

# Affirmed UnityCloud Operations

## A Unified Approach to 5G OAM

### At a Glance

Affirmed UnityCloud Operations is a full stack telco cloud OAM offering.

Composed of solutions providing for automation, management and observability, UnityCloud Operations radically simplifies operations to accelerate 5G deployments and migration by providing:

- Intelligent data driven automation capabilities
- A common experience across multi-cloud environments
- A framework for sustainable digital operations

### The Challenge

As operators pursue digital transformation and prepare their networks for next-generation, cloud-native 5G offerings, they face a variety of challenges along with the limitations of their legacy solutions. The migration of service activation, subscriber provisioning, and network function management often reveals inefficiencies in these solutions as they move to a container-based microservices environment including:

#### Increased Complexity

The decomposition of functions into microservices creates network management complexity due to multiple vendors/products and interface points.

#### Lack of Automation

Despite the partial automation of mobility network change management, significant manual intervention is still required, hindering service velocity and time to revenue.

#### No Enterprise Support

Legacy approaches to multitenant management prevent operators from offering self-managed services to enterprise customers.

#### High Integration Costs

Adapting legacy Operations, Administration & Maintenance (OAM) solutions often results in multiple OAM platform stacks, which can significantly increase OpEx.

#### Difficult to Maintain

Creating a standards-based orchestration stack often requires extensive coupling between different OAM platforms, which increases maintenance complexity.

### A New Approach to Orchestration

Operators will need to combine multiple types of network functions and infrastructure together seamlessly, especially where service agility is a key outcome. A new orchestration solution is needed to support both the current and next-gen network function and infrastructure requirements, including:

**5G service monetization** with quick activation of new, innovative offerings

**End-to-end network slicing** to control shared resources such as bandwidth

**An edge-capable architecture** that brings services as close as possible to the customer

**Multi-cloud and multi-infrastructure support** to optimize compute resource costs

**A DevOps pipeline** that extends from software to people instead of staying in silos

**Analytics** with advanced business intelligence

## UnityCloud Operations: A Unified Approach to Operations and Management

Affirmed UnityCloud Operations (UC Ops) is a full-stack telco cloud OAM platform composed of solutions that address automation, management, and observability. UC Ops enables radically simplified operation of “Any G” network functions to accelerate next-generation infrastructure deployments and migrations.

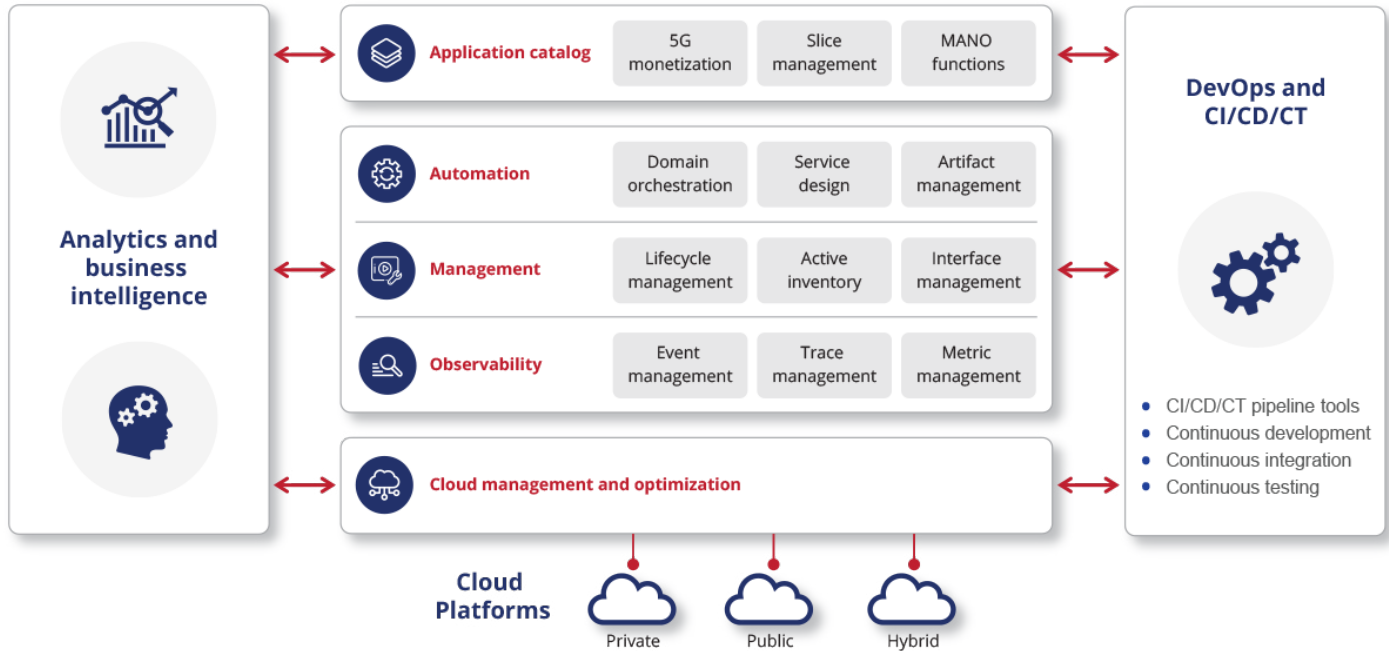


Figure 1. UnityCloud Operations Functional Overview



**Winner**  
Best Network Automation Technology

### UnityCloud Operations Was Built to Provide:

**A common operator experience** across any combination of public, private, or hybrid cloud infrastructure, with support for both 3GPP IFA MANO and SA5 OAM interworking standards to support a flexible, best-of-breed architecture with no vendor lock-in.

**Intelligent automation and orchestration** by leveraging big data analytics and business Intelligence to bring performance, fault, and trace visibility into the mobile core domain.

**A framework for sustainable digital operations** with a comprehensive set of CI/CD/CT capabilities, enabling a DevOps approach that drives rapid monetization of new services and dynamic service changes.

## Accelerating the Deployment of Next-Gen Infrastructure and Architecture

### UC Ops Benefits and Features

#### Reduced Service Complexity

UnityCloud Ops delivers a common OAM platform across multi-domain and multivendor solutions, abstracting communication into a common standard to dramatically simplify operations.

#### Modern Software Delivery

Automated software delivery, integration, and testing ensure that the latest and greatest software instantly arrives into a customer environment, while multi-step testing ensures it works the first time.

#### 5G Service Automation

As a mobile core domain manager, support for 5G network slicing, service activation, and subscriber management permits operation in a best-of-breed, end-to-end stack.

#### Application Catalog

Marketplace applications, focused on supporting common industry use cases, enable the rapid roll out of new OAM solutions to quickly monetize next-generation offerings.

#### Optimized for the Edge

Supporting a lightweight, flexible architecture allows operators to deploy only the OAM components they require, only to the locations where it makes the best business sense to the operator.

#### Advanced Observability

Going beyond traditional time-series metrics, operators can achieve complete visibility using subscriber trace data or dig down into the packet level with native probe support to reduce assurance costs.

#### Built for the Cloud

Running across any combination of public, private, or hybrid cloud infrastructure permits operators to reap the benefits of lower resource costs and higher levels of availability.

#### Integrated Analytics and BI

Traditional closed-loop assurance, combined with observability and probe capabilities, drives advanced data analytic functions to provide zero-touch optimization for the mobile core.

## Underlying Technology Components

Built on a modular foundation, UC Ops consists of an orchestrator, a designer, controller, inventory portal, and event & metric manager—all pre-integrated to include the most comprehensive use cases including container- or VM-based functions. It runs on any combination of public, private, or hybrid cloud environments.

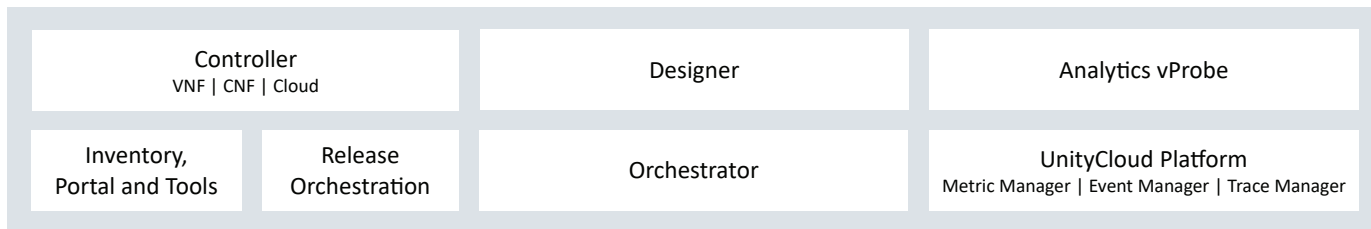


Figure 2. UnityCloud Technology Components

**Orchestrator**—A distributed run-time automation engine supporting service models, workflows, and templates to deliver zero-touch, outcome-based operational tasks.

**Designer**—A service recipe cookbook featuring an open, centralized model and no-code GUI, which outputs a service definition artifact to feed into the automation engine.

**vProbe + MSF**—A deep-packet inspection solution that captures live real-time traffic streams, codes the streams into binary data records, collects and stores the data records, and exposes analytics via a Tableau-based interface.

**Portal and Inventory**—A unified front-end portal to access all coupled solution components and provide various adjunct function tools such as asset inventory and common repositories.

**Controller**—A network function manager which provides complete lifecycle management using standards-compliant interfaces to bring new functions to life.

**Release Orchestration**—An advanced software management pipeline which provides for continuous integration, delivery and testing services for both software and automation artifacts.

## Underlying Technology Components (continued)

### UnityCloud Platform

Our core platform includes custom-built, open-source distributions to drive the observability management functions.

- *Metric*—Prometheus distribution to support time-series metric data collection and storage.
- *Trace*—Jaeger/Kiali distribution to support subscriber and API trace data collection and storage.
- *Fault*—Fluent/Elastic distribution to support event-based data collection and storage.

## Use Cases

### Multi-cloud resource management

Seamlessly operates across any public, private, or hybrid cloud environment, collapsing OAM into a single solution stack

### Multivendor service automation

Drive the rapid migration or deployment of next-generation 5G mobile core infrastructure quickly and cost effectively

### 5G & network edge evolution

Reduce network complexity through interface abstraction at the service and orchestration layers

### 5G service monetization

Dynamically scale and monetize network services with predefined service templates, harnessing the power of BI and analytics

### Software management

Accelerate time-to-revenue for new services through a modern CI/CD/CT pipeline that continuously delivers software enhancements and automation recipes

## Real-World Applications



**Turkcell** is using Affirmed's end-to-end NFVi platform to deliver innovation in network automation and create new network slices quickly while significantly lowering OpEx costs.



**Etisalat** is using Affirmed's automation capabilities to accelerate the automation of Etisalat's existing and upcoming digital services and infrastructure and pave the way for a smooth, quick rollout of 5G and Multi-access Edge Computing (MEC) services.



**One of the largest Tier 1 operators** in North America is leveraging Affirmed's orchestration capabilities to accelerate 5G network deployment for consumer services.

### Learn More About Affirmed Networks

For more information, please visit [www.affirmednetworks.com](http://www.affirmednetworks.com) or contact [info@affirmednetworks.com](mailto:info@affirmednetworks.com).



Affirmed Networks | 35 Nagog Park, Acton, Massachusetts 01720 | +1 978-268-0800 | [www.affirmednetworks.com](http://www.affirmednetworks.com)

© 2020 Affirmed Networks, Inc. All rights reserved.  
Affirmed® is a registered trademark and "Powering the World Wide Wireless Web" is a trademark of Affirmed Networks, Inc.

A Microsoft Company