![JUNIPER NETWORKS]

NETWORK SOLUTIONS FOR PUBLIC CLOUDS

Taking Your As-A-Service Business to the Next Level

Challenge

For businesses delivering infrastructure, software, or anything as-a-service, the network is the difference between success and failure. Whether you differentiate with unique services, high performance, or industry expertise, the network must sustain and even drive your competitive advantage.

Solution

Juniper's portfolio of networking solutions makes your public cloud more adaptable, intelligent, and scalable. At its core, Juniper's MetaFabric architecture combines switching, routing, security, and SDN solutions to help you build a simple, open, and smart cloud-based network.

Benefits

- **Grow the business**—Juniper's public cloud networking solutions make the network an enabler, not a hindrance, helping you rapidly achieve your growth objectives.

- **Facilitate differentiation**—Companies with better networks can offer better services, driving competitive advantage.

- **Drive innovation**—A simple, open, and smart network lets you spend more time innovating and less time managing your network.

If your business delivers infrastructure, software, services, applications, or anything else from the cloud, you know that only the agile survive. Whether you deliver Infrastructure-as-a-Service (IaaS), Software-as-a-Service (SaaS), or other as-a-service offerings, speed of innovation and service velocity are critical. You must constantly plan several steps ahead to maintain your competitive edge.

It's not just about speed and agility, though. Scalability, performance, reliability, security—all are critical to establishing your ability to deliver value and superior services compared to competitors or traditional, on-premise alternatives.

With the simple, open, and smart Juniper Networks® MetaFabric™ data center architecture, complemented by the right security solutions, you can build a high-performance, highly reliable cloud capable of delivering many types of as-a-service offerings with adaptability, intelligence, and scale. With a cloud built on Juniper solutions, you can offer the truly innovative and differentiated applications, services, and technologies your customers demand, without worrying about whether your network is able to keep pace.

The Challenge

The network is a critical component of any cloud or data center. However, not every network is optimized for today's elastic, on-demand, and automated clouds. Networks based on closed, proprietary architectures or that lack key features such as automation can be a hindrance to delivering your services with scale, flexibility, and performance. Below are some of the characteristics that must be considered when selecting a network solution to underpin your XaaS or hosting cloud.

- **Ability to seamlessly and elastically scale to accommodate rapid growth**—Your network must be able to scale at the same pace as your business. And as you grow, your data center network inevitably has to migrate from a tree structure to a flat fabric architecture that enables higher bandwidth, lower latency, and lower cost—and which allows for the migration of virtual machines to meet your customers' needs.

- **Infrastructure agility and automation**—Like your other data center infrastructure components, your network must be agile enough to support and enable the rapid pace of innovation in as-a-service markets. Agility is directly enabled by an increased level of automation through the use of open interfaces, scripting, or software-defined networking technologies.

- **High performance and reliability**—Your customers depend on the cloud for their business, so high reliability and availability are requirements. Beyond reliability, your users demand speed and responsiveness for their cloud-based services.

- **Robust security**—If you deliver IaaS, SaaS, or Platform as a Service (PaaS) offerings in particular, the confidentiality of data and the integrity of the service—and its continuous availability—are all essential for building a trusted brand.

- **Openness**—No one can predict the future. That's why an open architecture, and a history of using industry-standard protocols, is critical. As new technologies come along, an open network is capable of adapting and evolving along with technological progress. A proprietary network, on the other hand, can lock you into a cycle of disruptive upgrades.

The Juniper Networks Public Cloud Solution

Juniper Networks offers a complete portfolio of networking solutions that make your public cloud more adaptable, intelligent, and scalable. The foundation of Juniper's cloud portfolio is the MetaFabric data center architecture, which seamlessly weaves together switching, routing, security, and SDN solutions to help you build a simple, open, and smart cloud network.

Juniper solutions are:

- **Adaptable**—Juniper solutions are based on an open and future-looking architecture, enabling evolutionary upgrades to whatever new technologies become available, without requiring a costly rip-and-replace of your old network infrastructure.
- **Intelligent**—Context-aware and application-oriented with built-in analytics, Juniper Networks solutions are the most intelligent in the marketplace.
- **Seamlessly Scalable**—Juniper solutions offer IP fabrics and SDN solutions that allow the network to seamlessly scale both up and out as your business grows.

Features and Benefits

- **Cloud expansion and growth**—As you grow, you will find yourself competing on performance, reliability, and quality. These are the very attributes that make Juniper's scalable portfolio of switching, routing, and security platforms so valuable. Juniper's reputation and history as a high-end provider of carrier-class infrastructure solutions is immensely appealing to cloud service providers like you, who depend on your network to be massively scalable in order to handle fast and unanticipated growth spurts.
- **Orchestration**—You rely on your Web portal to deliver products, services, and support to your customers. These portals, in turn, must communicate with the underlying network infrastructure via an orchestration system—whether an established third-party product such as CloudStack or OpenStack, or a do-it-yourself solution. Juniper offers you tight integration with all of these platforms through both its hardware portfolio and its Juniper Networks Contrail SDN solution.
- **Automation and SDN**—You depend on server administration tools like Puppet and Chef to help simplify your network management functions. With these tools, as well as Contrail, Juniper can automate network tasks to reduce operational complexity and expenses.
- **Security**—Juniper provides you with high-performance and highly scalable security services for both physical and virtual systems. When reliability really matters for your day-to-day commerce, Juniper provides the breadth and performance required for network and Web application security to ensure that your customers' data and applications are safe and secure.

Solution Components

Juniper Networks MX Series 3D Universal Edge Routers—This family of highly scalable routers is the core of the data center network, as well as the data center interconnect edge. These switches can connect multiple physical data center locations into a seamless private cloud environment, making them very attractive to as-a-service companies like yours.

Juniper Networks Junos® Space Network Director—As a single point of management for all networking hardware and software, Junos Space Network Director allows you to automate network maintenance and upgrades from a single management interface. Its interoperable APIs allow it to talk to other cloud orchestration tools, including OpenStack, VMware NSX, or homegrown systems.

Juniper Networks QFX Series Switches—QFX Series switches are Juniper's top-of-rack (ToR) data center switching solution. By deploying QFX Series switches in a fabric architecture, you can deliver latency and application consistency. If you operate in more than one location, you can connect your data centers with the MX Series routers, as well as integrate virtual network protocols like VXLAN, OpenStack, and CloudStack.

Juniper Networks High-End SRX Series Services Gateways with Firefly Perimeter—Juniper's next-generation security products offer unparalleled protection against data exfiltration, website outages, and other serious data center threats that can bring down your cloud. Firefly Perimeter plays a particularly critical role by providing the same benefits of a high-performing firewall in a virtual form factor.

Summary—Juniper Networks Delivers the Most Scalable, Competitive As-a-Service Solutions

All clouds share similar baseline characteristics: They're elastic, flexible, and available on-demand. Clouds built on Juniper Networks solutions offer even more: They're adaptable, intelligent, and seamlessly scalable. They need to be, because companies that demand more from their clouds find that the cloud demands more from their networks.

Juniper's cloud solutions are more than just a network—they are the high-performance, always-on, and ultra-secure foundation that intelligently connects your users, data, and applications within and between clouds to create true business value. If innovative services are key to your business, trust Juniper Networks to provide the most secure, reliable, and high-performing public cloud solutions.

Next Steps

For more information about Juniper's next-generation portfolio of networking solutions, please contact your Juniper Networks sales representative or visit www.juniper.net.

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**.

3510514-001-EN Aug 2014