

# NovaTel Networks



## EXECUTIVE SUMMARY

### Challenge

Migrate to a new IP architecture that will enable innovative services, new revenue streams, and better service quality

### Solution

- Brocade MLX Series router for carrier-class core routing capabilities
- Brocade VDX Switches to simplify network design and operations for cloud services
- Brocade Vyatta vRouters to deliver voice and application services through physical, virtual, and cloud networks
- Brocade ADX Series Application Delivery Switches to easily scale network performance
- Brocade ICX Switches for fast, easily managed customer deployments

### Results

- Enabled delivery of all core services through a single cloud model
- Significantly increased infrastructure scale, scope, and speed
- Enhanced competitive advantage to win new business and service opportunities
- Greatly increased staff efficiency and productivity

## New IP Approach Accelerates Revenue Opportunities

NovaTel is a leading wholesale provider of voice, data, and facilities services. From its headquarters in San Antonio, Texas, NovaTel delivers “big voice” services for election campaigns, emergency services agencies, wholesale carriers, and large retail, technical support, and customer service call-center operations. These customers need extremely high-density voice connections for short duration calls that absolutely cannot be dropped or suffer from low latency. Frequently, voice services also require back-end acceleration capabilities, multilocation delivery, or global call origination and termination features, so NovaTel requires the ability to customize its services for each customer.

### Voice Now Requires Greater Agility

In the past, voice calls required relatively simple Public Switched Telephone Network (PSTN) connections. Today however, the widespread move to cost-effective Voice over IP (VoIP) calling features places entirely new demands on service providers' networks. The Session Initiation Protocol (SIP) that underlies VoIP and other telecommunication services uses a call setup phase and a data transfer phase, which requires additional processing across the network. As the volume of SIP and VOIP calls grew, it became increasingly difficult to quickly connect large numbers of calls because they had to be routed to the network core before being sent to an outside connection.

Automatic dialing systems, which are commonly used in large-scale calling campaigns, also affected call quality. If one customer turned on automatic dialing capabilities, the additional tax on bandwidth often led to packet loss and call degradation for all customers.

With higher bandwidth demands on the IP network, NovaTel's data center had become a chokepoint. It was clear that the data center now had to provide more than just powerful backend computing hosting. It had to become NovaTel's “front door” to its customers, allowing the company to engage with customers through a wide range of devices and applications.

“We needed far greater data center agility and capacity, but we couldn't get there with the traditional switch-to-router

architecture we had,” said Ari Gorman, chief technology officer for NovaTel. “Our data center and routing needed to move from an old IP model to a new IP model without adding millions of dollars of cost.”

NovaTel conducted an extensive evaluation of solutions and support capabilities from all leading network vendors. It chose Brocade.

### **Implementing a “New IP” Architecture**

“The switch fabric architecture and intelligence offer so much more scale, scope, and speed with cost-effectiveness,” said Gorman. “For us, the approach Brocade takes to open source, automation, and software-enabled networking becomes a valuable strategic enabler for our business.”

NovaTel became one of the first “big voice” providers to implement a Brocade® fabric architecture for its cloud and voice services. The company replaced multiple Cisco systems with Brocade MLX® Series routers in its San Antonio and Los Angeles megaPOPs and at POPs in Miami, New York, Amsterdam, and Hong Kong. Brocade MLX Series routers are designed to meet massive bandwidth demands, support greater virtualization, and deliver cloud services at lower costs than traditional infrastructures. In addition to providing core routing, the Brocade MLX provides inline encryption at wire speed for ensuring customer privacy. It also simplifies integration with NovaTel’s customers’ Multiprotocol Label Switching (MPLS) networks.

Brocade VDX® Switches are Ethernet fabric top-of-rack switches featuring 10 GbE ports with 40 GbE uplinks. High performance with low latency eliminates the call degradation issues that were occurring with NovaTel’s old network. Together with Brocade VCS Fabric technology, the Brocade VDX Switches simplify network design and operations for cloud services.

Using Brocade Vyatta® 5400 vRouters, NovaTel gained the flexibility to build multitier networks within a virtualized environment. The Brocade Vyatta 5400 vRouter also features one of the most advanced virtual firewalls available. With Brocade Vyatta vRouters, NovaTel can now deliver voice and application services through a physical, virtual, and cloud network with security and Service Level Agreements (SLAs).

NovaTel also uses carrier-grade Brocade ADX® Series Application Delivery Switches to easily scale network performance, efficiently deploy new services, and differentiate its services without affecting performance or reliability. Flexible, stackable Brocade ICX® Switches support latency-sensitive applications with high availability and performance, and NovaTel relies on them for customer deployments.

### **New Scale, Scope, Services, and Speed**

The new Brocade network provides the scale, scope, and speed that NovaTel needed to set a new standard for its customers’ experiences. Now calls can be delivered directly across the fabric to an open connection—without having to be routed through the core—for higher performance. At the same time, customer peering capacity grew ten-fold.

“With automation and self-provisioning features offered by Brocade, we can seamlessly rack and grow the environment without having to configure specific routes,” said Gorman. “Our data center is more open and agile and everything connects across the fabric. Our Brocade network is now a strategic enabler of new capabilities and services.”

In addition, the new model improved customer’s access to the services available to them. “In the past, we had to build cloud environments externally to our core voice and SMS environment,” said Gorman. “That made it difficult for

customers to subscribe to both kinds of services. With the new IP architecture, Brocade lets us deliver all of those applications to our customers through a simple cloud."

### Becoming More Competitive

In the past, turning up services typically involved several months of planning and implementation. Now NovaTel customers can provision themselves on the NovaTel Web site and extend their voice network on the fly. Customers can get SIP trunks, security, and instant high performance all at once to capture opportunities that they otherwise might have missed. Gorman also reports that with the Brocade solution, NovaTel can implement technical backend solutions in less than half the time that it used to take.

With the new fabric architecture, network intelligence, and fast service delivery, NovaTel recently delivered a powerful, integrated solution for a large movie theater operator and signed an agreement with a large emergency alert company. For both of these customers, Brocade provides "network as a utility" service without customers having to worry about anything.

"Because we also provide system integration services, we have a growing number of Brocade conversations with customers," said Gorman. "For example, application providers who first came to us for voice and management services now are asking for more open, software-driven equipment and networking features. The new IP network is opening doors of opportunity for us."

### High Team Productivity

Gorman also estimates that the new IP network from Brocade reduced the burden on the IT team by approximately 50 percent. With network virtualization and automation provided by the Brocade VDX Switches and Brocade Vyatta vRouters, staff can focus on customer support instead of daily management.

"We don't have to worry about switches and routers or take care of them," said Gorman. "Brocade lets us do other things more effectively."

### Support for Growth

Gorman says that with the new network comes much better support than they received from their previous vendor. They can pick up the phone and receive rapid, responsive assistance.

"Brocade is part of our team," he said. "They understand my team, how it works and our capabilities. I can just pick up the phone, say what we need, and they get it."

### Next Steps

NovaTel plans to continue growing its network and implement more virtualization. At the same time, the company is developing new services, based on the capabilities of its new IP network.

"We're enabling a new business model, in which we extend our capabilities to smaller companies and deploy them as a turnkey solution," said Gorman. "We can do it easily and proactively. We provide the switch, we monitor it in our NOC, and handle everything for them. It gives a wider range of customers more sophisticated capabilities than they could implement themselves, quickly and affordably."

For more information, visit [www.brocade.com](http://www.brocade.com).

## WHY BROCADE

*"The switch fabric architecture and intelligence offer so much more scale, scope, and speed with cost-effectiveness. For us, Brocade's approach to open source, automation, and software-enabled networking becomes a valuable strategic enabler for our business...The new IP network is opening doors of opportunity for us."*

—Ari Gorman, Chief Technology Officer,  
NovaTel

**Corporate Headquarters**

San Jose, CA USA  
T: +1-408-333-8000  
info@brocade.com

**European Headquarters**

Geneva, Switzerland  
T: +41-22-799-56-40  
emea-info@brocade.com

**Asia Pacific Headquarters**

Singapore  
T: +65-6538-4700  
apac-info@brocade.com



© 2015 Brocade Communications Systems, Inc. All Rights Reserved. 06/15 GA-SS-1914-01

ADX, Brocade, Brocade Assurance, the B-wing symbol, DCX, Fabric OS, HyperEdge, ICX, MLX, MyBrocade, OpenScript, The Effortless Network, VCS, VDX, Vplane, and Vyatta are registered trademarks, and Fabric Vision and vADX are trademarks of Brocade Communications Systems, Inc., in the United States and/or in other countries. Other brands, products, or service names mentioned may be trademarks of others.

Notice: This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment features, or service offered or to be offered by Brocade. Brocade reserves the right to make changes to this document at any time, without notice, and assumes no responsibility for its use. This information document describes features that may not be currently available. Contact a Brocade sales office for information on feature and product availability. Export of technical data contained in this document may require an export license from the United States government.

