HPE Telco Blueprints with Red Hat OpenShift

Delivers 5G and next-generation solutions for the NFV core and edge infrastructure

About Hewlett Packard Enterprise

Hewlett Packard Enterprise is the global edge-to-cloud platform-as-a-service company that helps organizations accelerate outcomes by unlocking value from all of their data, everywhere. Built on decades of reimagining the future and innovating to advance the way people live and work, HPE delivers unique, open and intelligent technology solutions, with a consistent experience across all clouds and edges, to help customers develop new business models, engage in new ways, and increase operational performance. For more information, visit: hpe.com/telco/cloud.

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Red Hat and Hewlett Packard Enterprise telco focus

Red Hat and Hewlett Packard Enterprise (HPE) continue an alliance partnership that has existed for more than 20 years, delivering proven, market-leading solutions for customers seeking alternatives to complex and costly proprietary operating environments. Our track record of innovation includes a joint focus on telecommunications and emerging technologies, with proven solutions for DevOps, cloud, virtualization, storage, and middleware technologies. Our combined partnership can help enterprises and communications service providers (CSPs) speed time to market and mitigate the deployment risk of open, flexible, disaggregated platforms that transform telco networks and service offerings.

Industry overview

CSPs continue to move away from closed and products built for a specific purpose to more open and agile solutions, updated at DevOps speed. This evolution to more flexible solutions encourages innovation, yet still meets carrier-grade hardened and security requirements. CSPs can potentially incur new risks as solution elements are integrated independently. HPE and Red Hat have the answer: HPE Telco Blueprints with Red Hat® OpenShift®. These blueprints are fully engineered reference architectures designed for network functions virtualization infrastructure (NFVI) with container technology and have been validated with Red Hat OpenShift Container Platform, Red Hat Ceph® Storage, and Red Hat Virtualization. These blueprints give CSPs the opportunity to easily move to a cloud-native model, which allows for faster innovation.

Advancing opportunity for communication service providers

HPE Telco Blueprints with Red Hat OpenShift are reference architectures validated by HPE telecommunications experts that are built on standard infrastructure using NFVI best practices. By decoupling the network functions from proprietary hardware appliances, CSPs can accelerate the introduction of new, compelling core services quickly and cost-effectively, reduce the cost of their network operations, and create the flexible service delivery environments they need to drive more revenue.
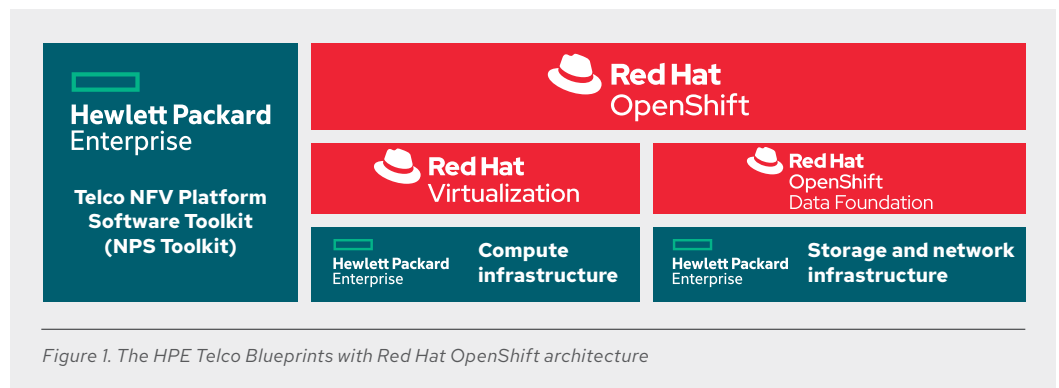

Figure 1. The HPE Telco Blueprints with Red Hat OpenShift architecture

The HPE Telco Blueprints address a variety of use cases for both the core and the edge using Network Equipment Building System (NEBS)-compliant components for stringent telco environments. The HPE Telco Core and Edge Blueprints are validated reference architectures designed for enhanced performance and scale for workloads at the core datacenters and at the network edge. The blueprints incorporate HPE ProLiant systems and HPE Edgeline Converged Edge systems powered by Intel® Xeon® Scalable processors and Red Hat OpenShift Container Platform as the virtual infrastructure manager.

Implementation benefits

HPE Telco Blueprints come with the HPE Telco Software Defined Infrastructure (SDI) toolset that includes storage and network interface card (NIC) performance benchmarking reports and tools, and the NFV Platform Software (NPS) Toolkit designed to simplify NFVI stack deployment and configuration. The NPS Toolkit, combined with these blueprints, offers flexibility in software design and shortens the time to deploy new applications. It also offers a new way for CSPs to design, deploy, and manage services in their network.

HPE Telco Blueprints with Red Hat OpenShift highlight HPE's expertise in architecting NFV solutions and provides these benefits to CSPs:

▸ **Simplicity.** They are simple to deploy, operate, support, scale, manage, and maintain. The HPE infrastructure components are all NEBS-compliant.

▸ **Leading design.** Built on HPE's proven global expertise with NFVI deployments, the HPE Telco Blueprints with Red Hat OpenShift are based on HPE's compute, storage, and network products. This reduces risk while increasing the CSP's ability to compete.

▸ **Accelerated time to market.** NFVI stack configurations are validated in collaboration with Red Hat and automated with HPE toolkits. These configurations can be customized by HPE Pointnext Services or an approved Red Hat or HPE system integrator as required.

▸ **Open ecosystem.** HPE and Red Hat's rich ecosystem of SIs, independent software vendors (ISVs), and network equipment providers (NEPs) provides CSPs with choices to avoid vendor lock-in.

HPE and Red Hat strategic platforms for CSPs

Red Hat and HPE have worked with CSPs to provide the right mix of NEBS servers for compute, storage, and network access combined with open systems to give CSPs the basis to deliver their solutions. HPE has a broad portfolio of infrastructure products (compute, storage, networking) from edge to core to fit complex environments of CSPs.

Red Hat OpenShift Container Platform is an open source container application platform based on the Kubernetes container orchestrator. OpenShift Virtualization, a feature of OpenShift Container Platform, combines two technologies into a single management platform so organizations can take advantage of the simplicity and speed of containers and Kubernetes while still benefiting from the applications and services that have been architected for virtual machines. Red Hat Ceph Storage provides a unified storage platform for web-scale object stores, and supports block, object, and file storage, with an extensible architecture. These technologies form a flexible, strong, and secure environment for CSP solutions.

Learn more

See more solution information at: Red Hat and HPE strategic alliance, 5G core adoption the open way, and Telecom digital infrastructure solutions.