



For its 'triple-play' service offerings Charter Communications picked Raritan's Dominion SX to help keep services running optimally; even in hurricane forces

Customer Description

Serving customers in 82 markets across the U.S., Charter Communications – a St. Louis, Mo.-based cable company – provides a "triple play" offering of cable TV, high-speed Internet and VoIP (Voice-over-IP) services. To compete, Charter could tolerate virtually no downtime in the network devices that support its IP backbone; devices that digitize, packetize and switch voice over its data network. In the event there are problems, Charter wanted a way to access and repair servers and devices in its points of presence (POP) before subscribers experienced service interruptions. Charter searched for a remote access management solution that could provide always-available access to devices in all circumstances in order to reduce repair time and streamline maintenance costs.

Charter's POPs, with seven in St. Louis and others spread throughout its service areas, aggregate its customers' access lines in an architecture resembling the central offices of telephone companies. Each of these cable "head-end" sites, as they're called, contain voice-enabled routers; core, distribution and edge routers; firewalls and switches, as well as VoIP-specific cable modem termination systems (CMTS) from Cisco and other vendors. One of the St. Louis facilities also houses Sun servers that run service provisioning applications, as well as the softswitch that switches the IP-based calls and serves as a bridge to the traditional public switched telephone network.

"Most of our VoIP architecture is designed for five nines reliability," says Jon Mondani, Senior Network Architect for Charter. "With a redundant architecture, if something fails, something else stays up." But to restore a failed

device – even one with backup – the provider needed a solution that could provide immediate remote access to devices. Otherwise, "It could take up to an hour to get somebody out to these locations," adds Kevin Byrne, Network Operations engineer.

The Solution

After testing a number of software and hardware products from various vendors, Charter selected Raritan's Dominion® SX serial-over-IP secure console server. Dominion SX provides anytime, anywhere out-of-band serial control via any Web browser or SSH/telnet. With maximum security and a single point of control, Dominion SX allows management of users, serial servers and other IT devices. To insure always-available access to devices, the SX also provides dual LAN, dual power and a built in modem.

Charter installed Dominion SXs in every POP site in order to provide 24/7 IT equipment access throughout the IT infrastructure. In some locations the company replaced other vendors' console servers, which Charter obtained through company acquisitions. All of Charter's servers and network and telecom devices can now be controlled and managed through serial ports by the Dominion SX.

"Once we made a mistake causing our firewall to lock up, so we couldn't connect through the network. We ended up having to send someone to the site, console into the server, and restart it. If we at that time had the Dominion SX, it would have taken five minutes to fix. I think that was the incident that made it mandatory for us to add Raritan's secure serial console server solution to our IT infrastructure."

Success Stories - Charter Communications

Another time, Byrne reports, someone editing an ACL (Access Control List) locked himself out of a router when he accidentally deleted the IP address. "By that time, we had the Dominion SX, with its password-protected modem access. He was able to just dial in and fix the ACL."

Another big reason for installing Raritan's serial-over-IP solution was to reduce site visits for regular maintenance. "It allows engineers to do it over the network," says Byrne. "That saves a lot of time and is a lot more efficient. We use to have two people staying up past midnight doing maintenance at each site. Now, with the secure console server in place, maintenance can be performed from anywhere, even from home."

According to Byrne, Raritan's Web-based remote access is helping to leverage the expertise of its engineers no matter where they are located. "When you're talking about reducing your mean time to repair, it's important to tap your experts," said Byrne. "It's just easier if your expert has access to the box, rather than trying to tell the local person how to do it over the phone."

Why Raritan

Mondani's group compared serial-over-IP console servers from Raritan, and several other manufacturers in Charter's lab. "We liked Raritan's Dominion SX the most," says Byrne. "For one thing, the user interface was much more simple and straightforward. We wanted something that someone could just get right into and find completely intuitive. When you have an emergency, you don't want people trying to figure it out."

"Another nice thing with the Dominions is that it is designed for multiple users, so we never get stuck in a session the way we did with other console servers. With other solutions you'd exit out of the box and think your session was cancelled. But, it wasn't, and so the next person couldn't log in because the console server would only let in one connection at a time. "



Prepared for all Situations, even Hurricane Season

"Going forward, whenever we add new console servers, it'll be Raritan," says Byrne. "We've put a bunch of these servers in South Carolina, and we're getting ready to put a bunch more in Louisiana, to protect us during the hurricane season."

"We have offices in Slidell, La., which is just outside of New Orleans. Katrina gave us a lot of headaches," he explains. "If we'd had the Dominion SX console server, we could have started restoring our network faster, instead of waiting weeks to get things going. That's definitely a main motivation to get the Dominion SX deployed."

Asked for all the major motivations, Mondani sums up: "With its simple, straightforward interface, its emergency modem connectivity, its multi-layered security and its reliable, multi-user remote access, Raritan's Dominion SX gives our many sites the quickest possible mean-time-to-repair. It supports our efforts to deliver quality services to our customers."

Raritan is a leading supplier of solutions for managing IT infrastructure equipment and the mission-critical applications and services that run on it. Raritan was founded in 1985, and since then has been making products that are used to manage IT infrastructures at more than 50,000 network data centers, computer test labs and multi-workstation environments around the world. From the small business to the enterprise, Raritan's complete line of compatible and scalable IT management solutions offers IT professionals the most reliable, flexible and secure in-band and out-of-band solutions to simplify the management of data center equipment, applications and services, while improving operational productivity. More information on the company is available at Raritan.com.

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