XGVela

July 15, 2020

XGVela | What is XGVela?

Time

Launch: April 30, 2020
First Meeting: May 21, 2020

Name explanation

XG: 4G, 5G, 6G …… XG
Vela: Sail in Latin to accelerate cloud native transformation and innovation

Status

Currently LF unfounded project

Project links

Wiki:
https://github.com/XGVela/XGVela/wiki
Meeting:
https://github.com/XGVela/XGVela/wiki/XGVela-Meetings
Mailing list:
https://lists.xgvela.org/g/xgvela-tsc
Partners:
https://github.com/XGVela/XGVela/blob/master/Partners%20interested%20%20in%20XGVela.pdf
Current TSC: ZTE, CMCC, Nokia, Intel, Ericsson, Huawei, Wind River

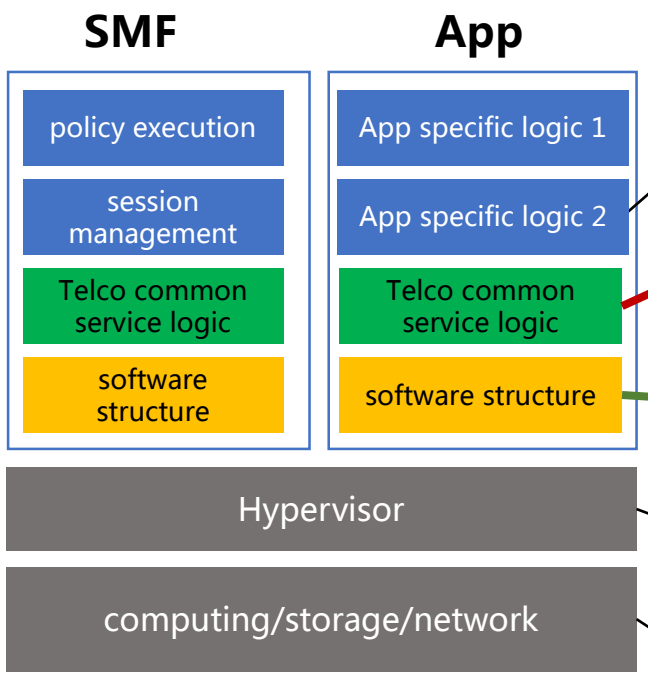
Project definition

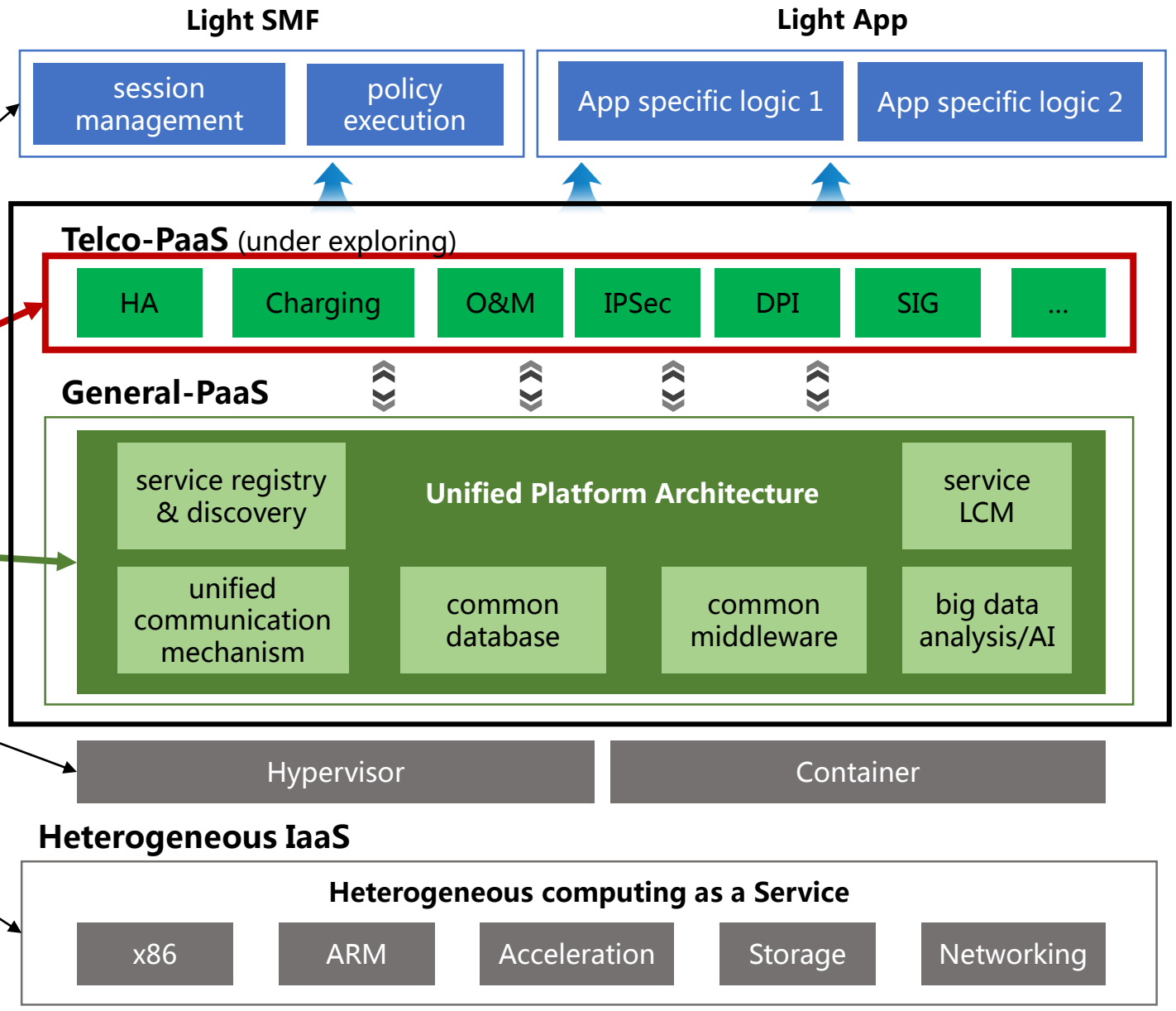
An open source cloud native PaaS for applications and telco network functions, which is to enable new services and help mobile operators to seize the business opportunity from vertical industries in the 5G era

XGVela | How to achieve XGVela

1. Application tailoring:

- The NFs / applications are further decomposed according to the microservices architecture
- Strip away the parts that have nothing to do with the application itself

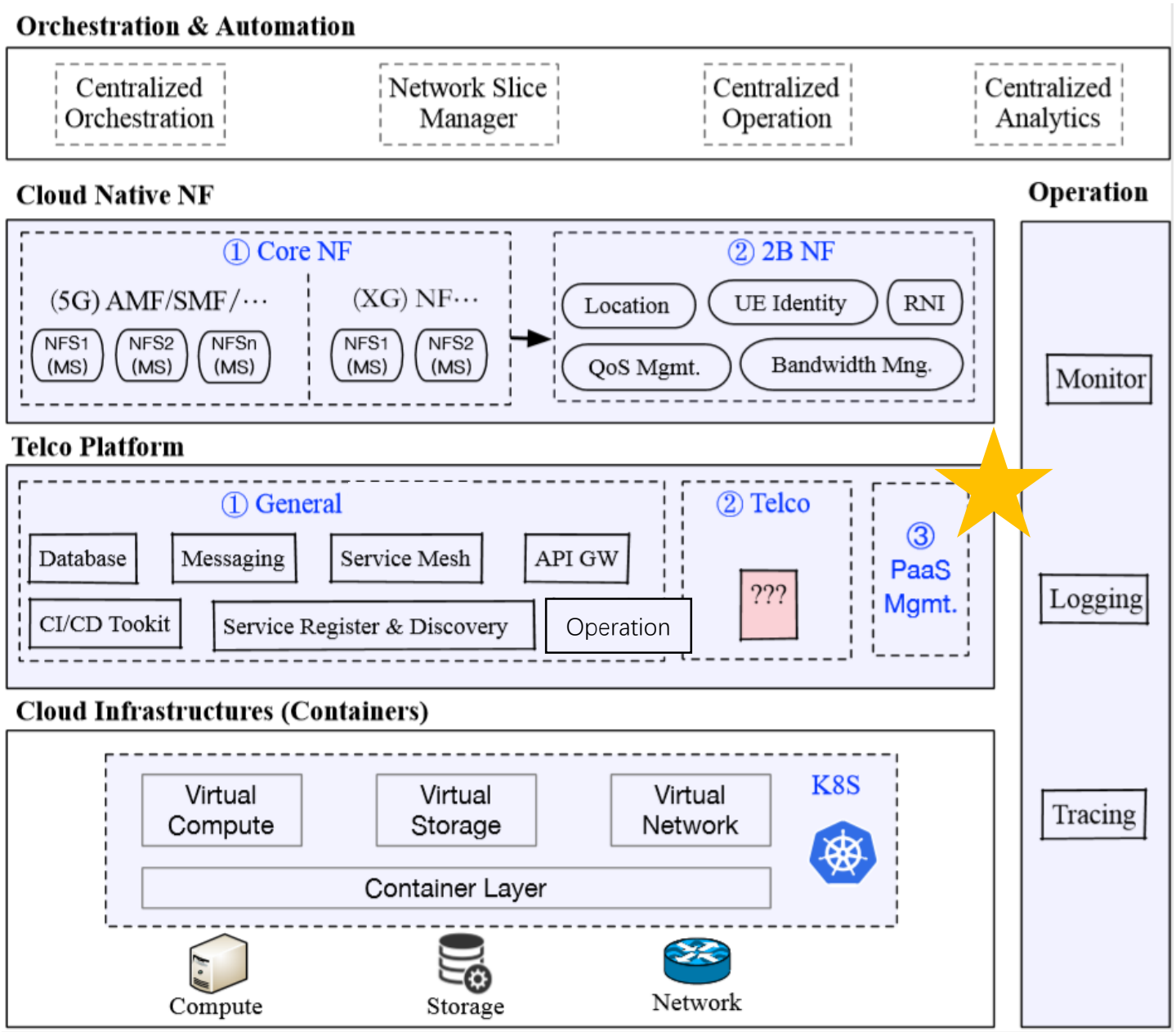




2. Platform addition:

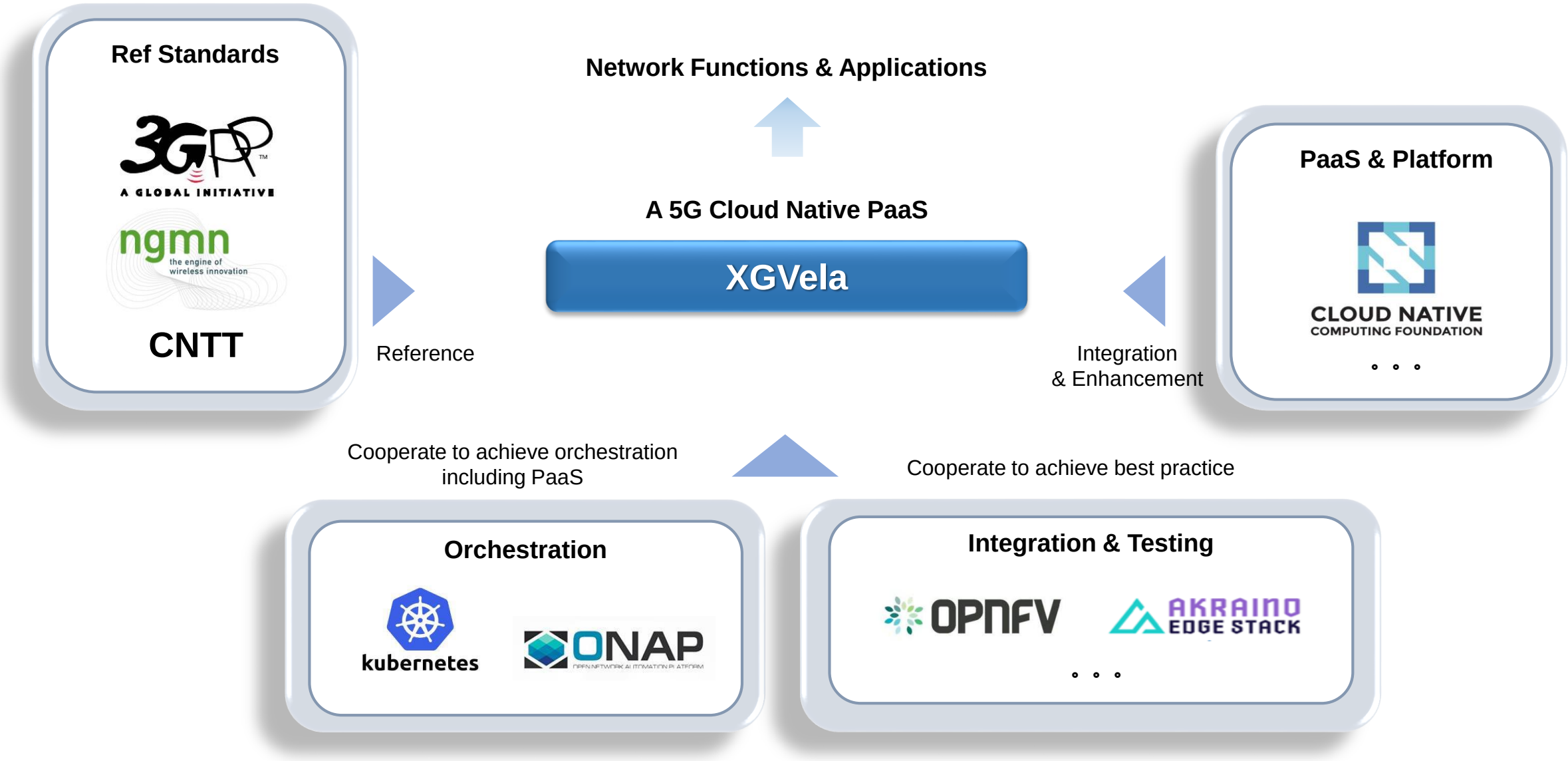
- Support the coexistence of multiple resource forms
- Based on network element software architecture, the implementation of the general service rely on the platform
- Provides unified capabilities through API

XGVela | Technical Scope



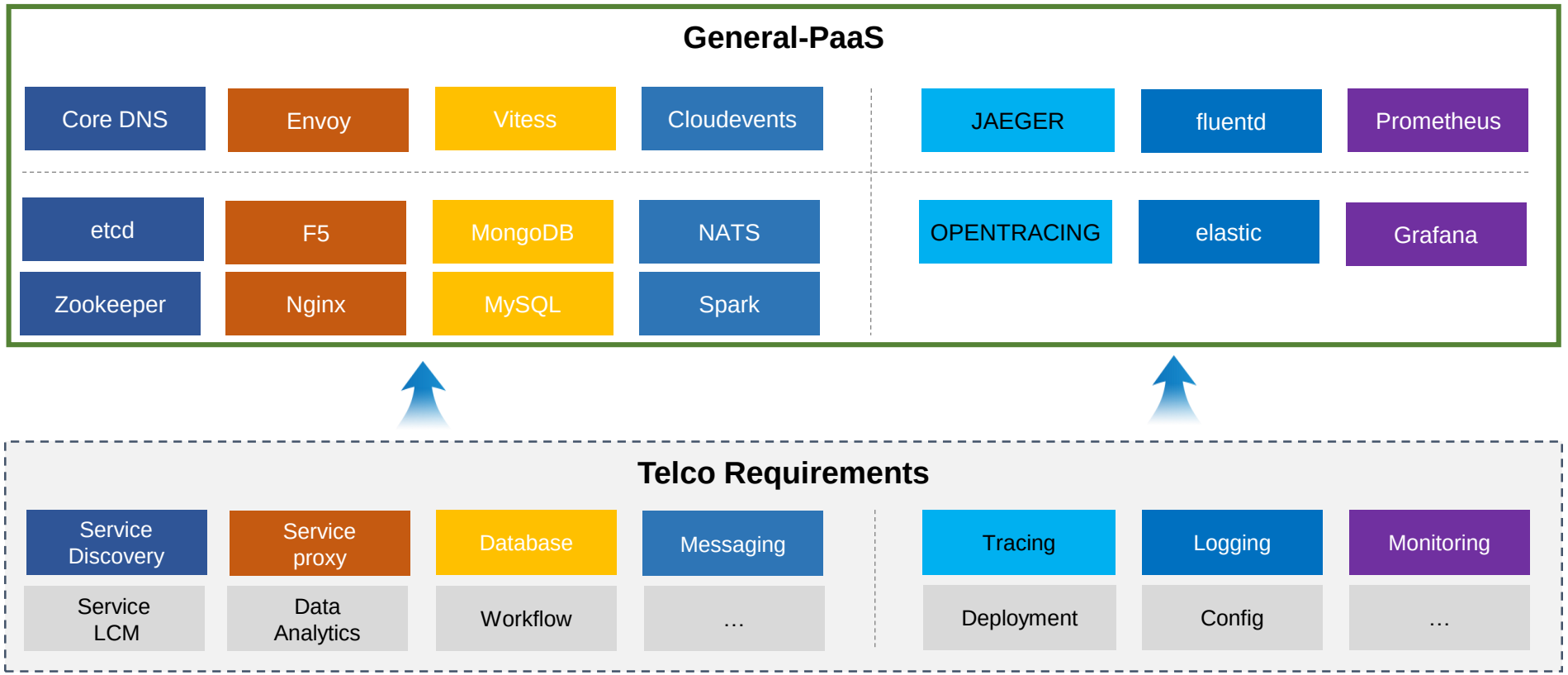
- Focus on telco platform
  - Define a set of functions (PaaS service for reuse across CNFs & applications) needed in telco platform
  - Use cases & requirements
  - Choose proper software to integrate telco platform
  - Development & enhancement of functional components
  - Interface: how to provide service to users and applications
  - POC

XGVela | Relationship with other Communities/Organizations



XGVela | Relationship with CNCF

- **XGVela integrates necessary CNCF projects to form General-PaaS.**
- **Telco enhancement requirements on General-PaaS will be explored and contribute to CNCF project.**



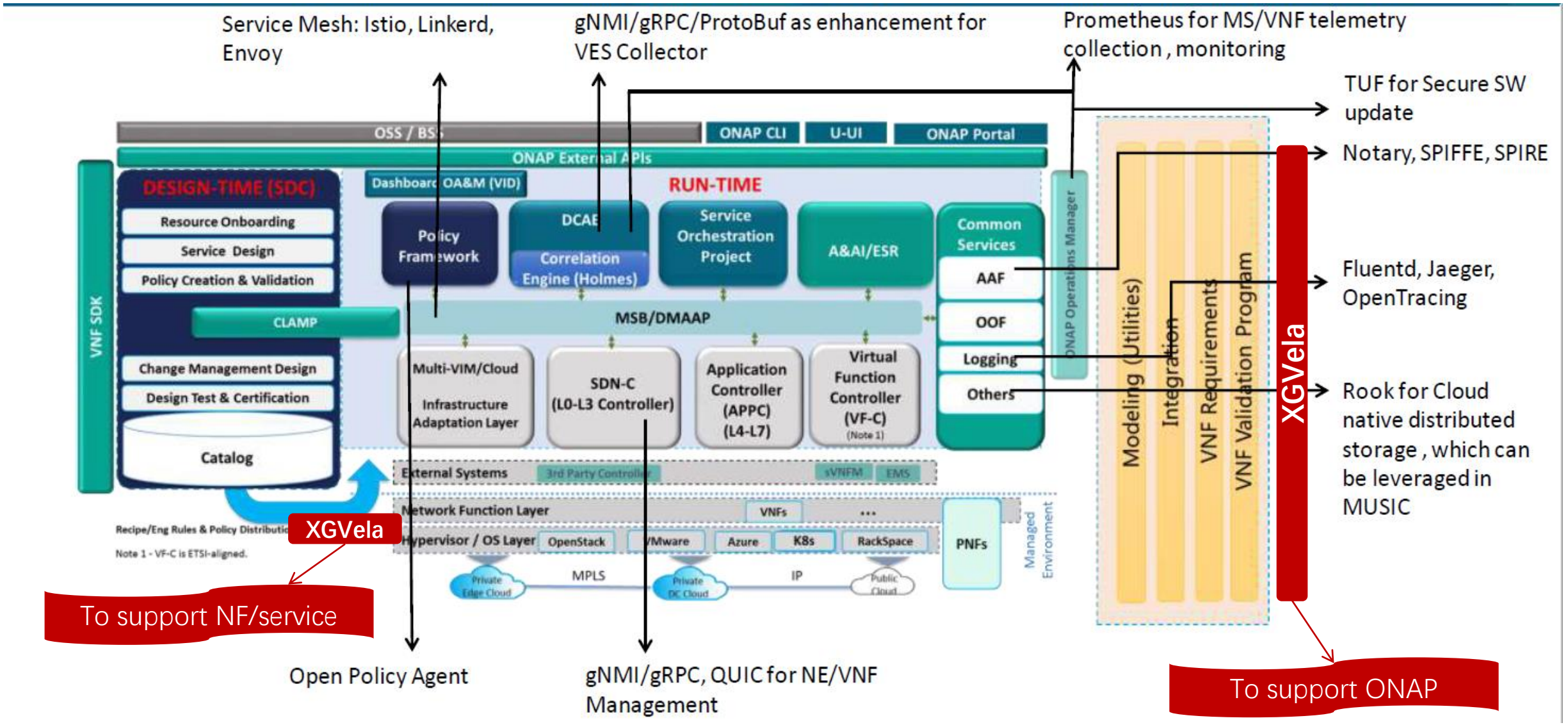
XGVela | Relationship with CNTT

- **Difference between CNTT RA2 & XGVela**
  - ✓ CNTT RA2 scope: Kubernetes capabilities, support CNFs (pure container or VM & container mixed)
  - ✓ XGVela scope: PaaS capabilities, support telco NFs/applications development
- **Potential coordination between CNTT & XGVela:**
  - ✓ To support telco NFs
    - ✓ XGVela picks base platform based on CNTT RA2, including CNTT RI2, ICN (Akriano BP) etc
    - ✓ More implementation details will be discussed after XGVela telco PaaS definition and user story pick
  - ✓ For new requirements on CaaS in XGVela implementation
    - ✓ Implementation would either exist as plug-in/extension, or upstream back to original project
    - ✓ Requirements would firstly be contributed to CNTT RA2 (trying to maintaining a unified telco CaaS base)

XGVela | Relationship with ONAP (1/2)

- **Difference between ONAP & XGVela**
  - ✓ ONAP scope: lifecycle support of NFs/ services, standard NF/service management from different vendors, environment management
  - ✓ XGVela scope: PaaS capabilities, support telco NFs/applications development
- **Potential coordination between ONAP & XGVela:**
  - ✓ To support NFs/services:
    - ✓ XGVela enables PaaS abilities & functional modular to be orchestrated by ONAP
    - ✓ XGVela together with ONAP to design end-to-end management including PaaS
  - ✓ To support ONAP microservice architecture:
    - ✓ XGVela integrate cloud native toolsets help to implement ONAP microservices
    - ✓ XGVela takes ONAP as an application and a requirement input

XGVela | Relationship with ONAP (2/2)



XGVela | Goal & Progress

2020 Goals

Community:

- *Apr 30*, launch as LF project
- *May~July*, get XGVela running： clarify project goals & establish working group
- Dec, Release 1
- Try to join LFN after project is stable

Testbed：

- Build a prototype of cloud native telco-platform

Demo/POC：

- A demo involving XGVela & network functions (details story to be discussed)

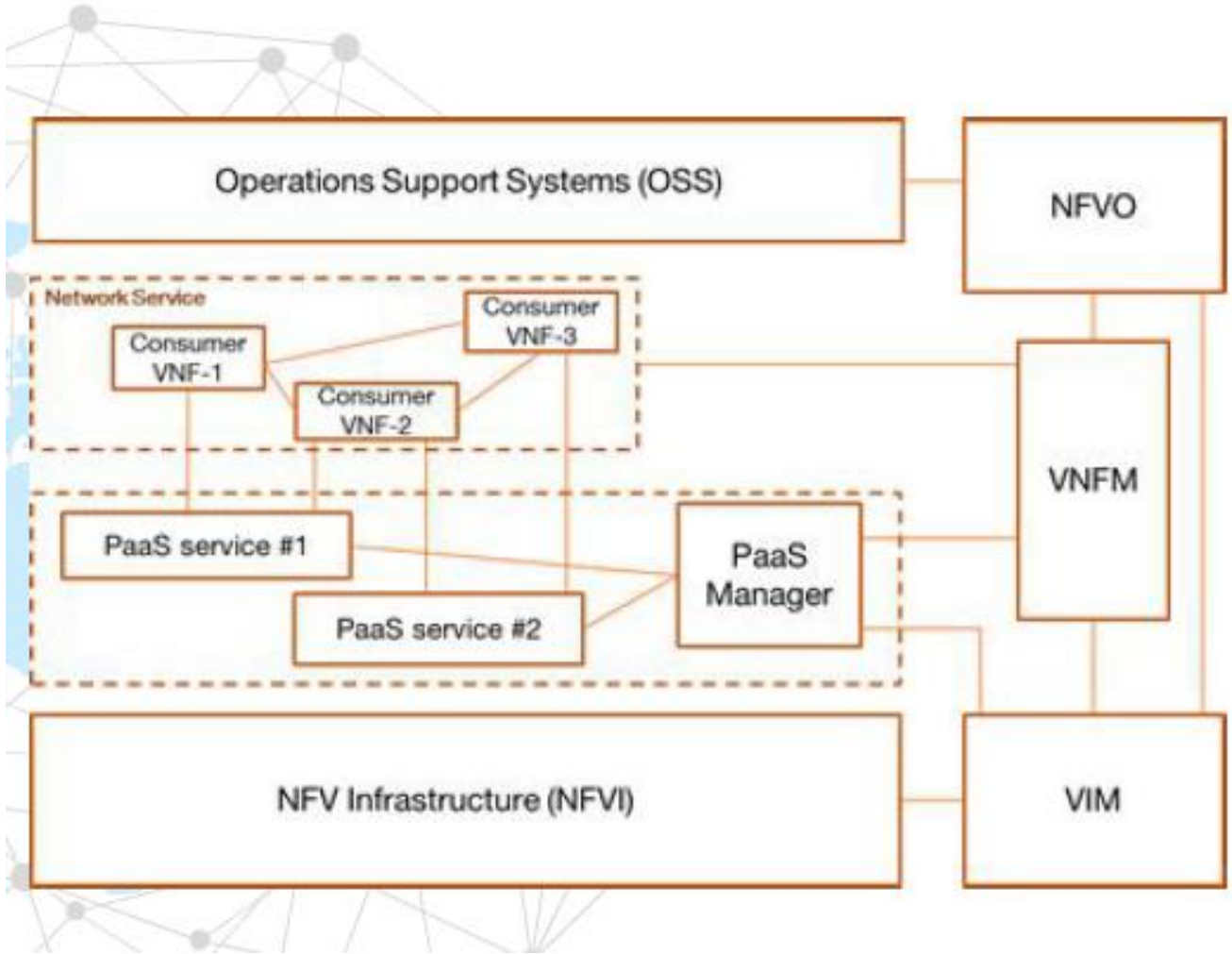
Current progress

Telco PaaS definition at：

- *https://github.com/XGVela/XGVela/blob/master/XGVela%20functions%20%26%20implementations.xlsx*

Next: use case discussion

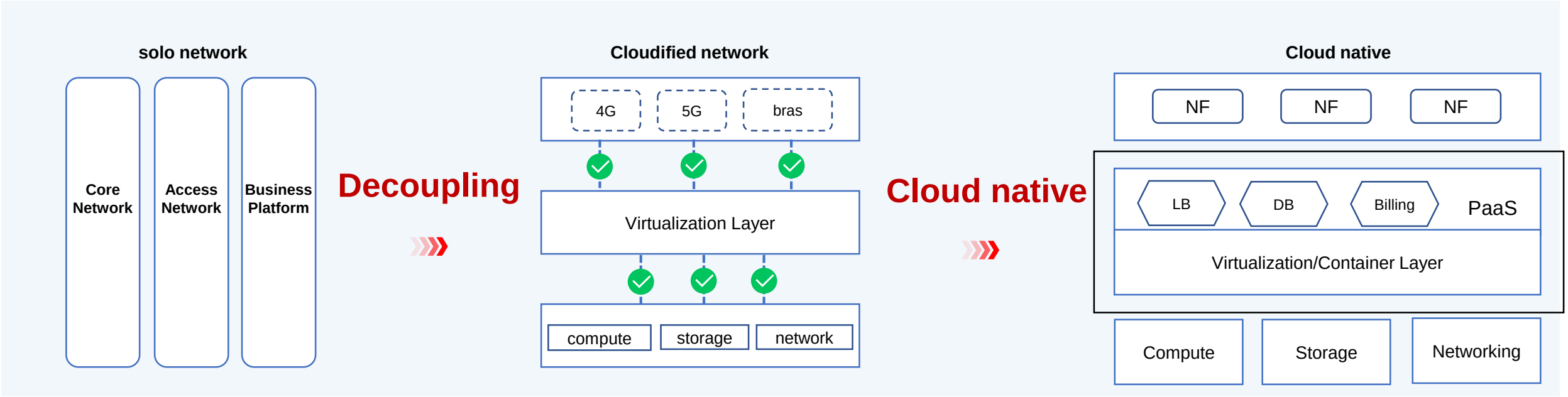
Thank you


Operations Support Systems (OSS)
NFVO
Network Service
Consumer VNF-3
Consumer VNF-1
Consumer VNF-2
VNFM
PaaS service #1
PaaS Manager
PaaS service #2
NFV Infrastructure (NFVI)
VIM

XGVela | Why need cloud native telco PaaS (1/2)

- ✓ With the help of NFV, SDN and orchestration management technology, current operator network is transforming from the traditional hardware and software equipment to the layered and decoupled cloud network.
- ✓ In the future, thanks to the application of container, microservice and other technologies, it will eventually evolve into the cloud native network

Operators' Network Transformation



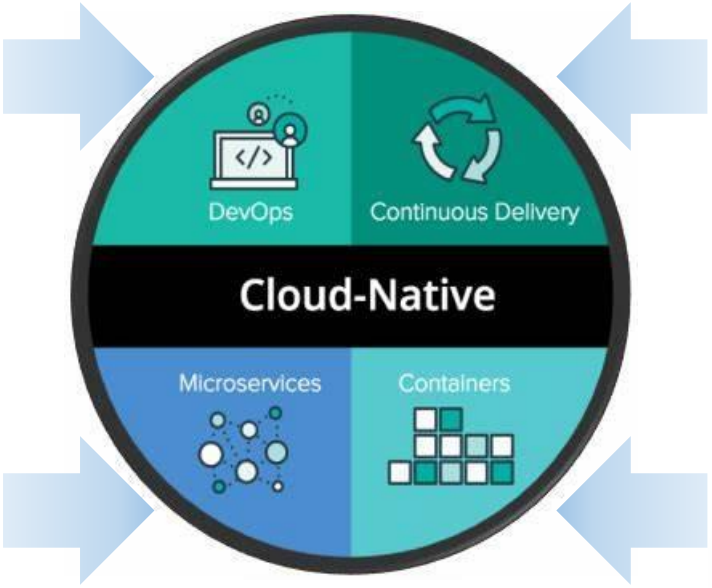
XGVela | Why need cloud native telco PaaS (2/2)

Fast-paced change in 5G requirements

- High flexibility in 2B scenarios
- Quick function upgrade
- Agile capabilities release

VM platform is inadequate

- Guest OS cumbersome
- Low deployment density
- Slow start and stop of virtual machine



Open & healthy eco-system

- Reduce barriers to enter the telco-industry
- Expand and prosper the ecosystem
- Reduce the cost on network construction

Simplified design & innovation

- Carefully selected common services from NE to platform
- Standard APIs to provide capabilities
- Application development focus on service logic