



ETSI NfV Conference

Evolving NFV towards the Next Decade
Celebrating the 10th Anniversary of ETSI NFV

Reality of NFV in Telco and Expectation for ISG NFV



06/03/2023



Agenda

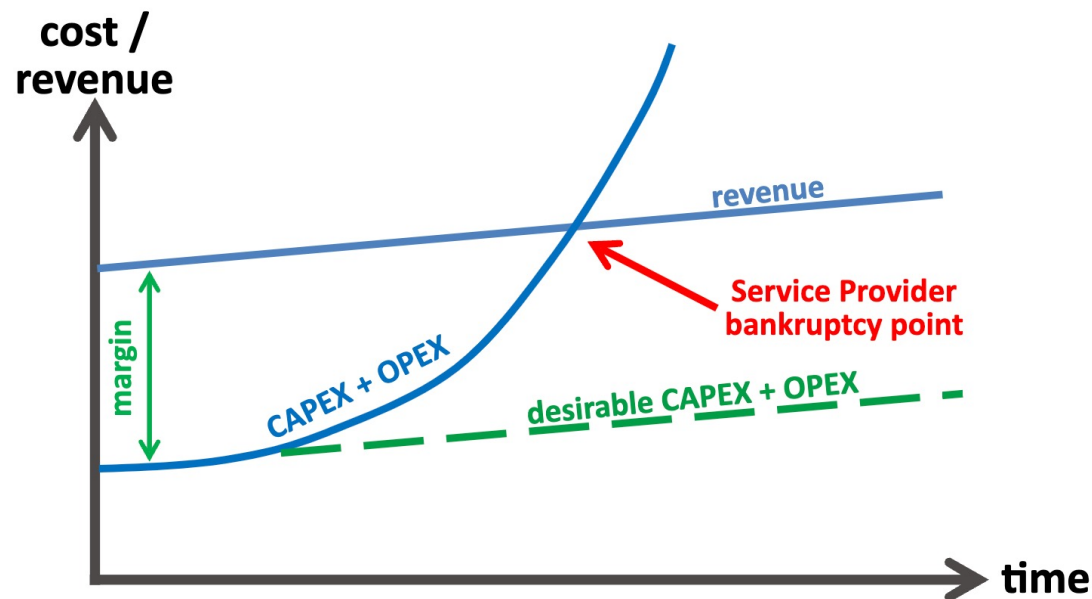
Re-Cap initial expectation for NFV from operator's point of view.

Reality of NFV in Telco.

Expectation for standardization activity in ISG NFV.

Initial Expectation For NFV

CAPEX reduction using COTS and consolidating equipment type.
OPEX reduction by automatic operation using standard API.



Source: SDN and NFV What's it all about ? Presented by: Yaakov (J) Stein CTO <https://slideplayer.com/slide/4476649>

Reality Of Deployment

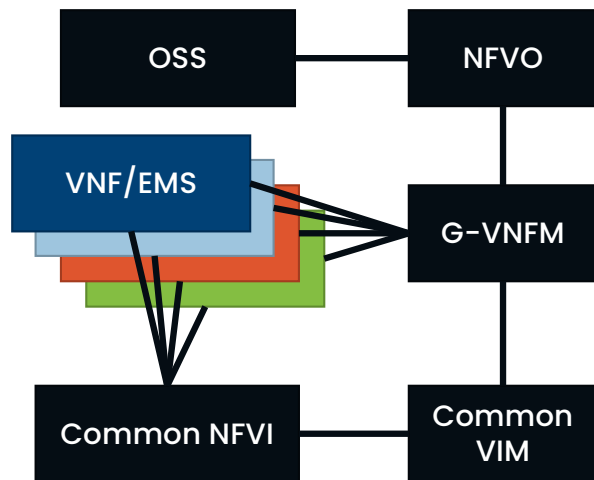
Expectation: Multi-vendor VNF/EMS on single NFVI and MANO.

Reality:

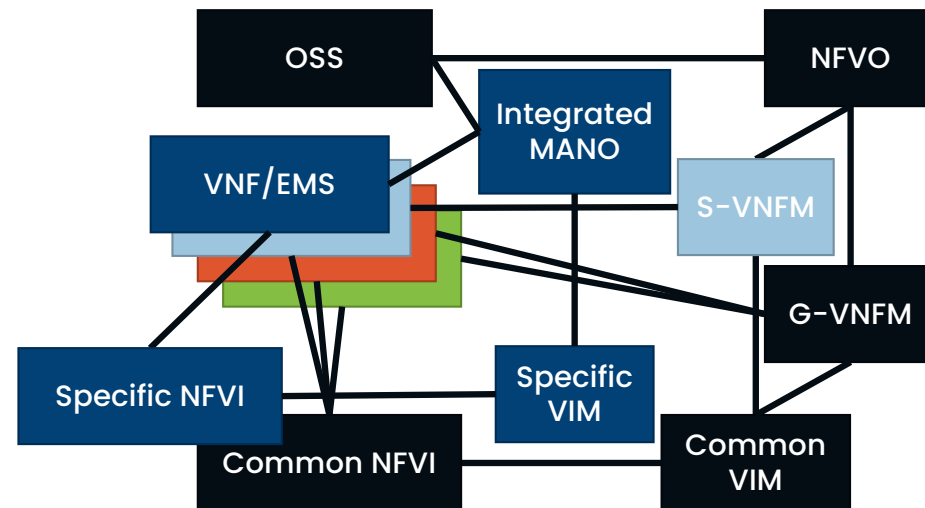
☹ Still required product specific MANO and NFVI.

😊 NFVI vendor provides certification for VNF.

😊 G-VNFM achieved great success to unify MANO.



Expectation

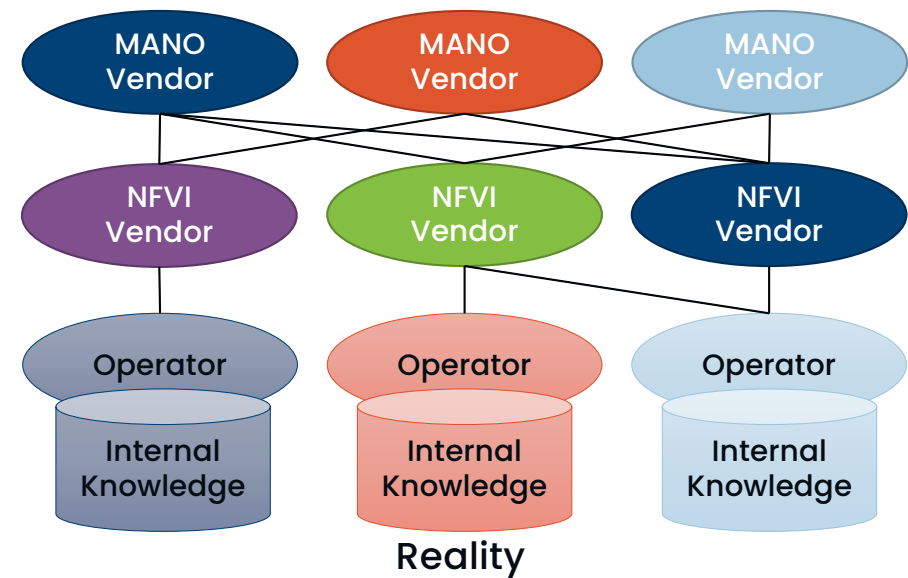
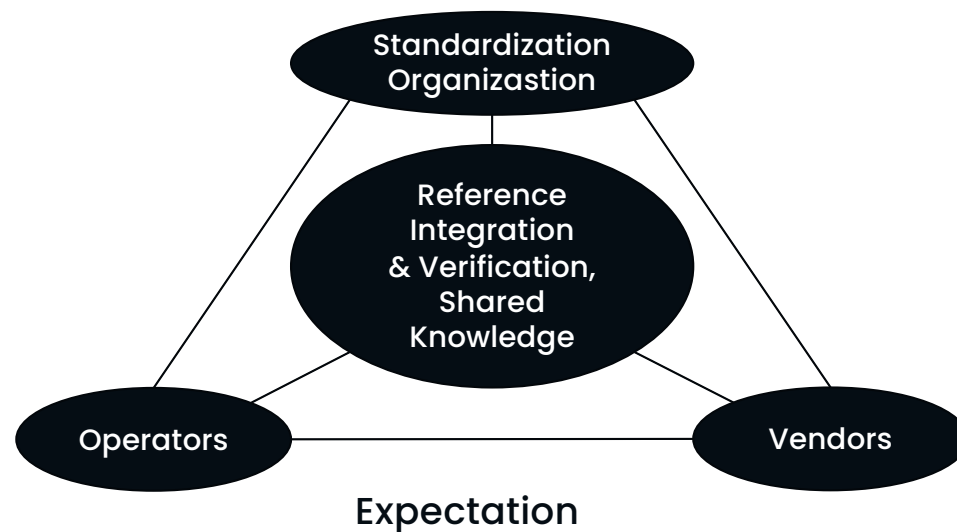


Reality

Reality Of Implementation

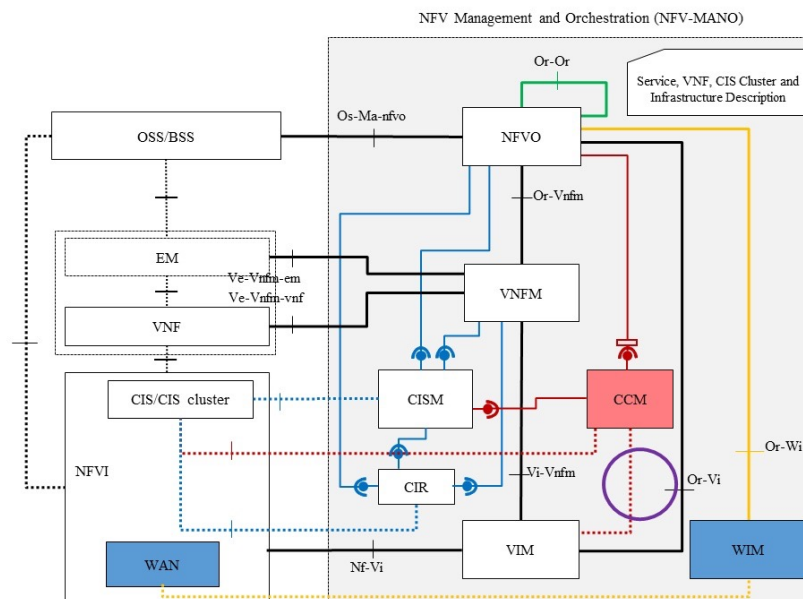
Expectation: Sharing best practice of NFV in telco industry.

Reality: Still required self integration and verification.



Now We Are Going To Cloud-Native Era

ISG NFV released Architecture Enhancements to support CNF.
Some vendors started to use Custom Resources and Controller.
Can we create common k8s environment?



Release 3, addition of

- Multi-domain NS management with Or-Or.
- Multi-site connectivity services with WIM.

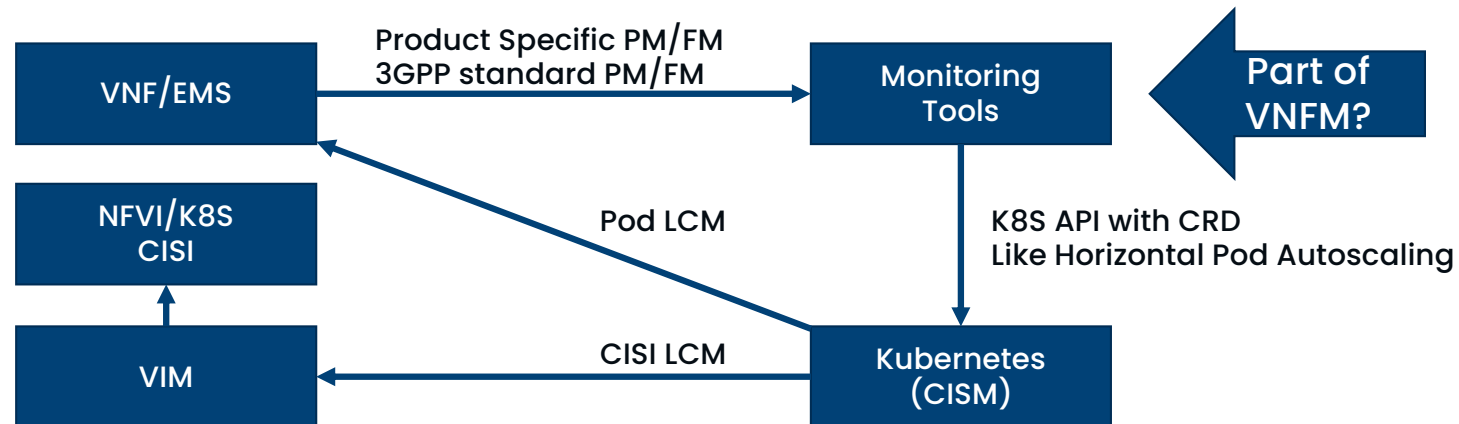
Release 4, addition of

- Container management and orchestration with CISM, CIR and CIS.
- CIS cluster management with CCM.

Source: <https://www.etsi.org/newsroom/press-releases/2180-etsi-nfv-releases-architecture-enhancements-to-support-cloud-native-network-functions>

Reality of LCM by Kubernetes

Network vendors implement product specific and/or 3GPP standard PM/SM.
Those statistics are gathered by monitoring tool like Prometheus.
Those monitoring tool directly triggers Kubernetes using Operator pattern.
Should VNFM support 3GPP standard PM/FM?

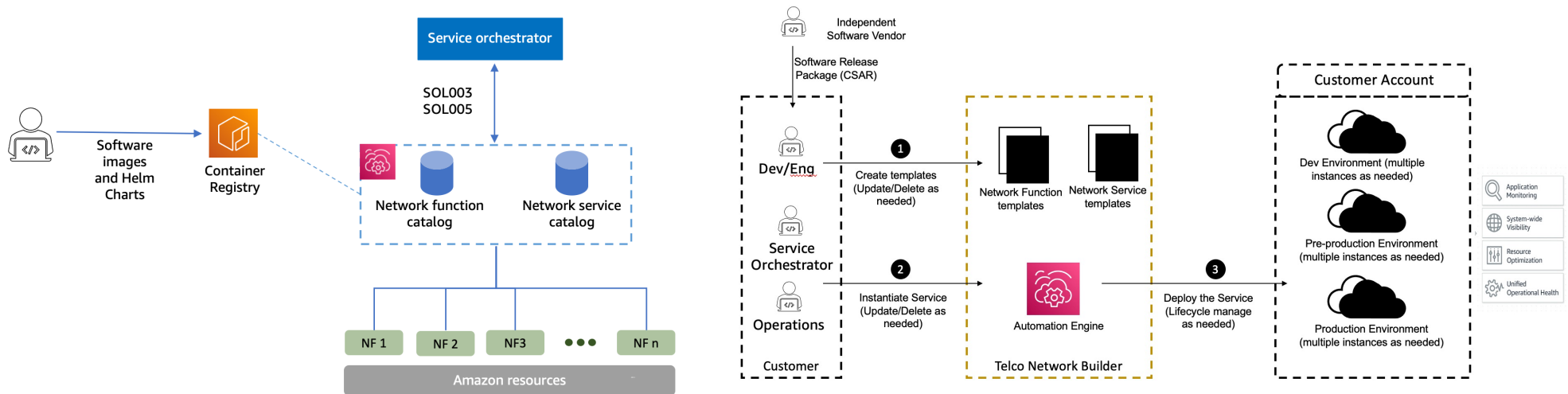


Public Cloud Also Joined Into MANO Market

AWS released Telco Network Builder.

Conform to SOL{001, 002, 003, 004, 005, 007}.

Will network vendors adopt AWS's MANO and Kubernetes environment??



Source: <https://docs.aws.amazon.com/tnb/latest/ug/what-is-tnb.html>

Expectation For Standardization Activity

Common understanding of Cloud-Native Telco Environment among operators, vendors, and standardization organization.

- Clear border on the scope of Orchestration between Standard and Implementation.
- Reference implementation to integrate and verify the standard specification.
- Tighten up other organization to create reference implementation.

Open the door to new operators who wants to contribute future discussion.

