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

DeWayne Filippi - Cloudify
Cloudify Journey to Open NFV and ONAP

Cloudify was a founding member in Opn-O and been part of the key project (VNF-SDK) who's merging into Open-O.

Cloudify was a pioneer in leading the Cloud Native approach to NFV before the term NFV was even coined through a partnership with Alcatel CloudBand.

AT&T / Cloudify Network Virtualization
AT&T is already using Cloudify for two projects: DCAE and Controller.

Open Network Orchestration
Cloudify is a founding platinum member in ONAP driving TOSCA into the ONAP service Orchestration to manage ONAP deployments.

TOSCA is the standard modeling language and Cloudify/ARIA project is now the de facto reference implementation.

Cloudify was selected to fit into the DCAE and Controller project.
Telco Standard Driven

- ETSI
- ONF
- MEF
- tmforum
- ITU
- IETF
- OASIS
- TOSCA
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

A Next Wave?

Waves of Innovation

1st Wave
2nd Wave
3rd Wave
4th Wave
5th Wave
6th Wave

- Sustainability
- Radical Resource Productivity
- Whole System Design
- Blemimicry
- Green Chemistry
- Industrial Ecology
- Renewable Energy
- Green Nanotech

Innovation

1785 1845 1900 1950 2000 2020

- Iron
- Water Power
- Mechanization
- Textiles
- Commerce
- Steam Power
- Railroad
- Steel
- Cotton
- Electricity
- Chemicals
- Internal Combustion Engines
- Electronics
- Aviation
- Space
- Petro-chemicals
- Digital Networks
- Software Information Technology
- Biotechnology

Hunter Lovins, AIME Keynote

technology driven value driven
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

SQL
OM Group
Java EE
De-Facto Standards
The Siloes Challenge
Finding a Happy Medium

STANDARD  Open Source
Standards Driving Open Source
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
Interop between Azure VNF and ONAP
Interoperability between ONAP/Azure

ONAP

VNF’s

VNF’s

VNF’s

OpenStack

Network Virtual Appliance Ecosystem

Microsoft Azure
Standard Modeling = Automation at Scale

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**.
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