OnAP …
• Enabler for Innovation
• OnAP Overview
• Journey
• Industry Influences

OnAP Community Status
• Achievements
• El-Alto Release Content
• Frankfurt Content Proposal
• Moving to Production Deployment

OnAP Benefits, Partnerships and More …
• What Are We Getting from OnAP?
• Enabling the Edge, Cloud Native, O-RAN & AI
• Strategic Partners
• Challenges and Opportunities

OnAP Evolution and Long Term Vision
ONAP: Enabler For Innovation

A framework for:
- Model driven design and orchestration,
- Policy based control and analytics
- Closed loop automation of Virtualized Network Functions and Software Defined Control

Quick Trials, POC
Migrate to SDN
Network Data – Enabler for AI, ML

Automation of Network Functions
ONAP provides an automation platform for managing services and resources throughout their entire life cycle. It provides a reference functional architecture. It provides reference component definitions & interfaces. It provides reference source code. It provides requirements on the managed V/P NFs.
The ONAP Journey

- Successful merge to ONAP
- Established structure
- Established way of working
- Validated with vCPE, vFW/vDNS, vVoLTE blueprints

Deployment Ready
- Introduced S3P
- Adopt CII badging
- Containerized
- Introduced End-User Authority Group
- Validated with Change Management/Scaling foundations

Out-of-box Deployment
- Introduced Control loop sub-committee
- Increased standards alignment.
- Validated with more blueprints and use cases i.e. 5G, CCVPN

Expand
- Increase 5G Use Cases
- Footprint Optimization
- Model Driven Control loop
- ...

Reduce Technical Debt
- Deliver Early Drop
- Security by Design
- Document as You Code
- Don’t Break the Build

Q4 2017 – Amsterdam
Q2 2018 – Beijing
Q4 2018 – Casablanca
Q2 2019 – Dublin
October 2019 – El Alto
Industry Influences
Our Community Achievements

Diversity

Explore / Innovate

Compliance & Verification

Commercial Ecosystem

DUBLIN
15.3K changesets
480+ Authors

CASABLANCA
11,307 changesets
501 Authors

BEIJING
12,604 changesets
473 Authors

AMSTERDAM
9,819 changesets
324 Authors
How We Currently Work

Structure

- ONAP Technical Steering Committee
- Sub-committees:
  - Security
  - Architecture
  - Use Case
  - Modelling
  - Control Loop

LFN GB

LFN TAC

Coordinators

Projects & Releases

Projects scope is defined independent of the release. The project decides to contribute to a release.

General Workflow

- Use Case
- Architecture
- Security
- Modelling
- Control Loop

Sub-committees:

- Project Evolution
- Integration project
- ONAP Release

Release Lifecycle

M2/M3
- API & Functionality Freeze

M4 Code Freeze

Release Candidates
- RC0
- RC1
- RC2

Kickoff
M1 Planning
Release

ONAP Release
El Alto - 2500+ JIRA Issues Closed

Parallel Releases

El Alto

Frankfurt

Testing Improvements
- JS Test coverage
- Increase E2E Test Automation

IT Improvements
- Self-Serve Release
- Kick-Off Dockerhub Migration
- Release Mgt Automation

Existing Features Enhancements
- CDS Enhancements
- Reduce Defects Backlog Etc.

Security/Vulnerabilities /Licenses
- AAF Auto-Configuration and Certificate Generation
- Upgrade to latest oParent
- OpenDaylight Neon SR1
- Replace Angular by React (CLAMP)

Documentation
- @Project Level Swagger Integration
- User Guides i.e. SDC, CLAMP, etc.
What Can We Expect In Frankfurt (Potentially)

- Frankfurt Scope not approved
  - Scoping Oct 19
  - Release April 20

- 5G/ORAN & 3GPP Harmonization
- Control loop improvements
- Slicing improvements
- PNF Management improvements
- Controller evolution
- 5G SON enhancements
- Scaling extensions
- TOSCA control loops
- 3rd Party domain manager
- Service management for optical
- Continued ETSI Alignment
- Acumos – ONAP integration
- 3rd Party domain manager
Moving to Production Deployments

The following End Users have moved to Open Source Deployments

“ONAP is a key element in Reliance Jio’s MANO ecosystem. Our transformation towards a Machine Learning-driven cognitive network continues to accelerate as we embrace the evolution towards 5G.”

“AT&T and Ericsson demonstrate world’s first network slice with lifecycle management based on ONAP.”

“...Bell Canada has been aggressive in terms of virtualizing its network assets. The carrier late last year was the first organization to deploy an open source version of ONAP in a production environment”

LightReading: Orange plans 5G + Automation RFP “Requires Open Source/ONAP”

SDxCentral: “AT&T, Nokia Tighten 5G Focus on O-RAN, Akraino”

Vodafone, China Mobile Tap ONAP for Broader Network Orchestration
<table>
<thead>
<tr>
<th><strong>What?</strong></th>
<th><strong>How?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid vendor lock in</td>
<td>Establish Telecom Industry Platforms in Open Source</td>
</tr>
<tr>
<td>Lower Costs, High Quality SW</td>
<td>Increase the development community contributing to the code base.</td>
</tr>
<tr>
<td>Faster onboarding of VNFs</td>
<td>o Increase platform evolution and feature velocity</td>
</tr>
<tr>
<td>More VNFs that work with SPs</td>
<td>o Drive SW quality though community enforced best practices and peer review</td>
</tr>
<tr>
<td></td>
<td>o Share CI/CD infrastructure pools enables anyone anywhere to contribute.</td>
</tr>
<tr>
<td></td>
<td>Ability for vendors and systems integrators to provide Carriers compatible/tested/certified products.</td>
</tr>
<tr>
<td></td>
<td>Ability for industry to promote common requirements to vendors through working software, not just standards and specifications.</td>
</tr>
</tbody>
</table>
Enabling The Edge, Cloud Native, O-RAN & AI

Services

<table>
<thead>
<tr>
<th>Cloud Services</th>
<th>Residential Services</th>
<th>Enterprise Services</th>
<th>IOT/Edge/Al Services</th>
</tr>
</thead>
</table>

Software & Automation

Cloud Automation

Telecom Network Automation

Edge/Al Automation

Infrastructure

Enterprise

Software Defined Data Centers (SDDC)

Data Centers

Carrier Network

Cloud Network

Public/ Hybrid

Cloud Service Providers

Cloud Hosting

Private Cloud Providers

Web Service Providers

"Orange has adopted Acumos in an AI marketplace to integrate upcoming Acumos Clio release with ONAP. It would test the latest arrival on ONAP open Lab and on Plug’In which is a 5G research platform."
Who Are The Strategic Partners?

Vision: LFN software & projects provide platforms and building blocks for Network Infrastructure & Services across Service Providers, Cloud Providers, Enterprises, Vendors, System Integrators that enable rapid interoperability, deployment & adoption.
Challenges & Opportunities

- Prioritization
- Integration Capacity
- Release Cadence
What’s Next ...

**Culture Shift:**
Maintain Innovation while Performing Continuous Improvement

**Engagement Model:**
Evolve our Subcommittee Scope/Interaction

**Vision:**
Build our 3 Year ONAP Roadmap