Optimizing Cloud CPE with Juniper Services and Support

Protect and Ensure the Operational Success of Your Juniper Cloud CPE Solution
Cloud CPE Solution Services Overview

We live in a connected world where business needs change rapidly. Being able to quickly add, change, or enhance network functionality is an imperative for today’s enterprise networks. This is the impetus behind SDN and the shift to cloud-based services.

Juniper Networks® Cloud CPE solution is the industry’s most dynamic service creation platform, combining centralized, distributed, hybrid, and software-defined WAN (SD-WAN) variants with the industry’s most advanced security service creation engine. Juniper’s Cloud CPE solution enables the quick and flexible turn-up and modification of virtual services and network functions such as VPNs and firewalls to consistently and coherently automate the entire service delivery workflow.

Juniper provides a wide array of Cloud CPE services for all aspects of the Plan, Build, and Operate phases of cloud-based Network Functions Virtualization to ensure lower operating expenses, shorter time to revenue, and quicker returns on network investments.

Challenges

As cloud-based CPE services move from the lab to reality, there are many issues that need to be resolved, and business, technology, and operations are all affected.

The unbundling of network functions from customer premises hardware to the cloud (Cloud CPE) requires several new tasks that need to be accomplished. As with any new technology, there are issues such as:

- A shortage of trained personnel, requiring outsourcing and recruiting/training of in-house personnel
- New business and IT processes that need to be created and implemented
- Design of the network, with new technology components, equipment, and interconnection, possibly with multiple vendors

Trends

The trend in the industry is to rely on outside, vendor provided expertise for new technology ventures. The vendor who created the solution is well-positioned to quickly design, build, and operate the new solution, thus mitigating the risks of implementation and shortening the time to payoff.

Juniper Networks Cloud CPE Related Services

Juniper’s Cloud CPE related services are organized around the three phases of deploying any new technology: Plan, Build, and Operate.

Across all three phases, Juniper Education Services can help customer teams develop technical competency to manage and maintain the Cloud CPE solution.

Cloud CPE “Plan” Services

Cloud CPE Assessment

The Cloud CPE Assessment Service helps network service providers (NSPs) examine the existing services delivered by physical CPE devices and lay out a plan and roadmap for decoupling these services from physical hardware so that they can move to a virtualized solution.

This service provides the expertise needed to review the existing network of an NSP, evaluate the available options, and provide a recommendation for the next steps in preparation for a Cloud CPE solution deployment. This also allows the NSP to develop a solid understanding of how to make network transformation and monetization an achievable goal with the Juniper Cloud Solution reference architecture, which is aligned with the European Telecommunications Standardization Institute (ETSI) Network Functions Virtualization (NFV) reference architecture.
NFV Orchestration Assessment
The NFV Orchestration Assessment Service helps IT departments understand how to design new services, manage multivendor virtualized network functions (VNFs), orchestrate services, and integrate these new virtualized services into both existing (brownfield) and new (greenfield) network management system deployments.

This Assessment Service focuses on the OSS/BSS design, management, orchestration, and integration aspects of NFV, while other Juniper PS services such as the Cloud CPE Assessment Service focus on networking functions. Together, these provide a roadmap and recommendations that can help justify the business case. They can also clarify how business objectives can be achieved through the deployment and integration of the Juniper NFV Design, Management and Orchestration (NFV-O) system, and Juniper Networks Contrail Service Orchestration.

Cloud CPE Service Creation Advisory
This advisory service is designed to enable Cloud CPE customers to accelerate the adoption of virtualization for business services and to help them identify, define, evaluate, and launch new services as well as evaluate the potential impact of new business models on existing services.

The advisory service is designed for those times when you are seeking to understand incremental business service opportunities that are enabled by Cloud CPE. The service may be applicable either while you are considering a Cloud CPE solution or after the initial Cloud CPE deployment when you are planning for broader adoption.

Cloud CPE “Build” Services
Juniper offers a wide variety of Cloud CPE Professional Services in the Build phase of the network life cycle to meet specific implementation goals with the right level of engagement, technical expertise, and automation. The goal of these services is to ensure operational readiness and allow you to focus on executing your go-to-market strategy in a timely manner.

Table 1 offers an overview of the various Cloud CPE Professional Services available across different stages of the deployment.

Cloud CPE JumpStart
The Cloud CPE JumpStart service, which is highly recommended with the initial purchase of the Cloud CPE solution, is focused on getting the off-the-shelf functionality of Contrail Service Orchestration up and running with minimal impact on the engineering and operations teams. Based on a Cloud CPE Professional Services reference architecture delivered by highly skilled consultants using the Best Practices Playbook, the Cloud CPE JumpStart service saves time and effort by allowing operations and engineering teams to focus on their key responsibilities. Please click here for more details.

Table 1: Available Juniper Cloud CPE packaged services.

<table>
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<tr>
<th>Service</th>
<th>Description</th>
<th>Product/Solution</th>
<th>Order Code</th>
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<tbody>
<tr>
<td>Cloud CPE JumpStart</td>
<td>For customers wishing to get started with off-the-shelf Cloud CPE technology. Recommended as mandatory with initial purchase of Cloud CPE solution.</td>
<td>Cloud CPE Solution: Centralized, Distributed, and SD-WAN</td>
<td>PRO-CCPE-JS</td>
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<tr>
<td>Cloud CPE Field Trial</td>
<td>For customers wishing to pilot the product in a limited availability environment. Design limited to topology guidelines highlighted in Cloud CPE Professional Services reference architecture. Activities include planning, implementation of Contrail Service Orchestration, and knowledge transfer.</td>
<td>Cloud CPE Solution: Centralized, Distributed, and SD-WAN</td>
<td>SKU-PRO-CCPE-FT</td>
</tr>
<tr>
<td>Cloud CPE Implementation</td>
<td>For customers wishing to implement the Cloud CPE solution in a production environment. At-scale implementation limited to one regional location as per Cloud CPE Professional Services reference architecture. Activities include planning, designing, deploying, acceptance testing, and knowledge transfer. Cloud CPE reference architecture high-availability deployment model with one regional location.</td>
<td>Cloud CPE Solution: Centralized, Distributed, and SD-WAN</td>
<td>PRO-CCPE-IMP</td>
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Cloud CPE Field Trial
The Cloud CPE Field Trial service offers Juniper Networks Professional Services expertise to deploy and test either custom or PS reference architecture-based versions of the Cloud CPE solution in limited markets before expanding them across the entire customer portfolio. For example, the Cloud CPE Field Trial service could deploy an instance of Cloud CPE consisting of security, routing, or WAN optimization VNFs with service chaining for customers in a specific region. Please click here for more details. At the conclusion of that field trial, the business will have an operational Cloud CPE deployment to validate the technology solutions as well as business assumptions within its unique environment. This will provide the opportunity to foresee milestones and challenges as the business plans an optimal path to deploy services on a larger scale within the shortest feasible timeframes.

Cloud CPE Implementation
The Cloud CPE Implementation service is a fixed-price professional service that deploys the Cloud CPE solution in the end customer’s production environment. Depending on the use case or deployment model (centralized or distributed), the solution is implemented at scale based on the relevant Cloud CPE Professional Services reference architecture.

For more complex implementations, or for custom deployments (such as multiple multivendor VNFs or one-of-a-kind configurations), a separate engagement and statement of work will be required. This service ensures the optimal design of the new Cloud CPE-based network. It also assists in the deployment of the new network design, which helps smooth the transition from legacy to virtualized networks and minimizes time to revenue. Please click here for more details.

VNF Life Cycle Services
As NSPs start to make use of virtualization functionality in a Juniper Cloud CPE solution, customers need confidence that the introduction of new and innovative services will not impact existing infrastructure and will perform as expected. VNF Life Cycle Services are a suite of testing capabilities focused on providing customers assurance that third-party VNFs are compatible with Juniper’s solutions.

Cloud CPE “Operate” Services
Juniper offers an extensive support infrastructure and services to protect your networking investment and ensure the operational success of your Juniper Cloud CPE solution. To ensure this, Juniper offers Juniper Care, Support, and Optimization services.

Juniper Care
Juniper Care is a family of services and support tools that covers Juniper’s hardware and software products and includes our Automated Support and Prevention (ASAP) capabilities.

Juniper Care is more than a simple break-fix service. It combines traditional 24x7 remote technical support, hardware replacement services, online support, and service automation to help customers meet their network demands with technical and operational support designed to keep networks running reliably and protect this high-performance, high-value asset. Click here for more information.

Juniper Care Software Advantage Support Service
Juniper Care Software Advantage Support Service provides you with ongoing maintenance updates as well as major software upgrade downloads, providing unlimited 24/7/365 global access to Juniper Networks® Technical Assistance Center (JTAC) experts with extensive experience supporting large-scale networks. JTAC engineers provide remote diagnostic and problem resolution assistance to help you quickly isolate and resolve issues not only at a product level but also solution issues that might arise within the Juniper Cloud CPE solution to help increase solution uptime and network performance. It also provides self-service access to Juniper’s award-winning portal for the information, tools, and service options required to support your network investment, including best-in-class Juniper Networks Knowledge Base, a software bug search tool, online forums, product documentation, software downloads, technical alerts and bulletins, and the online case management application.

Figure 2: Juniper end-to-end service offerings
Juniper Customer-Focused Technical Support (CFTS) Service

To enhance your support experience, Juniper Customer-Focused Technical Support (CFTS) provides high touch network solution support for high-priority issues that can be customized to meet your specific network needs. This service gives you access to a designated team of senior engineers with in-depth knowledge of your networks and extensive experience supporting large-scale networks to help solve your issues quickly, efficiently, and thoroughly.

Juniper Optimization Services

In addition to Professional Services and product maintenance support services, Juniper offers a set of subscription-based services to help you optimize network operations. These services fall into two broad categories: On-Site and Remote. Customers can choose a service based on the size, complexity, or needs of their network.

Both the On-Site and Remote services provide access to Juniper engineering resources and two-way communication between engineering and the end-user operations team.

On-Site Service—Resident Engineer

The Resident Engineer is an on-site resource skilled in relevant Juniper technologies such as Cloud CPE and network virtualization who leverages internal Juniper skillsets and expertise that enable faster problem resolution and best practices. The Resident Engineer belongs to technology forums and is trained by development engineers to ensure a complete understanding of the latest Cloud CPE solution capabilities.

With their extensive knowledge of Juniper technologies and cloud-enabled solutions, combined with unparalleled access to internal Juniper resources, Resident Engineers are a key resource for optimizing operations and fully adopting the capabilities of your Cloud CPE solution. It is highly recommended that every deployment include a Resident Engineer.

Remote Services—Juniper Care Plus (JCP) and Juniper Optimum Care (JOC)

These two remote service bundles, which focus on the Operate phase of the network management life cycle, are highly relevant when introducing a complex solution like Cloud CPE.

Juniper Care Plus (JCP) is a bundle of services consisting of:

- **Service Manager:** The Service Manager is a named person who becomes your point of contact for all service-related activities. The Service Manager manages the delivery of all services, facilitates efficient resolution of your issues, knows your network, and is your champion inside Juniper. This service is highly valued by our customers, especially when rolling out new technologies or virtualized solutions such as Cloud CPE.

- **Expert-to-Expert access:** This service allows your IT staff to bypass Tier 1 JTAC and go directly to Advanced JTAC, accelerating the time to problem resolution. Customers who subscribe to Juniper Care Plus (and Juniper Optimum Care) quickly reduce training requirements related to misconfiguration issues and “How do I…?” questions because of the large number of training courses and proactive services available in the Juniper Care Plus program.

- **Education/training credits:** Education and training credits provide you with access to knowledge transfer activities such as webcasts. A fixed number of Juniper training credits (JTCs) can be used to gain access to any private or publicly available open enrollment, instructor-led (in person or online), and e-learning courses at Juniper Networks Education Centers or any participating Juniper Networks Authorized Education Center (JNAEC) worldwide.

Figure 3: On-Site and Remote services
Advanced services credits: Advanced services credits provide you with a fixed number of consulting credits from Juniper Networks expert consultants. You may choose to apply your credits to a menu of prescriptive services comprised of:

- Configuration analysis and change review
- Design change review
- Feature rollout plan review
- Network change plan review
- Implementation support
- Product issue impact review
- Software upgrade recommendation and review
- Product health check

All of these elements are important when running a complex solution such as Cloud CPE, allowing you to build a close relationship with the technical experts inside Juniper and giving you a great deal of flexibility regarding which proactive services to use, including educational service credits.

Juniper Optimum Care (JOC) is similar to Juniper Care Plus, but is focused on optimizing the day-to-day operations of your Cloud CPE solution. The service includes a regularly scheduled set of services selected for their usefulness in optimizing software versions and configurations.

Cloud CPE Educational Services

Juniper Education Services offers networking professionals the technical and solutions training, certification, and learning services they need to Plan, Build, and Operate high-performance networks and derive the most value from their Juniper Networks investments.

Our training:

- Is developed in tandem with business groups and subject matter experts
- Is available in a range of live and self-paced delivery modalities, including a private training engagement model
- Supports the world-class Juniper Networks Certification Program
- Is available direct from Juniper or through our global network of Authorized Education Partners and Academic Alliance members

Prescriptive Training addresses customer-specific needs with:

- Customized program content using tiered learning and multidiscipline training to deliver education unique to your teams’ needs
- A range of delivery modalities for individuals and teams that learn in different ways
- Prerequisite training requirements to ensure that students are prepared to learn during the live session
- Post-requisite training to help reinforce and maintain skills learned

Curriculum for the complete Cloud CPE life cycle includes:

- Training and certifications for all phases of the network life cycle (Plan, Build, Operate) with separate curricula for network designers, engineers, and support personnel
- Regular updates to include the latest features and functionality
- Modular development supporting extensive customization
- Live delivery online or in the classroom or using our hybrid delivery capability

Juniper Partner Advantage (JPA) Services

Juniper Partner Advantage (JPA) Services is a Juniper-approved and supported program that authorizes eligible partners to serve in two roles:

1. The Partner Support Services Specialization
2. The Partner Professional Services Specialization

The JPA Service Partner role spans the Cloud CPE solution life cycle, from co-development to deployment to operation.

To ensure a successful roll out, key Juniper partners have been trained to assist you with planning, building, and operating your Cloud CPE solution. Contact your Juniper representative or e-mail jpa-services@juniper.net to learn more about how JPA Services Partners can benefit your organization.

Figure 4: Example Prescriptive Training plan
Summary: Let Juniper Help You Plan, Build, and Optimize Your Cloud CPE Solution

Deploying a virtualized solution like Cloud CPE involves a lot more than deploying a new piece of hardware like a switch or a new network service. Because there are many more “moving parts,” having the solution vendor help in the Plan, Build, and Operate phases of your transition can help you get your solution to a profitable state sooner and with fewer problems. Juniper has the expertise to deliver the services, training, and support for all essential steps in this process, resulting in a successful transition to virtualized networks and increased revenue.

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at www.juniper.net.