

Comprehensive SDN/NFV Offering

Operationalizing SDN/NFV-enabled virtual environments

Business Challenge

As the volume of consumed traffic, the number of devices per user and the need for personalized on-demand services all increase, communications service providers (CSPs) must find a balance between minimizing expenses and maximizing customer happiness. But striking this equilibrium can be difficult for CSPs that are expanding network capacity and upgrading equipment, each of which drives capex skyward. There is also proportional growth in operating expenses as CSPs are forced to use more resources to deploy innovative service equipment and support increasingly demanding customers.

At the same time, CSPs are witnessing declining revenues and slow returns on their investments. This is because upgrading legacy hardware-based network infrastructure is a timely and expensive project and consumes a lot of resources. This prevents CSPs from introducing new services quickly to the market, personalizing offerings based on individual requirements and meeting stringent service-level agreements (SLAs).

“[The combination] of NEC’s and Netcracker’s innovation, solutions-driven approach and field-proven experience means operators can trust the companies to help them as they move into a virtualized environment.”

– Heavy Reading

The design and management of hardware-based networks severely constrains an operator’s ability to roll out innovative services. There is also a growing disconnect between how quickly service providers and their customers can acquire and change digital services and the time it takes to implement the network services that support them. Accelerating service innovation at reduced operational costs is often the primary reason why operators are exploring virtualization. This capability, in addition to the opportunity to improve flexibility, provide more personalized services and deliver a superior experience, is creating a compelling story for the use of virtualized technologies.

But the adoption of software-defined networking (SDN) and network functions virtualization (NFV) places new requirements on network and service management. As a result, CSPs are most likely to operate on hybrid networks in the future, allowing SDN/NFV network domains to coexist with legacy physical environments. This puts hybrid network management at the top of operators’ priorities, as it will enable the support of emerging network architectures and pave the way for long-term infrastructure virtualization.

To help CSPs address their virtualization needs, NEC/Netcracker brings to the market an award-winning comprehensive SDN/NFV offering that helps combat challenges and enable the next strategic step towards creating, delivering and managing services over a virtualized network infrastructure. The NEC/Netcracker SDN/NFV Solutions initiative utilizes the global scale of two companies renowned for their innovation in market-leading networking and IT solutions. With combined backgrounds in network hardware, customer premises equipment (CPE), network management, operations and business support systems (OSS/BSS) and orchestration, NEC/Netcracker brings together the best of network and IT expertise and experience for both virtual and legacy networks.

NEC/Netcracker’s SDN/NFV solution is regularly upgraded and improved based on experience obtained during live engagements, active proofs of concept (PoCs) and field trials. Along with market-leading technology, NEC/Netcracker provides a comprehensive suite of professional services to guarantee that solutions are properly deployed and maintained throughout their lifecycles.

NEC and Netcracker are also active participants and contributors in many standards bodies and open source organizations, such as the Internet Engineering Task Force (IETF), TM Forum, OpenStack, the Open Networking Foundation (ONF), Open Daylight and the European Telecommunications Standards Institute (ETSI), using the latest trends and releases to upgrade their solutions.

Details

The NEC/Netcracker end-to-end SDN/NFV offering includes:

Mature Service & Network Orchestration

The solution leverages all the benefits of NEC/Netcracker's service and network orchestration capabilities that help manage service and virtual network function (VNF) lifecycles in hybrid networks. The solution offers an intuitive self-service portal for customers that can be accessed via smartphones, PCs, tablets and other devices. It also features advanced VNF management capabilities. VNF lifecycle operations are triggered via a vendor-agnostic VNF manager with automated virtual network functions management.

Residential vCPE

NEC/Netcracker's solution provides a comprehensive residential virtualized customer premises equipment (vCPE) offering that includes core VNFs, such as virtual broadband network gateway (BNG), virtual network address translation (NAT) and virtual dynamic host configuration protocol (DHCP), as well as NEC/Netcracker's broad ecosystem of value-added VNFs.

Enterprise vCPE

NEC/Netcracker's solution provides an enterprise-grade vCPE that includes core VNFs (router, VPN-GW, DHCP, NAT), as well as a wide range of value-added VNFs.

Core VNFs

The NEC/Netcracker core VNF portfolio includes the first commercially deployed 3GPP-compliant virtualized evolved packet core (vEPC) solution and several other leading core VNF solutions. These core VNFs address all EPC functions: mobility management entity (MME), serving and PDN gateways (S/P-GW), home subscriber servers (HSS), as well as policy and charging rules functions (PCRF). The virtual core also features a scalable and resilient virtualized IP multimedia subsystem (IMS) platform that can be deployed flexibly to meet a wide range of business needs, including multitenancy and bandwidth elasticity.

Partner Ecosystem

In addition to a wide selection of VNFs from NEC and Netcracker, the companies also provide a diverse variety of third-party VNFs and other solutions through its broad partner ecosystem. By joining NEC/Netcracker's partnership program, operators can test and demonstrate interoperability between third-party virtualized solutions to minimize deployment risk and accelerate time-to-market.

End-to-End SDN Control

Our offering can be complemented by an end-to-end SDN controller which provides centralized network management across data center and packet/optical transport networks.

Benefits

Increase Revenue

- > Improve service agility to accelerate the introduction of personalized customer offerings
- > Partner with other VNF, service and content providers and deliver flexible cloud and VNF bundles
- > Monetize unused transport network resources

Improve Customer Experience

- > Offer unique services by dynamically chaining best-in-class virtual network functions and enabling fast, on-demand service provisioning
- > Provide intuitive multichannel self-service capabilities, multidevice access to content and services and proactive troubleshooting

Reduce Capex and Opex

- > Scale services flexibly by modifying virtual capacity as needed
- > Automate operations and business processes and decrease the number of necessary truck rolls
- > Operationalize end-to-end SDN/NFV solutions in multivendor production environments

