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MATILDA

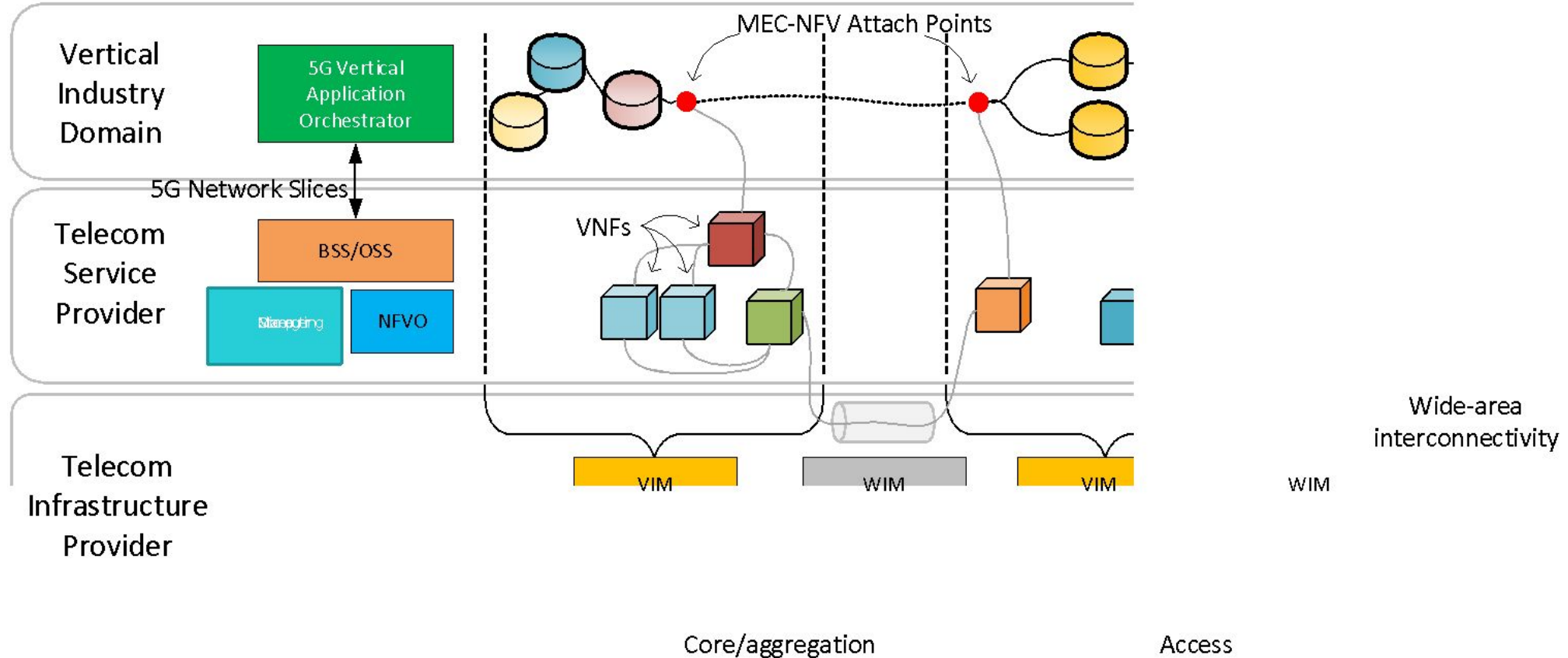
5G-ready applications in Matilda Network and Computing Slice Deployment Platform

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Objective & Architecture

Design and implement a holistic 5G end-to-end services operational framework tackling the lifecycle of design, development and orchestration of 5G-ready applications and network services over virtual and physical infrastructure, following a unified programmability model and a set of control abstractions.



Slice Intent

SliceIntent

The element that encapsulates all the parameters that may accompany a Slice Intent Request from the Vertical Orchestrator to the Telco Provider

SliceIntentIdentifier

The descriptive identifier of an Intent that is submitted by the Vertical Orchestrator to the Telco Provider

ServiceMeshIdentifier

The descriptive identifier of the vertical application. It will be used by the repository for indexing purposes

Constraints

The element that encapsulates various constraints that have to be satisfied by the Telco Provider

LogicalFunctions

This element encapsulates some logical functions that can be satisfied by the Telco Provider using VNF forwarding graphs

RequiredInterface
The element that encapsulates the required dependencies of other components

GraphLink
Each dependency is modelled as a GraphLink

GraphLinkIdentifier
The descriptive identifier of a dependency between two Components

ComponentIdentifier
The descriptive identifier of the component in the Service Mesh that satisfies the requirement. The requestor is addressed as source (FROM) and the component that offers the required interface is addressed as target (TO). This is the identifier of the target.

InterfaceIdentifier
The descriptive identifier of the target Component interface that is required

Component
Each Service Mesh consists of multiple Components. At least one Component should exist per Service Mesh. One component can have multiple dependencies from other Components. However, circular dependencies are not allowed. Therefore a Service Mesh is acyclic Directed

ComponentIdentifier
The descriptive identifier of the Component in the entire Service Mesh

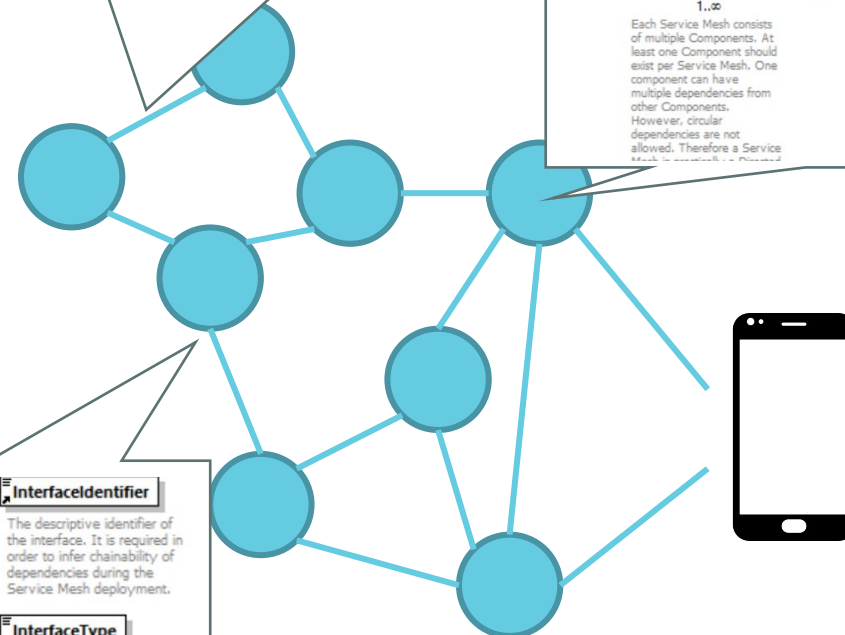
Distribution
The element that encapsulates the information that is required for fetching an instance of a Component

ExposedInterface
It can refer to a single port or a range of ports that serves this interface. One interface can be Access or Core Type

Configuration
Set of environmental variables that should be provided to the component during instantiation

Volume
The element that encapsulates the volume mounting that has to be performed during the instantiation in the hypervisor

MinimumExecutionRequirements
The element that encapsulates the minimum requirements that have to be met by the



ExposedInterface
It can refer to a single port or a range of ports that serves this interface. One interface can be Access or Core Type

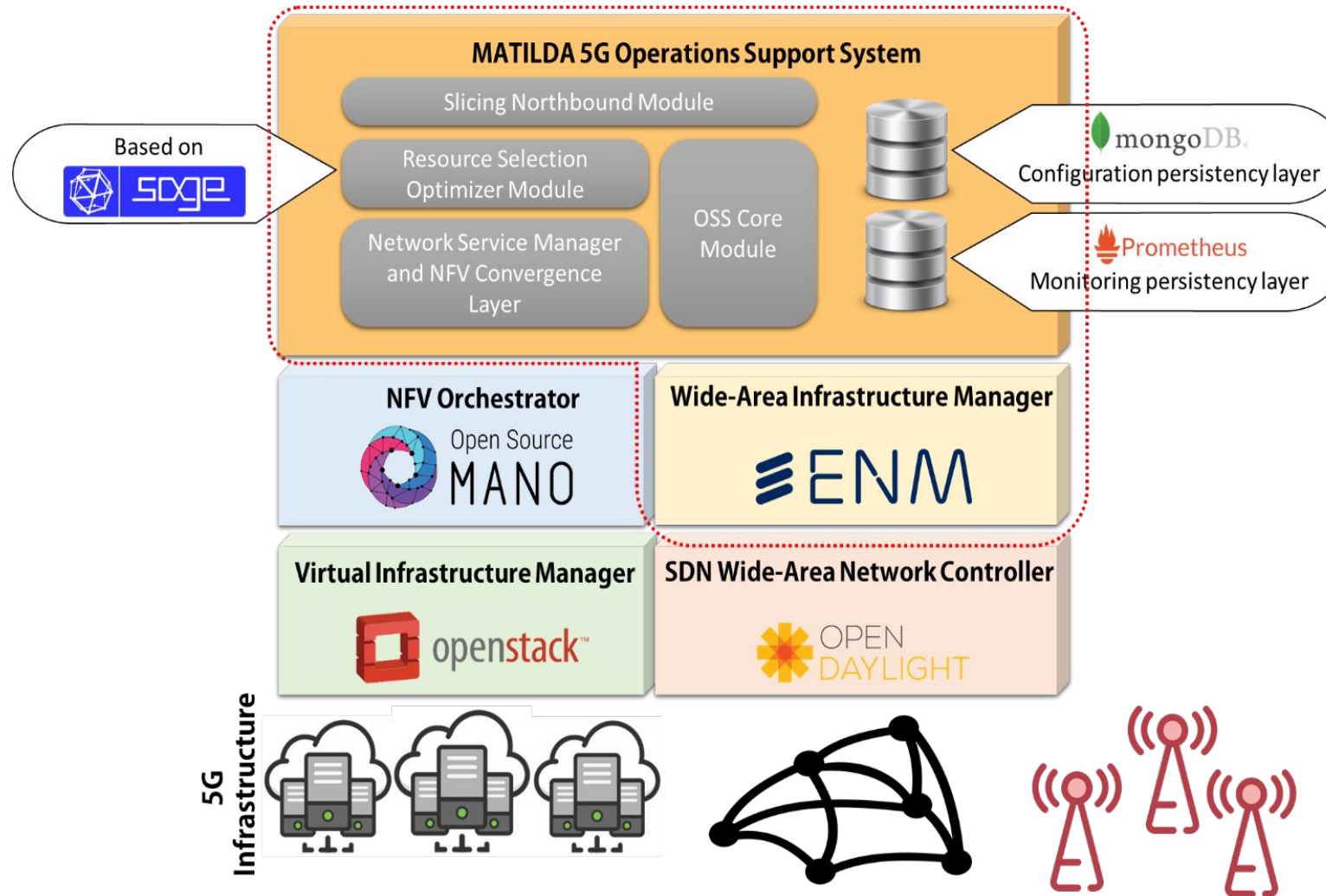
InterfaceIdentifier
The descriptive identifier of the interface. It is required in order to infer chainability of dependencies during the Service Mesh deployment.

InterfaceType
The classification of the exposed interface based on its positioning in the 5G network. It can be ACCESS or CORE

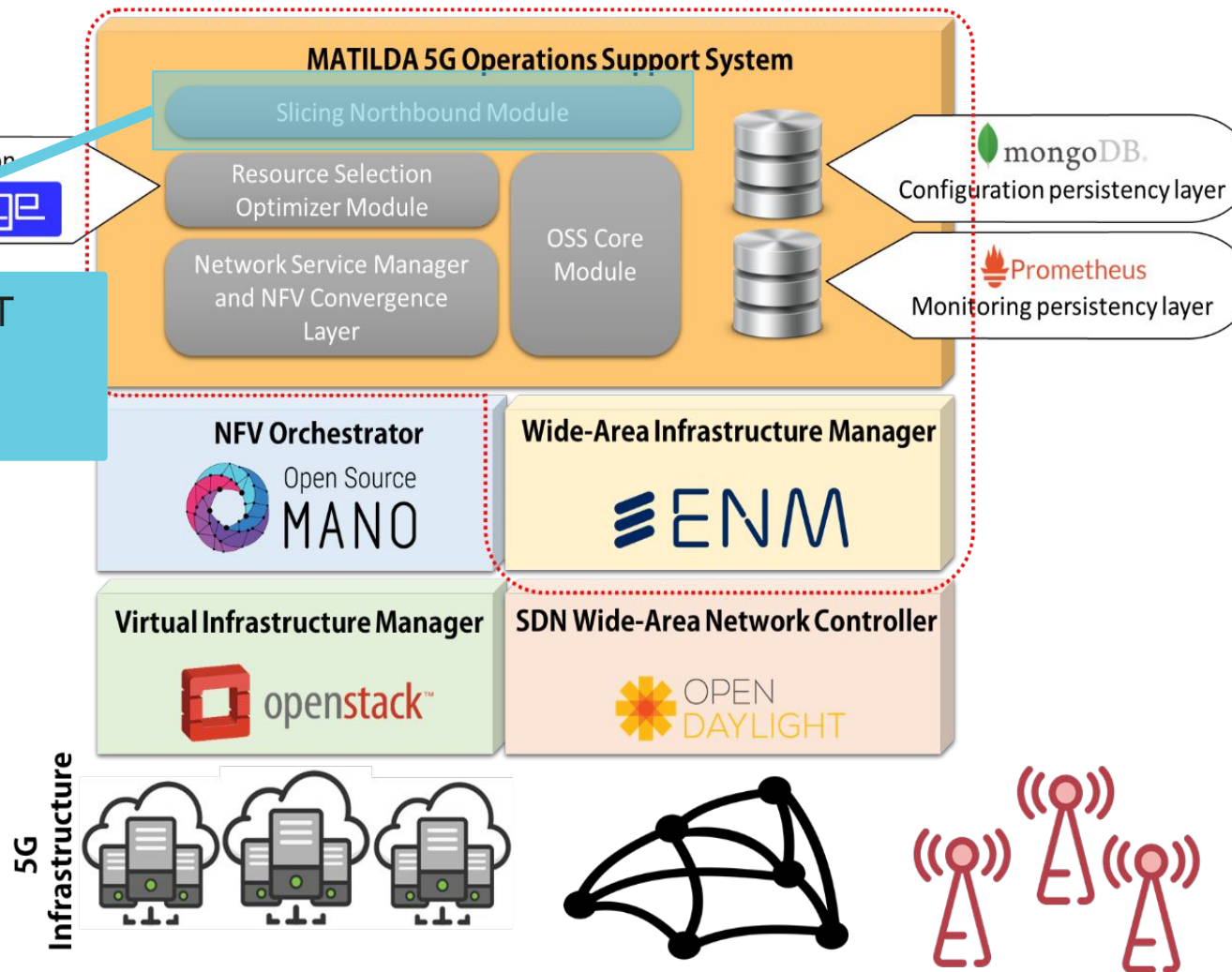
Port
Refers to an internal port declaration or range e.g. 4000 or 4000-4005

TransmissionProtocol
Can be TCP or UDP

Telecom Service Provider Platform



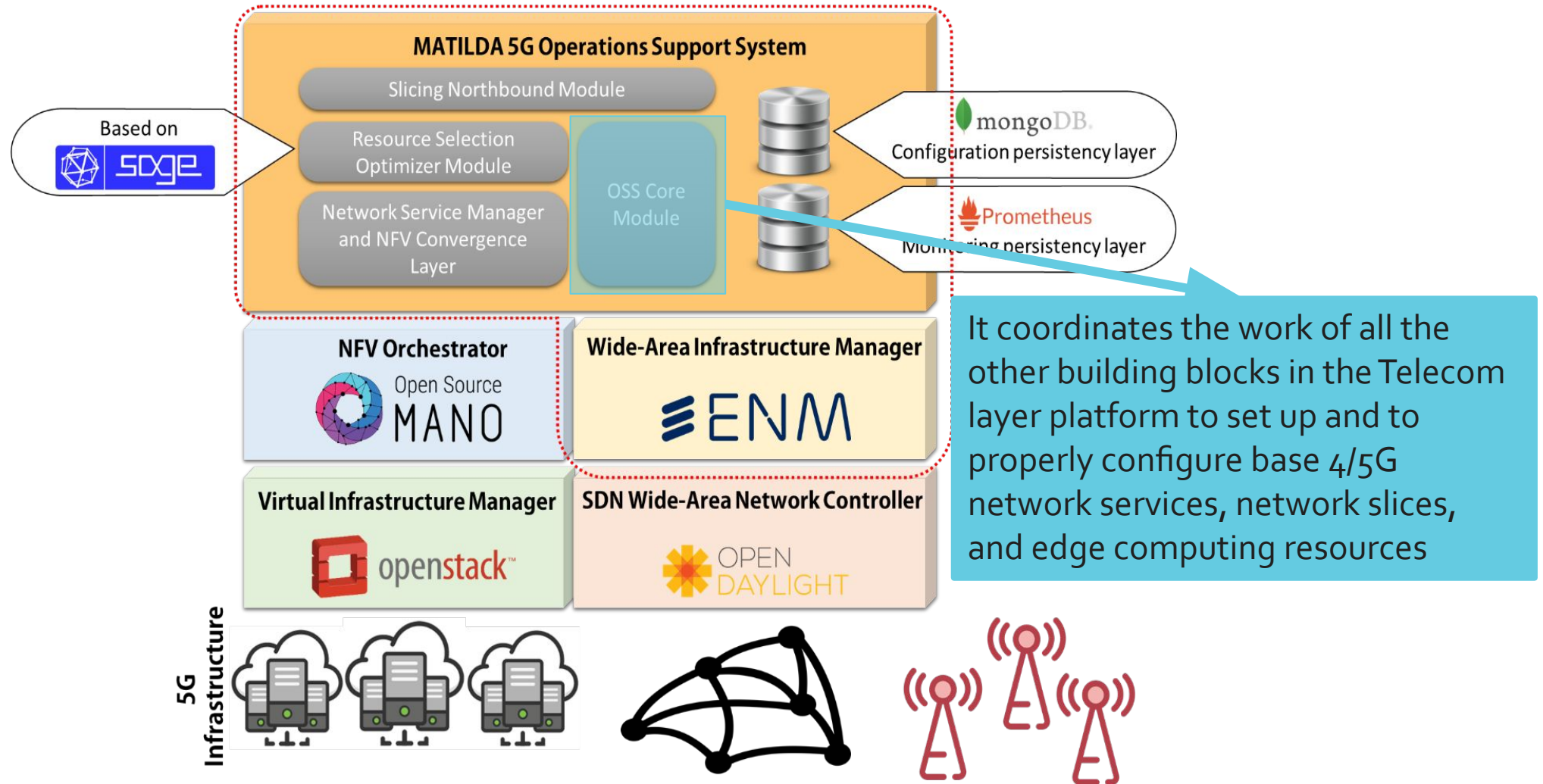
Telecom Service Provider Platform



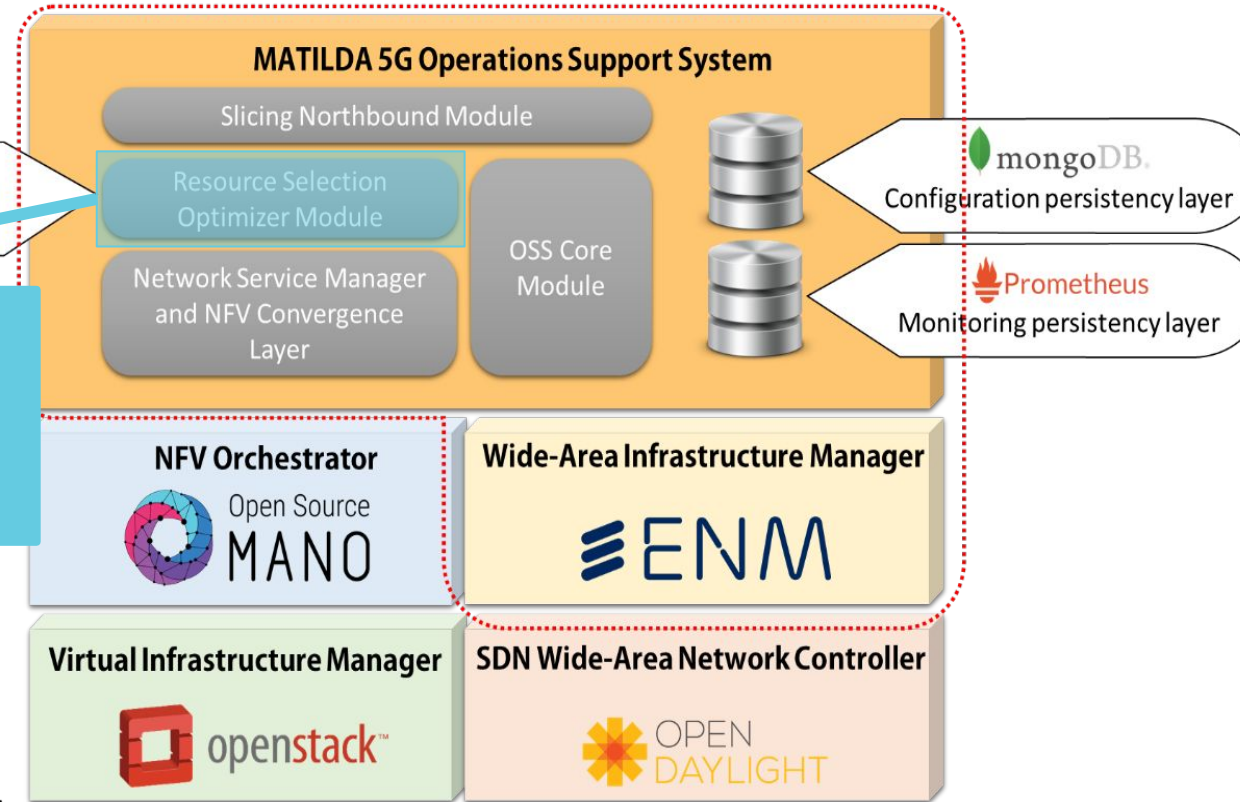
Based on

Slice Intent/materialization REST interface towards the Vertical Application Orchestrator(s)

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Telecom Service Provider Platform

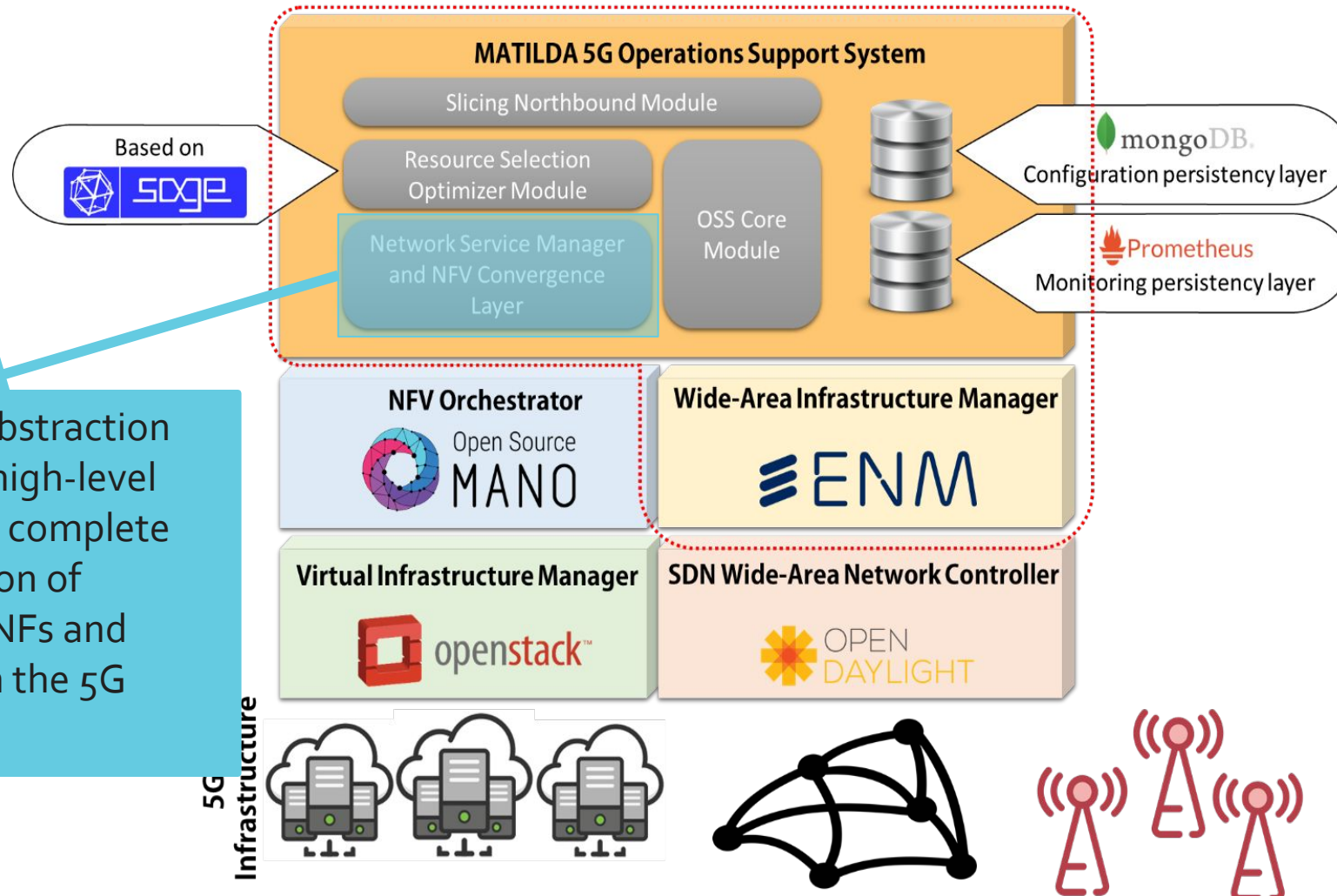


Based on

In charge of providing optimization and reinforcement policies/ algorithms to be executed in the OSS

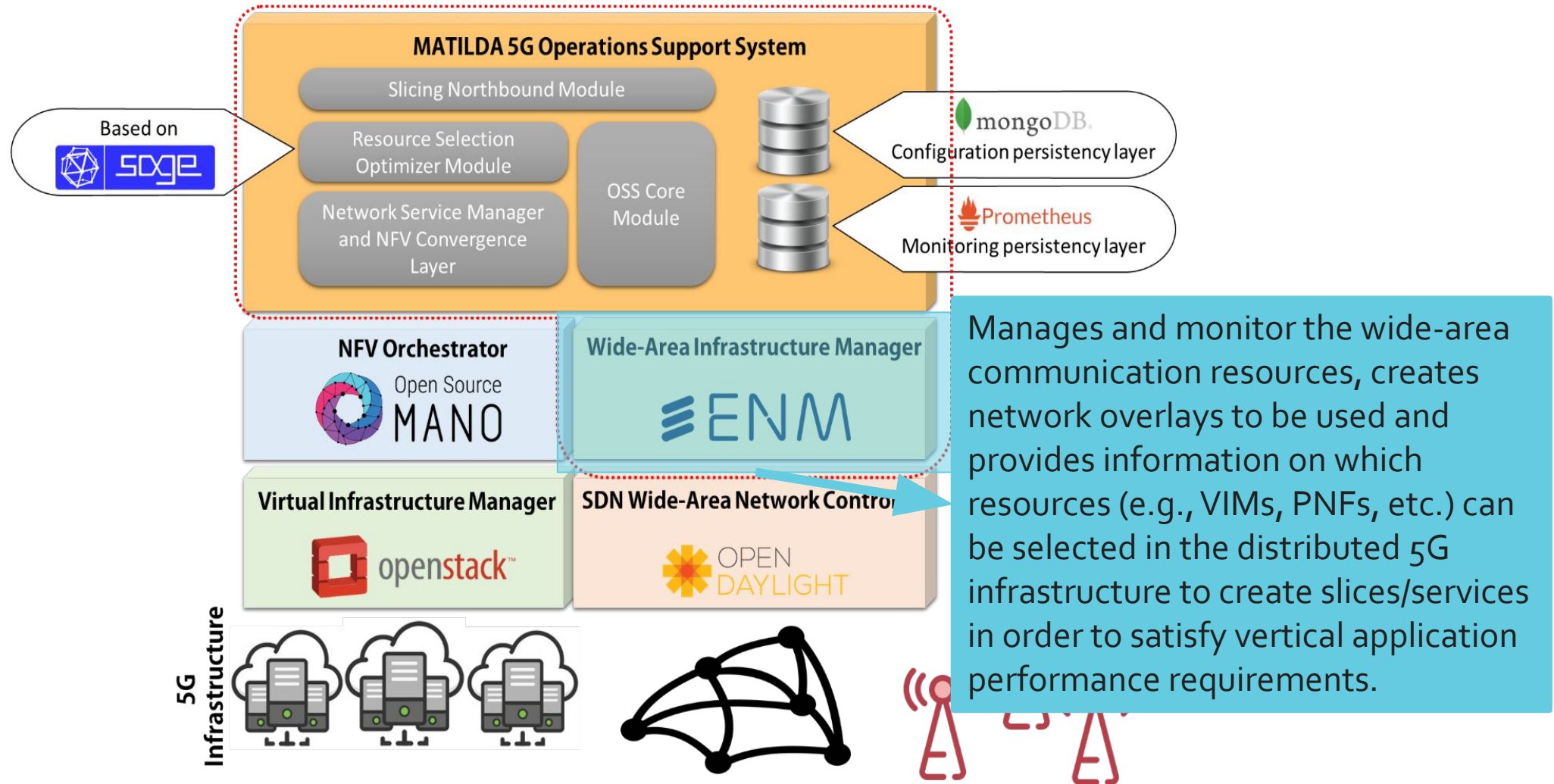


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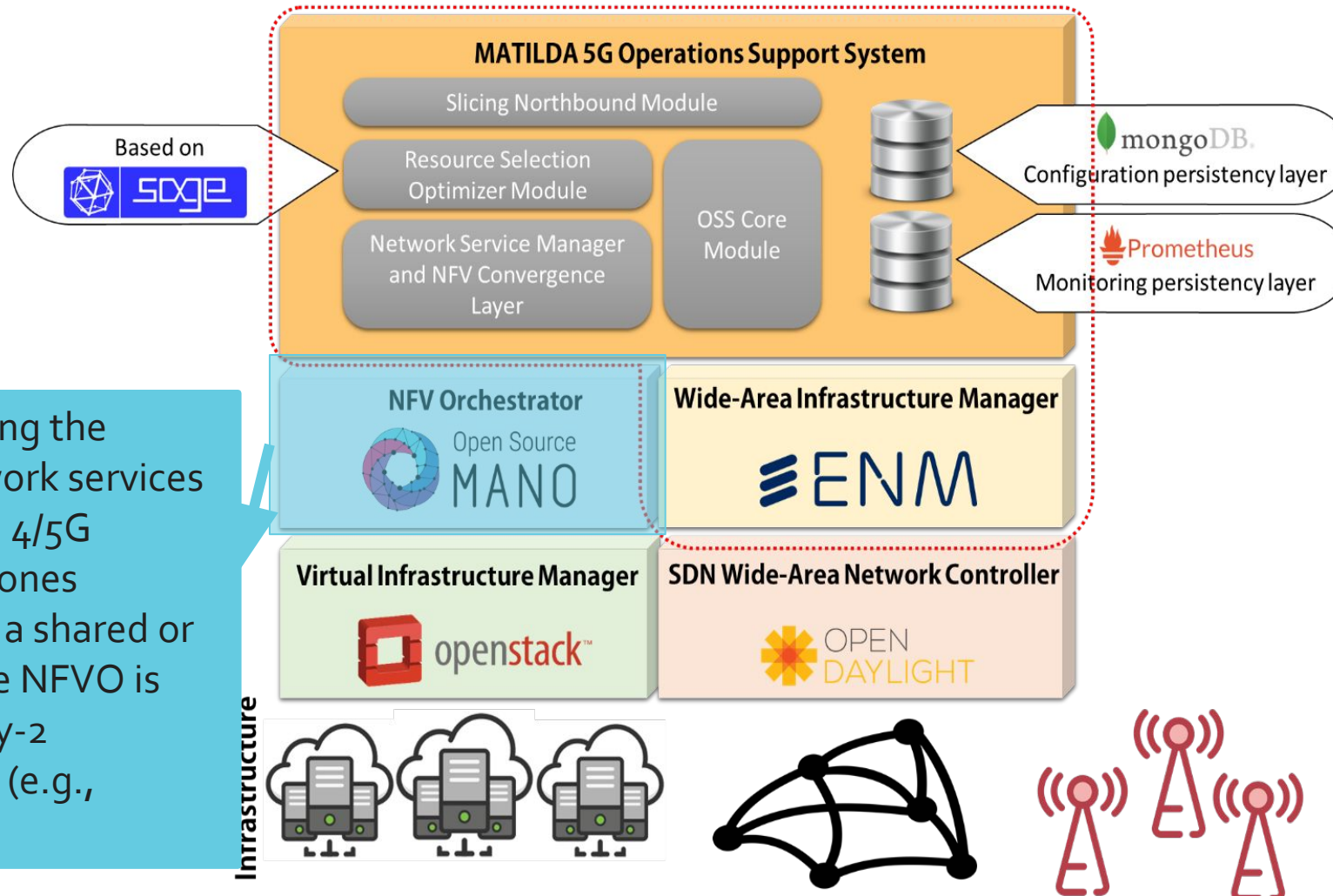


Provides a level of abstraction for the flexible and high-level management of the complete lifecycle orchestration of network services, VNFs and PNFs instantiated in the 5G infrastructure.

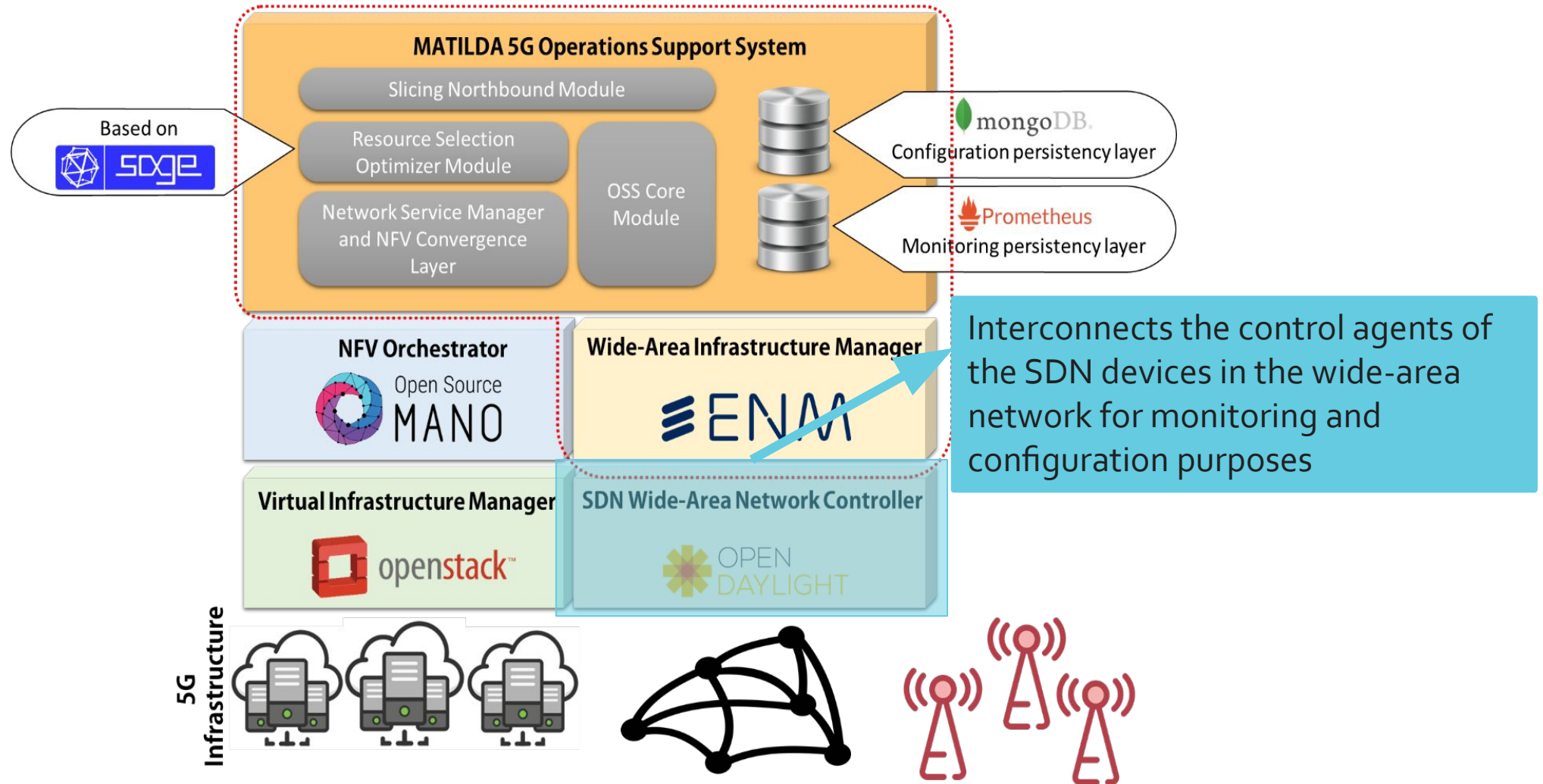
Telecom Service Provider Platform



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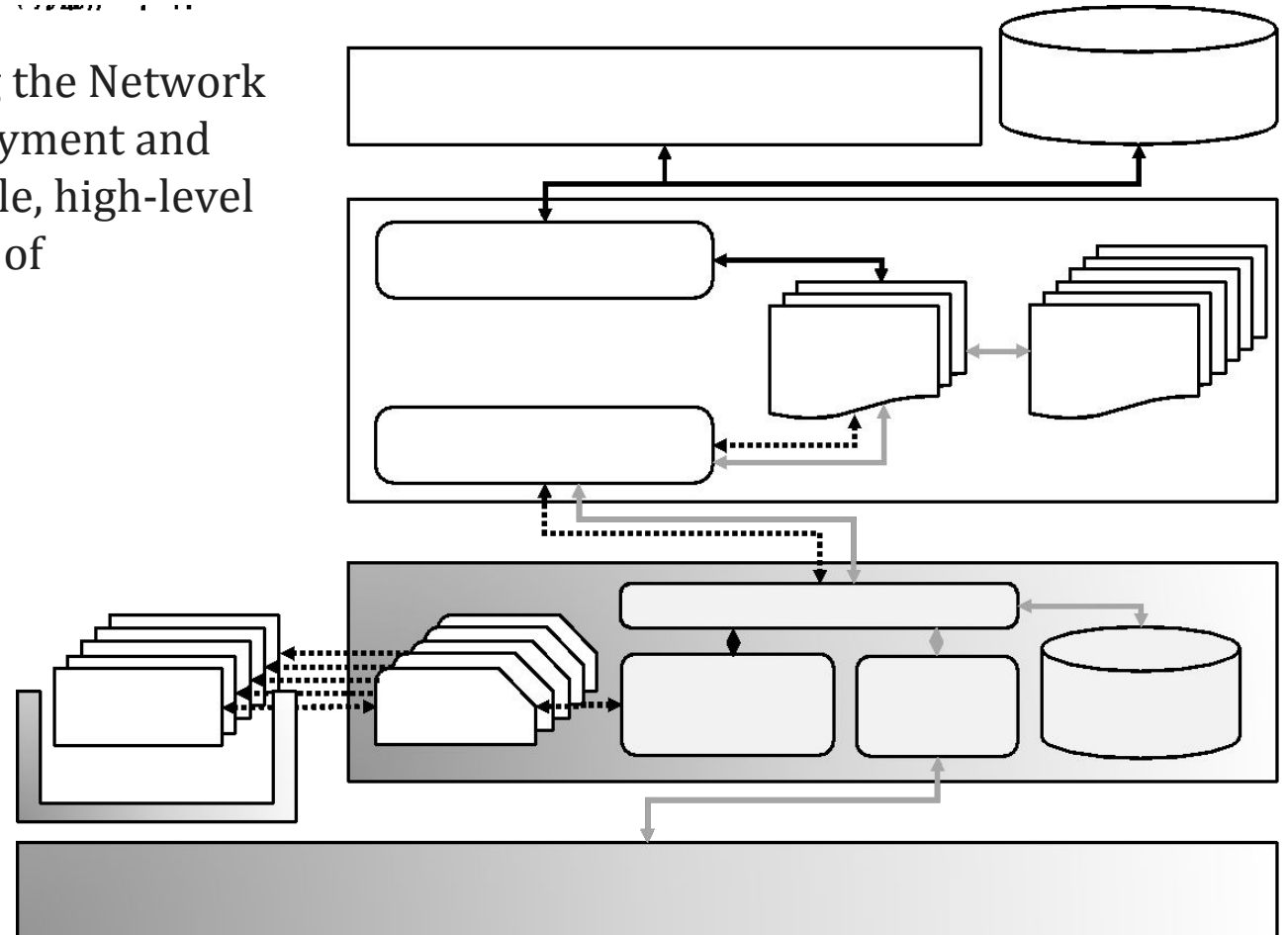


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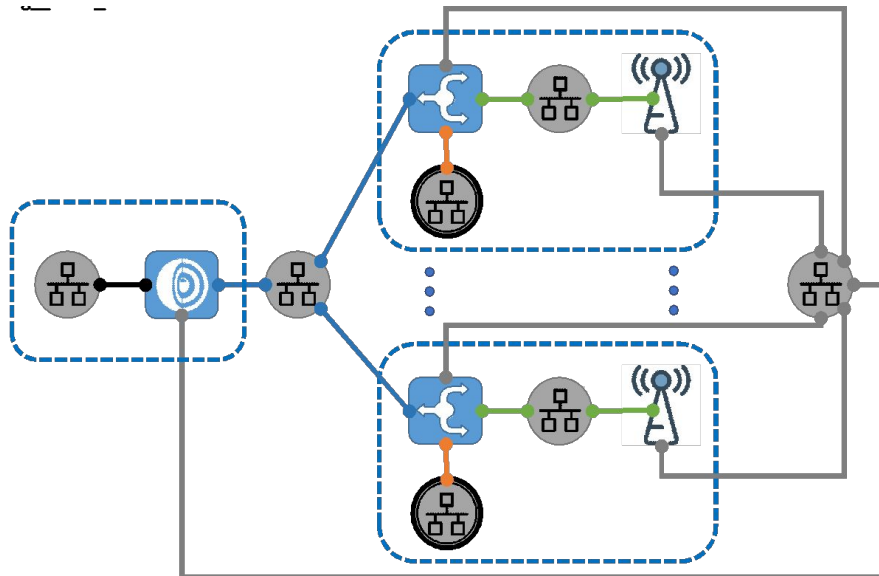


NFV Convergence layer

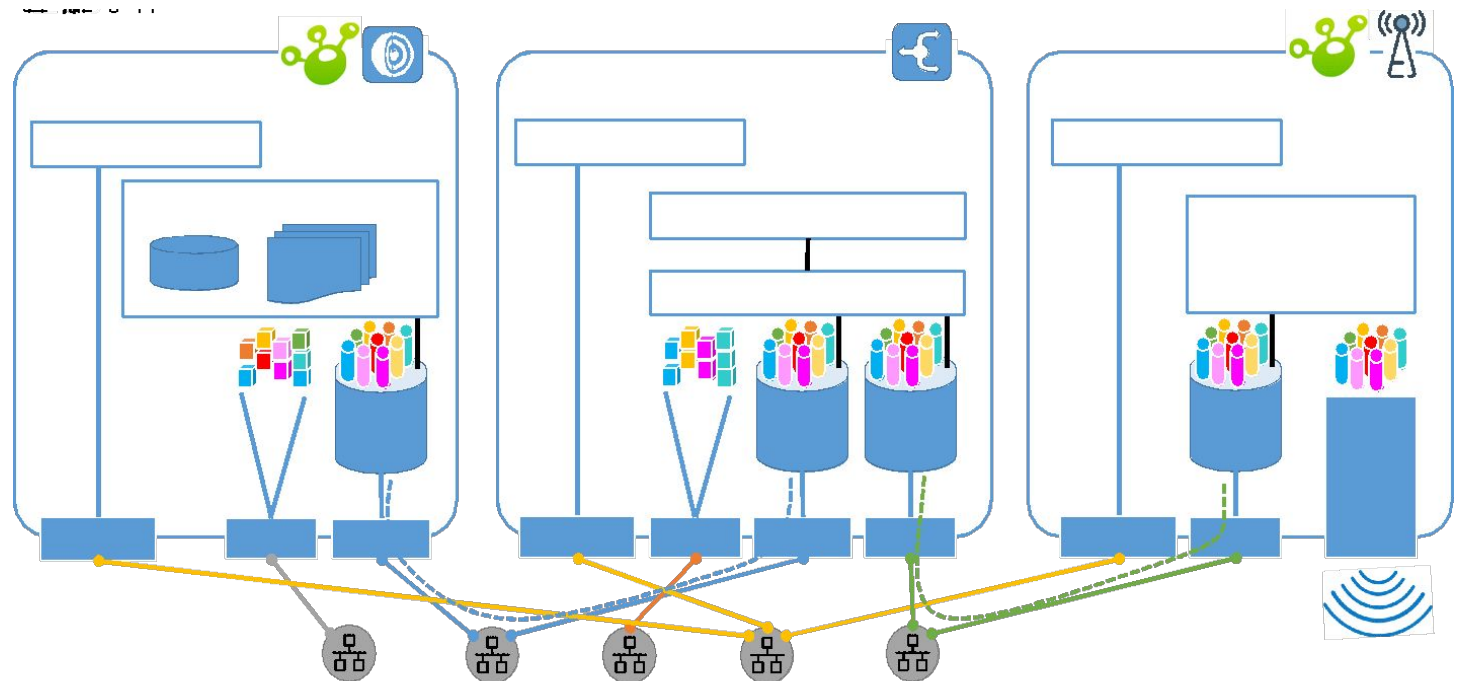
NS Blueprint is an abstraction for producing the Network Service descriptors and generating the deployment and graph creation procedures. It provides a single, high-level network template with a pre-determined set of optional/mandatory capabilities.



NFV Convergence Layers

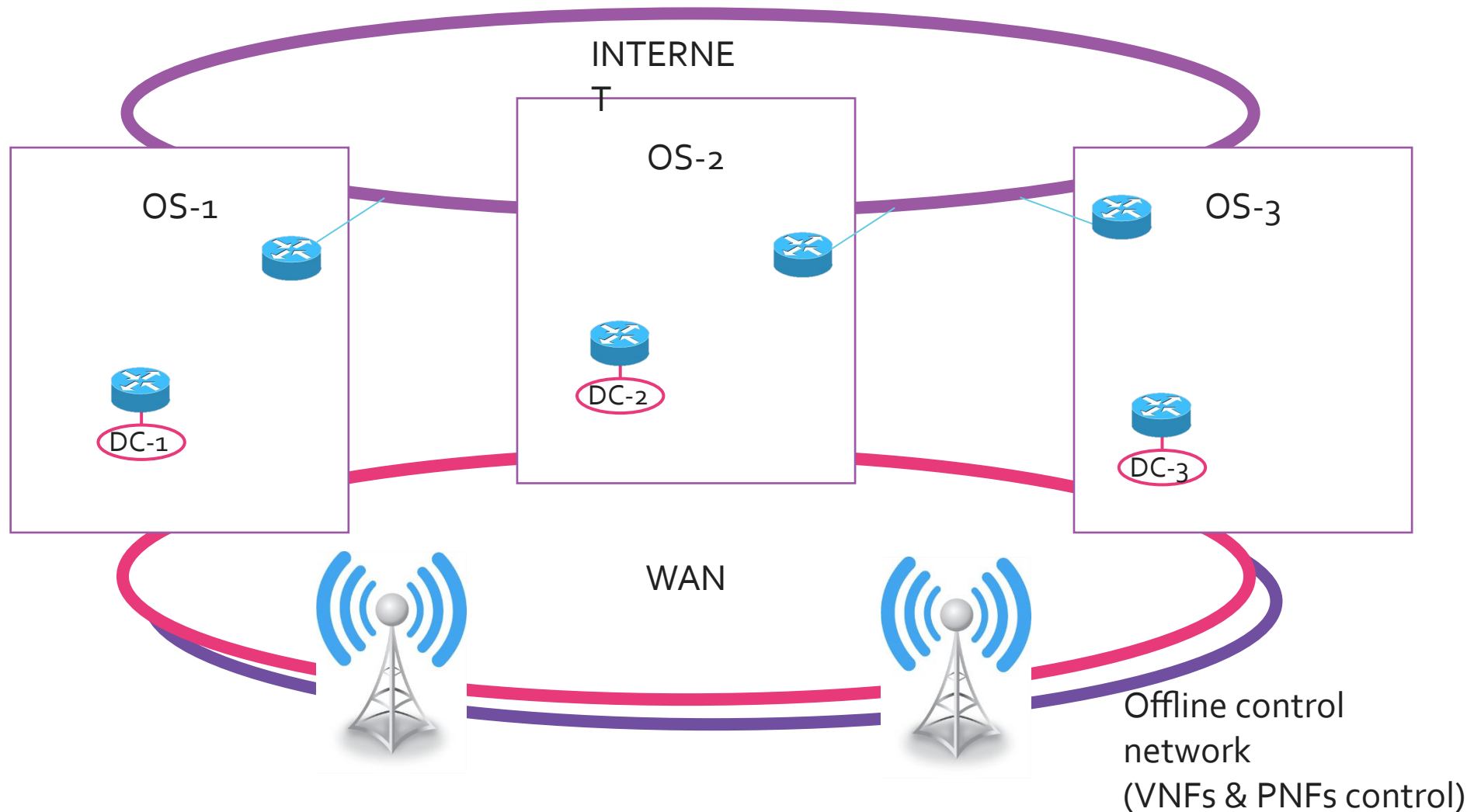


Blueprints & Creation of Network Service Descriptors

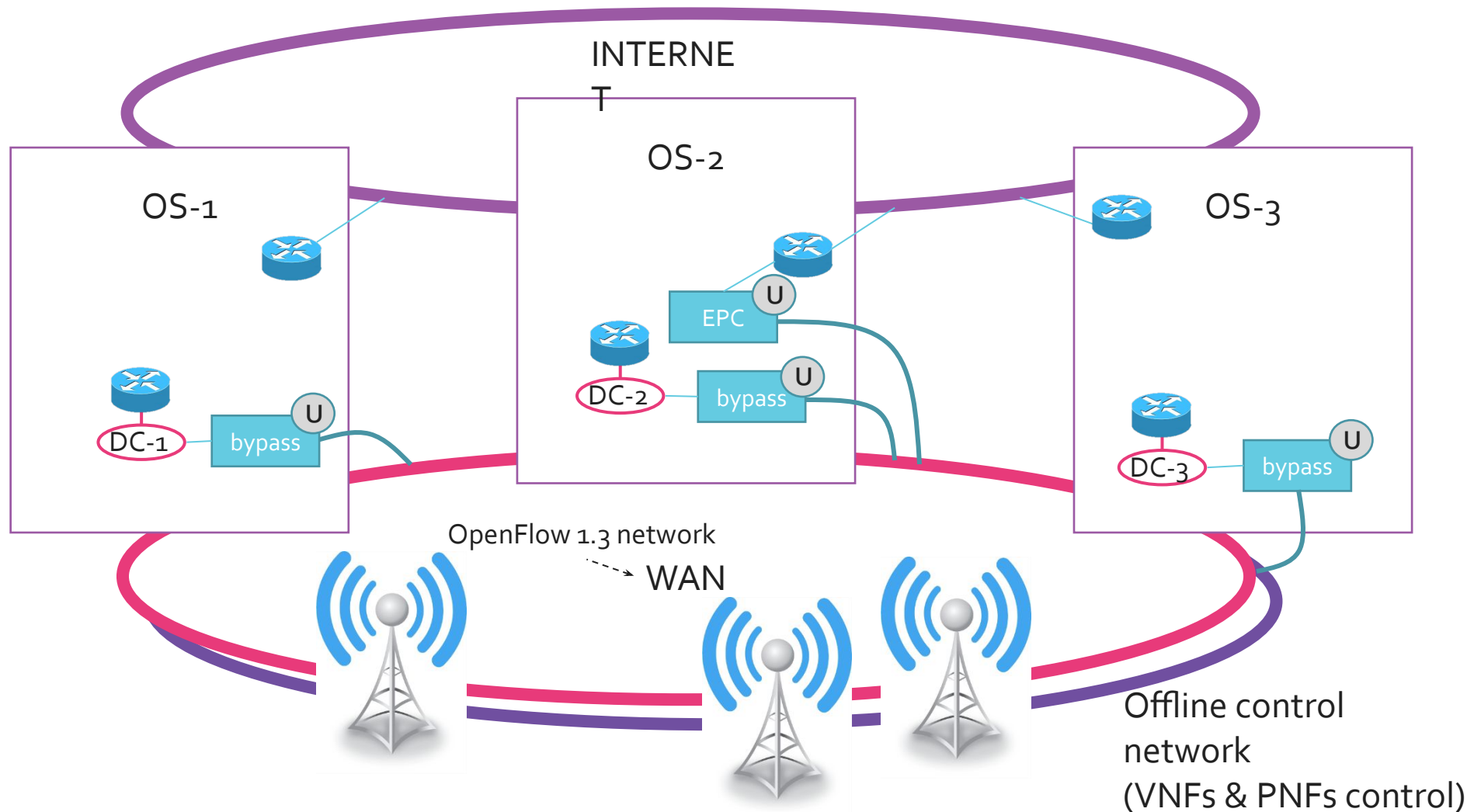


Blueprints & Day-2 Configurations

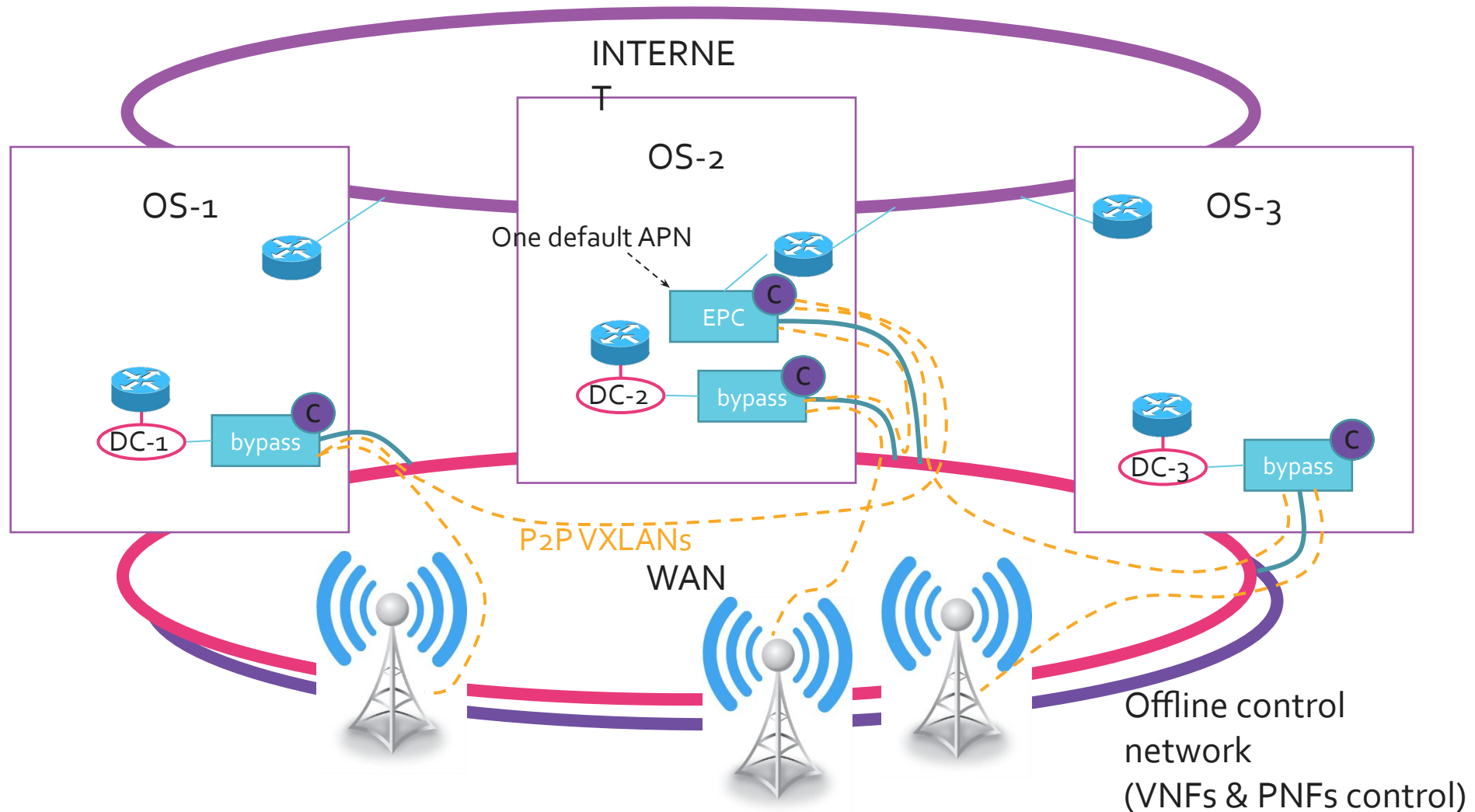
DEMO DESCRIPTION: Step 0 – OS INIT



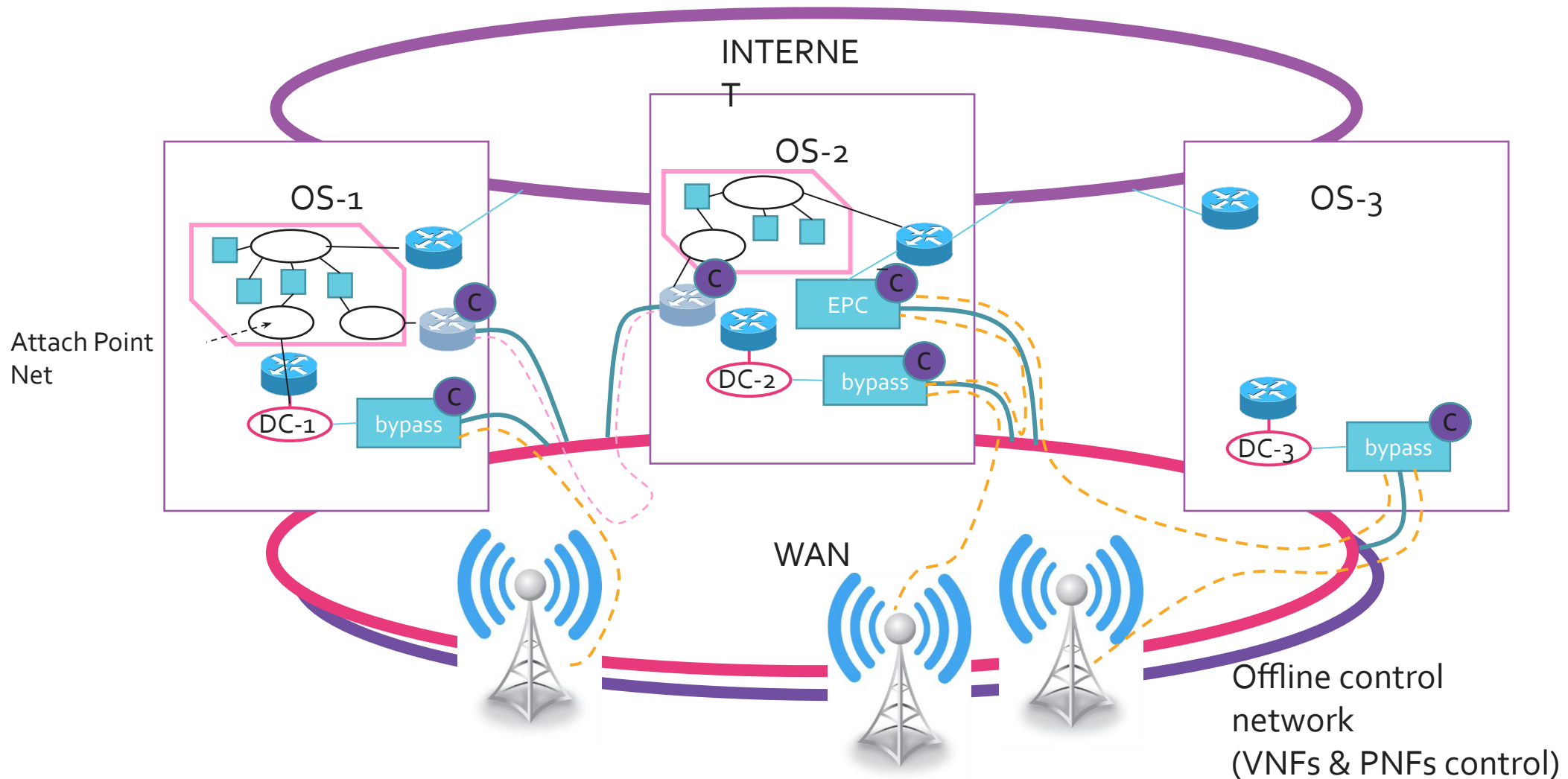
DEMO DESCRIPTION: Step 1 – BOOTSTRAP



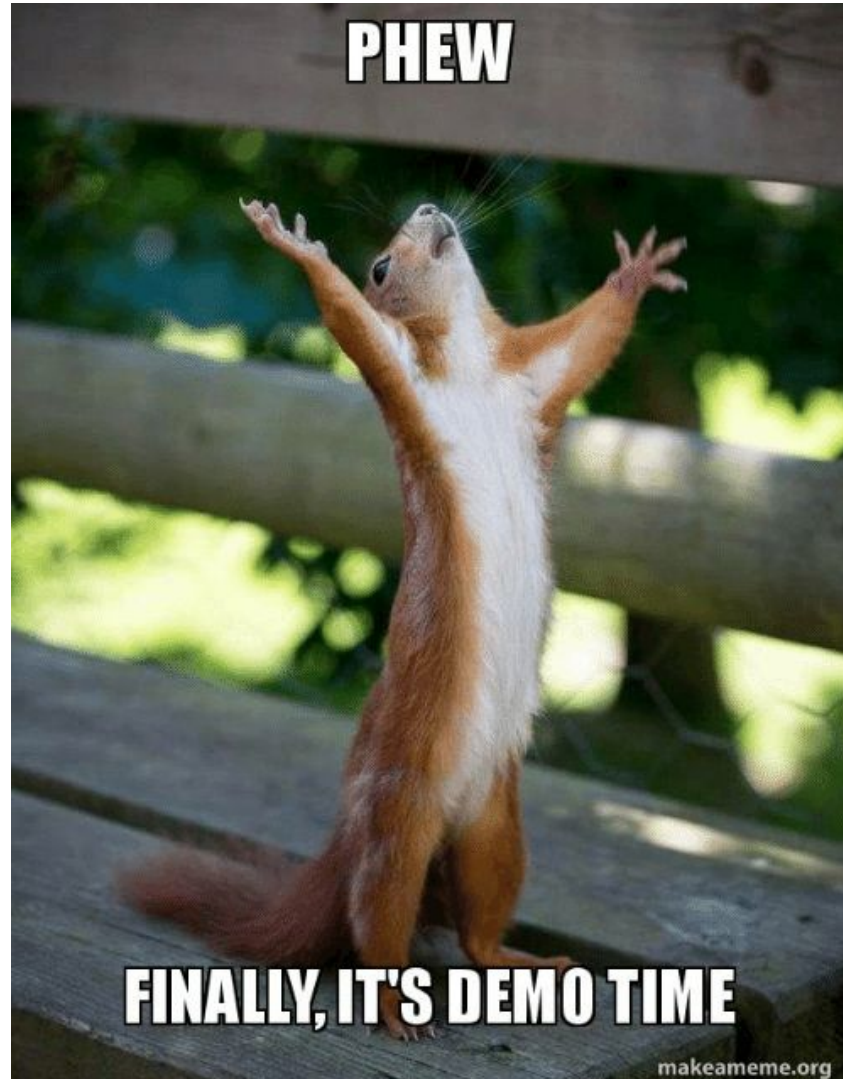
DEMO DESCRIPTION: Step 2 – Configuration

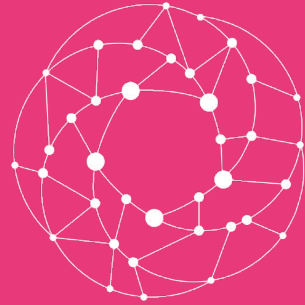


DEMO DESCRIPTION: Step 3 – SLICE MATERIALIALIZATION



DEMO TIME





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Thanks for your Attention
Any Question?