Five Ways Virtual CPE Reduces Costs and Enables Innovative Enterprise Services

How service providers can contain costs and complexity by virtualizing CPE functions.

Introduction

For operators, serving enterprise markets requires knowing your customers and delivering the quality business services they want and need. Sounds simple, but the more services you offer, the more boxes proliferate at the customer premise. Introducing new services to meet evolving market requirements adds cost and complexity exactly where you have the least amount of control.

Cloud-based customer premises equipment (CPE) provides a solution to this challenge by gradually moving functionality and equipment from the customer premise to the service provider edge network. With virtualized CPE (vCPE), you can deploy simple, low cost L2 CPE for physical WAN connectivity to reduce cost and complexity on the customer site. Virtualized CPE also lets you consolidate sophisticated services in your network, precisely where you have the required equipment, tools, and expert personnel.

Some service providers are already delivering virtual cloud-based Layer 3 (L3) VPNs with integrated firewall capabilities, but this is just the beginning. You can transition many services and service components—such as Network Address Translation (NAT), advanced security and reporting—from customer premise equipment to the service providers edge network.

This paper highlights five ways that vCPE can help you contain network cost and complexity.

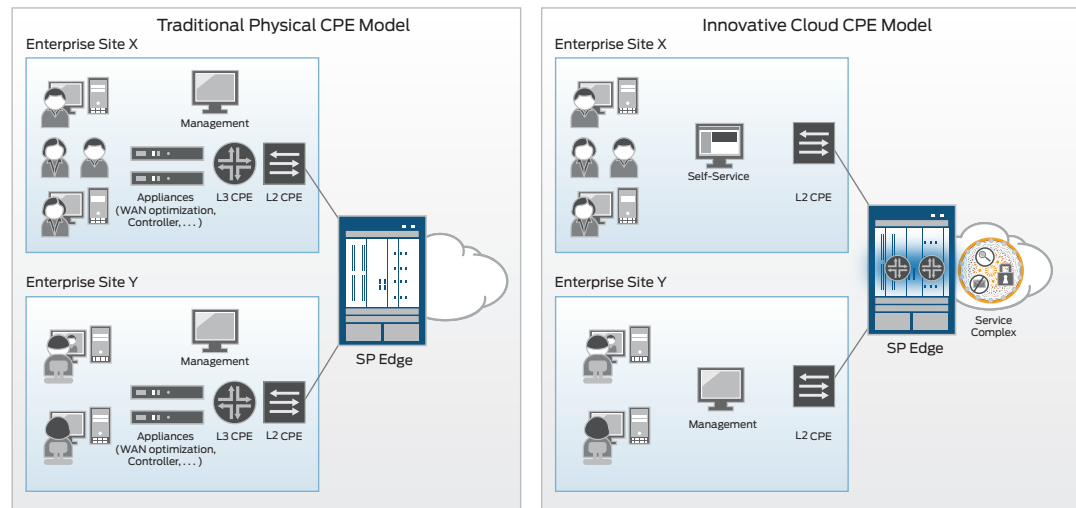## Virtual CPE Decreases Costs and Increases Innovation

Virtual CPE and a virtualized services environment deliver a host of business and technical benefits for you and your customers that help reduce costs and increase revenue potential while providing a platform for service innovation.

1. Lower support costs

It's simple arithmetic. Reducing the number of physical appliances at the customer premise lowers the probability of equipment failure, thereby reducing support calls and truck rolls. It also means that you don't have to install new hardware and/or software for every new service you introduce, reducing the load on your logistics staff and field technicians.

2. Broaden market appeal and reach

With enterprise services decoupled from CPE, new service introductions will cost less, since you don't have to qualify and deploy new CPE elements. Having a lower cost structure not only improves margins and market competitiveness, it also lowers barriers for enterprise customers purchasing new services or service upgrades.

Traditional Physical CPE Model	Innovative Cloud CPE Model

With vCPE, you no longer have to worry about rolling out new services that only customers with the right combination of hardware and software can use. Similarly, vCPE also enables you to serve customer needs you were unable to cost-effectively address with traditional CPE. For example, some enterprises may only need WAN optimization between locations at month's end, so they can't justify purchasing an always-on WAN optimization service. With a virtualized environment under your control, you can turn services on only when your clients need them—and charge accordingly. Even better, with a self service portal, customers can provision and pay for the services they want, when they want them.

3. Simplify service activation

By eliminating complex equipment installation at the customer premise, service provisioning is quicker and easier, reducing time to revenue. Further, you can leverage software-defined networking (SDN) technology to orchestrate services and perform service chaining. A compelling cloud CPE-based service offering should include a client dashboard where customers not only can view their existing services, performance, and statistics, but also modify or activate services themselves.

4. Improve service agility

Many enterprises are already embracing cloud applications, managed services, and software-as-a-service (SaaS) models. They realize that cloud-based services offer cost-effective scale, flexibility, and as good or better reliability than on-premise services. The same logic holds true for cloud CPE services. A centralized service creation and management model allows you to respond quickly to customer requests, as well as other issues such as security threats.

5. Enable service customization

Today's enterprise customers want more "personalized" services and they want them quickly. Virtual CPE addresses these demands by providing an elastic environment that scales up or down easily and lets customers try new services before committing. A self-service portal or dashboard will let them monitor and modify services themselves, giving them the customization, responsiveness, and control they want. And with fewer points of failure at the customer premise and no requirement to interrupt services for upgrades, customers will enjoy fewer service disruptions. It all adds up to more satisfied customers who will be less likely to switch to a competitor, and more likely to try your new services.

Conclusion

Virtualization has proved its worth in the data center, in managed services, and now at the network edge. The move to vCPE represents a disruptive technology that supports a natural evolution, driven by customer requirements for more responsive and personalized services; it also meets internal requirements to increase service margins and streamline operations. Fortunately, it is also a change that can be managed incrementally, by introducing virtual services as current physical CPE reaches end-of-life, for example. You can also offer a hybrid mix of both on-premise and cloud services to suit specific business and and technical requirements.

To learn more about how Juniper Networks can help you start your journey towards vCPE, visit http://www.juniper.net/us/en/products-services/routing/mx-series/.

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