

Automating the Operational Lifecycle of Virtual and Physical Network Services

Highlights

- StratOSS™ focuses on the difficult on-going maintenance use cases such as healing, upgrading, and maintenance of VNFs, which account for the majority of the cost and effort associated with operating a service.
- There are plans to standardize the NFV lifecycle with IBM and other companies, publishing an industry VNF lifecycle model which is aligned with other open source projects like ONAP.

StratOSS™ Lifecycle Manager Overview

StratOSS™ Lifecycle Manager is a software solution that fully automates the operational lifecycle of virtual and physical network services. StratOSS has a unique intent engine and standard lifecycle model which enables the rapid on-boarding of VNFs and services whilst automating operational processes from initial service creation through on-going maintenance. This offers reduced operational complexity, effort and skills to maintain complex services throughout their life.

A new approach to complexity

NFV brings additional complexity over a physical world network which could increase effort and cost if not managed with a new approach. Today's network appliances require highly manual processes to manage their end to end lifecycle. Testing, installation, configuration, and problem management of network appliances all revolve around manual activities that often require a physical truck roll or a human to run each lifecycle process.

NFV's software paradigm promises fully automated lifecycle processes for bringing network services into production and maintaining them thereafter. Virtual network functions (VNF) allow a much simpler set of lifecycle tasks enabling near full automation of the creation and healing of virtual services than is possible with their physical counterparts.

The StratOSS™ Lifecycle Manager from Accanto Systems, is a comprehensive services design, testing and automated deployment platform, addressing the challenges and complexities of NFV. It delivers an end-to-end automated service lifecycle solution from initial design to production, as depicted in the following figure.

Lifecycle Model		Standard lifecycle model to automatically manage VNF and Services	Reduced automation errors through well tested lifecycles
VNF & Service Assembly		VNF/Service assembly and design tools to rapidly build VNF and Service packages	Rapid time to on-board new VNF software and Services
Difference Orchestration		Automatic generation of lifecycle execution plans to bring Services and VNFs to desired state	Reduced complexity increases levels of automation
Quality Monitoring & Policy		VNF, Service and Infrastructure health tools with automated resolution	Automated healing, scaling and upgrade
Cloud Native		Cloud native platform, built from the group up on Cloud frameworks and best practice	Carrier grade availability and performance

The Benefits of StratOSS™ Lifecycle Manager

The benefits of using StratOSS™ Lifecycle Manager to deliver NFV are illustrated in the following figure:

Expected Service Provider benefits



Higher margin on services allow Service Providers to test the market with niche services

More specifically, StratOSS™ Lifecycle Manager offers key benefits to the roles of Service Designer and Operations.

StratOSS™ Lifecycle Manager enables a fully integrated DevOps path from design, test, deployment, to operations. By hiding the complexity of the underlying resources, infrastructure, VNFs, across domains and vendors, service designers can focus on designing the service rather than defining complex workflows for each component.

The StratOSS™ Lifecycle Manager integrates with test tools that allow for fully-automated execution, testing the services, first locally, then in a pre-production environment, before being deployed into production. New VNFs can be easily on-boarded through standardized lifecycle models.

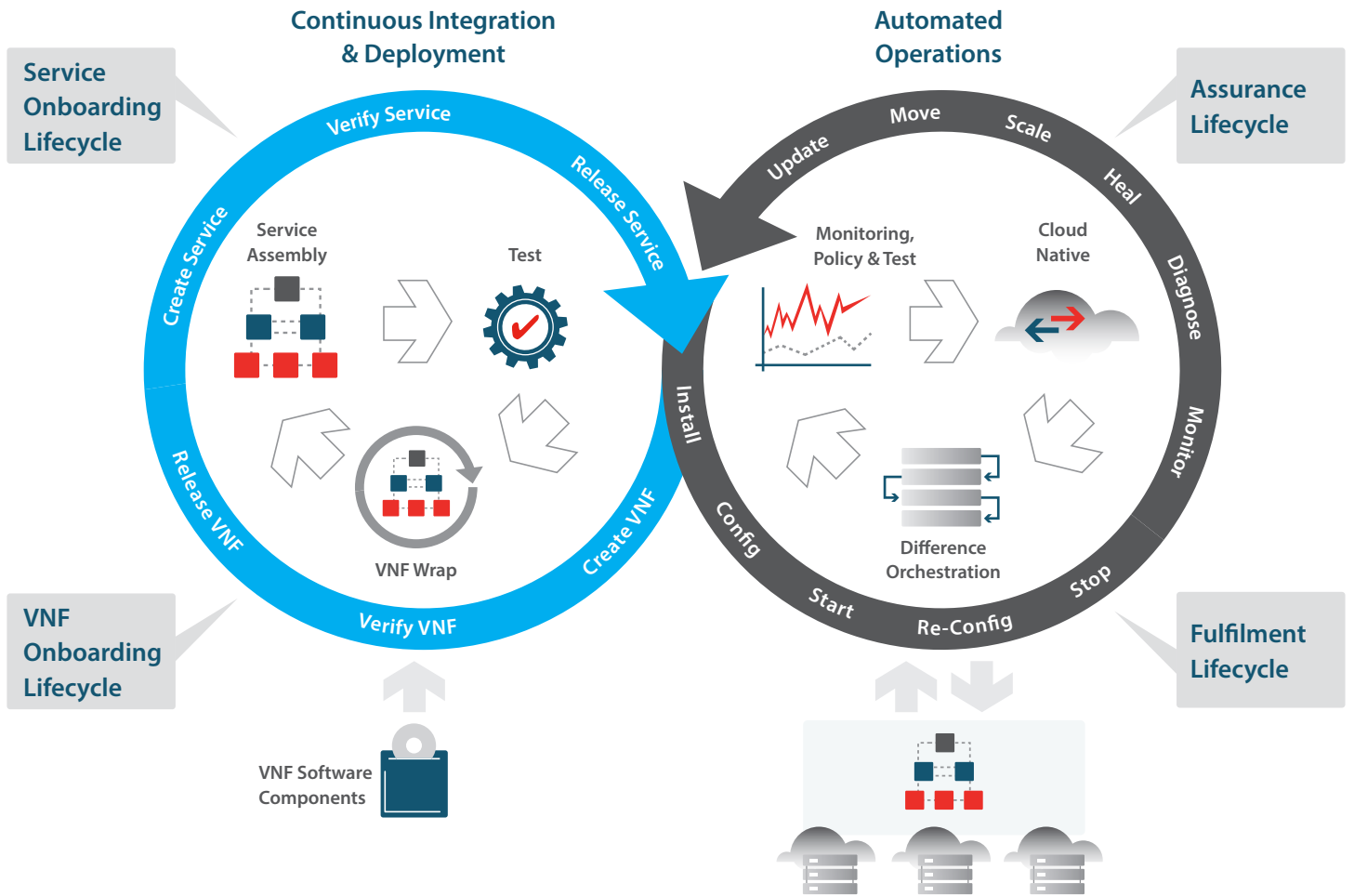
Once designed, the StratOSS™ Lifecycle Manager deploys the services by automatically generating a plan of all the activities required to get them from a concept or broken state to a desired final and working state.

In production, the StratOSS™ Lifecycle Manager removes the need for manual monitoring and resolution handling. Services are continuously monitored and once an issue is identified, automated corrective action is taken. This includes actions such as heal, scale, upgrade and migrate which are typically complex and time-consuming to handle manually.

Lifecycle Management

To achieve NFV's promised levels of automation, StratOSS™ Lifecycle Manager provides a complete DevOps toolchain that manages the end to end lifecycle of virtual network services, from release management of VNF software packages to the continuous orchestration or running VNF and services instances.

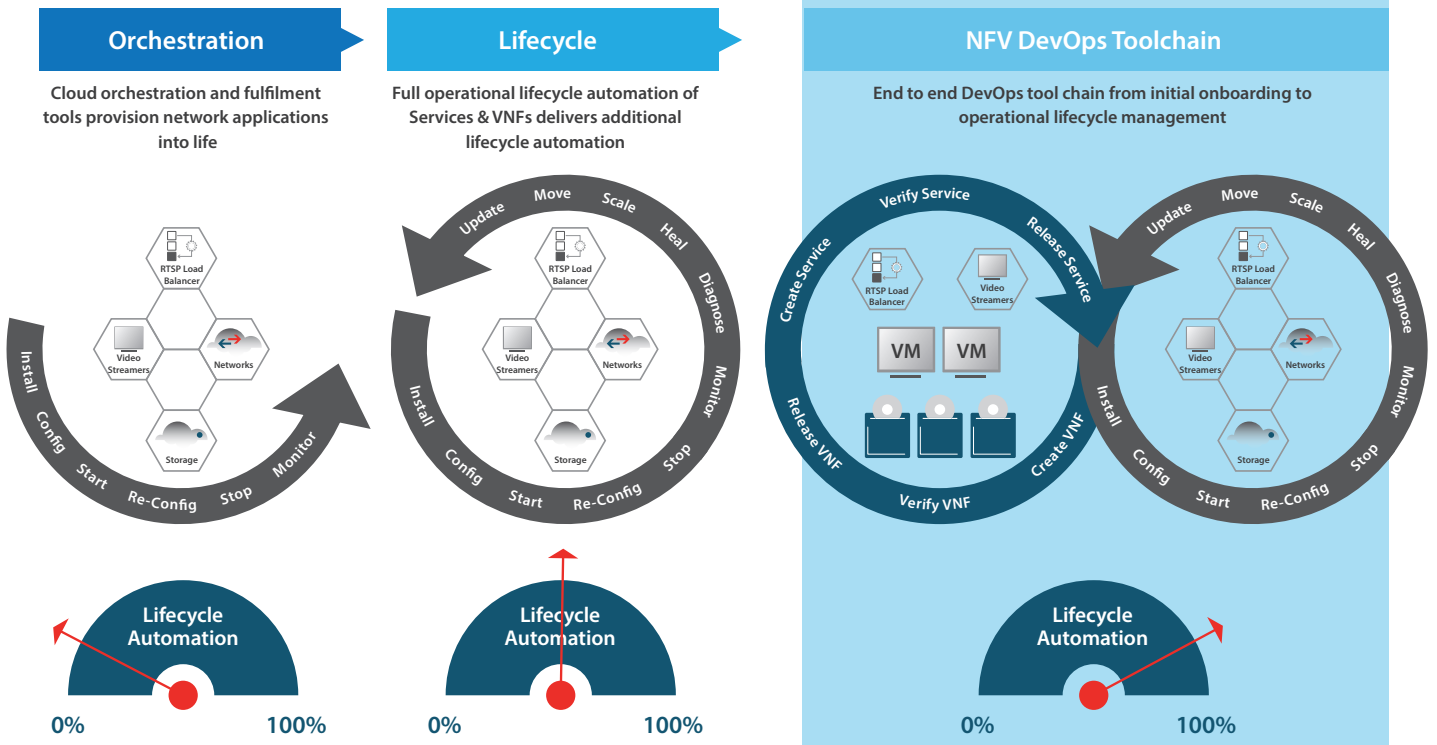
Third party VNF software must be wrapped in a well-tested standard lifecycle interface to ensure no errors during production; Service bundles of multi-vendor VNFs must be tested for interoperability and performance; and finally, when put into production services and VNFs must constantly be created, configured, updated, scaled, healed, and migrated with no human intervention. The complete lifecycle management is shown in the following figure.



VNF and services onboarding requires a comprehensive release management strategy and suite of tools and lifecycle integration framework that accommodates the variety of 3rd party VNF software package formats. Continuous in-life orchestration also requires a new approach to modelling and managing the complexity of in-life network function lifecycle management. To achieve the levels of automation required, a much simpler and standardized approach is required to implement all foreseen lifecycle transitions.

Advantages of an end-to-end DevOps deployment model

The advantages of adopting an end-to-end DevOps deployment model are illustrated in the following figure



About Accanto Systems

Headquartered in Finland and operating globally, Accanto's StratOSS™ software is designed to operate, predict and automate the networks of today and tomorrow. Building on a heritage of carrier-grade middleware and delivering an innovative DevOps toolchain, the StratOSS platform delivers business value by fully automating the service lifecycle and management of physical and virtual networks, reducing churn and proactively ensuring they deliver against end customer expectation. www.accantosystems.com

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