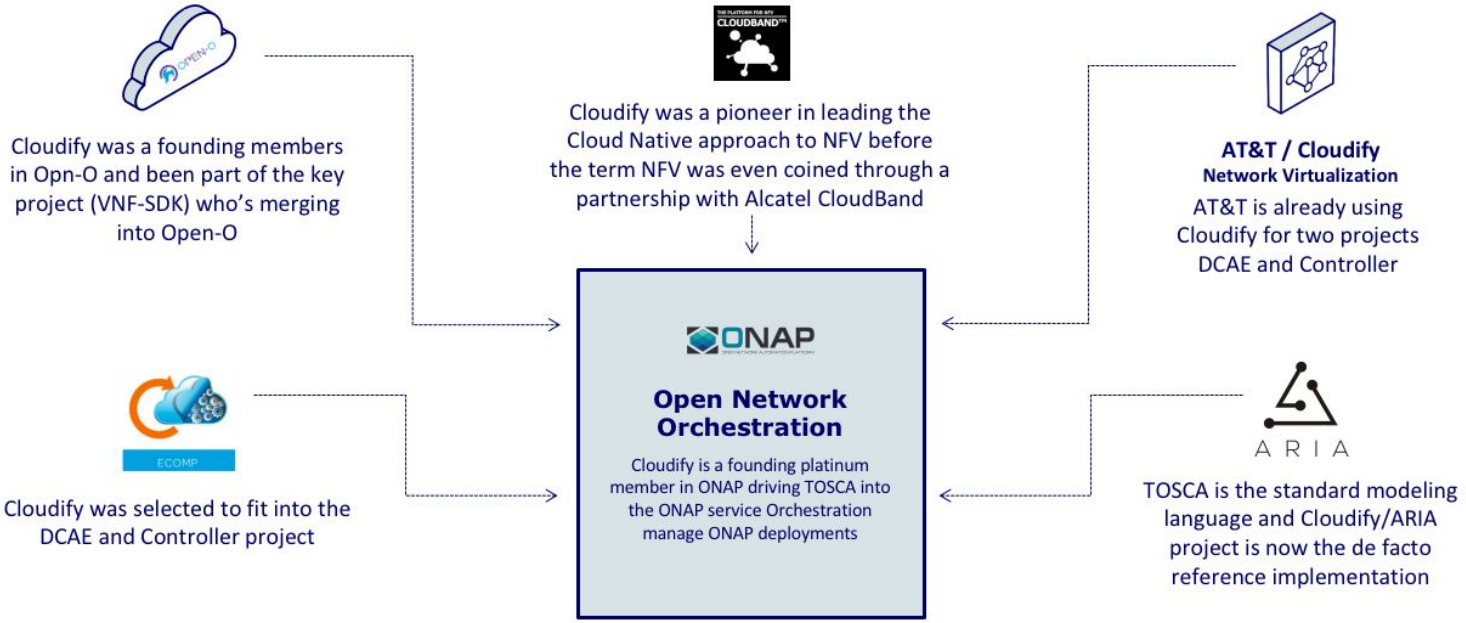
THE LINUX FOUNDATION
OPEN SOURCE SUMMIT
NORTH AMERICA
AUGUST 29–31, 2018 • VANCOUVER, CANADA

Hold My Beer While I Open Source with TOSCA, ONAP, and Networking

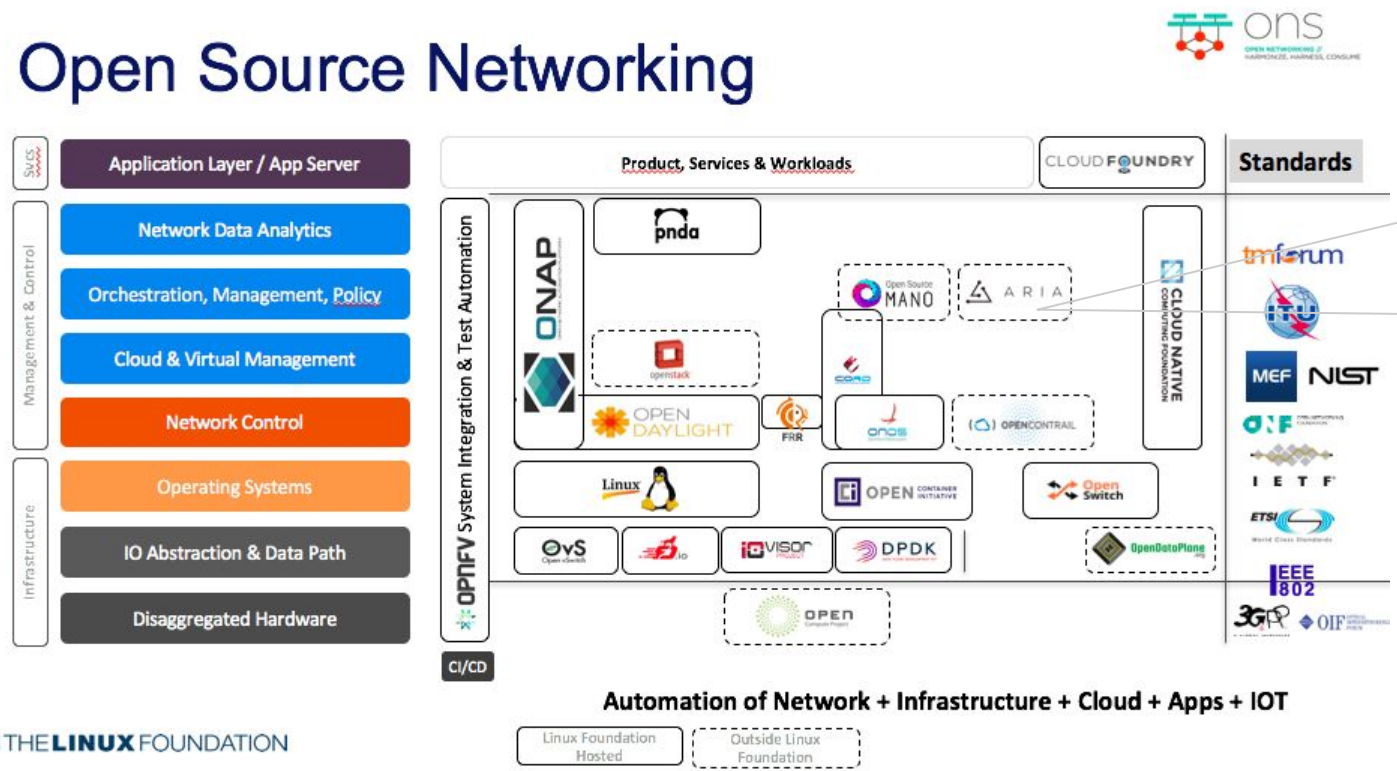
DeWayne Filppi - Cloudify

Cloudify Journey to Open NFV and ONAP



Telco Standard Driven

Open Source and Open Standard

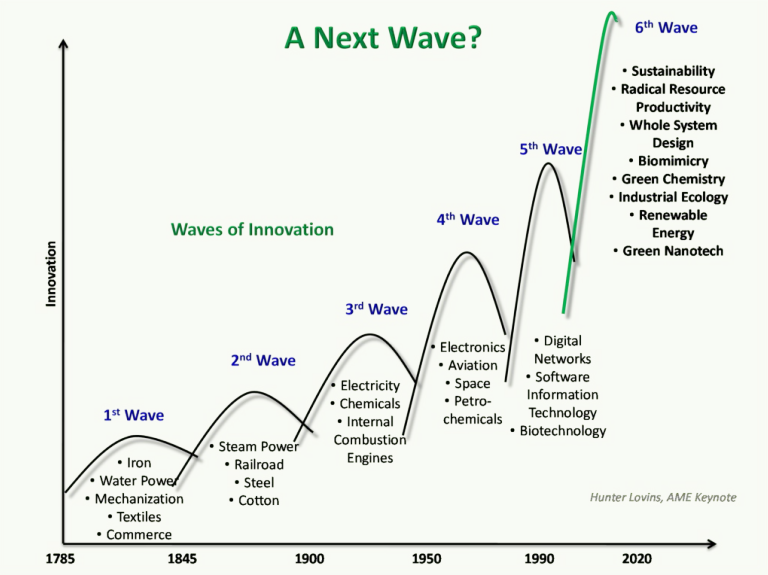


Cloudify launched Aria as a mean to drive TOSCA modeling through open source.

Aria is now being part of the SO project in ONAP.

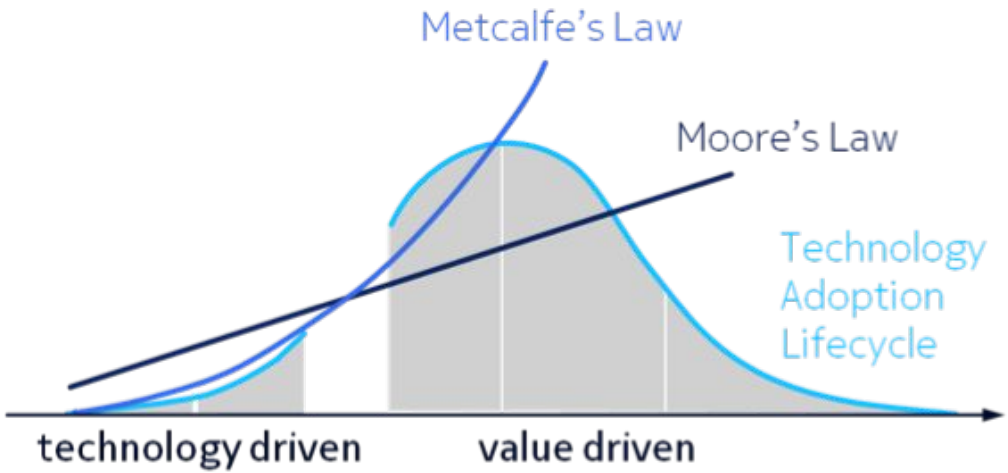
What's Changed?

Innovation



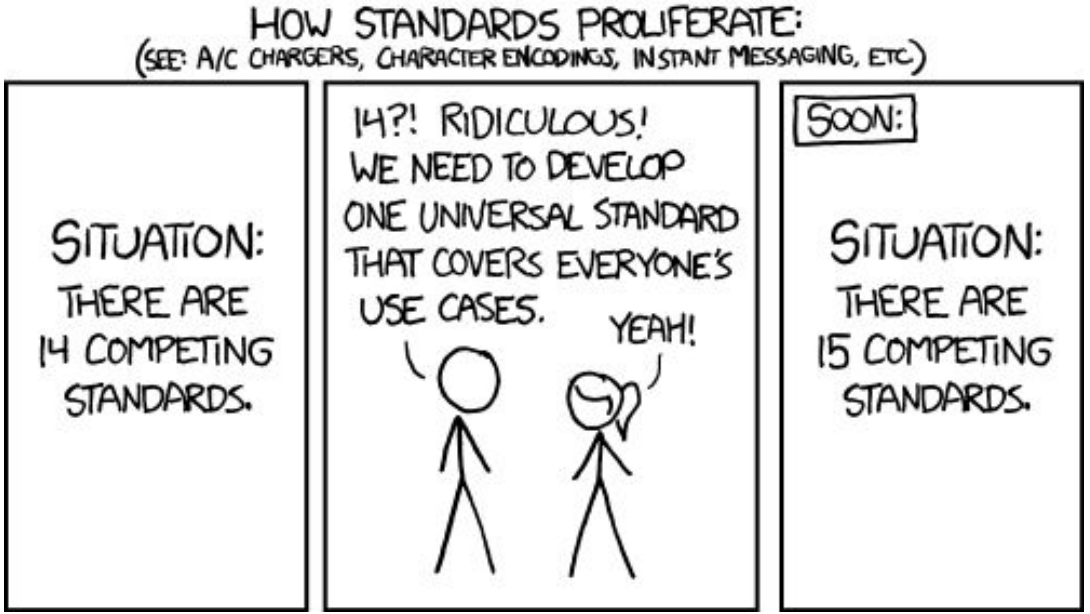
VS

Adoption



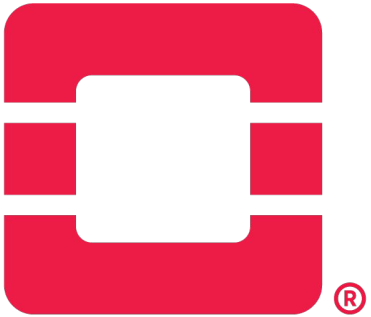
The Challenges with Standards

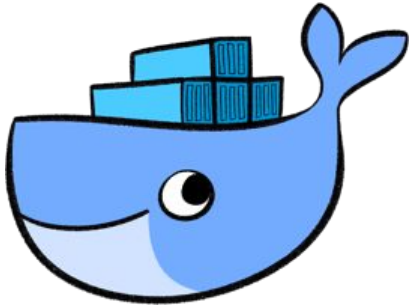
- Standards can't keep up with the pace of innovation
- Standards are not enough to ensure compatibility and no vendor lock-in



Standards in the Enterprise World

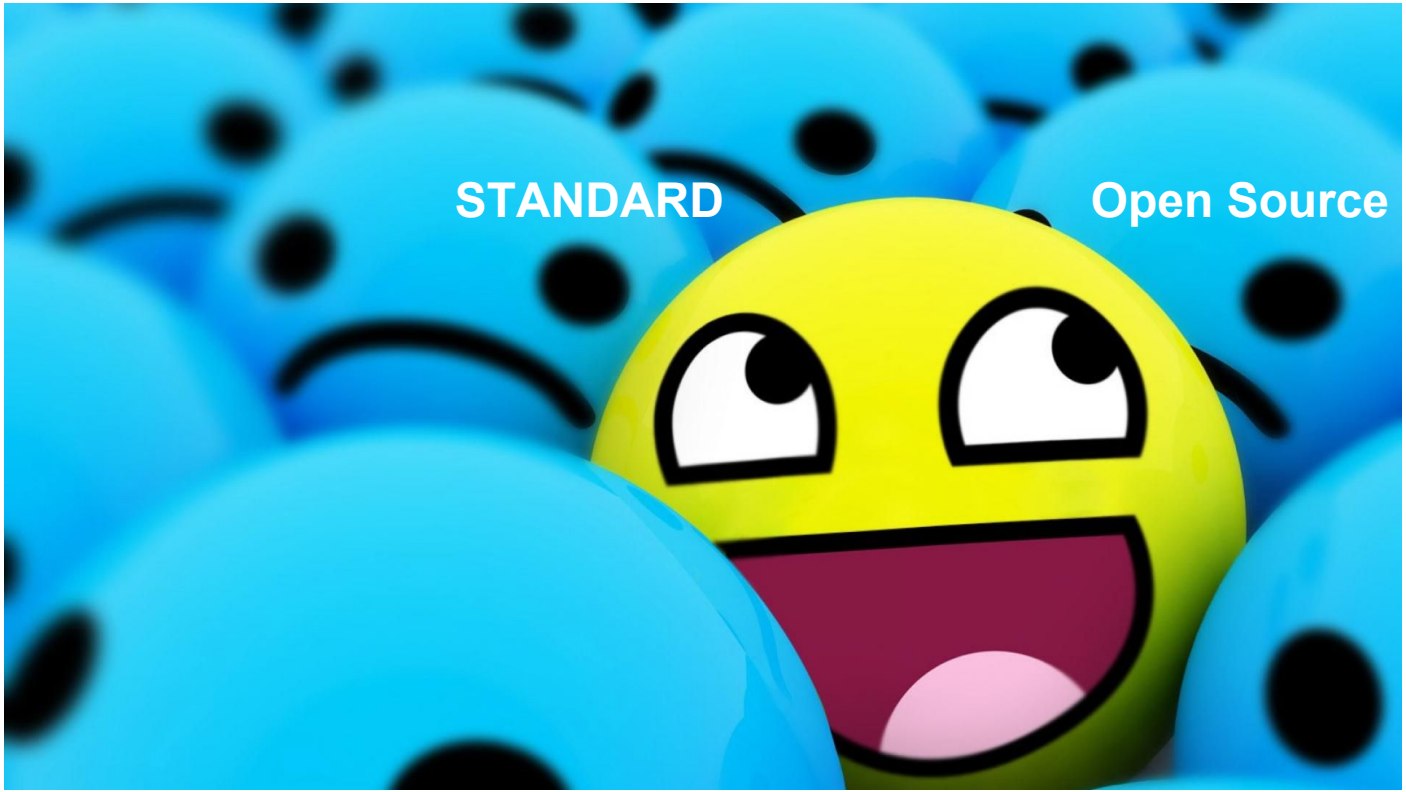
De-Facto Standards





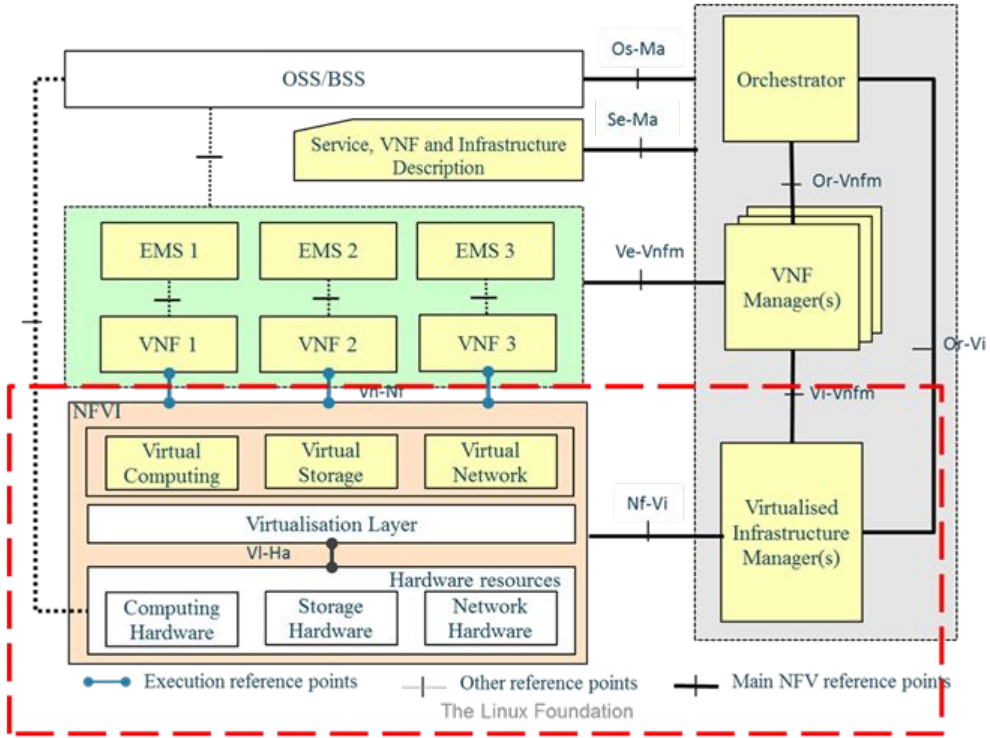
The Siloes Challenge

Finding a Happy Medium



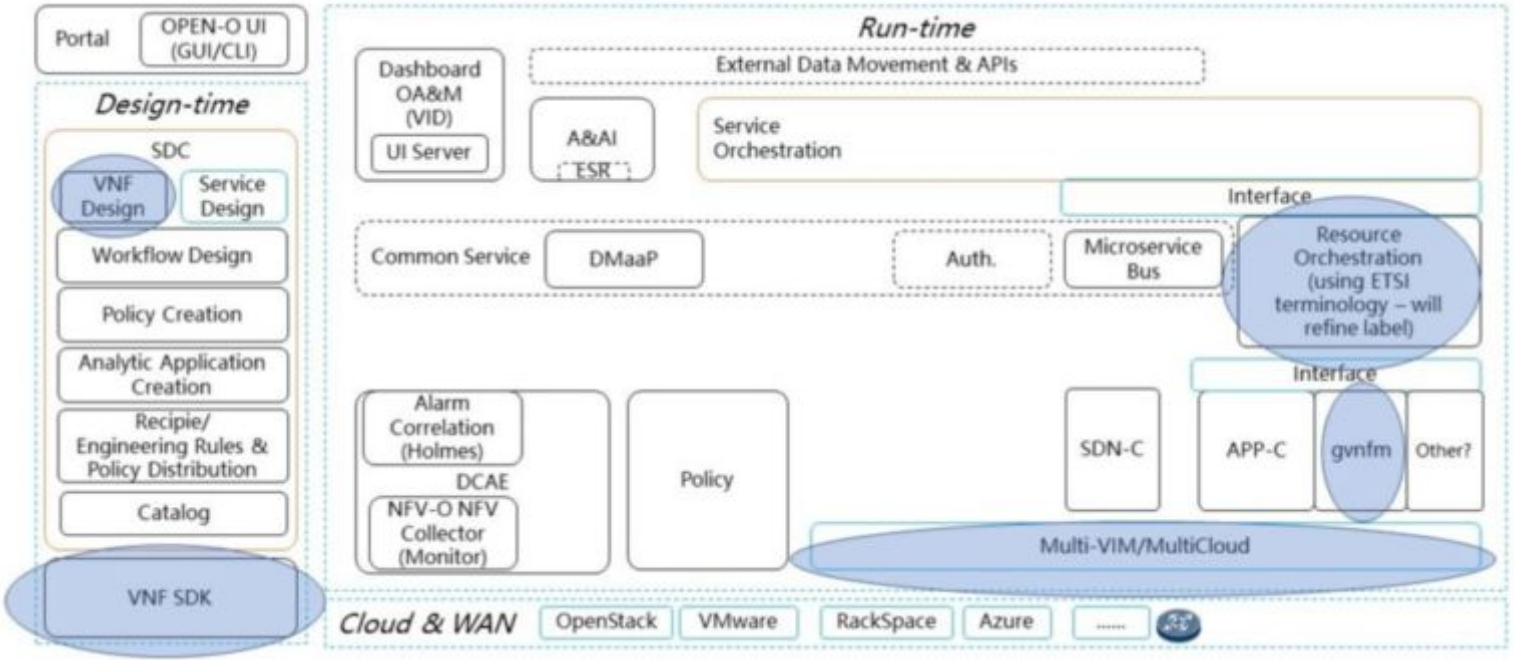
Standards Driving Open Source

ETSI NFV


OSS/BSS
Os-Ma
Orchestrator
Se-Ma
Service, VNF and Infrastructure Description
Or-Vnfm
EMS 1
EMS 2
EMS 3
Ve-Vnfm
VNF Manager(s)
VNF 1
VNF 2
VNF 3
Or-Vi
Vn-Nf
Vi-Vnfm
NFVI
Virtual Computing
Virtual Storage
Virtual Network
Nf-Vi
Virtualisation Layer
Virtualised Infrastructure Manager(s)
Vl-Ha
Hardware resources
Computing Hardware
Storage Hardware
Network Hardware
Execution reference points
Other reference points
Main NFV reference points
The Linux Foundation

Open Source Driving Standards

ONAP vs ETSI



ETSI is covering 20% of ONAP Scope

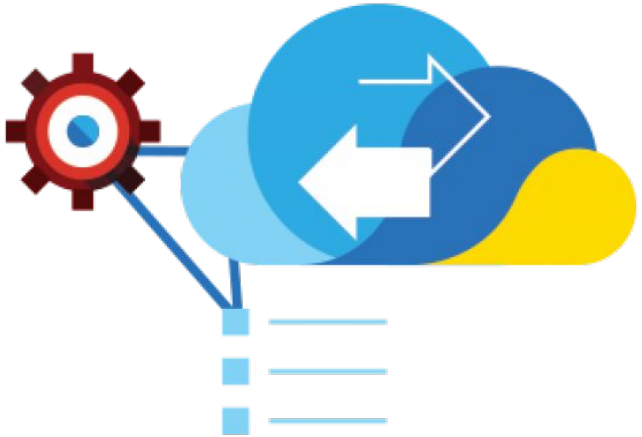
Source: Michael Brener Post

Just Enough Standards

Taking a Pragmatic Approach to Standards

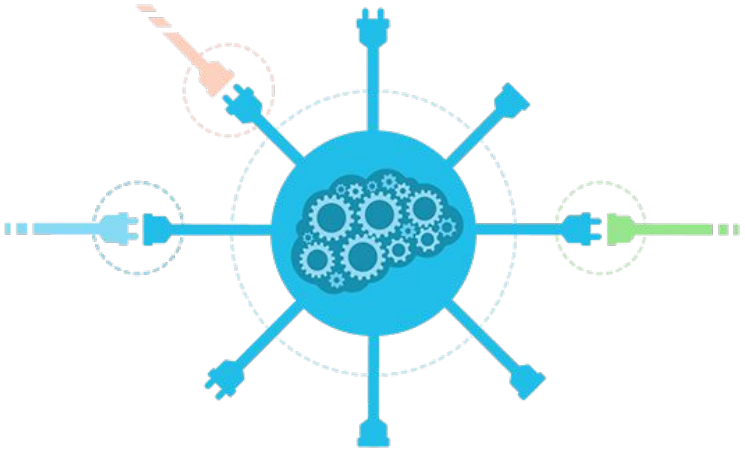
Interop in a Non-Standard World

Least Common Denominator approach



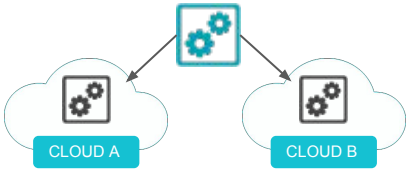
VS

Brokerage Approach

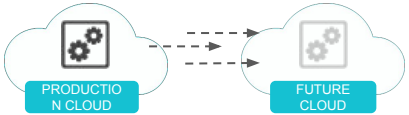


Multi-Cloud/Multi-VIM

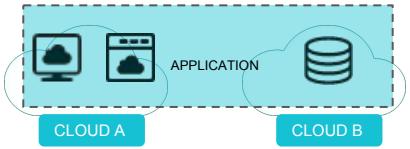
Application Deployment Portability



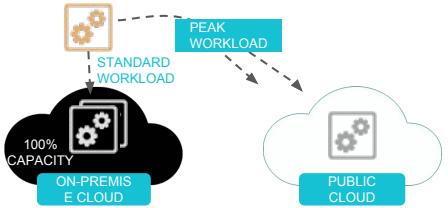
Future Proofing & Migration



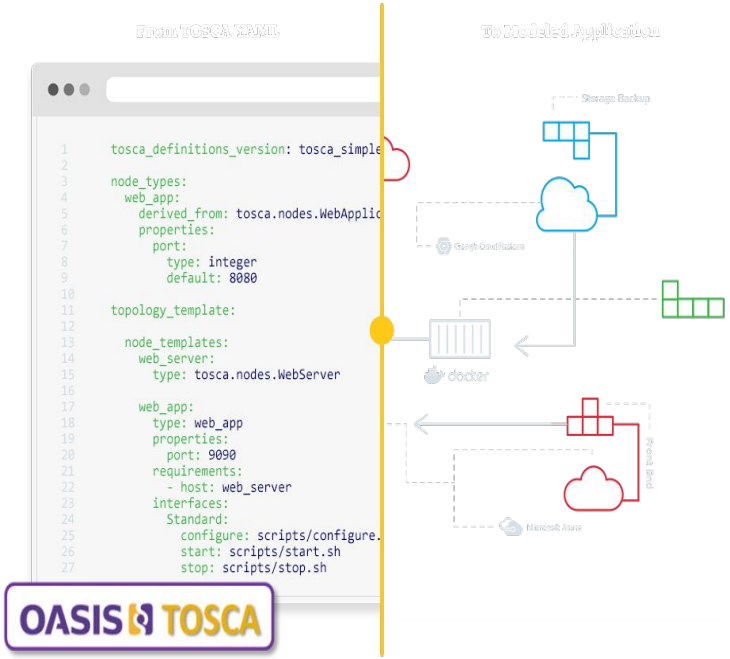
Multi-Cloud

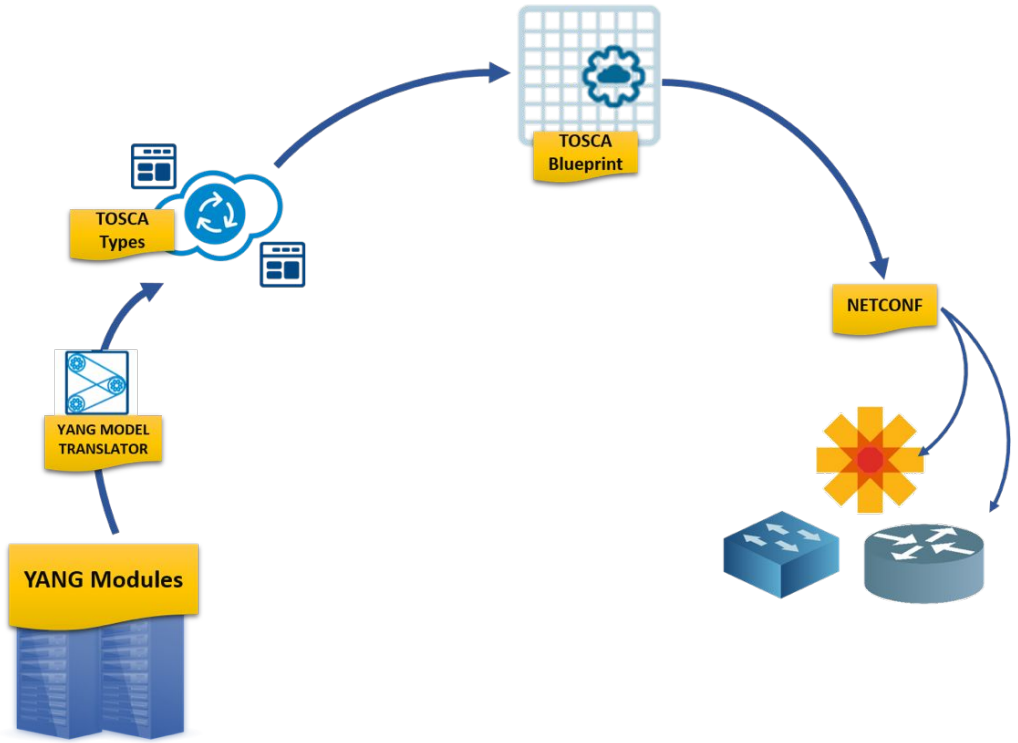


Cloud Bursting

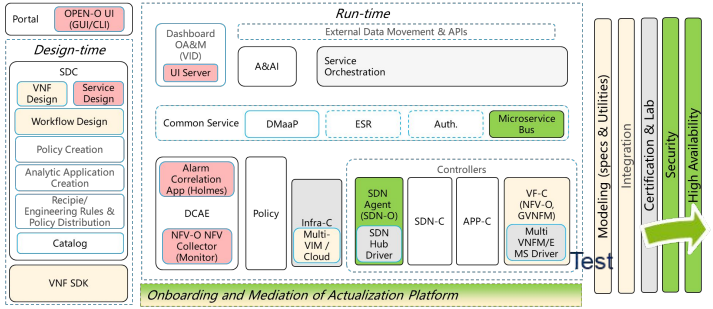


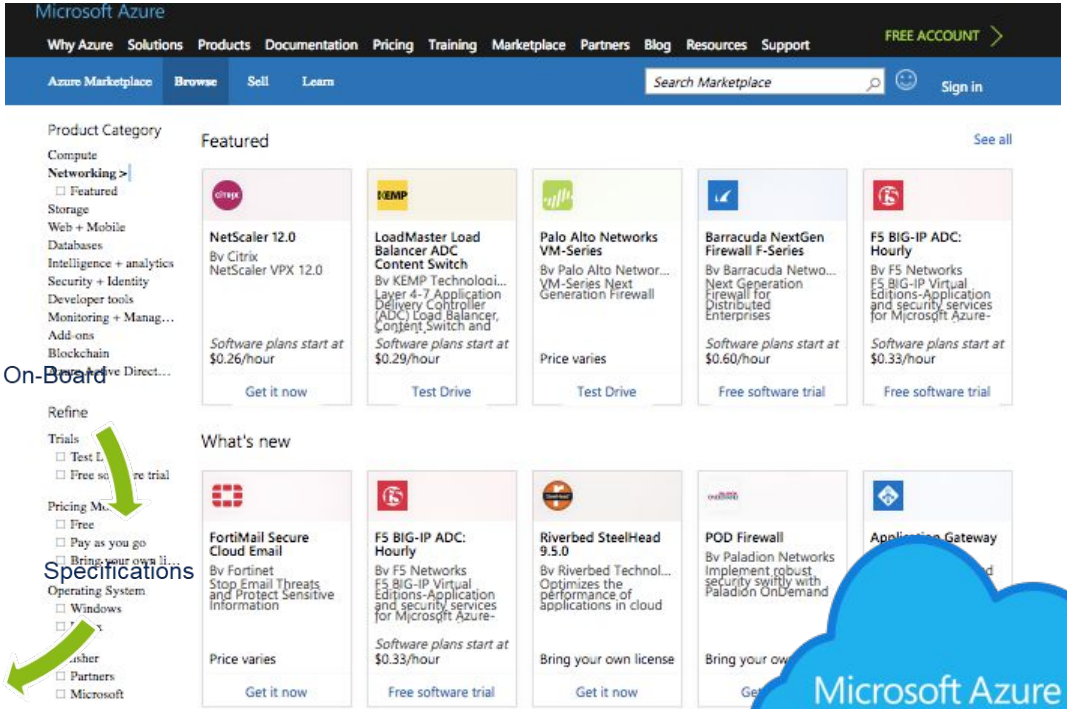
TOSCA/YANG


From TOSCA YAML
To Modeled Application
tosca_definitions_version: tosca_simple
node_types:
web_app:
derived_from: tosca.nodes.WebApplic
properties:
port:
type: integer
default: 8080
topology_template:
node_templates:
web_server:
type: tosca.nodes.WebServer
web_app:
type: web_app
properties:
port: 9090
requirements:
- host: web_server
interfaces:
Standard:
configure: scripts/configure.
start: scripts/start.sh
stop: scripts/stop.sh
docker
OASIS TOSCA

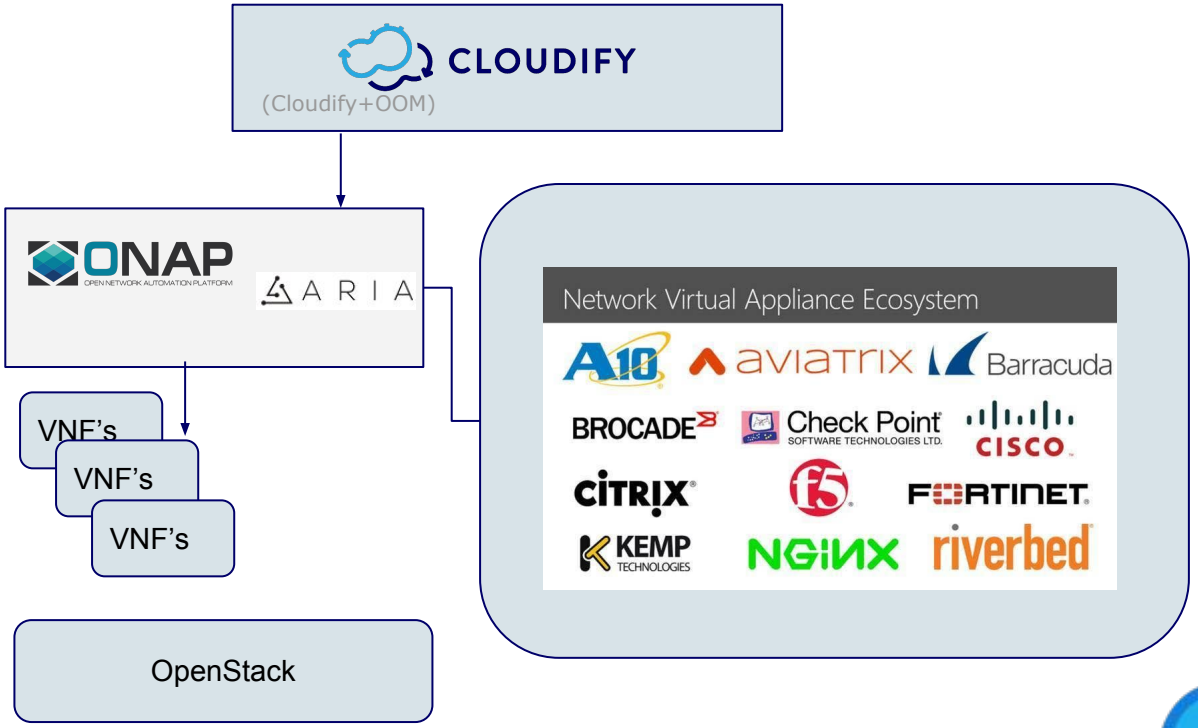

TOSCA Blueprint
TOSCA Types
NETCONF
YANG MODEL TRANSLATOR
YANG Modules

Interop between Azure VNF and ONAP





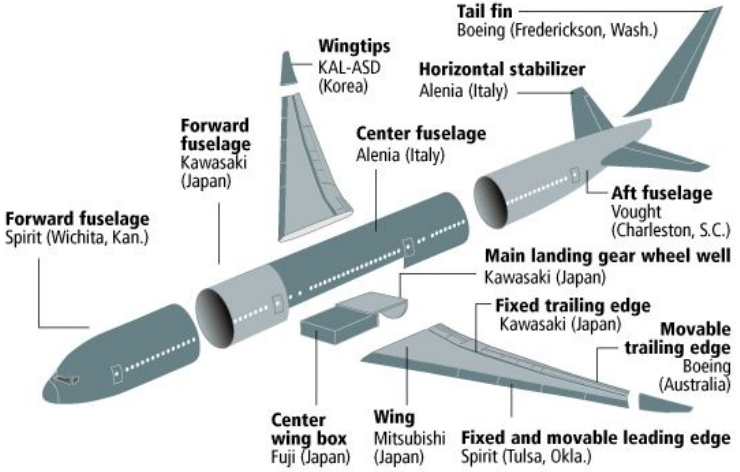
Interoperability between ONAP/Azure



Standard Modeling = Automation at Scale

OASIS TOSCA

Example from the Manufacturing Industry



The Boeing 787 could not be produced without standard modeling

With a diverse team, you ***WILL*** have conflict.

And conflict is ***GOOD***.

Summary

Open Source & Standards are better together

Orchestration is key for breaking the silos

Interop doesn't require to compromise on the least common denominator

ONAP and the LInux Foundation is a great platform for driving standard through Open Source

THE LINUX FOUNDATION
OPEN SOURCE SUMMIT
Thank You
CLOUDIFY