

OVERTURE AND WIND RIVER

Carrier Grade NFV Orchestration Delivers Superior Reliability and Market-Ready Solutions

Wind River® and Overture have joined forces to offer automated virtualization solutions that accelerate communication service providers' time-to-market and decrease their project risks.

NFV IS HERE AND REVOLUTIONIZING THE NETWORK

A network transformation is underway to enable better utilization through software-defined services. Communication service providers (CSPs) are seeking best-of-breed solutions that can help accelerate this transformation. They are also demanding solutions that provide seamless automation without compromising the "always on" reliability expected from carrier grade systems. The integrated, carrier grade Network Functions Virtualization (NFV) solution from Overture and Wind River delivers an automated orchestration capability that accelerates a CSP's ability to deploy new services while minimizing risk.

ADVANTAGES OF AN NFV SOLUTION

By virtualizing network functions, CSPs can realize a number of benefits:

- **Quickly turn up and tear down a function dynamically:** This ability allows the CSP to use server resources only when the function is needed. Once the resources are freed up, they can be used for another function. With NFV, a test function could be turned up while the test is being performed and then turned down after the testing is complete.
- **Pay for a function only when it is needed:** Today, many appliance vendors offer their solutions in one package, intended to satisfy a broad range of performance needs. This one-size-fits-all approach does not work well in all environments. With NFV, the CSP pays only for the performance needed.
- **Take advantage of the price-performance improvements that have followed the Intel® architecture-based architecture over the years:** The cloud and data center industries have long enjoyed this benefit, and with NFV, CSPs are able to do the same.
- **Reduce operating expenses associated with sparing, maintaining, and installing proprietary hardware for each individual network function:** With NFV, for example, CSPs can install multiple virtualized network functions (VNFs) on the same set of general-purpose hardware and avoid the truck roll that would typically be required to install a new appliance.
- **Create new services through software-only innovations:** With a standard hardware infrastructure in place, the CSP can leverage a community of independent software vendors, open source code, and home grown innovation to create revenue-generating services that were never before possible or practical.

OVERTURE

Ecosystem Component

NFV orchestration and automation

Solution

Ensemble Service Orchestrator

Value

- Accelerates developing a new service and turning up an order
- Increases earnings by driving down capital and operating expenses
- Optimizes delivery throughout the entire service lifecycle
- Improves customer experience

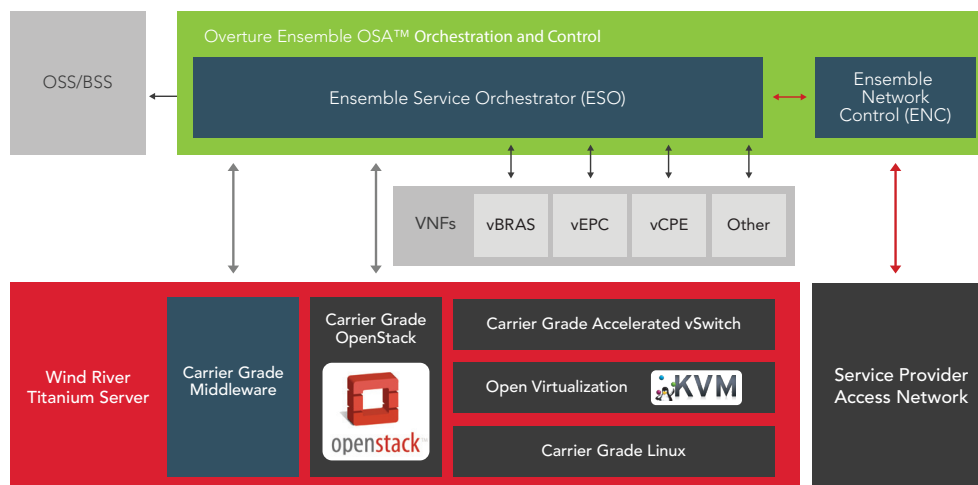


Figure 1: Joint solution architecture

USE CASES: OPTIMIZED AND INTEROPERABLE SOLUTIONS FROM OVERTURE AND WIND RIVER

Overture's Ensemble Service Orchestrator (ESO) working with Wind River Titanium Server creates an ideal NFV infrastructure for the following virtual services use cases:

Carrier Grade Virtual Network Function Infrastructure (VNFI) for the Next-Generation Central Office (NG-CO)

By virtualizing the central office, carriers can now deploy real-time network functions at metro service aggregation sites. This helps to ensure always-on high availability by leveraging distributed controllers and orchestrators. The carrier grade infrastructure also offers an accelerated vSwitch for VNFs at the customer edge, while supporting any guest OS for maximum VNF flexibility.

Real-Time High Availability Platform for Service Orchestration Systems

Overture's ESO leverages flexible, policy-driven VNF lifecycle processes to integrate NFV management and orchestration. In addition to automating lifecycle VNF management to coordinate cloud and network controllers, ESO supports industry-standard operations support system and business support system (OSS/BSS) solutions and maintains full compatibility with all relevant NFV application programming interfaces (APIs). This solution is designed to maximize VNF acceleration across subscribers-per-blade.

Accelerated Virtual Switch for Edge Appliances

Wind River Titanium Server is employed on virtual service edge appliances to accelerate the embedded virtual switch. The virtual edge appliances are deployed as part of a managed service offering and installed on the service provider customers' premises. By deploying VNFs at the service edge, Overture's ESO decreases inventory and management costs and eliminates truck rolls.

Virtual machines allow you to optimize service flexibility through efficient traffic shaping and management. This solution also increases network intelligence through deep packet inspection and built-in packet acceleration across virtual machines.

WIND RIVER TITANIUM SERVER

As the industry's first fully integrated and feature-complete NFV software platform, Wind River Titanium Server enables an NFV infrastructure to achieve the ultra-reliability and high performance mandated for telecom networks. It delivers six nines (99.9999%) reliability, in contrast to the three nines of virtualized platforms based on common enterprise software. Combining open source and open industry standards with required carrier grade extensions, Titanium Server is the only commercial server solution enabling service providers to maintain the rigorous uptime required as networks transition to a virtualized infrastructure. With Titanium Server, service providers can now meet the "always on" expectations of consumers.

MORE INFORMATION

Detailed technical information about Overture can be found at www.overturenetworks.com. Detailed technical information about Wind River Titanium Server can be found at www.windriver.com/products/cgcs/. Additional information about the Titanium Cloud ecosystem can be found at http://windriver.com/announces/titanium_cloud_partner_program.

THE WIND RIVER–OVERTURE ADVANTAGE: TWO ECOSYSTEMS, ONE SET OF BENEFITS

The Overture and Wind River partnership enables service providers to leverage NFV without sacrificing the reliability and performance of hardware networking solutions. By collaborating together, Wind River provides interoperable networking services that combine Overture's best-in-class orchestration solutions with an open platform that enables the rapid creation of innovative and reliable systems. Both are proud members of each other's industry-leading ecosystems.

Overture's Harmony Partner Ecosystem includes hardware, software, and services partners that are focused on accelerating CSPs' automation and virtualization initiatives at the metro service edge. The Harmony ecosystem creates an open and strong environment that Overture and its partners believe is crucial for the success of NFV-based services. In working together, Harmony partners align efforts to ensure that service providers can select among best-of-breed components and avoid single-vendor proprietary systems, speeding their deployments and minimizing project risks.

Through the Wind River Titanium Cloud ecosystem, Wind River has collaborated with industry-leading hardware and software companies to ensure the availability of interoperable standard NFV products optimized for deployment with Wind River Titanium Server. Utilizing solutions from the Titanium Cloud ecosystem will accelerate time-to-market, reduce risk, and significantly improve the deployment of an end-to-end NFV infrastructure.

OVERTURE: ENSEMBLE SERVICE ORCHESTRATOR

Overture's Ensemble Open Service Architecture™ (OSA™) is the industry's first open architecture to deliver carrier-class NFV orchestration and automation at the metro service edge. The ESO is a key component of this architecture that delivers an open, extensible carrier-class NFV service lifecycle management and orchestration system. The ESO coordinates virtual resources and physical network elements to create, activate, and assure services using one or more VNFs, and allows for centralized control of VNFs in numerous regional data centers, central offices, or customer premises. The ESO delivers an increase in both service velocity and the pace of new innovation, while decreasing operational costs.

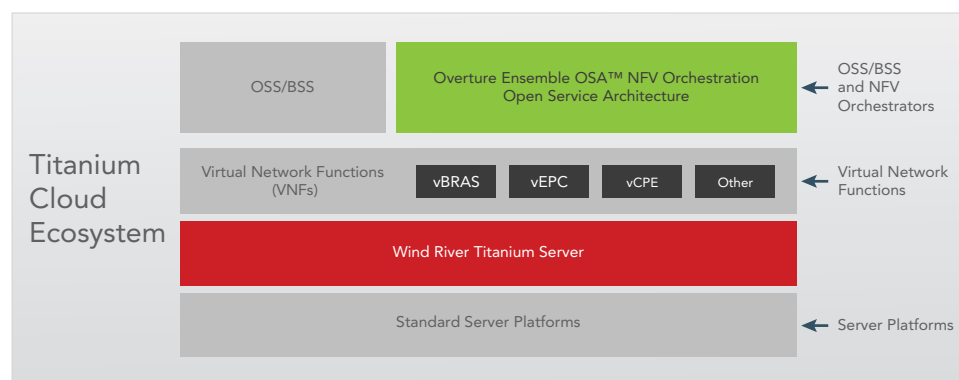


Figure 2: Titanium Cloud components with Overture Ensemble OSA

WIND RIVER