

Juniper Is Ready For The Enterprise

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Abstract: Juniper brought its show to Broadway when it announced its new family of homegrown Ethernet switches in New York City. This introduction isn't about Layer 2 connectivity however. Juniper can now offer enterprises an end-to-end high speed network platform based upon the JUNOS operating system. With this move, Juniper can now present itself as a Cisco alternative to large organizations that live or die based upon network-based business processes.

Overview

The sun was shining this January week in New York City with a whiff of spring was in the air. Coincidentally, the unexpectedly favorable weather served as a perfect setting for the start of a new direction for Juniper Networks. Long recognized as a leader in high performance routers for the service provider market, Juniper took a giant step toward providing some real competition for Cisco in the enterprise when it unveiled a new family of Ethernet switching products. Juniper's new switches span network tiers across the access layer, the data center, and the network core.

Aren't Ethernet switches old hat? Not exactly. Juniper made sure to emphasize that these were not your father's Ethernet switches but rather built from the ground up for new types of networking challenges such as:

- **The need for speed.** In typical Juniper fashion, the new line of switches will have lightning-fast performance characteristics. For example, the high-end chassis are built of a number of Juniper ASICs that control the switch fabric, packet-forwarding, and flow-based information. By separating these functions and building them into hardware, Juniper can maintain wire-speed throughput even under heavy loads. One customer from the financial services industry boldly proclaimed that the new Juniper core switches were, "the fastest switches we've ever tested."
- **Carrier-class reliability.** All of these new switches are based upon Juniper's JUNOS operating system designed for the extreme reliability needs of global carriers and service providers. By providing a single operating system release train, Juniper believes that it will make it easier for customers to streamline network operations while customizing the network for unique business needs.
- **Flexibility features.** The new Ethernet switches were built with all kinds of goodies for upgradeability, maintenance, and management. For example, the chassis backplane and operating system are 100 gigabit Ethernet ready so future upgrades will require board exchanges rather than forklifts. The mid-tier virtual chassis architecture makes it possible for stackable switches to emulate an enterprise box with redundant route engines and support for high-density fiber and copper connectivity. All of the switches have redundant and common parts like fans, power supplies, and uplink modules. Finally, JUNOS supports an open XML interface to integrate 3rd party management applications into the network itself.

Juniper CEO Scott Kriens recognizes that these switches are really intended for an elite and leading edge spectrum of the market. Because of this, Scott proclaims that Juniper will market these new devices toward, "companies with dynamic business models where high performance networking is critical to their success."

What So Special About a New Family of Ethernet Switches?

The networking grapevine has been ripe with rumors about Juniper entering the Ethernet switching market for years. Typical scuttlebutt centered on Juniper buying its way into the market but with this week's announcement,

the company chose to develop its switching family through internal R&D. Now that the cat is out of the bag, Juniper can compete with Cisco, Extreme, Foundry, and HP on Ethernet switching deals but is that all there the company's Broadway debut? No. ESG believes that the introduction of Ethernet switching changes the way Juniper can approach the enterprise market. Juniper is now in a position to offer an end-to-end intelligent network platform that can:

- **Interoperate with networked applications.** Today's Web 2.0 and SOA applications depend upon low latency high performance networks yet they operate in a vacuum with little networking knowledge, intelligence, or integration. This is likely to change over the next few years through a combination of network processing, policy-based network acceleration, and open APIs. By arming the entire network with JUNOS, Juniper can add application-layer functionality from edge to core. To demonstrate this commitment the company paraded application vendors such as IBM, Microsoft and Oracle at its New York event. It is already working with these companies to offer network performance and security features that complement application requirements.
- **Creates additional service opportunities for its traditional customers.** Many of Juniper's service provider customers are already integrating their custom applications with JUNOS. With the addition of Ethernet switching, carriers can now extend this work to the customer premise and introduce a number of new custom services. For example, service providers could offer services for policy-based networking rules that can be enforced from the LAN, through the carrier cloud and across the WAN.
- **Acts as an enterprise and industry counterbalance to Cisco.** Cisco of course has its own network platform and partnerships with leading application vendors. Nevertheless, many large organizations and ISVs will want to hedge their bets by working with Juniper as well. As this happens, Juniper's network platform will serve as a viable alternative to Cisco. Picture a network-based Linux/Windows duopoly and you'll get the picture.

Enterprise customers love Cisco but have long sought a second source similar to the role that Amdahl played back when the IBM mainframe was king. Back then, some shops eschewed IBM altogether and built their mainframe data centers on Amdahl alone. Juniper is now in a similar position in enterprise networking.

The Bottom Line

Aside from switching and routing, Juniper also has a leading lineup of security and application acceleration products that have already enjoyed great success with large enterprises. With this week's announcement, Juniper can build upon this installed base with a more comprehensive enterprise portfolio than it has ever had before. Juniper should build on this momentum by:

- **Enhancing its application skills.** The underlying assumption in Juniper's strategy is that dynamic business models depend upon an assortment of new types of networked applications. No argument here but in today's world, the nexus between application deployment and network engineering is more art than science. Juniper needs to bridge this gap by becoming as smart about network application behavior as it is about IP. To accomplish this, Juniper should build (or co-sponsor) network application test labs for customers and internal training. Juniper should also be extremely "hands-on" with early customers in order to gain knowledge and build repeatable best practices methodologies. Finally, Juniper may have an opportunity to create a highly skilled group of services experts who can work with customers on network application assessment, design, implementation and testing services.
- **Focusing on vertical industries.** The first implementation of high performance networked applications will come from a small number of industries including financial services, media, telecommunications and defense. Juniper has already built a successful sales and marketing group focused on the service provider market. The company must emulate this model or work with partners with experience in these other industries. To accelerate this effort, Juniper should try to develop technology relationships with industry-focused software providers as soon as possible. When JUNOS is integrated with specific industry applications for things like stock transaction clearing or law enforcement data mining, its sales

reps should have no trouble scheduling meetings with large prospects.

- **Adding more partners.** Juniper is off to a good start but it needs to fill in more holes. For example, Juniper should partner with a leading wireless provider like Aruba or Meru to add to its end-to-end capabilities while Ciena might be a good fit for optical transport for building metropolitan Ethernet services. Juniper also needs to cozy up to big System Integrator partners like Accenture, EDS, and Wipro as soon as possible. With Cisco hinting at a big services presence, Juniper's timing may be opportune.

Many networking competitors have tried to match Cisco product for product and failed miserably by over-promising and under-delivering. Cisco is Cisco and will continue to dominate the enterprise networking space but Juniper now has the opportunity to make incremental inroads into the enterprise market and grow its share and networking footprint over time. This was the recipe for success 22 years ago when Juniper targeted service providers with high-end routing needs. With patience and the right execution, there is no reason why history cannot repeat itself.