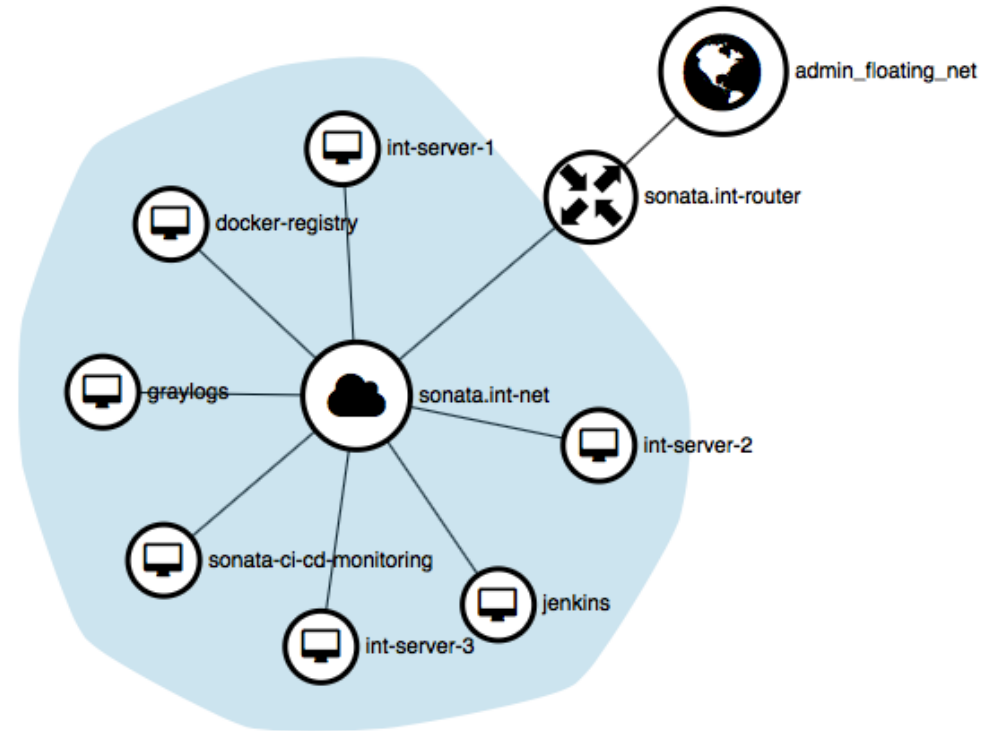




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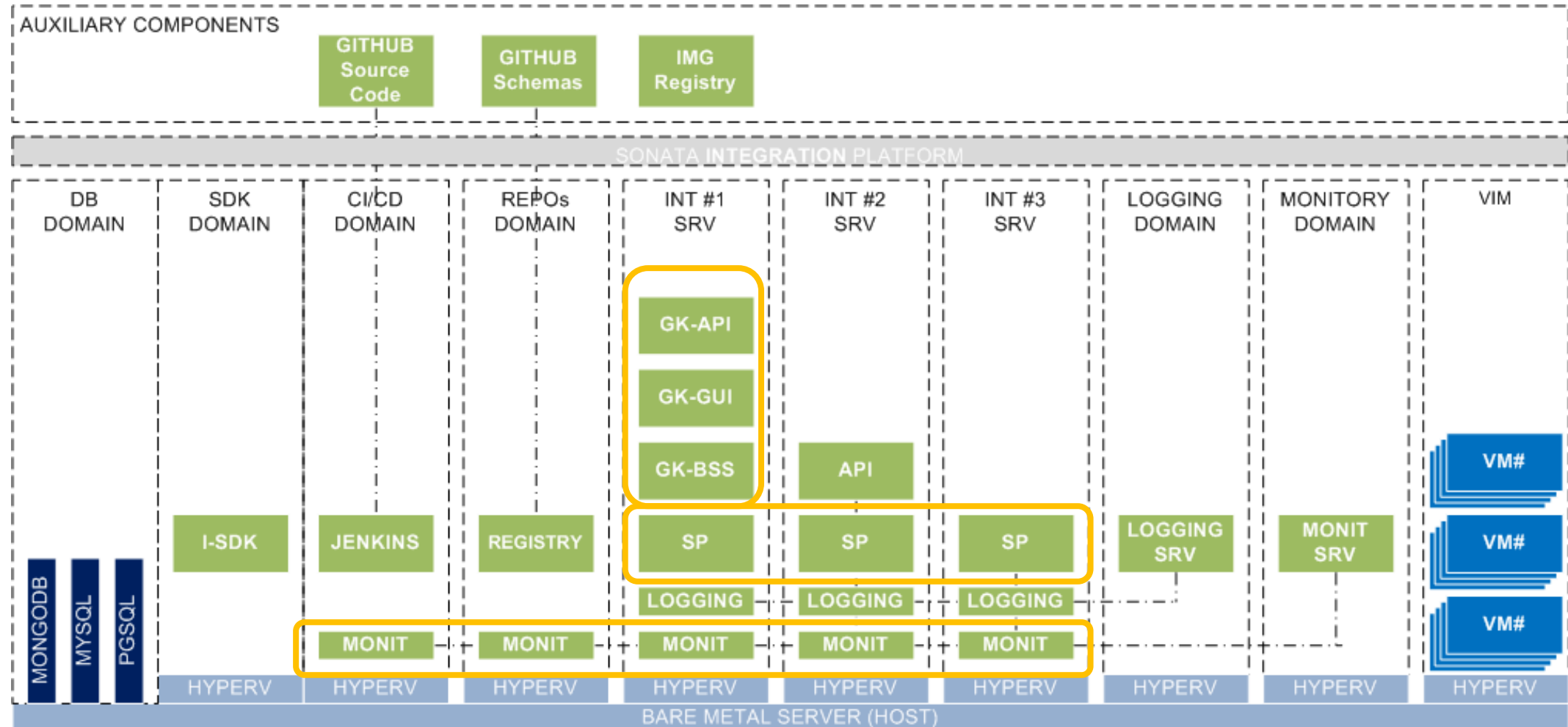
SONATA Integration Infrastructure

- Deploys the development phase artefacts for integration testing:
 - Internal communications
 - Inter-module communications
 - Test against instantiated VNF/NS at the NFVI-PoP, using monitoring from VNF monitoring probes
- Requires single NFVI-PoP deployment (co-located with the SP)
- Based on Openstack Liberty as VIM plus SFC support.

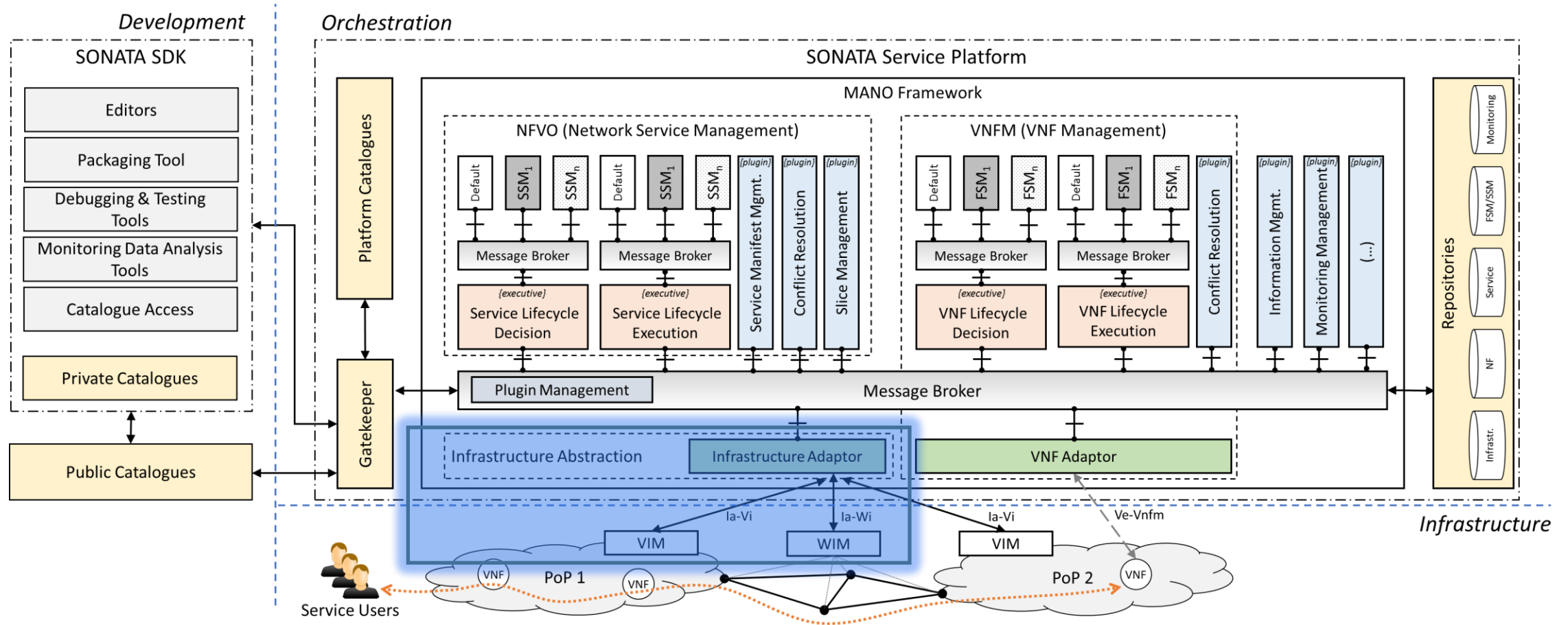


Openstack deployment topology of SONATA
Integration Infrastructure

Integration Infrastructure detailed deployment



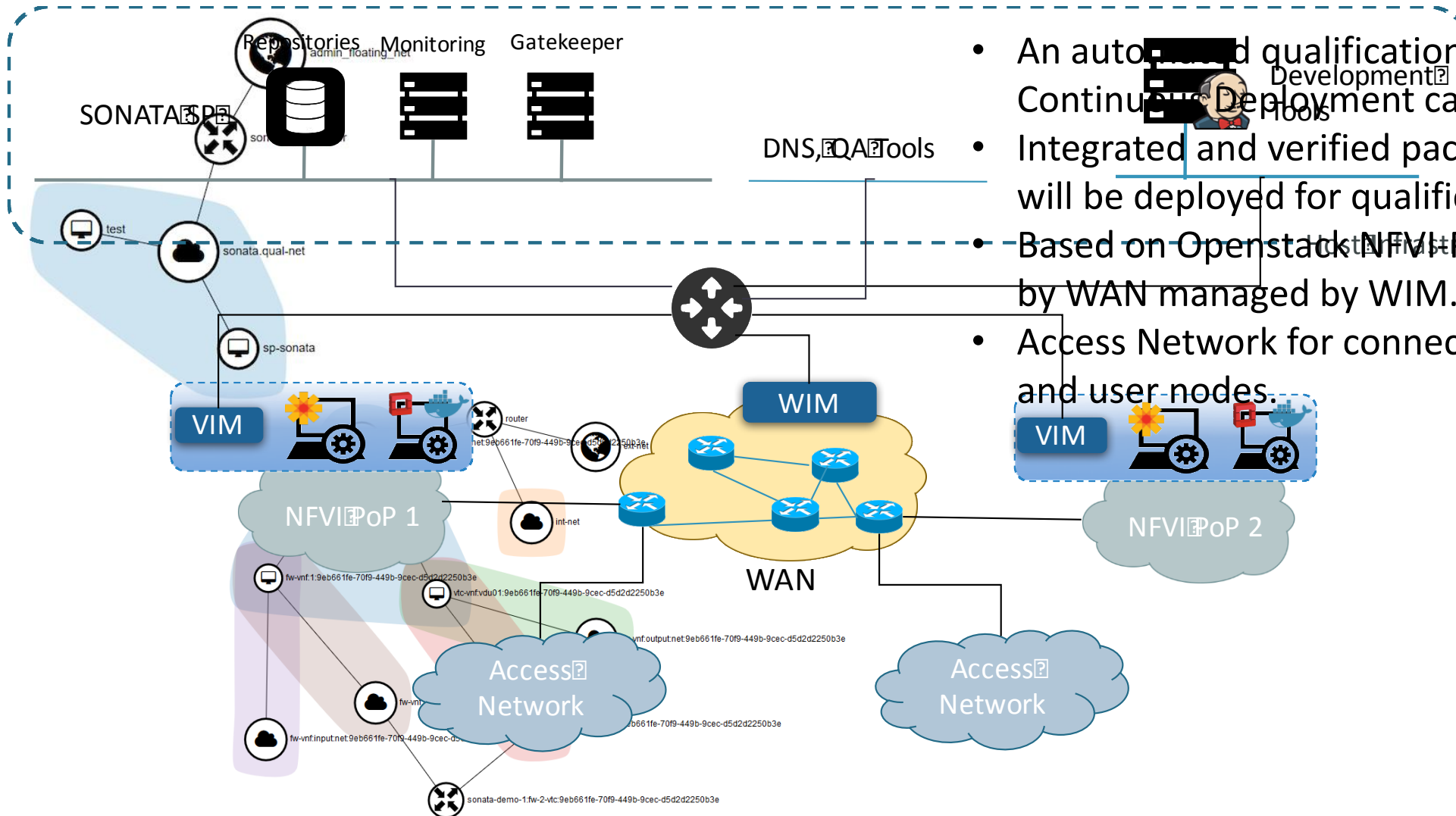
SONATA architecture



Monitoring architecture

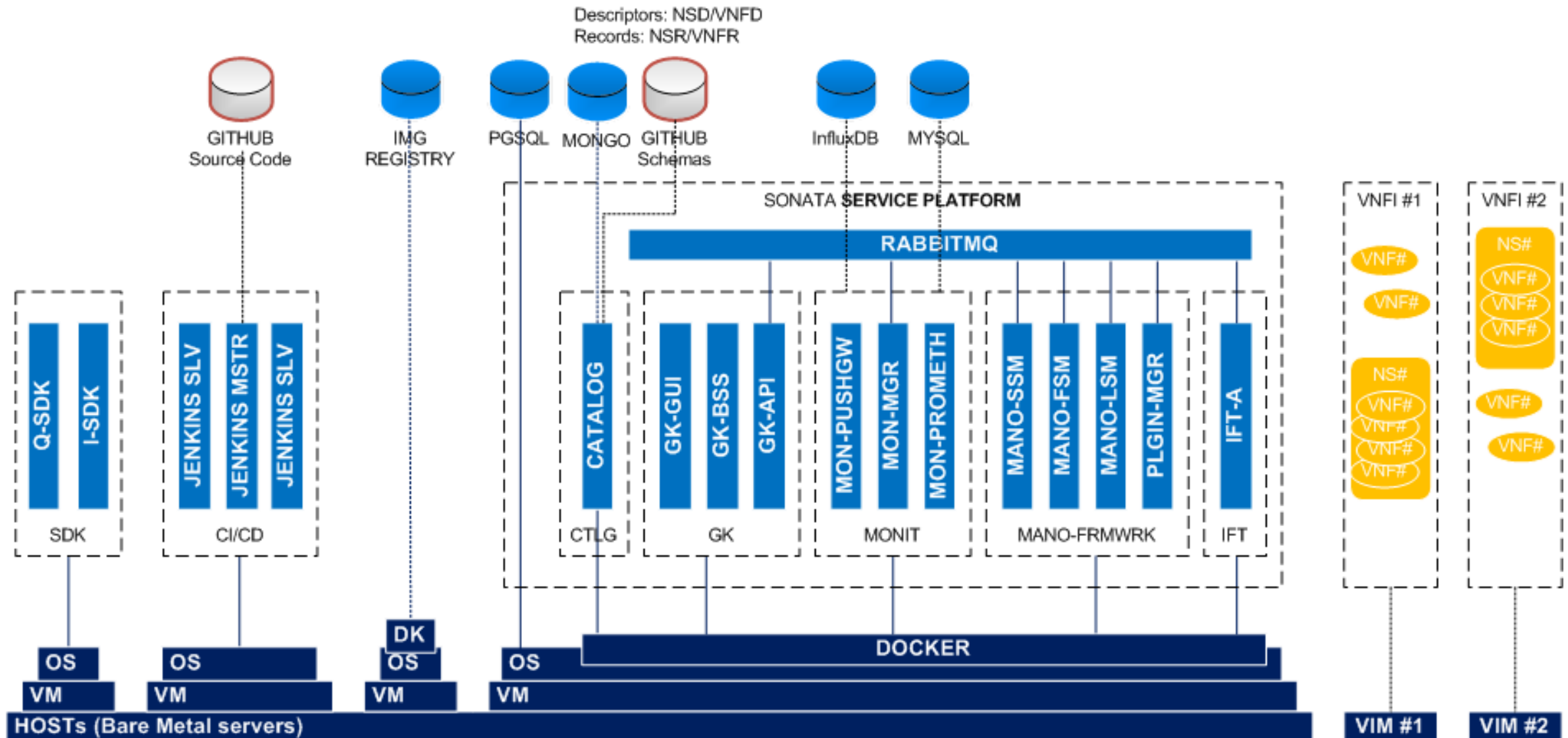
- SONATA monitoring framework is built upon the combination of Prometheus and PushGateway functionality.
- enables the developer to inspect ongoing network conditions or IT resource statistics (e.g., cpu usage).
- The monitoring framework collects data from VNFs, monitoring agents, the infrastructure monitoring, network or the SP itself
- Metrics to be monitored are either pre-defined in the initial service/VNF descriptor, or manually controlled (i.e. started/stopped) upon request from the developer.

Qualification Infrastructure

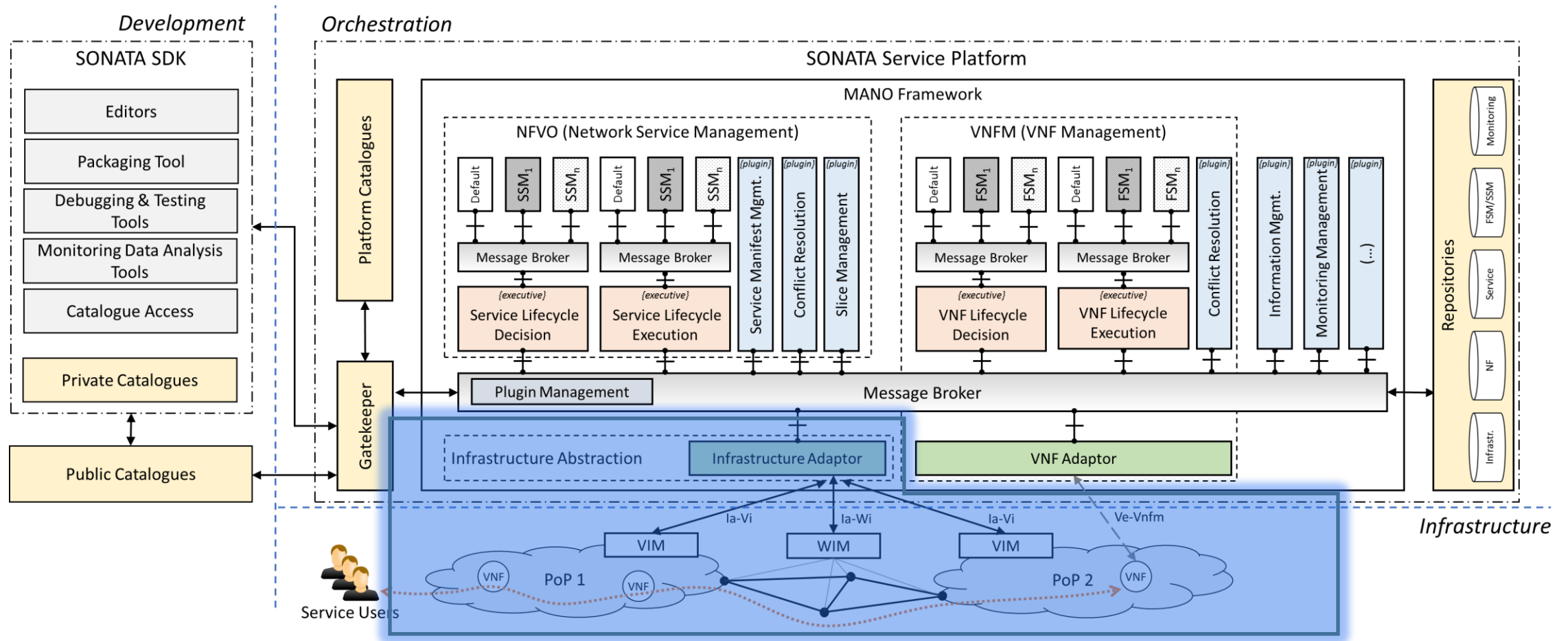


- An automated qualification platform with Continuous Development capabilities
- Integrated and verified packaged components will be deployed for qualification tests.
- Based on Openstack NFVI PoPs interconnected by WAN managed by WIM.
- Access Network for connecting physical service and user nodes.

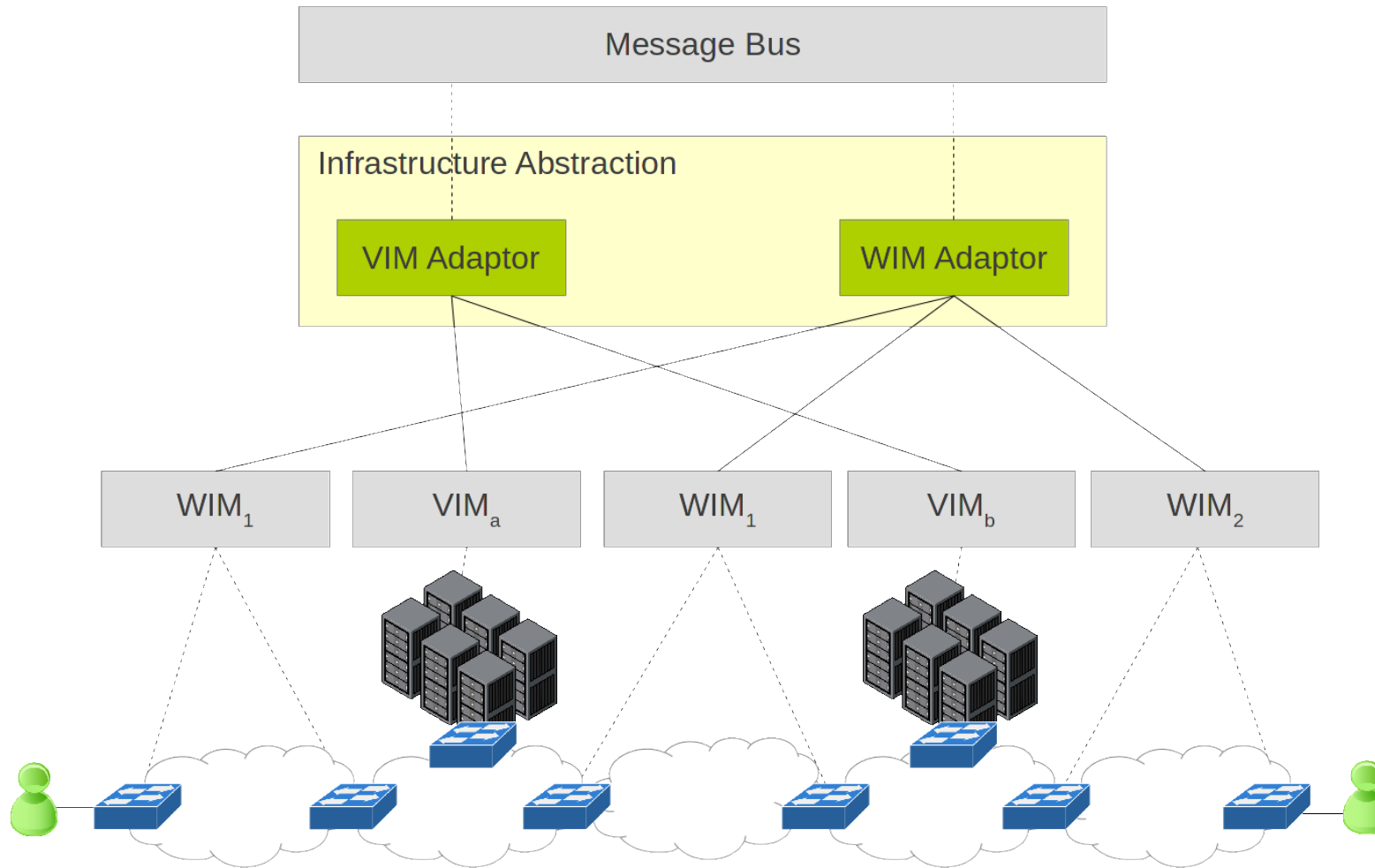
Qualification Infrastructure deployment



SDK in the global SONATA architecture

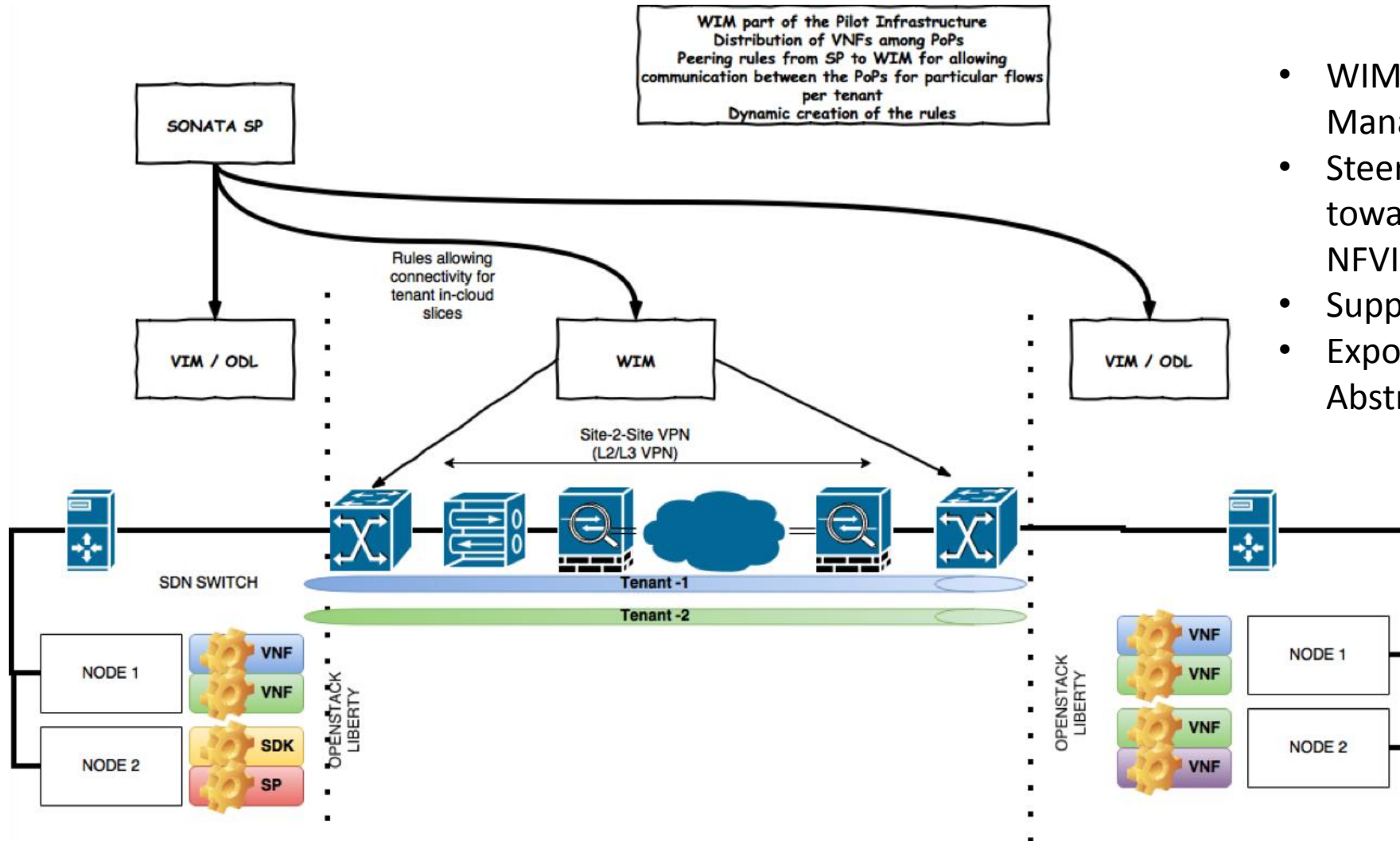


Infrastructure Abstraction



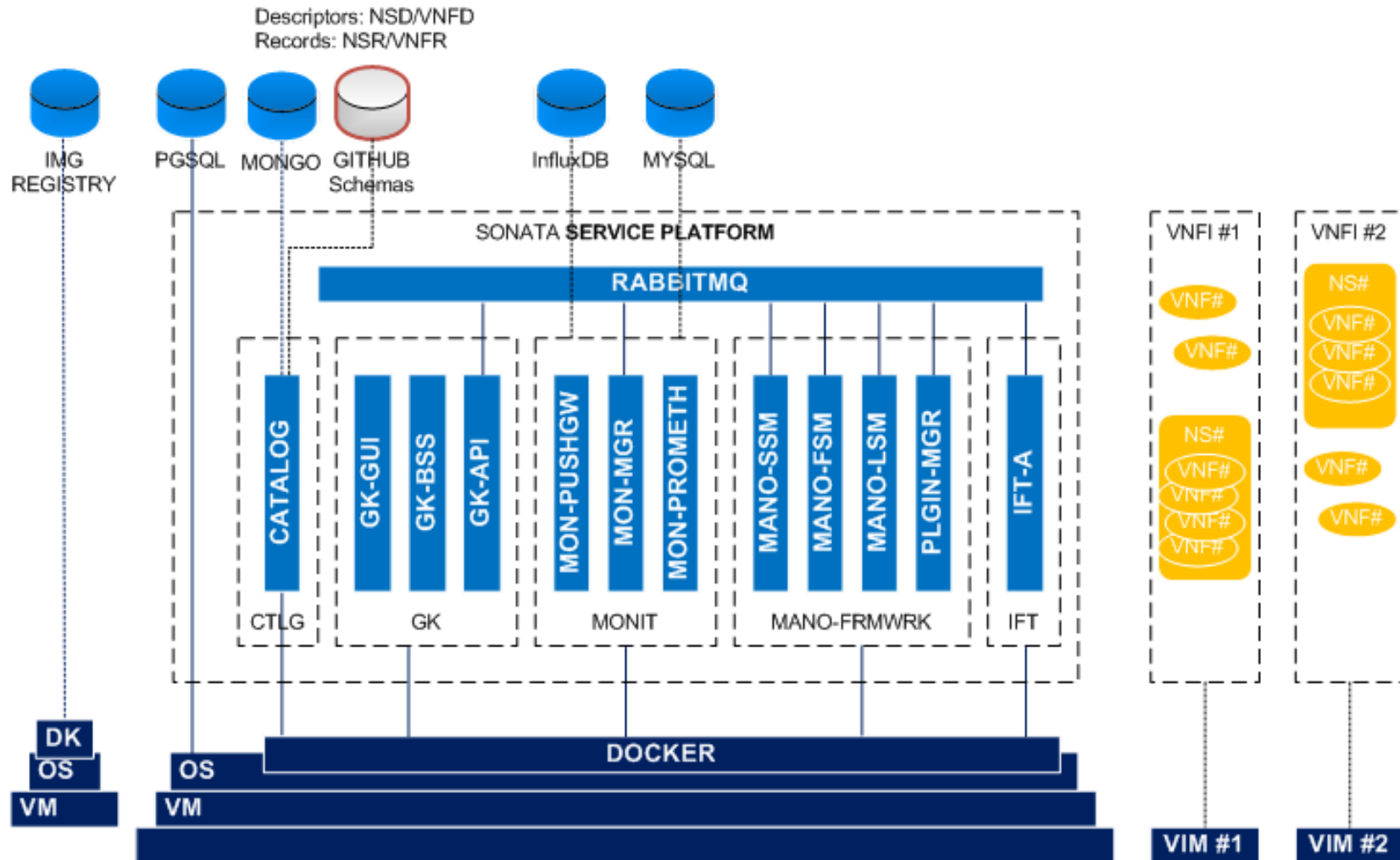
- SONATA inherently supports multi technology VIM/WIM via Infrastructure Abstraction
- Infr. Adaptor translates the NSD and VNFD into the appropriate form in order to be provisioned in the NFVI-PoPs
- Currently support
 - Openstack based VIM with SFC based on OVS capabilities for intra-PoP network and computing resource management.
 - Virtual Tenant Network over ODL (acting as WIM) for the WAN resource management and control.

WAN Infrastructure Manager (WIM)



- WIM solution based on VTN Manager (ODL project)
- Steers the traffic from the CPE towards the NFVI-PoPs and between NFVI-PoPs
- Supports multiple tenants
- Exposes APIs to Infrastructure Abstraction (@SONATA SP)

Demonstration Infrastructure deployment



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Thank you!