Simplifying Branch Connectivity with Cloud CPE in Financial Services

Simplifying, automating, and accelerating service delivery in the cloud

Challenge

For banks and other financial institutions, branches are on the front line of customer interactions. Banks need to rethink how they build branch office networks to support a variety of lines of business, increase operational efficiency, and lower capital investments.

Solution

Juniper's Cloud CPE solution automates service delivery for financial institutions. Based on Juniper's end-to-end scalable NFV capabilities, the Cloud CPE solution enables flexible service creation with a multi-deployment model that incorporates an open framework for third-party VNFs to accelerate service delivery.

Benefits

- Automation eliminates manual intervention and replaces time-consuming installations with near instantaneous service provisioning
- Simplified service creation transforms service delivery and increases user and customer satisfaction
- End-to-end NFV enables multi-deployment models that effectively address dynamic market requirements
- Open framework supports open standards, protocols, APIs, and third-party VNF integration, creating an ecosystem that accelerates innovation

The Challenge

Like traditional service providers, banks have long depended on customer premises equipment (CPE) to deliver services to the many different lines of business at their retail branch offices. Banks have used the CPE service delivery model for years; however, the challenges associated with deploying, managing, and evolving these network and security services are growing.

The ability to innovate these network and security services depends on the CPE hardware and software platforms. CPE devices are typically diverse, proprietary, and closed platforms that inhibit scalability and require large up-front capital investments. As new services and locations are added or extended, proprietary hardware costs continue to mount.

Deploying new CPE is a time-consuming and manual process. Hardware must be shipped to each location that requires service, resulting in long lead times. Each device needs to be configured and provisioned—a complex and costly process that requires highly specialized skills. Ongoing maintenance and operations contribute their own challenges. In short, the order and fulfillment process is not compatible with the speed at which businesses must operate.

Network Functions Virtualization (NFV) technologies have broken down many of these barriers and are revolutionizing service delivery and life cycle operation. Financial institutions can choose from a wide variety of innovative and customized services, available on demand. With NFV technologies, these banks are less dependent on rigid, physical-only network infrastructure, manual workflows, and service silos, giving them the ability to adapt to market changes quickly and stay relevant to their customers. NFV empowers banks with a software-centric approach to networking and security, accelerating service innovation that ultimately increases their competitiveness, revenue, and profitability.

The Juniper Networks Cloud CPE Solution

Juniper Networks® Cloud CPE is the only scalable virtualized CPE solution that automates service delivery consistently and coherently across all deployment models. Built on Juniper's NFV architecture, Cloud CPE replaces dedicated CPE hardware with a range of routing and security virtualized network functions (VNFs) that are delivered by the Juniper Networks vSRX virtual firewall as a highly scalable end-to-end solution.

The Juniper Cloud CPE solution combines a modular service orchestration and service assurance layer with a robust resource management and control layer on an open framework. Automated service creation simplifies the service life cycle, enabling financial institutions to quickly conceive and create highly customizable services in minutes.

Services and capacities can be dynamically updated, improving the scalability and flexibility of managed CPE services. Subsequent service additions, changes, and expansions can be fully automated, replacing traditional manual processes, which not only reduces the risk of human error, but also virtually eliminates network interruptions.

Cloud CPE also supports industry-leading security applications, including IP VPN, firewall, content filtering, antivirus, and unified threat management (UTM), as well as the integration of third-party VNF applications.

Juniper Networks Cloud CPE is the only multidimensional solution to support flexible deployment models, allowing financial institutions to provide centralized, distributed, and overlay deployments that address the business requirements for both small and large retail branch offices.

Centralized Cloud CPE Deployment Model

Juniper's centralized Cloud CPE deployment model abstracts network services from the on-premise equipment and automates service delivery in the cloud. In partnership with existing service providers, new services can be ordered quickly and easily through a simple customer portal or triggered automatically based on demand. Larger financial service providers may also consider building these same cloud-based services at their own points of presence (POPs) or data center, rather than contracting with a service provider. A management and orchestration layer performs complex virtual network service chaining and life cycle management, where it automatically instantiates VNFs and service chaining with network resources to deliver scalable multitenant services.

Centralized Cloud CPE drastically simplifies the deployment of managed services, letting financial services firms deliver on-demand availability and highly differentiated services to lines of business. Centralizing these capital asset investments helps financial services firms quickly improve efficiency and ROI metrics.

Distributed Cloud CPE Deployment Model

Distributed Cloud CPE consists of Juniper Networks NFX250 Network Services Platform, a high-performance, highly secure, software-driven CPE product designed for VNF delivery. NFX250 provides the same functionality as physical CPE devices, with the flexibility of dynamic service creation in an open environment to create a near instantaneous service delivery experience.

The NFX250 platform embeds Juniper's most efficient and full-function virtualized security appliance, the Juniper Networks vSRX virtual firewall, to provide the perimeter security required to protect the financial services business-sensitive environment. Working together, NFX250 and vSRX simultaneously virtualize IP routing for site survivability, meeting the stringent demands of always-on application availability.

Eliminating operational complexities and automating service deployment, a single NFX250 device can support multiple VNFs. This flexibility eliminates traditional service silos and enables financial institutions to scale their network services while addressing business requirements with a virtualized, software-driven approach.

Juniper's End-to-End NFV Solution

The building block for the Juniper Networks Cloud CPE solution is based on Juniper's automated, programmable, end-to-end NFV solution, which combines carrier-grade reliability and security bundled with intelligent automation and scalability to simplify the financial services transition to NFV. Juniper's market-leading NFV solution consists of three components:

Management and Orchestration (MANO): Juniper's MANO layer consists of Juniper Networks Contrail Service Orchestration, which orchestrates the design and implementation of custom service creation and delivery through an open framework. Additionally, Juniper Networks Contrail Cloud Platform combines Contrail Networking with Juniper's OpenStack implementation to provide a turnkey cloud orchestration and automation platform.

Network Functions Virtualization Infrastructure (NFVI): The NFVI consists of NFX250 secure onsite software-driven CPE supporting Juniper and third-party VNFs; Juniper Networks MX Series 3D Universal Edge Routers, which serve as edge routing

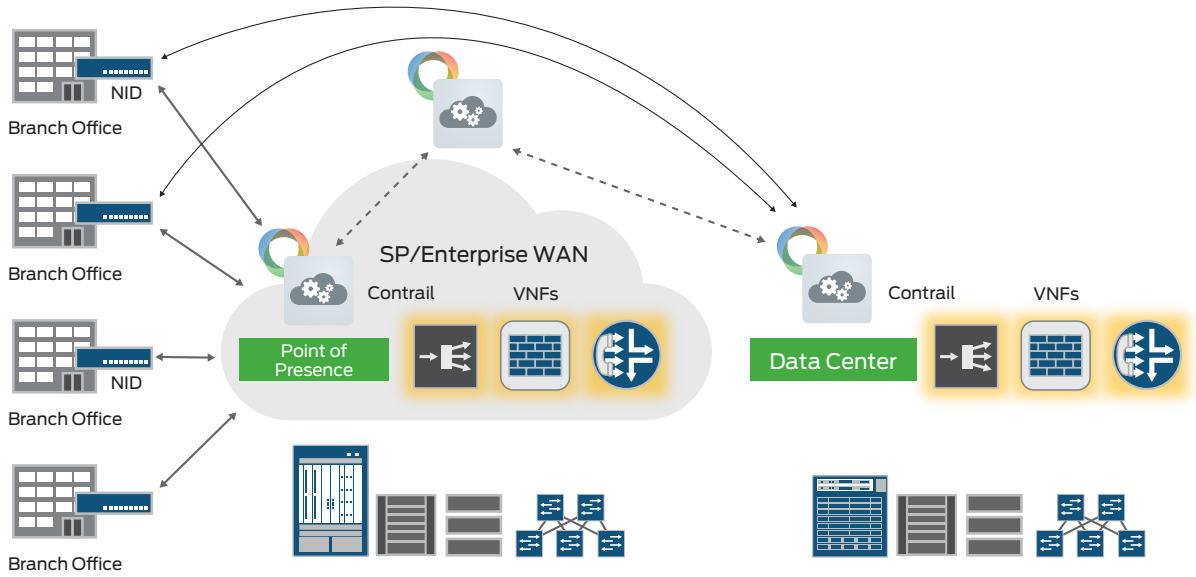

Figure 1: Centralized cloud CPE deployment model for financial services

platforms for enterprise applications; Juniper Networks Service Control Gateway, which performs traffic analysis and policy enforcement; data center and cloud networks built on Juniper's MetaFabric™ architecture; and core PTX Series Packet Transport Routers for high-performance bandwidth connectivity.

VNFs: Juniper is one of the first vendors to introduce VNFs for rapid deployment and scale-out environments. Juniper's VNF solution includes the vSRX virtual firewall, the industry's most efficient virtual security appliance, as well as carrier-grade IP VPN routing.

Juniper's NFV solution architecture is based on an open standard framework, enabling financial institutions to select best-in-class technologies such as storage and compute, which not only helps them avoid expensive vendor lock-in, but also allows them to incorporate third-party VNFs to accelerate innovation.

Juniper's NFV solution is backed by Juniper's Services and Support organization which, with deployments in the world's top 100 service providers, offers extensive experience in planning, building, and migrating to NFV cloud architectures while minimizing risk and delivering results.

Features and Benefits

End-to-End Scalable Solution

Juniper Networks Cloud CPE is the only scalable virtualized CPE solution to support multi-deployment models, delivering the scalability that financial institutions need to expand throughout the cloud with consistent service coherency and feature parity. FSI organizations benefit from an affordable, centralized pay-as-you-go deployment model that can swiftly expand into a distributed model for high availability, performance, and compliance. The Cloud CPE solution is also extensible as an overlay between sites, enabling financial institutions to better virtualize internal services and increase service velocity to satisfy ever-growing business requirements. Multi-deployment models allow these financial institutions to offer differentiated and tiered services that more effectively address the dynamic market requirements of retail banking customers.

Open Framework

The Cloud CPE solution is based on a modular framework that supports open standards, protocols, and seamless API integration. Leveraging OpenContrail and OpenStack, the solution accelerates innovation by enabling collaboration with the open-source community, significantly enhancing its effectiveness. Cloud CPE is also compliant with the European Telecommunications Standardization Institute (ETSI) NFV architecture standard and is extensible to third-party VNFs, enabling a robust and open ecosystem that encourages innovation.

Simplified Service Creation

The Cloud CPE solution simplifies service creation and supports highly customized service delivery. A simple GUI service design portal offering built-in, functional drag-and-drop network designer tools lets financial institutions quickly create and deliver new and personalized services to their customers. The network service designer provides the flexibility to choose appropriate VNFs, design functional service chains, specify interface data paths, and implement policies and quality-of-service (QoS) rules designed to meet overall performance goals. Newly created, customized services—supported by rich security features provided by the vSRX virtual firewall—transform the traditional rigid service delivery model, elevating user satisfaction and forging a stronger partnership between service providers and their enterprise customers.

Automated Service Delivery

Cloud CPE is highly automated. The Contrail Cloud Platform intelligently automates service chaining and manages the service

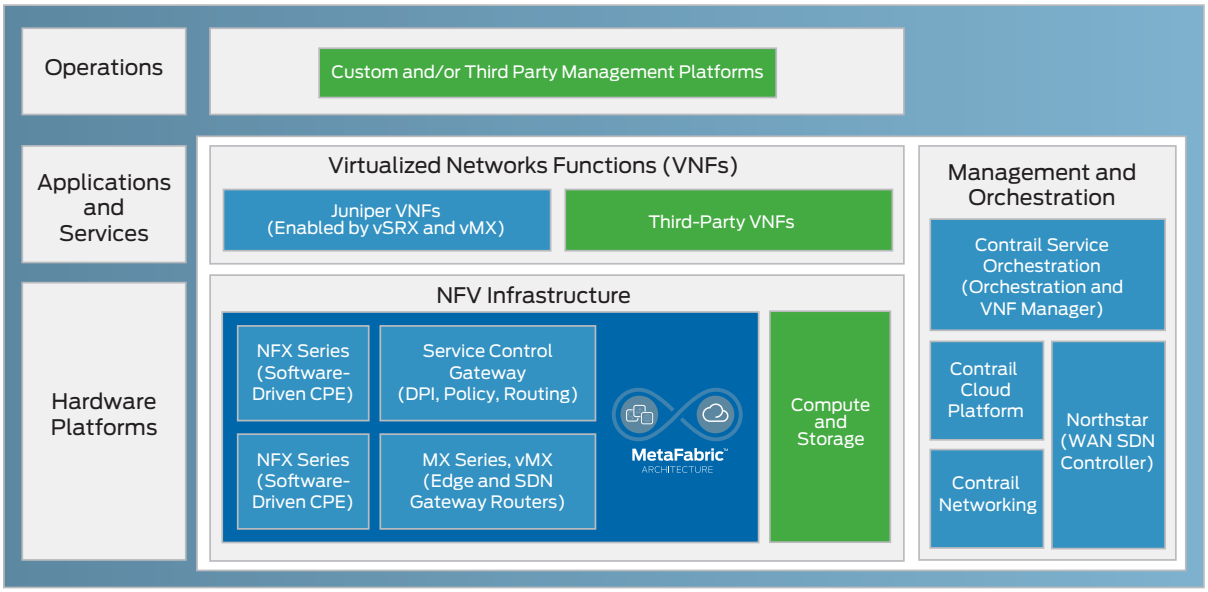

Figure 2: Juniper's NFV solution architecture

life cycle, including provisioning, maintenance, and delivery across both virtual and physical networks. Any subsequent service updates, expansion, or policy changes can be dynamically inserted into existing services. Automation eliminates complex manual intervention and replaces truck rolls with a simple mouse roll for retail banks, enabling financial services institutions to improve overall operational efficiency and service agility.

Business Agility

Unlike traditional CPE, where new service deployment is a lengthy and manual process, Cloud CPE drastically reduces the service delivery process from months to just minutes. This enables financial services institutions to adopt a fast-fail approach toward service creation with little risk.

Improved Capital Efficiency

The Cloud CPE solution improves CapEx efficiency for supported services. Derived by replacing dedicated on-premise equipment and service silos with a single CPE device or with VNFs at the service provider network, cost efficiency lets financial institutions effectively launch innovative new services while protecting margins for existing services.

Reduced Operational Expenditure

Cloud CPE reduces OpEx by adopting automation along with a centralized service management and orchestration system. Automation improves all facets of the service life cycle, simplifies operations, and eliminates a number of manual processes such as provisioning, configuration, equipment installation, service delivery, and back-end database administration.

Service Agility

Financial services firms must adapt quickly to changing market dynamics. The Cloud CPE solution lets financial institutions react and respond to these changes in near real time, quickly moving from a one-size-fits-all model to a highly personalized reactive model that transforms retail branch office operations. This leads to greater customer satisfaction, creating an opportunity to sell additional value-added services for expanded revenue growth.

Summary—Juniper Automates Service Delivery with the Only Scalable Cloud CPE Solution

Juniper Networks Cloud CPE revolutionizes traditional FSI branch services, overcoming the challenges associated with service deployment, management, and evolution by simplifying and automating the creation and delivery of customizable services from a comprehensive, vertically integrated, open NFV solution. The Cloud CPE multi-deployment solution supports flexible deployment models with unprecedented scale for expanding out onsite and scaling up in the cloud, with an integrated vSRX virtual routing and security solution and an open ecosystem for third-party VNFs. By focusing on simplified service creation, automated service delivery, and an open framework supported by a highly scalable end-to-end NFV solution, the Cloud CPE solution enhances network performance, lowers costs, and delivers differentiated services that elevate customer satisfaction and ultimately lead to increased profitability.

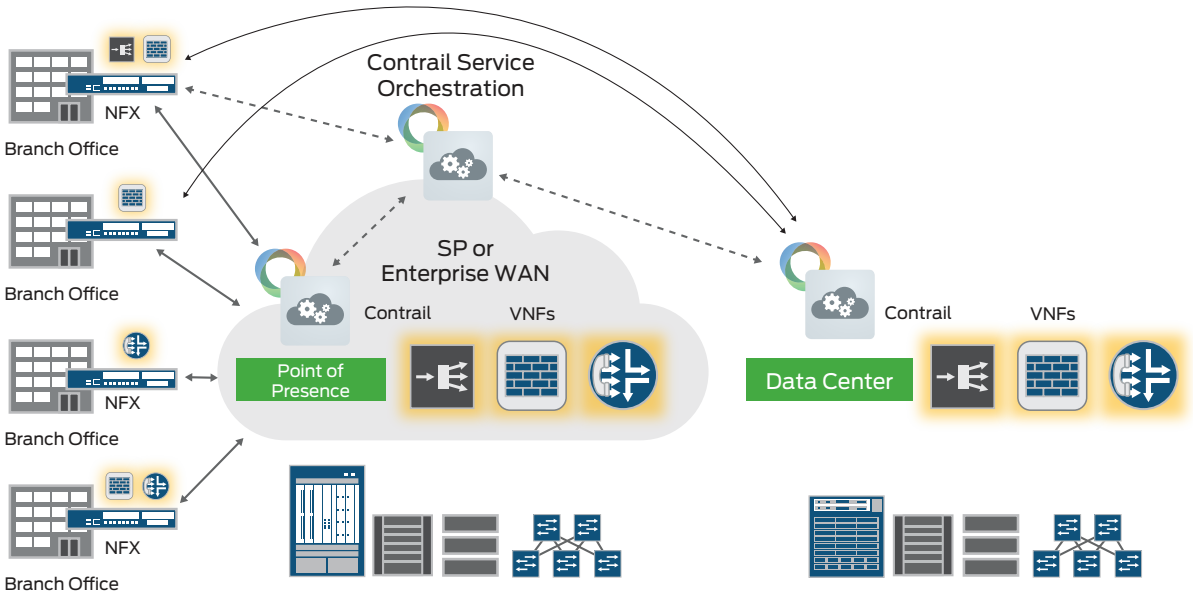

Figure 3: Distributed Cloud CPE deployment model for financial services

Next Steps

When you are ready to make the move to simplified service delivery in your branch offices, please contact your Juniper representative, or go to www.juniper.net/us/en/solutions/nfv/cloudcpe/.

About Juniper Networks

Juniper Networks challenges the status quo with products, solutions and services that transform the economics of networking. Our team co-innovates with customers and partners to deliver automated, scalable and secure networks with agility, performance and value. Additional information can be found at Juniper Networks or connect with Juniper on Twitter and Facebook.

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