Introduction

**Workgroup Number** | WG6
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**Workgroup Name** | Cloudification and Orchestration
**Workgroup Charter** | A “cloudified” RAN is one that provides the flexibility of deploying multiple software implementations from different software vendors on a common CPU-based (e.g., x86/ARM) platform with hardware accelerators (e.g., FPGA/DSP/ASIC/GPU) for specific functions, and conversely, also allows multiple physical deployment scenarios in terms of centralizing or distributing each network element with the same software implementation. WG6’s “cloudification” charter is to identify use cases that will demonstrate the benefits of h/w and s/w decoupling of all O-RAN elements (including RIC, O-CU, O-DU, O-RU) and all deployment scenarios, and to develop requirements for the cloud platform including abstracted management of the infrastructure (NFVI), deployment (VIM) and hardware accelerator layers (AAL). A disaggregated and cloudified multi-vendor RAN will require common vendor-neutral APIs for managed element discovery, lifecycle management, FM/PM, and orchestration across both PNFs and VNFs in order to function as a cohesive unit that supports key lifecycle use cases such as scale-out, slice management, fault tolerance, and hitless software upgrades. WG6’s orchestration charter is to support O-RAN’s disaggregation mission by developing lifecycle flows and commonality of O2 APIs between the SMO and the O-Cloud.

**Workgroup Scope** | **Must have:**

- Orchestration
  - High level model of orchestration (management) architecture for SMO and O-Cloud interaction using the O2 interface
  - Dynamic orchestration (lifecycle management) use cases
  - O2 Infrastructure Management Services and Deployment Management Services specifications and O2 Information Model
- Cloud architecture
  - Modeling of O-Cloud HW, SW and cloud networking
  - Reference model for cloudified CU and DU (maybe RU in future)
    - O-Cloud IMS and DMS
    - O-Cloud HW Accelerator Management
    - Accelerator Abstraction Layer

**Nice to have:**

- Code contributed to relevant open-source communities

**Workgroup Co-chairs** | AT&T (ATT): Paul Carver
Vodafone (VFE): Nikoleta Patroni
Lenovo (LNV): Lei Li
Ciena (CIE): Lyndon Ong

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