Software & Standards
for Smart Networks & Services

SUSE Telco Cloud aligned with Industry Standards

Presented by:

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What will we cover today?

- Introduction
- Framing Sylva and Supported Sylva Stack
- 3GPP Network View
- Little bit on O-RAN Alliance stack
- Closing

Moving toward Telco Cloud & Edge homogenization

Why does Sylva Matter?

- Every telco cloud stack and every CNF creates a silo through their respective ecosystem of known integrations/certifications – non-certified options are practically ruled out due to the lack of support and SLAs from CNF vendor
- As a result, operator choices are artificially limited – each CNF choice leads to limited choices on supported cloud stacks and vice versa
- This is unnecessary - almost all cloud stacks are made out of the same ingredients - Linux, Kubernetes, small set of CNI options, adjacent tooling
- A common open source telco cloud reference stack can help reduce integration cost down to a level where a significantly larger support matrices become feasible
- The long term dream: “every CNF can run on every platform”, just like we’re used to from… Enterprise Linux!

Container-centric Telco platform

Sylva promotes standardization & simplification across Telco & Edge Clouds, maintaining vendor neutral blueprint.

Proven performance & reliability

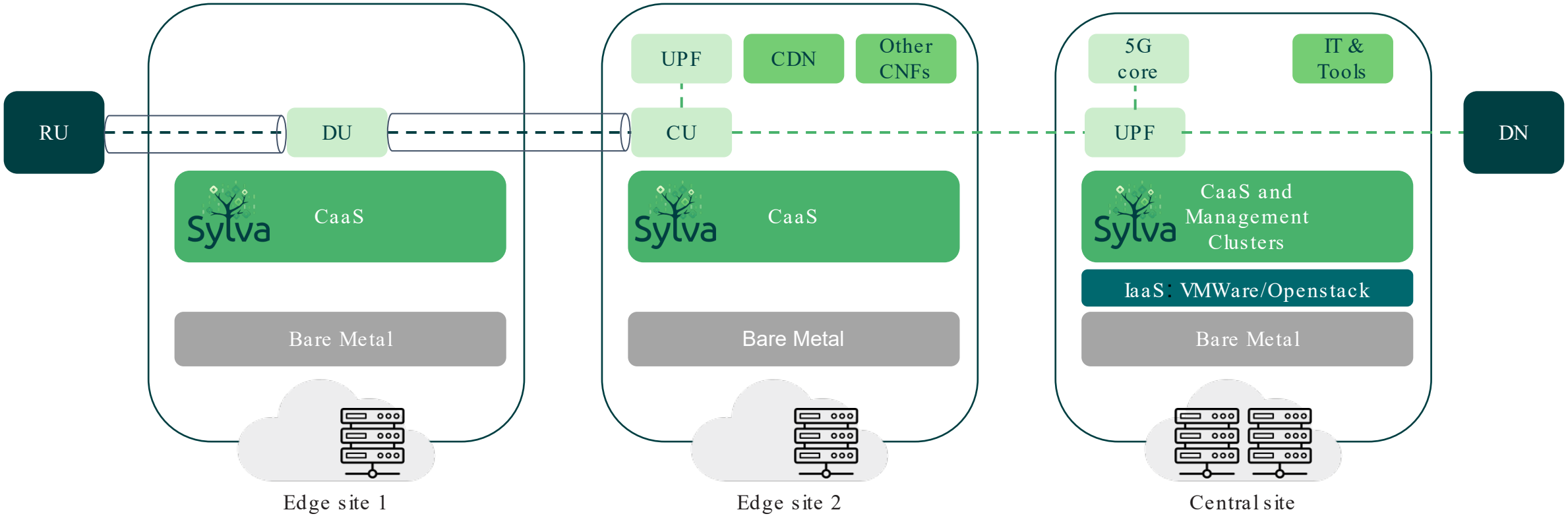
Sylva Validation Center offers pre-deployment testing for CNFs executing on the Sylva reference platform.

Sylva five technical pillars

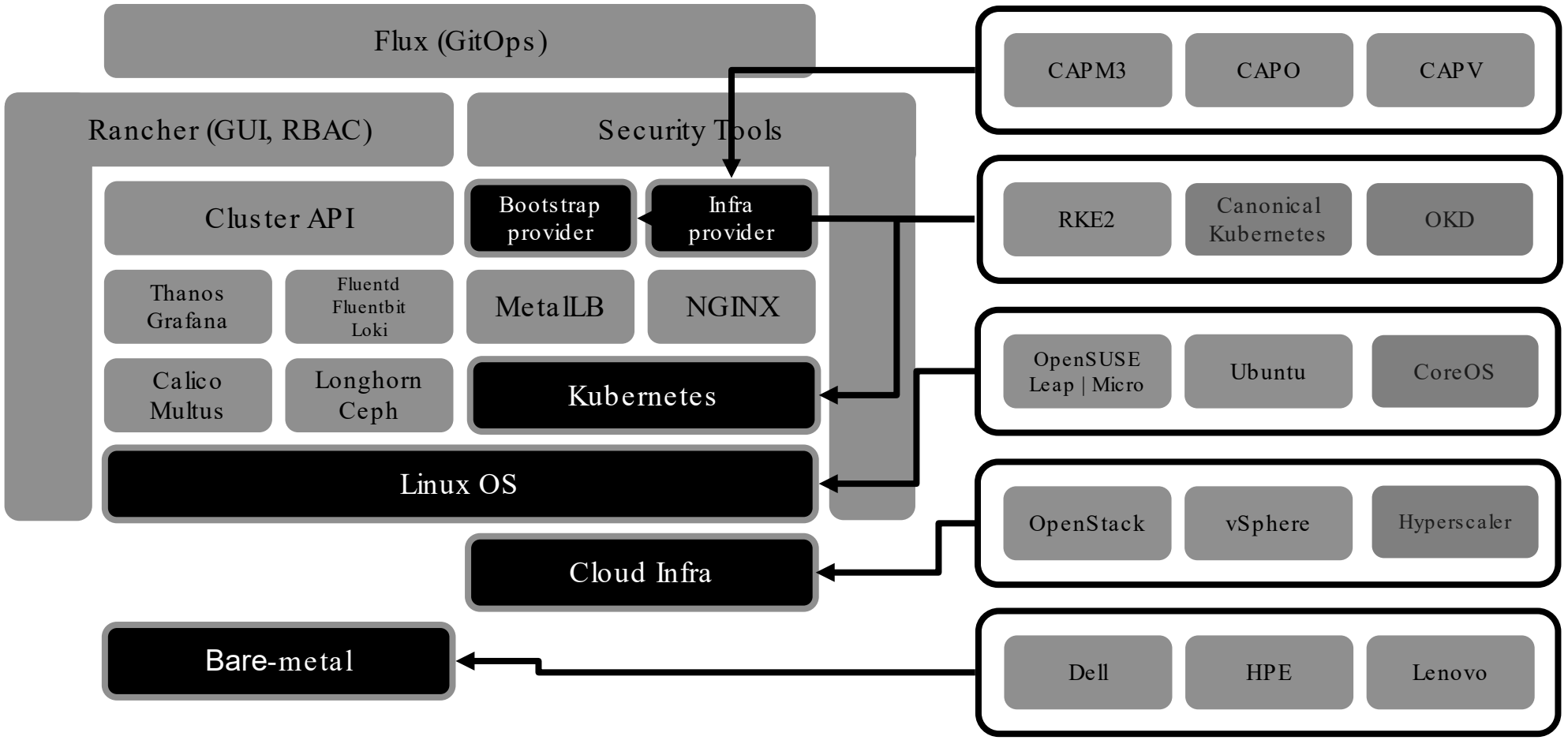
Network performance, distributed cloud, security, open source, energy efficiency

Sylva In Network

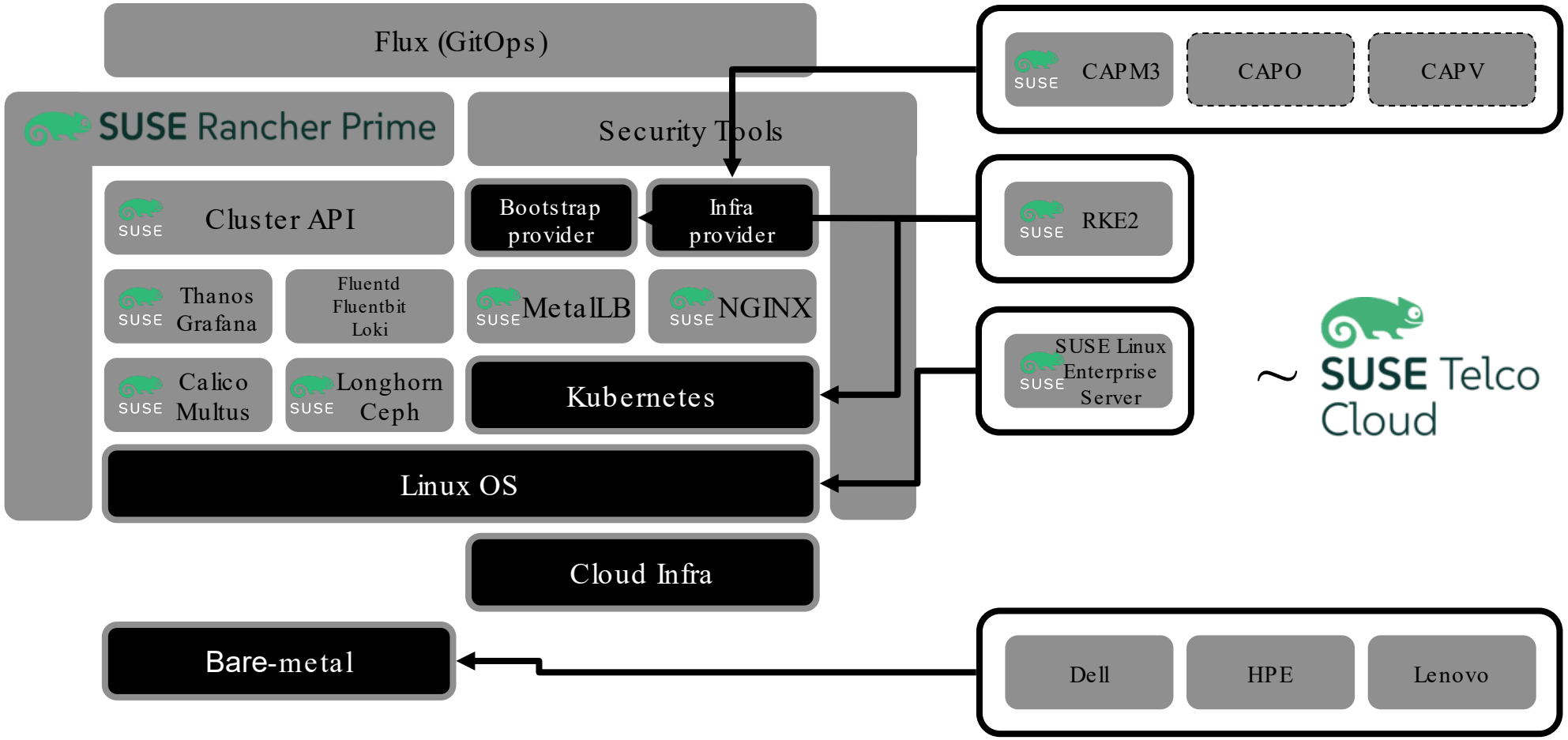
To address such use case as 5G Core, Distributed UPF, CDN and Open RAN,
Sylva will provide an architecture able to manage from Central to far edge site



Sylva Stack with Carefully Selected Options



We are Supporting Customers with this Opinionated Stack



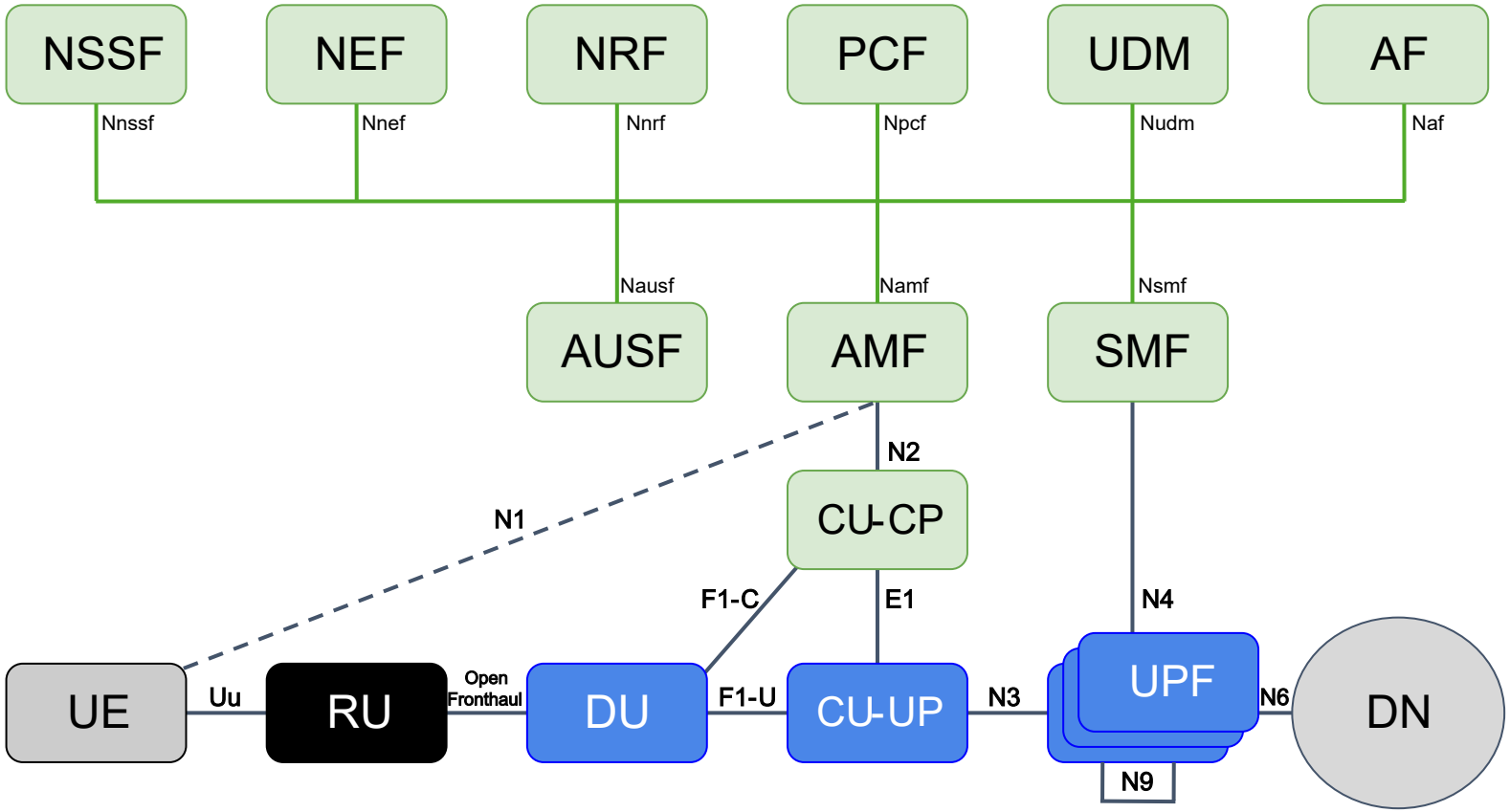
SUSE Application Collection

SUSE Premium Services

SUSE Consulting Services

SUSE One Partner Program

3GPP Standard Diagram augmented with RAN Disaggregation



Network Functions of 5G Core Network

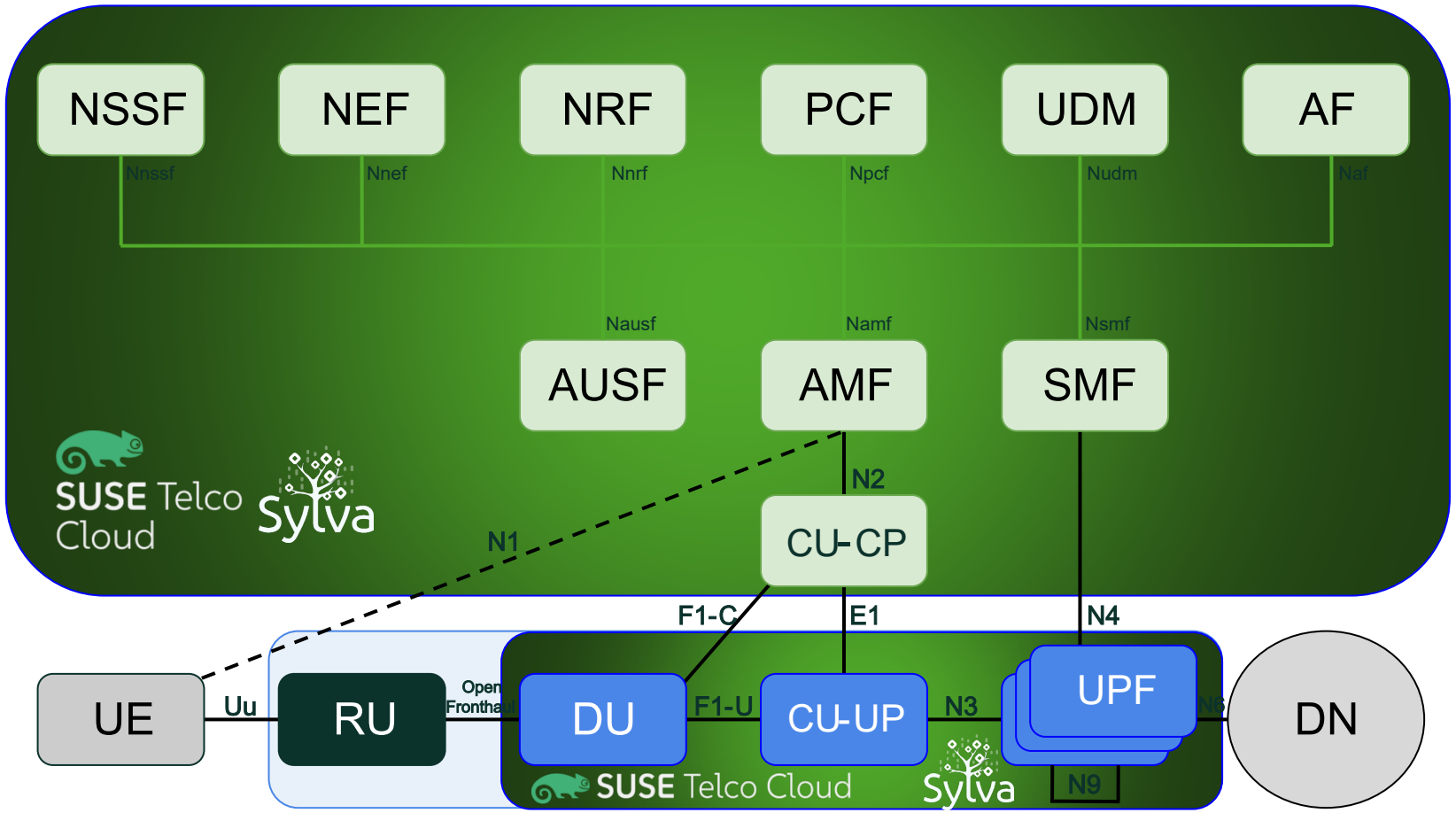
In order to facilitate the enablement of different data services and requirements the elements of the 5GC, also called Network Functions, have been further simplified with most of them being software based so that they could be adapted according to need. The 5G System architecture consists of the following network functions (NF) majority of which constitute the 5GC:

- Authentication ServerFunction (AUSF)
- Core Accessand Mobility ManagementFunction (AMF)
- Data network (DN), e.g. operator services, Internet access or 3rd party services
- Network ExposureFunction (NEF)
- NF Repository Function (NRF)
- Policy Control function (PCF)
- SessionManagementFunction (SMF)
- Unified Data Management(UDM)
- Userplane Function (UPF)
- Application Function (AF)
- Network Slicing Selector Function (NSSF)
- User Equipment (UE)
- Radio AccessNetwork (RAN)
  a. RU, DU, CU-CP, CU-UP

“Helper” functions :

- Structured Data Storagenetwork function (SDSF)
- Unstructured Data Storagenetwork function (UDSF)

Horizontal Cloud on 3GPP Standard Diagram



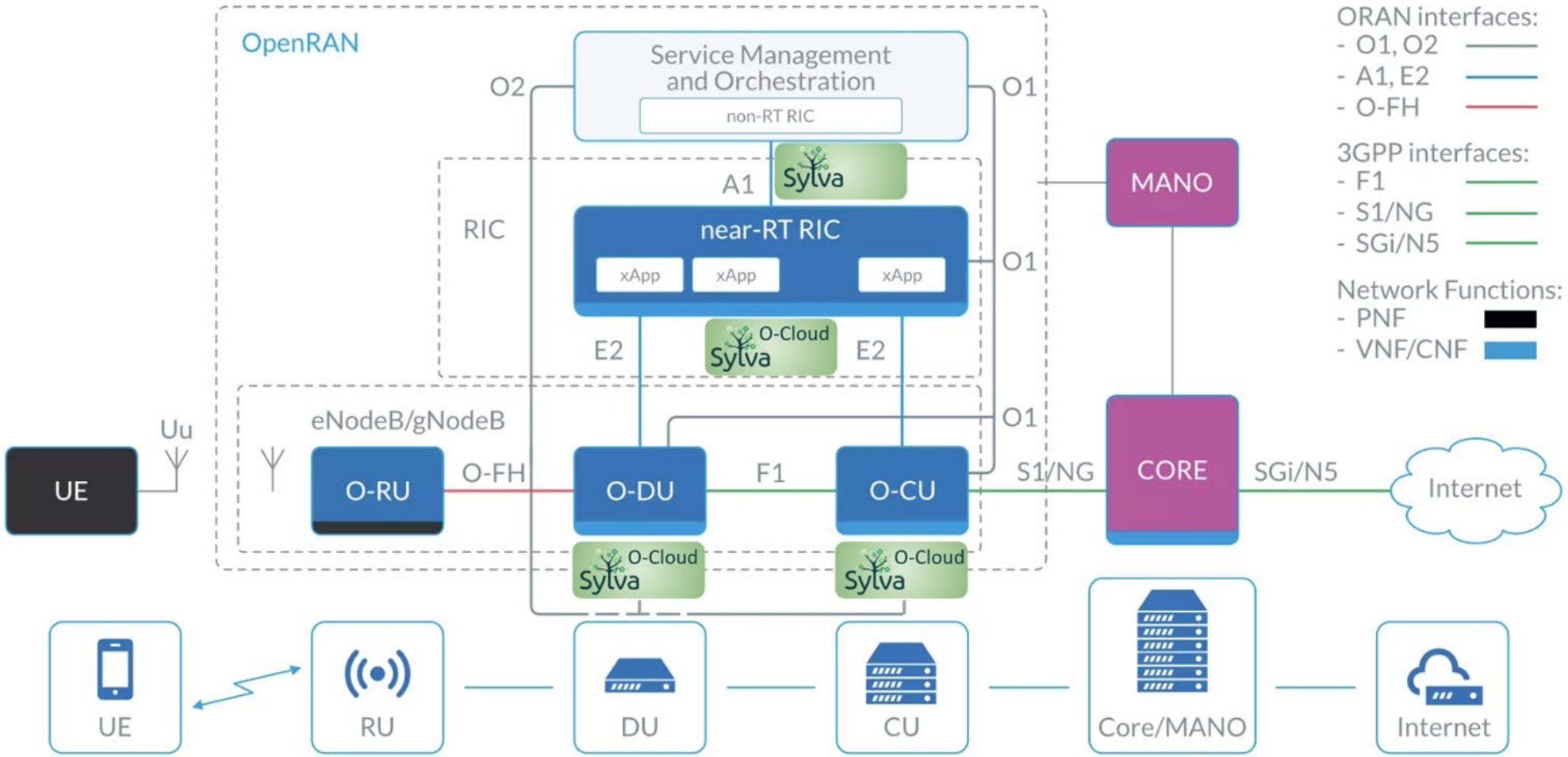
Control Plane

Cloud, Cloud Native
Hosted on SUSE Telco Cloud

User Plane

Data Plane Acceleration,
Real Time execution
Hosted on SUSE Telco Cloud

O-RAN Alliance View



Source, IS-Wireless with Sylva added.

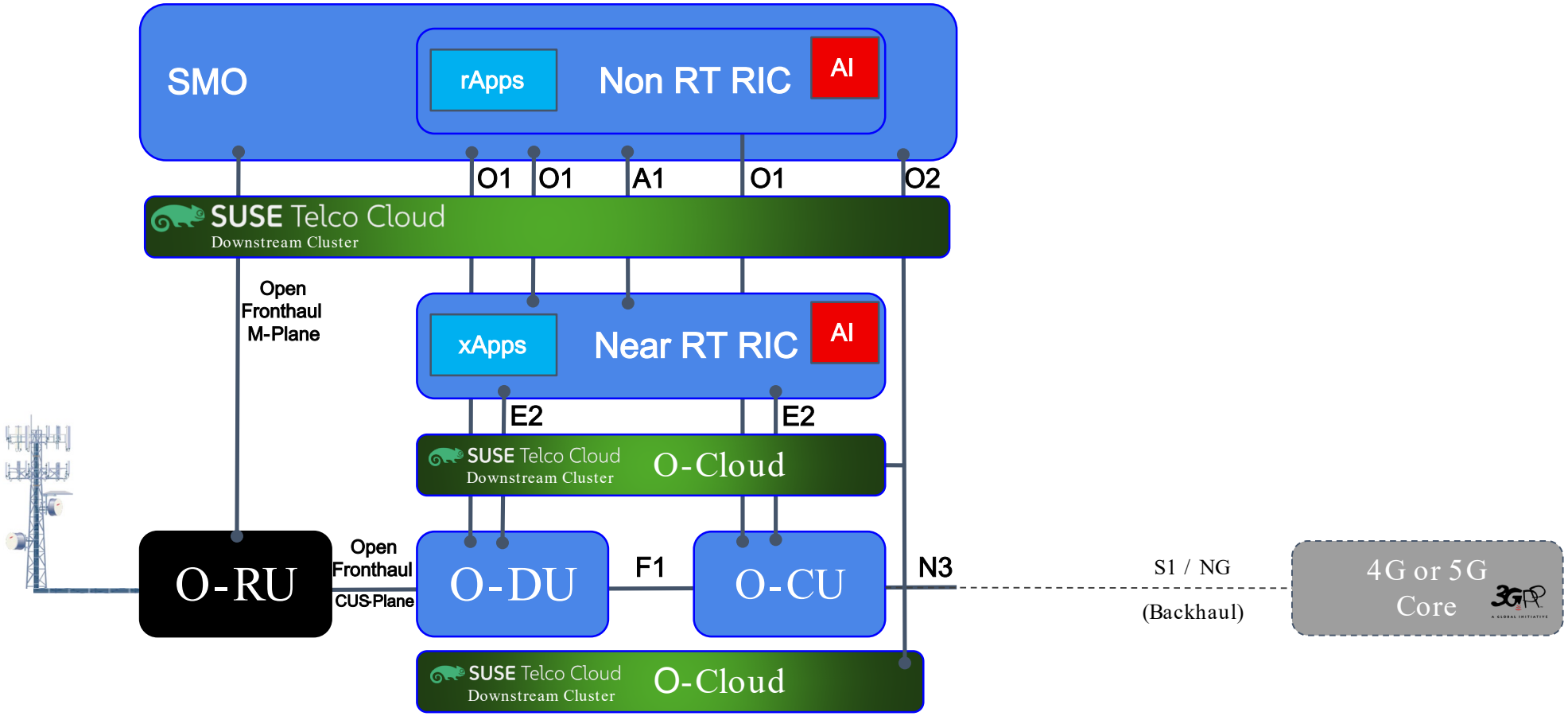
O-RAN Alliance View

O-RAN ALLIANCE

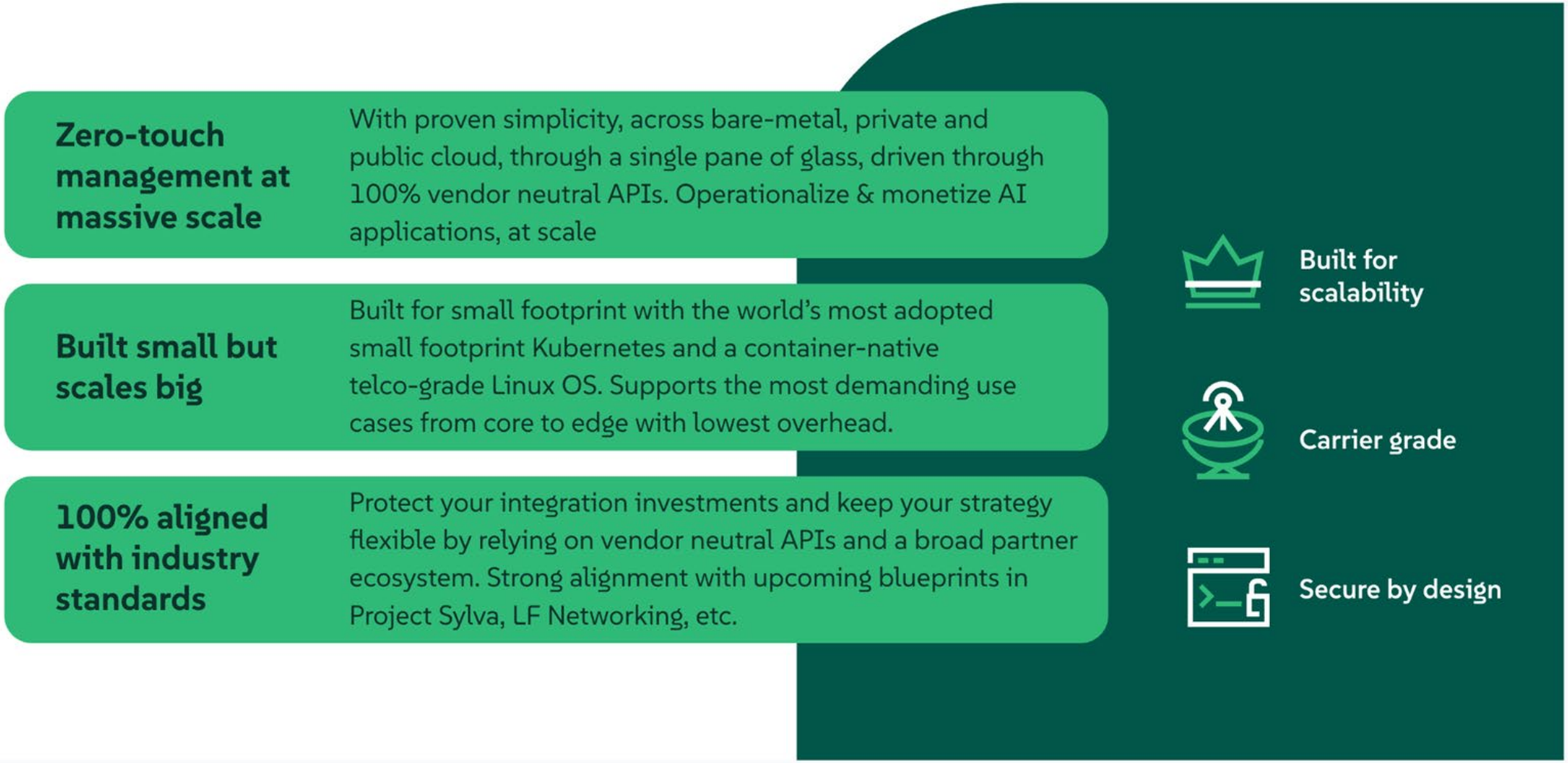
Interfaces:
- O1, O2
- A1, E2
- OFH

3GPP

Interfaces:
- F1
- W1
- NG
- S1



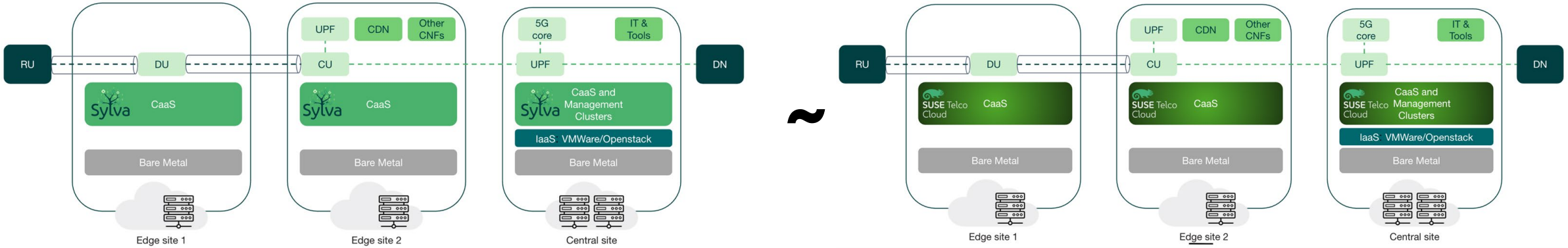
100% Open Source, Sylva aligned Horizontal Stack



Coming back to "Common, consistent, high quality, performant, secure Telco Cloud.."

- This is what Linux Foundation EU Sylva Project is aiming for.
- Sylva Project was founded late 2022.
- SUSE technology has been and is aligned with Sylva technology and vice versa from the inception.
- While Sylva project is not yet in **AI space** and has started in core networks and IT domains, the long term vision states:

"This infrastructure will support technologies such as Open RAN, edge computing, and **AI-driven networks**."



Choice