ONAP 5G journey

ONAP is the de facto industry standard for NFV/SDN automation

ONAP's third code release, Casablanca was announced on 4th December, 2018 by LF Networking (LFN), which facilitates collaboration across the Linux Foundation's open networking projects. The Casablanca release enhances deployment capabilities across the open source networking stack, bringing additional support for cross-stack deployments of new and existing use cases such as 5G and cross-carrier VPN (CCVPN), as well as enhancements to cloud-native VPN. The goal of Casablanca is to consolidate the project's foundation while evolving to modularity and aligning to industry standards, i.e. MEF 3.0, ETSI NFV-SOL003, and others.

The Casablanca 5G blueprint is still in its early stages and aims to extend orchestration and automation to the RAN. It is designed to optimize the network using analytics and also addresses network slicing. The 5G blueprint is a multi-release effort, with Casablanca introducing the first set of capabilities around physical network function (PNF) integration, edge automation, real-time analytics, network slicing, data modeling, homing, scaling and network optimization.
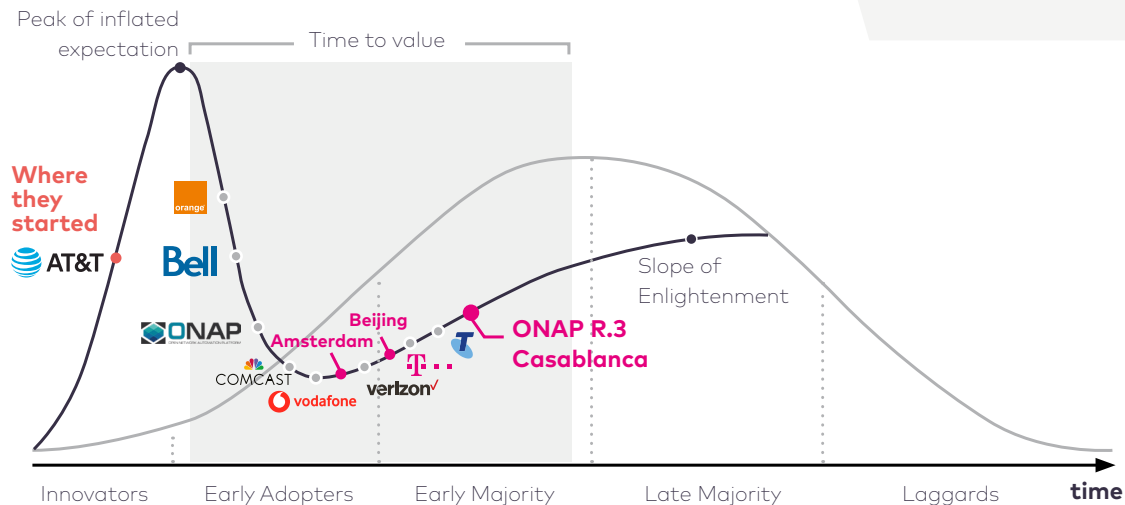
You can find more information on the 5G use case here.

Figure 1. NFV Technology adoption life cycle and ONAP hype-cycle

ONAP Casablanca release – what's new for 5G?

CASABLANCA – The third ONAP release further enhances ONAP deployment and 5G readiness with 13 new functional requirements including two blueprints. The 5G blueprint has 5 use cases addressing Network Optimization (real time analytics and bulk analytics) and Zero Touch Orchestration/Automation to the RAN (PNF integration).

CSPs consider 5G to be a critical use case for ONAP. Modeling and platform enhancements in Casablanca set the stage for full 5G support in later releases. The fact that the operators involved with ONAP represent more than 60% of mobile subscribers and that they are directly able to influence the roadmap, will ensure that ONAP becomes a compelling management and orchestration platform for 5G use cases.
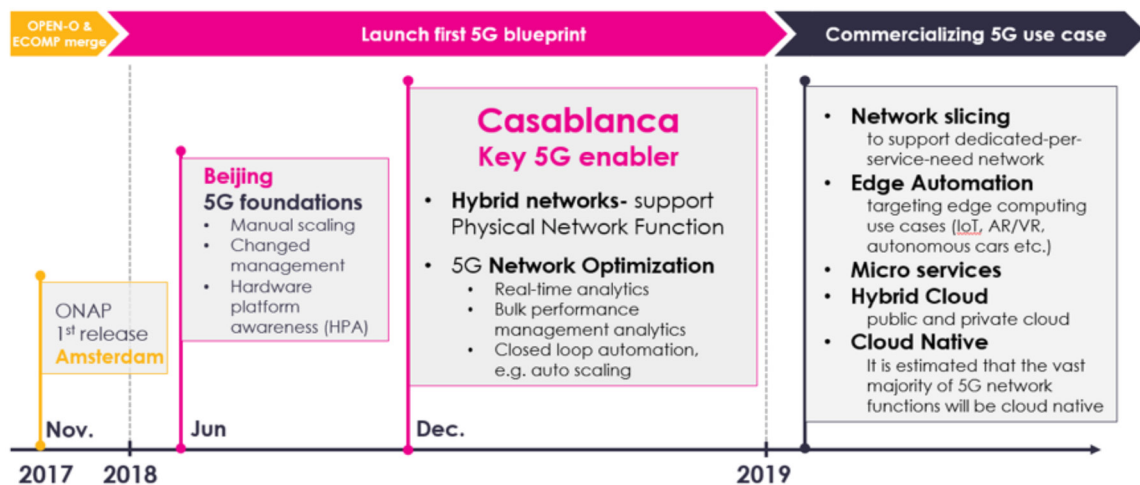

Figure 2. ONAP 5G journey to support fully automated network management and autonomous operations

As an open source network automation platform, ONAP is a key 5G enabler. The Casablanca release already provides support for the following:

- **Hybrid networks** with PNF support. With 5G, service providers need to deploy disaggregated 5G Radio Access Network (RAN) consisting of both virtual and physical network functions. This release supports lifecycle management of the physical network functions (PNFs), including PNF discovery and integration into the network management lifecycle (e.g. PNF software upgrades).
- **5G network optimization** including:
  - **High volume performance management** (PM) with real-time analytics delivered at frequent intervals (less than one minute) from a large number of edge locations
  - **Bulk performance management analytics** with batch processing of bulk PM data delivered less frequently for optimization purposes

- **Automatic scaling** of VNFs as a way to support the system's self-healing and self-scaling as part of closed loop autonomous operations, critical for 5G

Plans for upcoming releases include: **Network slicing** to support dedicated-per-service-need network; extension of **closed loop** functionalities targeting **autonomous network operations**; support for microservices-based architecture by ONAP; support of ONAP orchestration and deployment on **hybrid public and private cloud** to allow functions placement and offload by leveraging distributed cloud capabilities for the critical 5G use cases such as enterprise and edge automation; support for **cloud native functions** (CNF) - it is estimated that the vast majority of 5G network functions will be cloud native.

Amdocs' contribution to ONAP

As a founding member and co-creator of ONAP, Amdocs remains strongly committed to its ongoing development. Amdocs is rated among the top three vendors contributing code to ONAP (see ONAP's analytics page). Amdocs chairs the ONAP Use Case Subcommittee which is doing vital work to develop and promote future-facing use cases like 5G and edge automation.
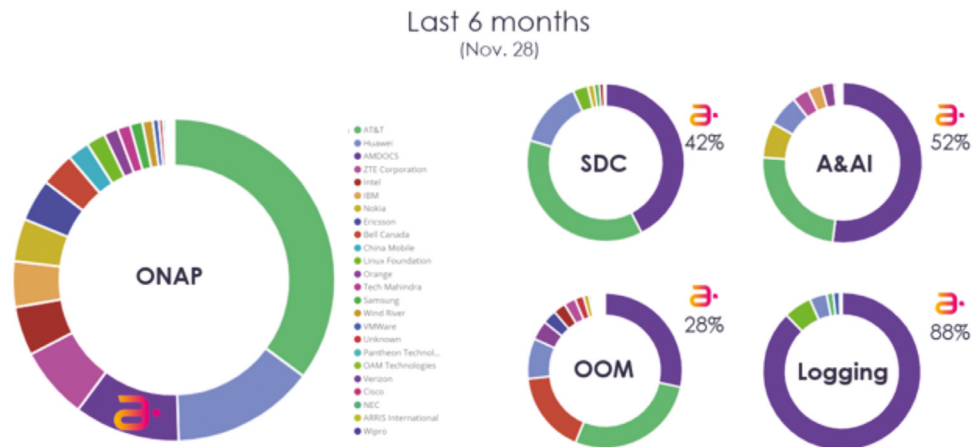

Figure 3. ONAP code contribution, source: ONAP analytics page

Amdocs brings unique expertise derived from working with ONAP's early adopters, including AT&T, Bell, Comcast and European carriers such as Orange, to help service providers drive value from virtualization. The Amdocs NFV powered by ONAP software and services solution lays the foundation for additional carrier-grade enhancements as the ONAP code matures (read more on Casablanca release platform maturity).

Only Amdocs

Amdocs is in a unique position to help CSPs accelerate NFV/SDN service innovation, and reap the operational benefits of virtualization faster because only Amdocs:

· **Leads early ONAP adopters** AT&T, Bell and Orange, and so has unique insights to offer that will accelerate your NFV strategy

· Was **appointed by AT&T as their exclusive ONAP integrator**, gaining advanced experience and insights complemented by managed services to de-risk your deployment

· **Introduced the industry's first packaged ONAP software and services solution**, Amdocs NFV powered by ONAP, which is hardened carrier-grade software, fully pre-integrated for legacy hybrid network, and complemented by expert NFV services

· **Supports the industry's production environments for ONAP** which means that Amdocs can take you beyond PoCs to reap operational benefits today

· Developed the original code as **ONAP co-creator through ECOMP partnership with AT&T**, and knows how to help you maximize the benefits of ONAP today

Find more information on:
Amdocs NFV powered by ONAP

www.amdocs.com