NETGEAR® BUSINESS

"We have a system which should never fail. Everything's got UPS back-up and designed with graceful recovery, with management and monitoring of power through the main control system."

Stephenne Rhodes - Founder and Proprietor

Company:
Rhodes Research

Industry:
IT

Website:
www.rhodesresearch.com

Location:
New Mexico, U.S.A

Rhodes Research: driving AV quality and resilience - with some help from NETGEAR's M4300

SUMMARY

In the Pro AV market, to stand out from the crowd means giving customers systems that are consistently high-performing, flexible, scalable and reliable. One company that has proved all this is possible is Rhodes Research, which is renowned across the USA for its technical expertise and going the extra mile for its customers. Always choosing the right or best technology for each project is part of the company's strategy, now including the NETGEAR M4300 series switches for customers such as the Utah National Guard, Arnold Air Base, and McGee Tyson Airforce Base.

BACKGROUND

A one-stop shop for both design and installation, New Mexico-based Rhodes Research brings decades' worth of software and engineering expertise and focuses exclusively on the commercial sector. It provides conference rooms, auditoriums, operations centers, control rooms and smart classrooms for some discerning customers, including defense and government organizations.

Says Founder and Proprietor Stephenne Rhodes, "We've been able to bring high technology ideas, methods and methodology to the Pro AV industry. To be really good at this business, you have to understand the product range from beginning to end and we specialize in the design and installation of AV systems based around the very extensive range of products from Crestron Electronics."

THE CHALLENGE

Stephenne and her team believe AV system reliability is an imperative for their customers. "If the network goes down, they lose all their AV infrastructure. Quality is not a problem - 1G and 4K systems across Category 5 cabling is fine for most of our customers' needs - the challenge is to deliver systems that are truly resilient and so that is where we are focusing our attention."

This strategy included finding the right Pro AV switch to complement Crestron equipment. The M4300 series switches from NETGEAR allow easy connection to Creston's range or systems NVX range and at all points within a network.

> "With the M4300, we've got everything we need: a flexible, scalable stacking architecture…"
>
> Stephenne Rhodes - Founder and Proprietor

"We need a switch that is flexible and scalable, supports resilience, and works well with Crestron equipment. The M4300 series switches from NETGEAR give us all that. I bought an M4300 to try out and I was amazed how well it worked. Out of the box it worked perfectly, compared with the struggles we had with other systems. And that's been my experience ever since."

Existing WiFi access had limitations. "The buildings are solid brick and steel, so wireless penetration is difficult and the School's WiFi network only reached communal areas. The boys were allowed to bring in their home routers, but having lots of those in one area caused signal saturation, was challenging to manage, and could lead to problems. Clearly, we needed to find a better way to provide WiFi to the dormitories."

SOLUTION

Another feature Stephenne highly rates is the M4300's stacking architecture. "A lot of switches do not scale very well and if you go for bigger switches, then they bring configuration challenges. One of the advantage of the NETGEAR M4300 series is the easiness of stacking, as any port can be the stacking port and can stack with other M4300s in a redundant spine and leaf architecture. Firmware update is also a breeze and performs across the stack, without the need to update each switch individually and then reconfigure the whole stack."

When Stephenne took a deeper look at the M4300, she uncovered other features that she says are benefits. These include the in-built DHCP server, which contributes to both flexibility – by enabling authorized IP devices to be connected on different network endpoints seamlessly – and reliability. Stephenne explains, "The M4300's built-in DHCP (Dynamic Host Configuration Protocol) server is incredibly valuable to us, because it solves the need for additional hardware and gives us a resilient DHCP in our network. NETGEAR has been in the router business for many years, so you'd expect them to do a good DHCP and they have. The DHCP server is tolerant throughout failovers – I know, I've tested this – it's a magnificent piece of work."

Another feature Stephenne highlights is link dependency. "In the M4300, you can make links dependent on each other, and that works throughout the AV stack, so if one fails and the link drops, I can bring the other one up automatically." For instance, for one customer, the time to reboot and configure is less than a minute and a half, which is more than adequate for the system's use.

"We have a system which should never fail. Everything's got UPS back-up and designed with graceful recovery, with management and monitoring of power through the main control system. I also like the fact that I can manage my switch either through the web GUI for configuration, or with CLI to monitor the switch through my control system with SSH, giving me the flexibility I need."

Having thoroughly tested the M4300 switches, Stephenne was confident enough to recommend it as part of the solutions for customers including the Utah National Guard. Following her strategy to provide customers with enhanced reliability, Stephenne focused on designing a system that has failover and recovery, as well as AV performance and flexibility.

The switches are arranged in a ring of four. Each switch looks after one of the rooms at the auditorium, the drill floor, the conference room, and the control system. "We monitor each switch's health so we know when something is going wrong. If one switch were to die completely, the network would reconfigure itself." Stephenne reports no need for this back-up element within this impressive set-up so far, but the customer has the reassurance that it is in place.

NEXT STEPS

Both these projects are examples of how Rhodes Research achieves superlative customer satisfaction, bringing high quality and resilient AV systems to organizations across the US, based on its extensive expertise and choice of technology, including the M4300 and its integration with Crestron NVX.

"With the M4300, we've got everything we need: a flexible, scalable stacking architecture, link dependency, DHCP, CLI configuration through SSH and back-up power supplies. And on top of that, M4300 is quiet, allowing installation in conference rooms. So far the experience has been very positive and we have already recommended it in our plans for other customers. It's a brilliant piece of design!"

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CASE STUDY:
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