

# HPE Telco Blueprints with Red Hat OpenStack Platform

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

*“HPE is driving one of [the] broadest sets of telco-certified compute, storage, and networking portfolios aimed at core networking. The global services reach with [HPE] Pointnext is compelling as well as the set of validated reference designs and NFV blueprints that have been published to date.”*

**Will Townsend**  
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## About Hewlett Packard Enterprise (HPE)

HPE is a global technology leader focused on developing intelligent solutions that allow customers to capture, analyze, and act upon data seamlessly from edge to cloud. HPE enables customers to accelerate business outcomes by driving new business models, creating new customer and employee experiences, and increasing operational efficiency today and into the future.



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## Industry overview

Communications service providers (CSPs) continue to move away from closed and purpose-built products to more open and agile solutions. They are evolving to more flexible solutions that allow innovation yet still meet carrier-grade hardened and security requirements. CSPs can incur new risks resulting from integration issues as solution elements are integrated independently. Hewlett Packard Enterprise (HPE) and Red Hat limit these risks with a solution whose elements are tested together: HPE Telco Blueprints with Red Hat® OpenStack® Platform. These blueprints are fully engineered reference architectures designed for network functions virtualization infrastructure (NFVI) that have been validated with Red Hat OpenStack Platform, Red Hat Ceph® Storage, and Red Hat Virtualization. These blueprints give CSPs the opportunity to easily move to a cloud model that allows for faster innovation.

## Advancing opportunity for CSPs

HPE Telco Blueprints with Red Hat OpenStack Platform are reference designs validated by HPE telecommunications experts and built on standard HPE infrastructure using HPE 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 flexible service delivery environments to increase revenue.

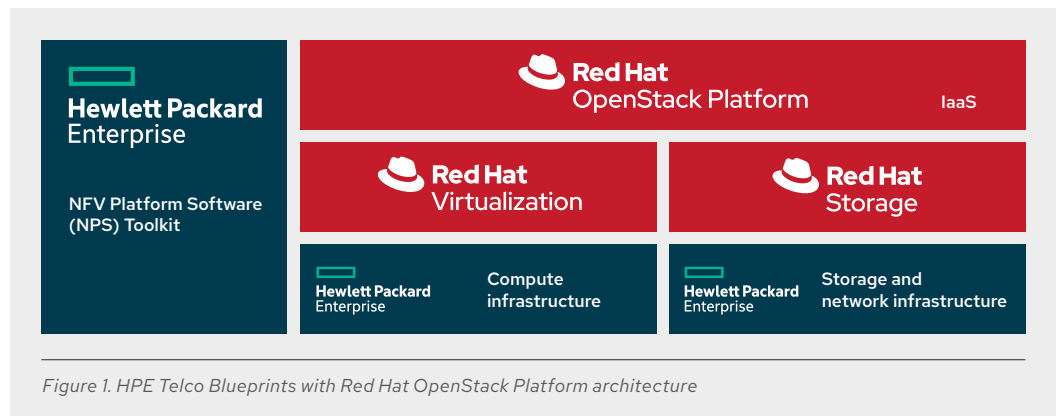


Figure 1. HPE Telco Blueprints with Red Hat OpenStack Platform architecture

HPE Telco Blueprints with Red Hat OpenStack Platform offer a variety of use cases for the core and the edge, using Network Equipment-Building System (NEBS)-compliant components for stringent telco environments. Core configurations offer a choice of HPE ProLiant Gen10 servers or HPE Synergy, shared storage (using Red Hat Ceph Storage with HPE ProLiant Gen10 servers or HPE Synergy), HPE Nimble Storage or HPE 3PAR Gen5 Storage, and the HPE FlexFabric and HPE StoreFabric Open Network Install Environment (ONIE) switches.

1 Townsend, Will. "Who Is 'Really' Leading in Mobile 5G, Part 4: Infrastructure Equipment Providers." Forbes, 19 July 2019.



### About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.

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Edge configurations focus on delivering compute power closer to the edge through next-generation architectures like 5G. As such, these configurations offer a choice of HPE ProLiant Gen10 servers for compute, HPE Edgeline 4000 or HPE Edgeline 8000 systems as controllers, shared storage (using Red Hat Ceph Storage with HPE ProLiant Gen10 servers), HPE Nimble Storage, and the HPE FlexFabric switches.

### 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 an NFV Platform Software (NPS) Toolkit 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 OpenStack Platform highlight HPE's expertise in designing NFV solutions and provide the following benefits to CSPs:

- **Simplicity.** They are simple to deploy, operate, support, scale, manage, and maintain. The HPE infrastructure components are NEBS-compliant.
- **Leading design.** Built on HPE's proven global expertise with NFVI deployments, HPE Telco Blueprints with Red Hat OpenStack Platform are based on HPE's compute, storage, and network products. This reduces risk and helps CSPs decrease downtime and increase their speed to market.
- **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, HPE systems integrators (SIs), or Red Hat SI partners as required.
- **Open ecosystem.** HPE and Red Hat's ecosystem of SIs, independent software vendors (ISVs), and network equipment providers (NEPs) helps CSPs 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, and networking) from edge to core to fit the complex environments of CSPs.

Red Hat OpenStack Platform combines the power of Red Hat Enterprise Linux<sup>®</sup> with OpenStack technology to deliver a scalable foundation to build and manage an open private or public cloud. 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 that allows it to integrate more tightly with Red Hat OpenStack Platform. Red Hat Virtualization is an open, software-defined, efficient platform for virtualized Linux and Windows workloads, built on Red Hat Enterprise Linux and Kernel-based Virtual Machine (KVM) technologies. These technologies form a flexible, strong, and hardened environment for CSP solutions.

### Learn more

For more information about this solution, visit:

<https://www.hpe.com/us/en/solutions/telecom-digital-infrastructure-nfv.html>

<https://redhat.com/ceph>