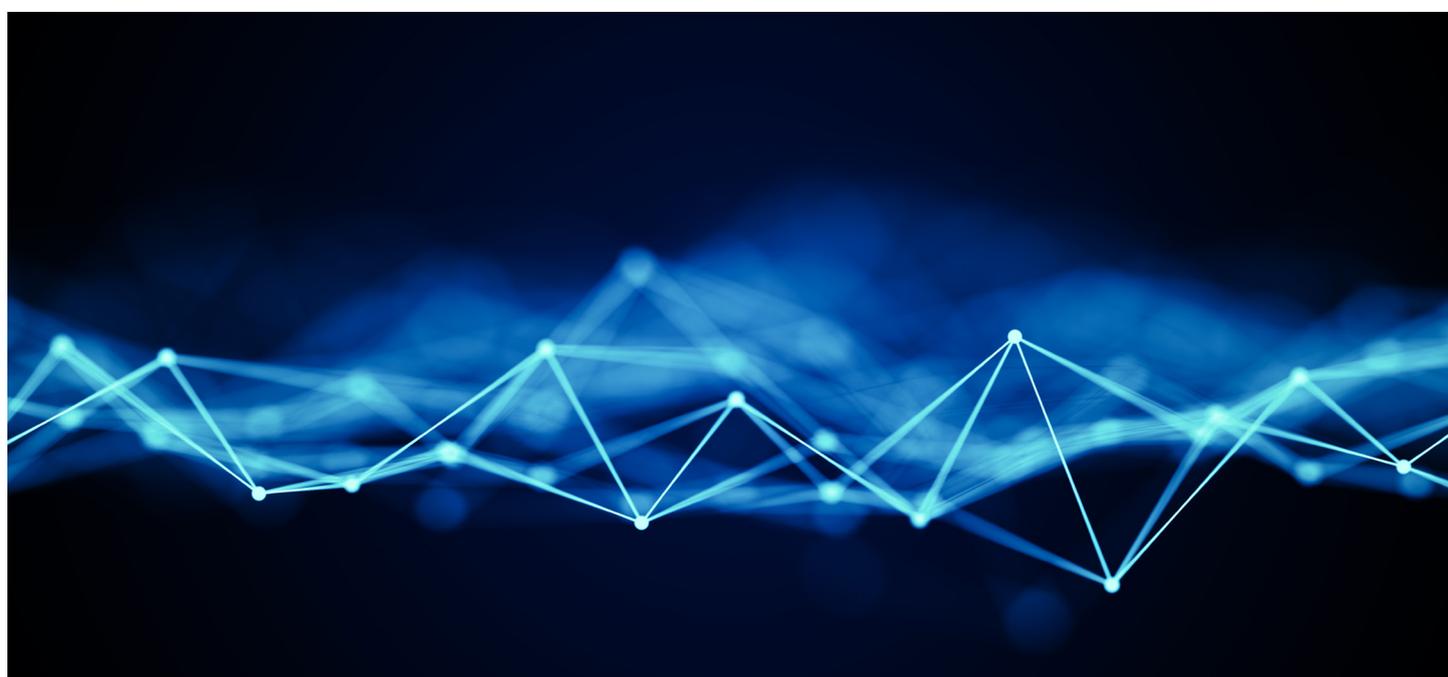


Intelligent Service Automation

Deliver network services quickly and efficiently



Business challenge

A growing number of network operators have recognized the potential of Network Functions Virtualization (NFV) to transform how their networks are built and services are delivered. As a result, these network operators have begun deploying selected Virtual Network Functions (VNFs) at scale in their production networks. However, NFV is still a new technology that requires new skills and procedures to make it work effectively. Two of the major challenges for service providers deploying NFV are:

- **Organization.** Network Operations (NetOps) and IT typically operate independently. Because NFV runs network functions such as router and firewall as software applications in a virtualized cloud environment connected to the existing networking infrastructure, successful deployment requires seamless collaboration between a service provider's IT and NetOps organizations.
- **Migration.** How can services using a combination of virtual and physical technology be simplified and automated?

Benefits

- Accelerate service fulfillment from months to minutes
- Enable customer self-service
- Increase service revenues up to 25%
- Lower operational expenses up to 50%

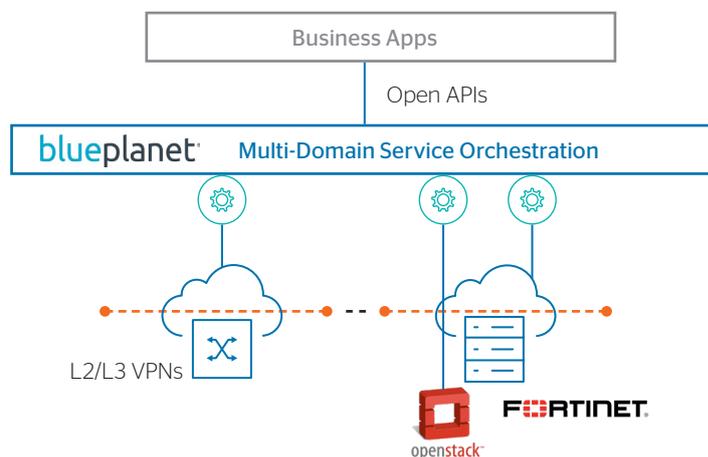
Solution

To overcome these challenges, Atos and Ciena are offering a standardized solution for automating the creation, setup, configuration, and lifecycle management of NFV-based network services. This intelligent automation solution packages Blue Planet software with professional design, migration, and installation services, provided by Atos, that lead to full operation.

Ciena's Blue Planet is an open, highly programmable software platform for instantiating the VNF, setting up the network overlay/underlay, and interconnecting the VNF to the network. Intelligent automation describes services using an intent-based, template-driven methodology. With Blue Planet, Service Templates (STs) are written in a higher-level, human readable standard format. Intelligence is embedded into STs, so those implementing automation through templating can focus on intents—in other words, characterizing the service and service attributes—while the complexity of the underlying implementation is managed and controlled by the software.

Using this approach can bridge processes that might fall under NetOps or IT, allowing NFV technology to be deployed seamlessly. Intelligent automation can also incorporate Multi-Domain Service Orchestration (MDSO) to chain VNFs together with each other, or into existing network services.

In addition, using intelligent automation to orchestrate virtual managed services results in the use of APIs that enable service creation. In other words, the combination of network connectivity and virtual managed services can be integrated through a single unified Application Programmable Interface (API), which enables robust OSS/BSS integration and enables customer-facing, self-service portals for creating virtual managed services.



Flexible PoCs and delivery

Atos and Ciena consultants work with our customers to discover the best places to start the automation journey. Following that we will use our NFV and Automation Lab to demonstrate the solution and prove the business case before rolling it out into our customers' businesses.

As a Systems Integrator, Atos provides not just a fully-realised turn key solution - we also work with our customers to provide:

- **Enterprise integration.** Atos will integrate the automation solution into our customers' enterprise including customer portals, B/OSS systems and IT domains.
- **Operational training.** We enable our customers to operate the solution, and therefore their business, a maximum efficiency.
- **DevOps training.** Many customers prefer to keep the ability to maintain and extend the automation solution in-house. To support this ambition Atos will train and support our customers' DevOps teams.
- **Hosting.** Atos can provide options for on-premise, private cloud, public cloud or hybrid hosting.
- **Managed Services.** Atos will provide warranty and managed services to network grade SLAs globally.

Business outcomes

NFV and virtual managed services enhance existing service offerings by providing value-add above and beyond basic network connectivity. Managed service offerings can include network functions like firewall, routing, load-balancing, and more. Applying intelligent automation to virtual managed services simplifies and automates all aspects of service management and control, including multiple layers of technology and functionality. The intent-based and template-driven methodology enabled by Blue Planet intelligent automation helps bridge organizational silos and streamlines the incorporation of new VNFs and the introduction of new managed service offerings. Applying this approach for virtual managed services can ensure a simpler and more effective deployment of NFV, which can then allow NFV to transform the way networks are built and services are delivered.