Introduction to OSM

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OSM#15

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Some requirements for the evolution of Telco Clouds…

NEXT-GEN TELCO CLOUD

REQUIREMENTS FROM NEW SERVICES

# How OSM Simplifies Telco Cloud Management…

… while keeping flexibility

# OSM provides a platform to create Networks as a Service and to manage them conveniently later...

> OSM manages the low-level setup for Network Functions, so that they are ready for use.

- It covers in 100% the role of a kind of **specialized PaaS for Network Functions**, with 2 key features:
  1. **Complex connectivity** setup, including EPA and underlay scenarios.
  2. Solve **inter-NF relations**.

- Returns: **NS/NF ready for its use and properly connected**:
  - Exposes **the "function" and its lifecycle, not its components**.
  - Presented as a whole (i.e., abstracts from low-level details of the NF).
  - Easy (standardized) access to NF's lifecycle operations, via *primitives*.

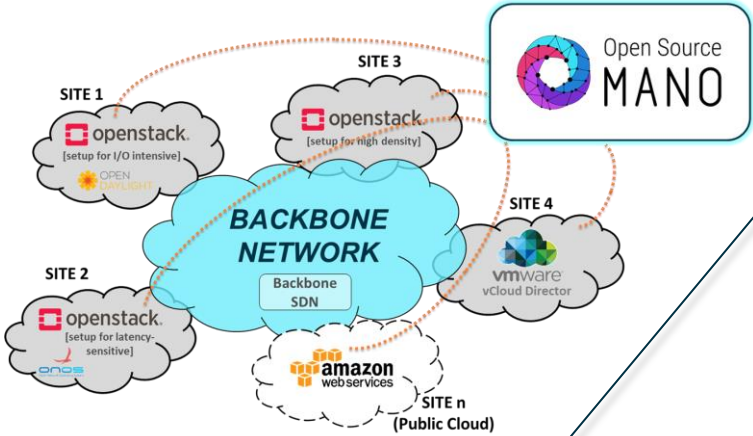- This follows well-known paradigms in **IT** and **public clouds**.
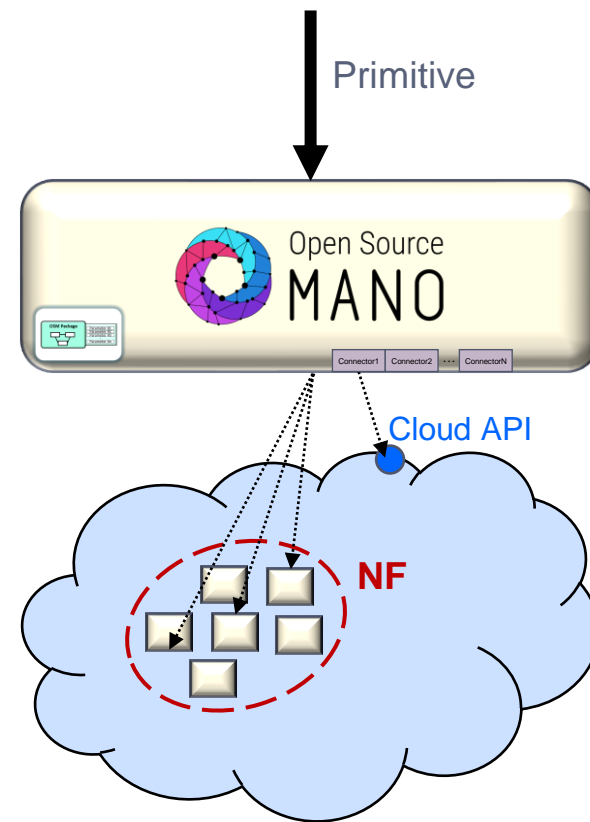
… on different types of infrastructure and across different locations…
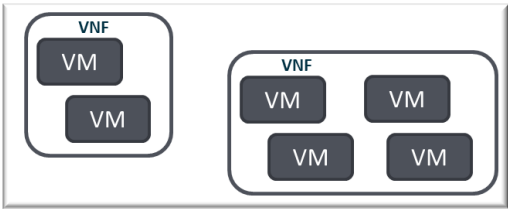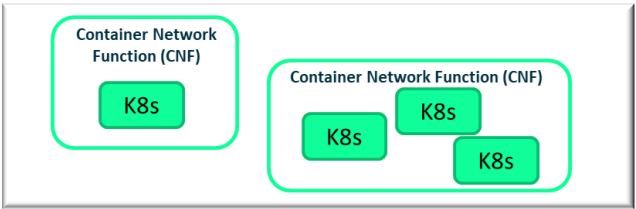

MULTI-VIM & MULTI-SDN
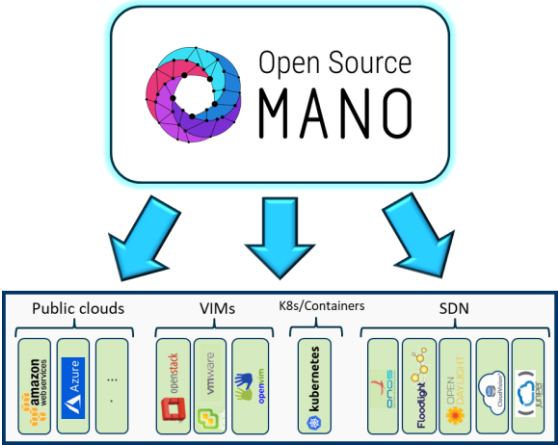
MULTI-SITE

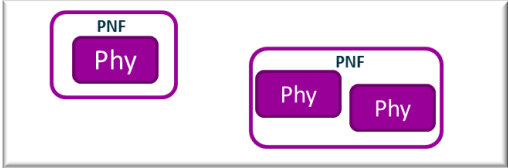… with NFs composed of **VMs, containers** and/or **physical elements**…
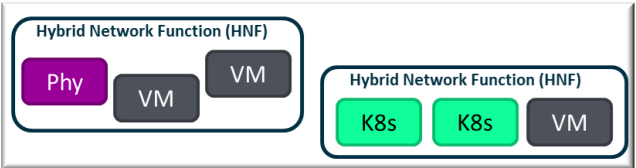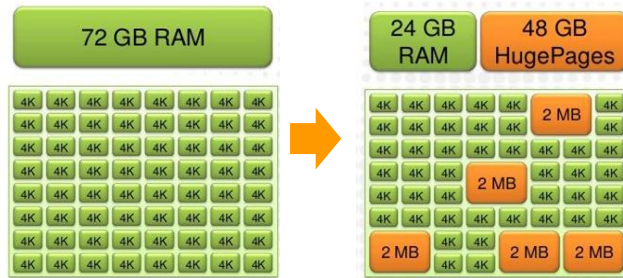
a) All VMs

b) All Containers

c) All Physical

d) Hybrid cases

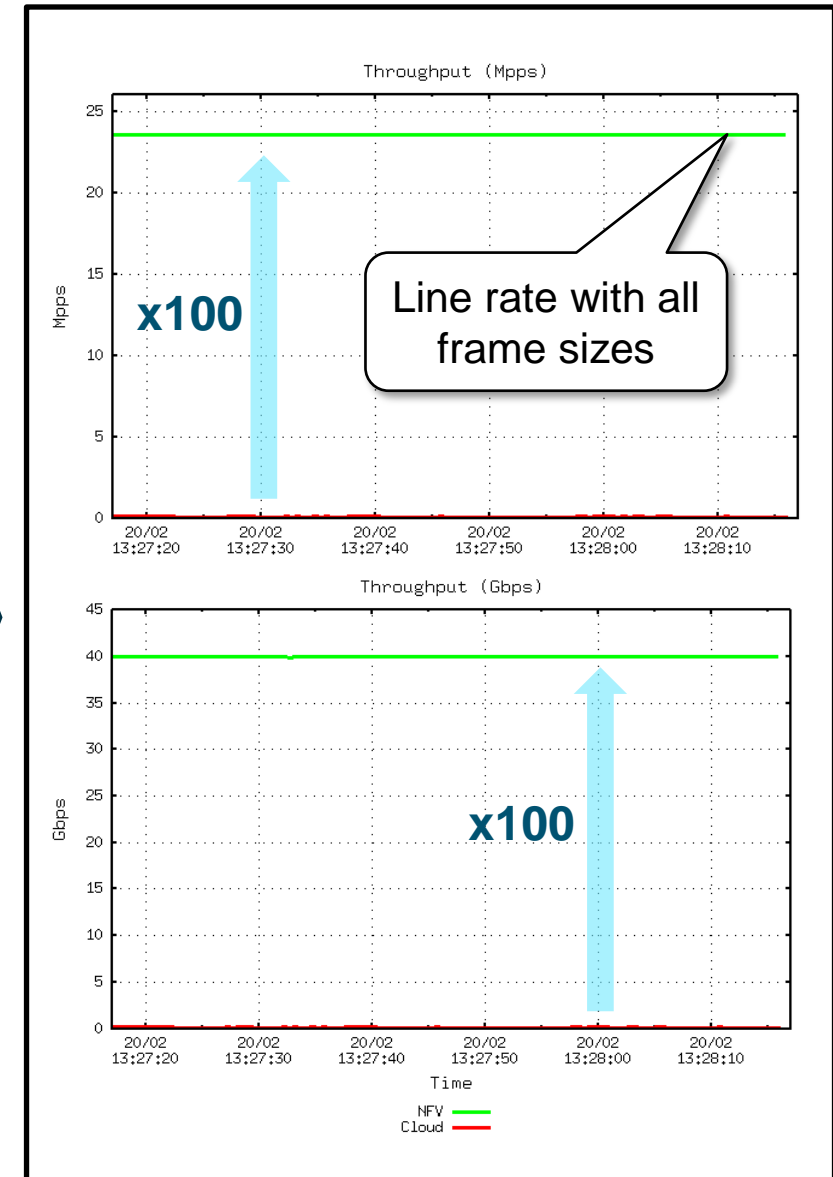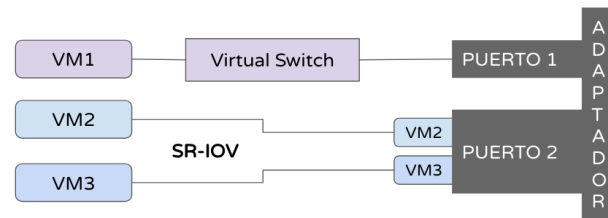# … and ready for network-specific workloads whenever needed

Open Source
MANO

Huge Pages

NUMA Topology Awareness
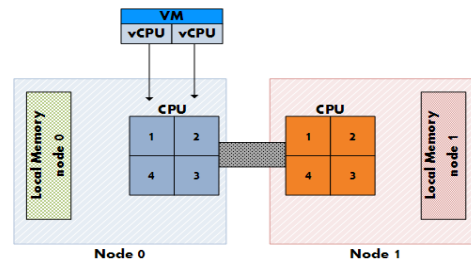
CPU Pinning
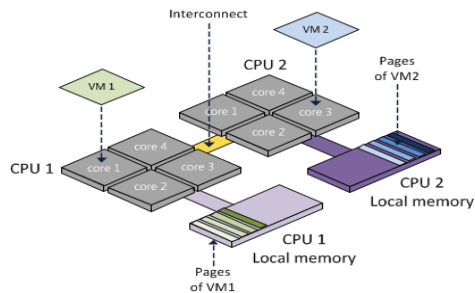
Data Plane assignment

x100

x100

Line rate with all frame sizes

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Using the exact same packages, the same service can be deployed in multiple types of clouds and sites

DEPLOYMENTS:
- 5G NF #1 (x2 sites)
- 5G NF #2 (1 site)

VALIDATED

OSM Package
- Parameter #1
- Parameter #2
- Parameter #3
- Parameter #n

Open Source MANO

PRIVATE TELCO CLOUD (PRODUCTION)

vmware® Integrated OpenStack

EOS CloudVision®

VMware Tanzu
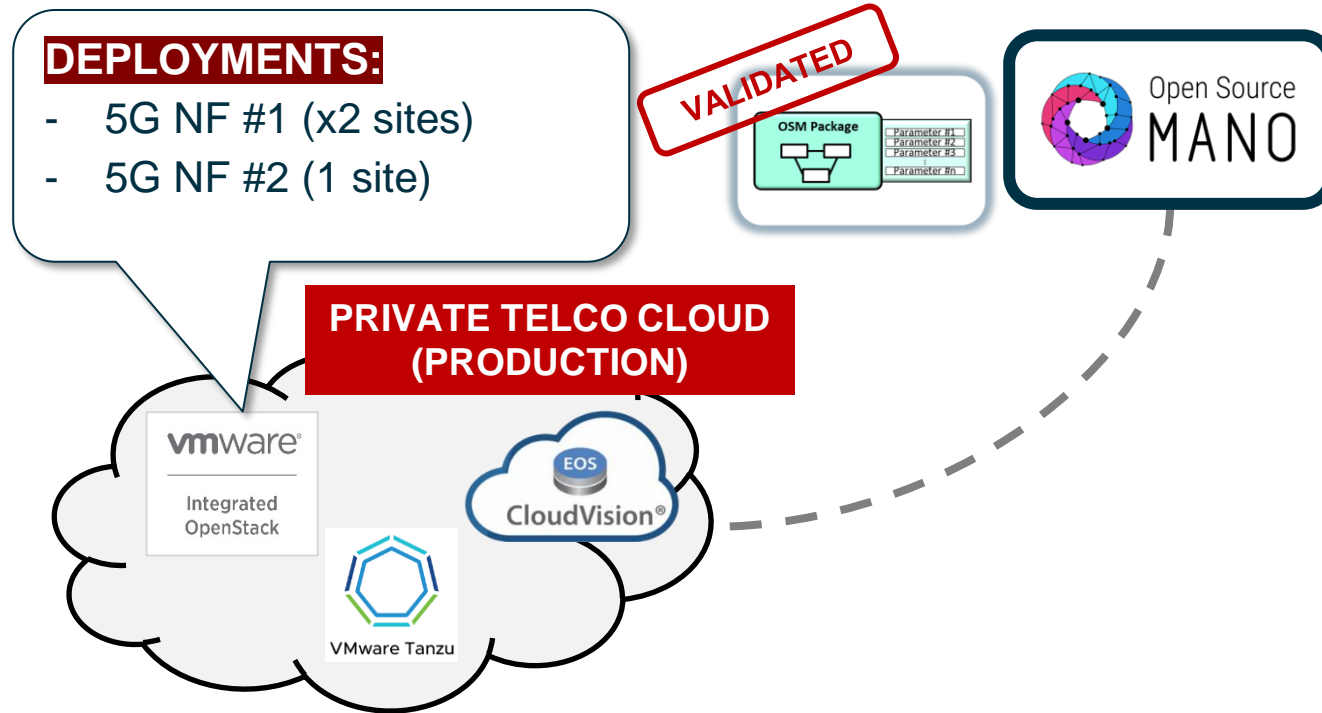
Using the exact same packages, the same service can be deployed in multiple types of clouds and sites
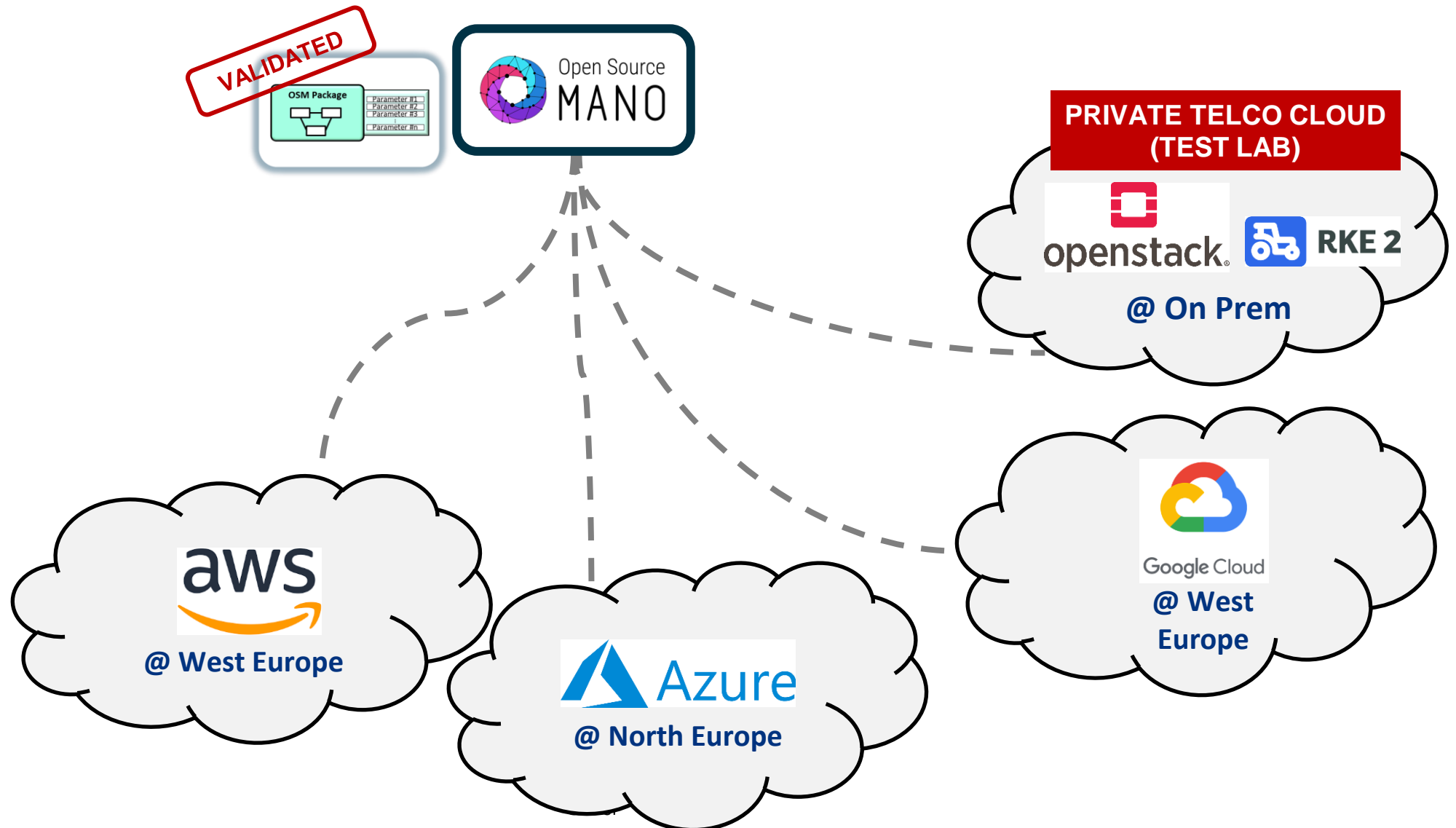
As a result, OSM brings big operational benefits for the challenges of a modern Telco Cloud
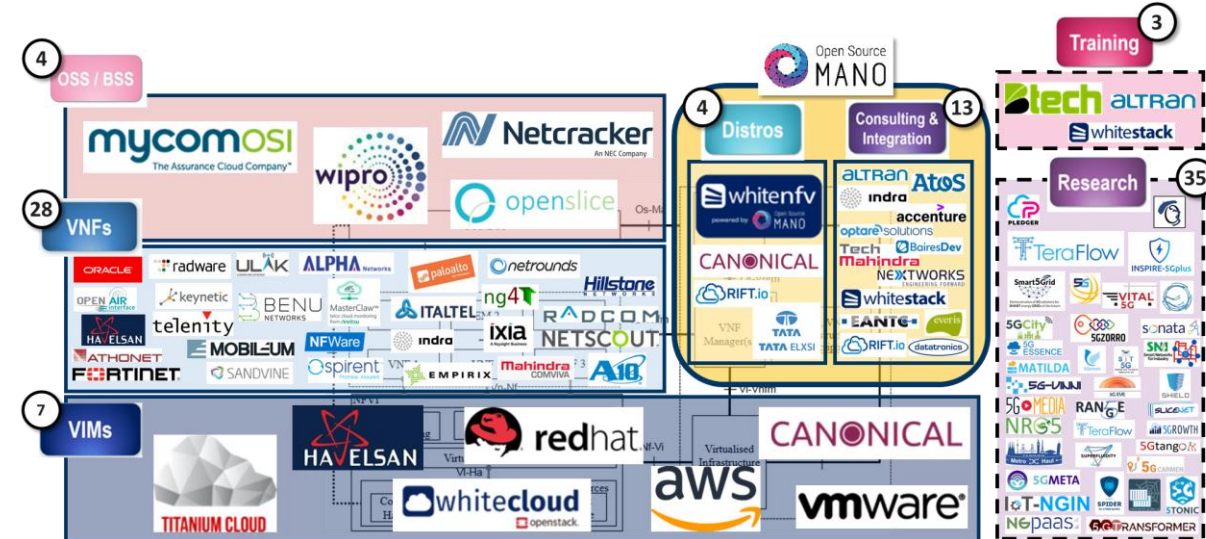
A Vibrant and Thriving Community

# ETSI OSM community is really LARGE AND DIVERSE, with 153 members today

- 15 Global Service Providers
- Leading IT/Cloud players
- VNF providers

... with a significant number of commercial offers related to OSM ("OSM Ecosystem")

https://osm.etsi.org/wikipub/index.php/OSM_Ecosystem

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… which benefit from the feedback of a strong user community, adding to existing commercial deployments…

Stats of OSM's community installer:
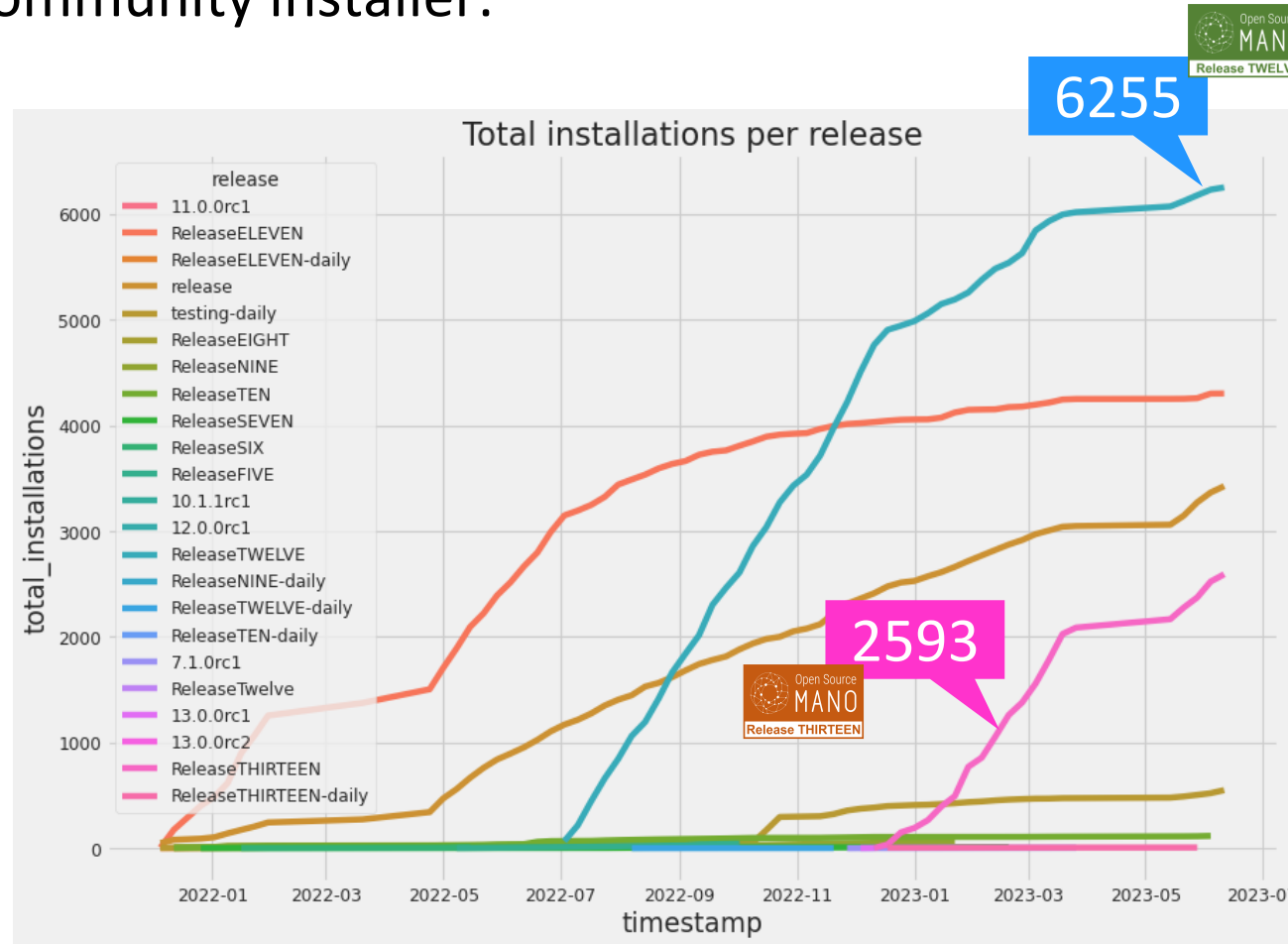
… and the large size of the research projects using OSM as their orchestrator of choice

https://osm.etsi.org/wikipub/index.php/Research
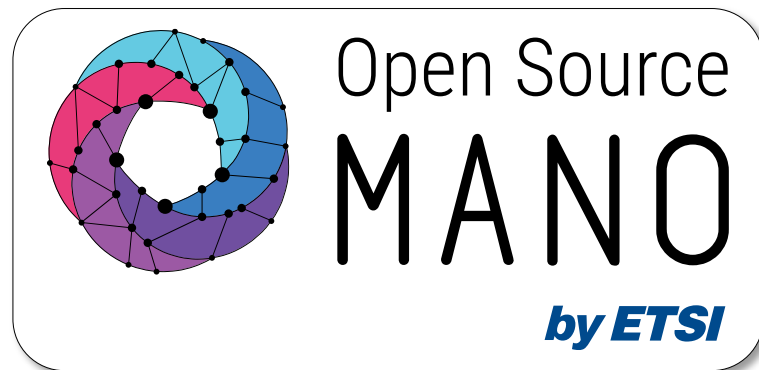
A new release is coming!

Release FOURTEEN brings a whole set of new functionalities …

Closed-loop life cycle architecture

- GA of new monitoring architecture for closed loops.
- Service KPI of VNF using exporter endpoint.
- Autoheal switch and autoscale switch.

Security enhancements

- Replacement Pycrypto with PycryptoDome.
- Pod Admission Policy for Helm-based EE.
- Authenticated gRPC for Helm-based EE.

Usability and platform management

- User management enhancements.
- Audit logs generation for OSM

Infra modelling and NF lifecycle

- RO performance optimization.
- IPv6 support.
- Transport API (TAPI) WIM connector
- Support of volume multi-attach.
- IP address and hostname for horizontally scaled VM.
- Use existing flavor-id as an instantiation parameter.
- Instantiation parameters for Juju bundles.

OSM installation

- Helm Charts for deploying OSM on K8s.
- Update/Upgrade of OSM services.

… which are added on top of an already long set of features…

Release FOURTEEN is our 3rd LTS release

Open Source MANO

	Release TEN LTS					
	Release ELEVEN STS					
		Release TWELVE LTS				
		Release THIRTEEN STS				
			Release FOURTEEN LTS			
				Release FIFTEEN STS		

2021	2022	2022	2023	2023	2024	2024
Dec	June	Dec	June	Dec	June	Dec
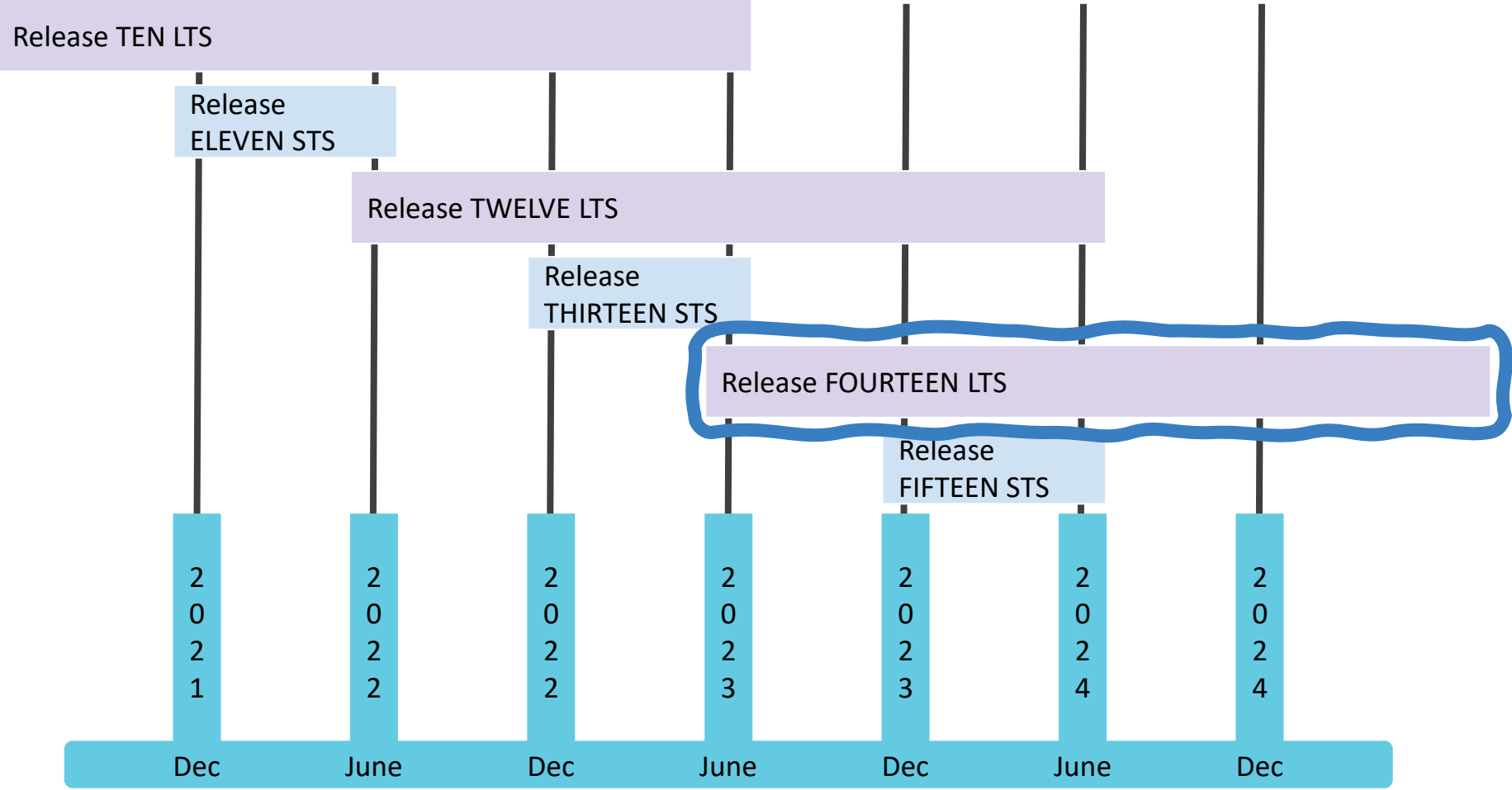
LTS Releases (Long Term Support)	STS Releases (Short Term Support)
24 months community support	6 months community support
Oriented to production	Oriented to innovation & development
Focus on stability	Focus on innovation & agility
Community grants upgrade between LTS's	Upgrade on a best effort basis

At this point, it is becoming easier explaining OSM features in practice
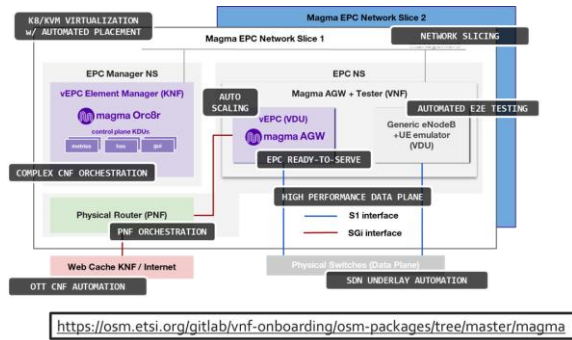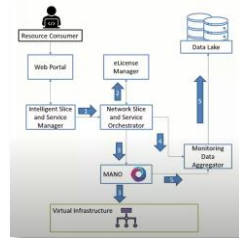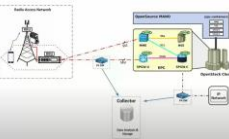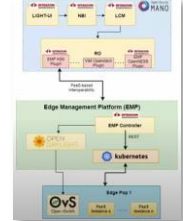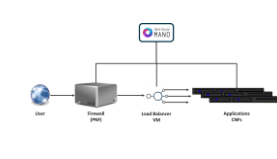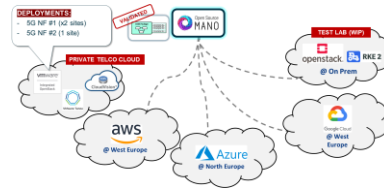
Thank You!

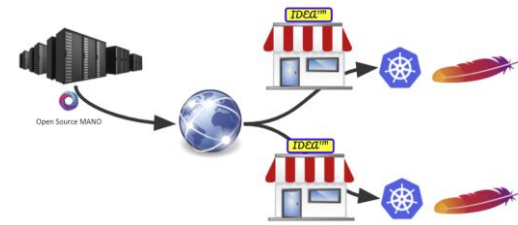osm.etsi.org
osm.etsi.org/docs/user-guide
osm.etsi.org/wikipub