FusionNet Leverages Juniper Networks to Provide Best-In-Class Broadband Within India's National Capital Region

Summary

Company:
FusionNet Web Services Pvt Ltd

Industry:
Telecommunications

Business Challenge:
- Late market entrant needed to clearly differentiate itself with superior quality of service
- Deliver high-quality service from day one and sustain quality while growing rapidly
- Maintain low overhead to quickly achieve ROI

Technology Solution:
- MX480, MX104, and MX5 3D Universal Edge Routers
- EX4200 Ethernet Switch
- SRX650 Services Gateway
- Junos operating system and Virtual Chassis technology

Business Results:
- Rapidly grew customer base without compromising quality of service
- Reached operational breakeven within months
- Gained a great deal of headroom to handle traffic and subscriber growth

FusionNet Web Services Pvt Ltd is a high-speed broadband service provider offering fiber-to-the-premises Internet access within India's National Capital Region (NCR). It was established in 2015 to exploit the opportunity of providing high-quality fixed broadband in an underserved market. According to the UN Broadband Commission report[1], India ranked 131 out of 189 countries in terms of fixed broadband subscriptions in 2014. This is primarily the result of telcos tending to decommission landlines in favor of investing in mobile connectivity, according to Telecom Regulatory Authority of India[2].

FusionNet is leveraging new multiservice gigabit passive optical network (GPON) infrastructure being aggressively rolled out in fast growing eastern districts of the NCR by a partner company, enabling it to provide Internet access at up to 100 Mbps. By the end of 2016, the GPON infrastructure—used to support prepaid smart meter electricity distribution as well as other services such as cable TV—will be connected to about 150,000 homes and businesses, up from about 20,000 premises in February 2016.

Business Challenge

As a startup, it was essential for FusionNet to differentiate itself from other fixed broadband service providers operating in the NCR by offering a high-quality service from day one, and being able to sustain that service quality while rapidly growing its customer base.

"In so far as genuine, high-speed broadband has been available to households and businesses here, it has been expensive," says Pankaj Nagpal, Chief Technical Officer, FusionNet Web Services Pvt Ltd. "We saw an opportunity to offer a best-in-class service—where if we say 100 megabits a second, that's what the customer gets—at a reasonable price. As well as being able to leverage our partner's GPON infrastructure, it was clear that the key to success for us was to deploy a service provider network platform that could be quickly scaled without compromising service quality and while maintaining low operational overhead."

"The power of Junos OS has been a big help in terms of keeping a tight grip on operating costs and, as a result, we are targeting to be profitable at an operational level well within the first six months."

Pankaj Nagpal, Chief Technical Officer, FusionNet Web Services Pvt Ltd.

[1] http://www.bgr.in/news/india-drops-down-uns-broadband-penetration-rankings/
[2] http://gadgets.ndtv.com/internet/news/india-has-missed-the-bus-in-wired-broadband-trai-chairman-773844

Technology Solution

Nagpal's very positive experience of using Juniper Networks equipment at his previous job led him to focus on its solution set. Working with Juniper's pre-sales team, he developed an optimal network design to fulfill FusionNet's requirements.

A key design decision was to centralize the network as much as possible at FusionNet's operations center, allowing it to leverage economies of scale while minimizing the network's footprint and complexity at its points-of-presence (POPs).

The high-performance Juniper Networks® MX480 3D Universal Edge Router was deployed as centralized broadband network gateways (BNGs). Nagpal was aware that Juniper's BNGs are broadly deployed and successfully integrated with a number of different billing systems, allowing FusionNet to choose the one that best suited its operational environment. Scaling through 5.76 Tbps of system throughput, the MX480 is ideal for high bandwidth fiber access, and it provides FusionNet with a great deal of headroom to handle traffic and subscriber growth.

Juniper Networks MX104 and MX5 3D Universal Edge Routers have also been deployed at the FusionNet operations center as gateway routers supporting carrier-grade NAT and as aggregation routers, respectively. The MX104 supports 80 Gbps throughput, while the MX5 is software upgradeable from 20 through 80 Gbps throughput, which reduces upfront costs while providing built-in investment protection. A scalable and robust Juniper Networks SRX650 Services Gateway has also been deployed as the firewall securing FusionNet's server farm.

Switching within the FusionNet operations center and at its POPs has been standardized using Juniper Networks EX4200 Ethernet Switch, giving the ISP the option of leveraging Juniper's Virtual Chassis technology to add capacity without increasing complexity and operating costs. Up to 10 EX Series switches interconnected in a Virtual Chassis operate as a single, logical device, providing operational and management simplicity while giving FusionNet up to 480 wire-speed network ports in a high-density configuration.

As the entire network infrastructure runs on Juniper Networks Junos® operating system, FusionNet enjoys highly automated, policy-driven control of its whole network, helping to minimize operating costs.

"The Junos OS operating environment gives us consistent end-to-end control of the whole infrastructure and is key to delivering a high level of customer service quality. It enables us to scale up and out without complexity and provides a reliable and stable system for our network operators and application developers," Nagpal says.

"The Junos OS operating environment gives us consistent end-to-end control of the whole infrastructure and is key to delivering a high level of customer service quality. It enables us to scale up and out without complexity and provides a reliable and stable system for our network operators and application developers."

Pankaj Nagpal, Chief Technical Officer, FusionNet Web Services Pvt Ltd.

Business Results

FusionNet's business plan called for a fast startup and ramp towards profitability, predicated on being able to sign up customers using the newly connected GPON infrastructure, and bring them online quickly. The quality of the network infrastructure was a critical factor in achieving this aim.

"In effect, the Juniper Networks infrastructure became part of our go-to-market plan. With it in place, we could be sure of delivering both high service quality and good value from day one and of sustaining that over the long term," Nagpal says.

FusionNet has been aggressively pursuing its growth plan with thousands of customers signed up within the first quarter of 2016, and is comfortably on track to hit its year-end target of 25,000 to 30,000 subscribers. Thanks to the streamlined operations model supported by the Juniper Networks solution, FusionNet has been able to keep network overhead low, with a handful of technical staff overseeing all aspects of its 24x7 network operations.

"The power of Junos OS has been a big help in terms of keeping a tight grip on operating costs and, as a result, we are targeting to be profitable at an operational level well within the first six months," Nagpal says.

As FusionNet's network footprint grows, with more apartment complexes getting GPON connections, Nagpal is also reaping the benefits of the decision to centralize as much as possible. Once an EX4200 switch has been deployed in a wiring closet and brought online, little local configuration is needed beyond connecting individual customer premises and installing the broadband router.

As Nagpal explains, "Service configuration is handled on-the-fly from our operations center and it is pretty much a set-and-forget exercise; while the reliability of the network minimizes the need for troubleshooting which enables us to focus our technical resources on revenue-generating activity".

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

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.

Corporate and Sales Headquarters

Juniper Networks, Inc.

1133 Innovation Way

Sunnyvale, CA 94089 USA

Phone: 888.JUNIPER (888.586.4737)

or +1.408.745.2000

Fax: +1.408.745.2100

www.juniper.net

APAC and EMEA Headquarters

Juniper Networks International B.V.

Boeing Avenue 240

1119 PZ Schiphol-Rijk

Amsterdam, The Netherlands

Phone: +31.0.207.125.700

Fax: +31.0.207.125.701

EXPLORE JUNIPER
Get the App.

JUNIPER 1ON1

Download on the App Store

ANDROID APP ON Google Play

3520565-001-EN May 2016

JUNIPEr
NETWORKS