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NETGEAR
BUSINESS

ProAV Catalog

Networking solutions
engineered for the needs
of the Pro AV community

NETGEAR
M4300-96X

Stack ID

8

Power 1

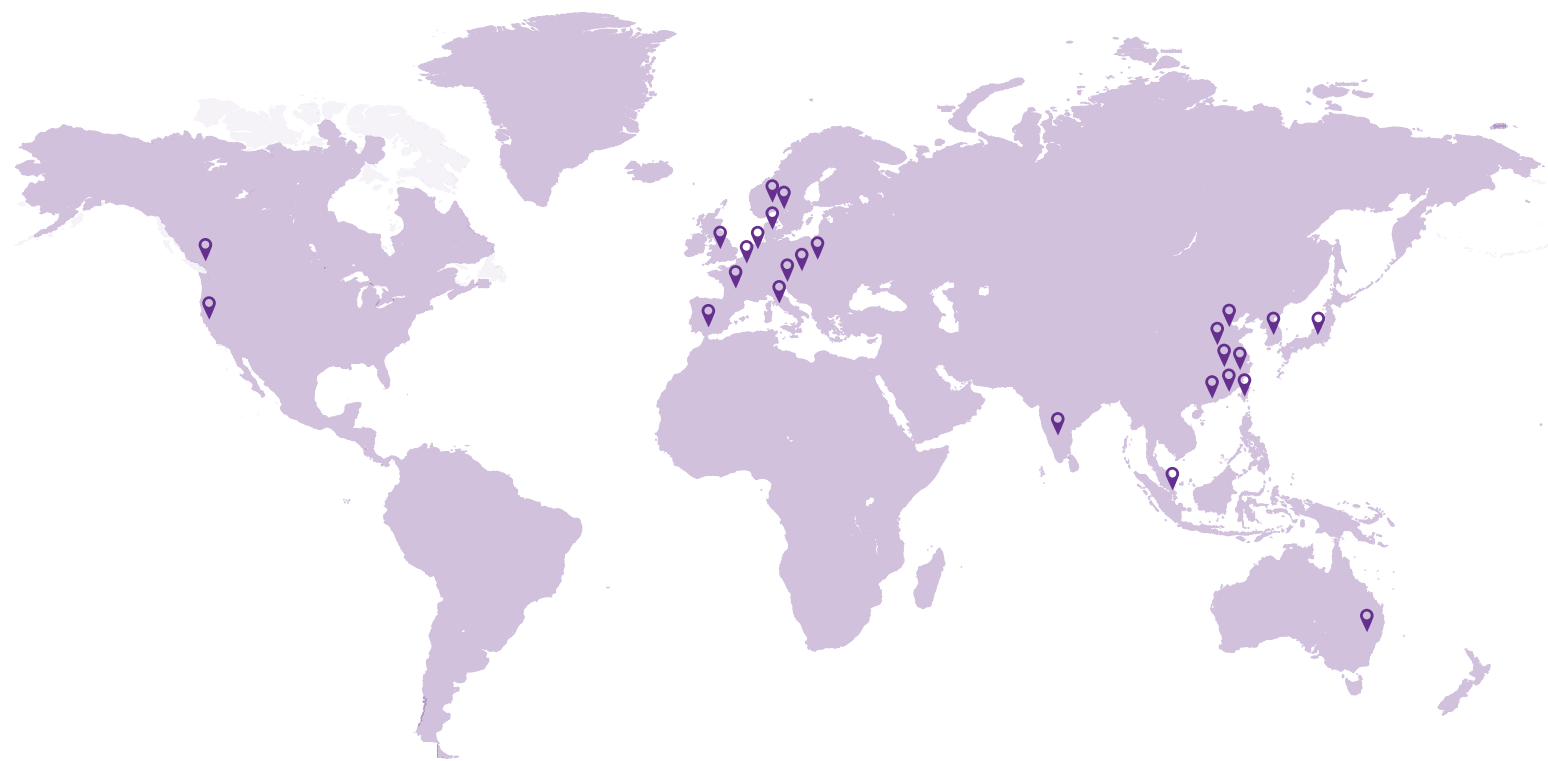
Power 2

Fan

Stack Master

PoE Max

Reset



DESIGNED WITH YOUR BUSINESS IN MIND

NETGEAR GLOBAL OFFICES

- | | |
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NETGEAR has pioneered advanced networking technologies for homes, businesses, and service providers around the world.

Since 1996, we've led the industry with a broad range of award-winning products designed to simplify and improve people's lives.

We are dedicated to empowering our customers to collaborate and connect to a world of information by enhancing homes and powering businesses with an unmatched line of the innovative, intelligent, and easy to use WiFi and networking solutions.

Breaking boundaries to power the future.

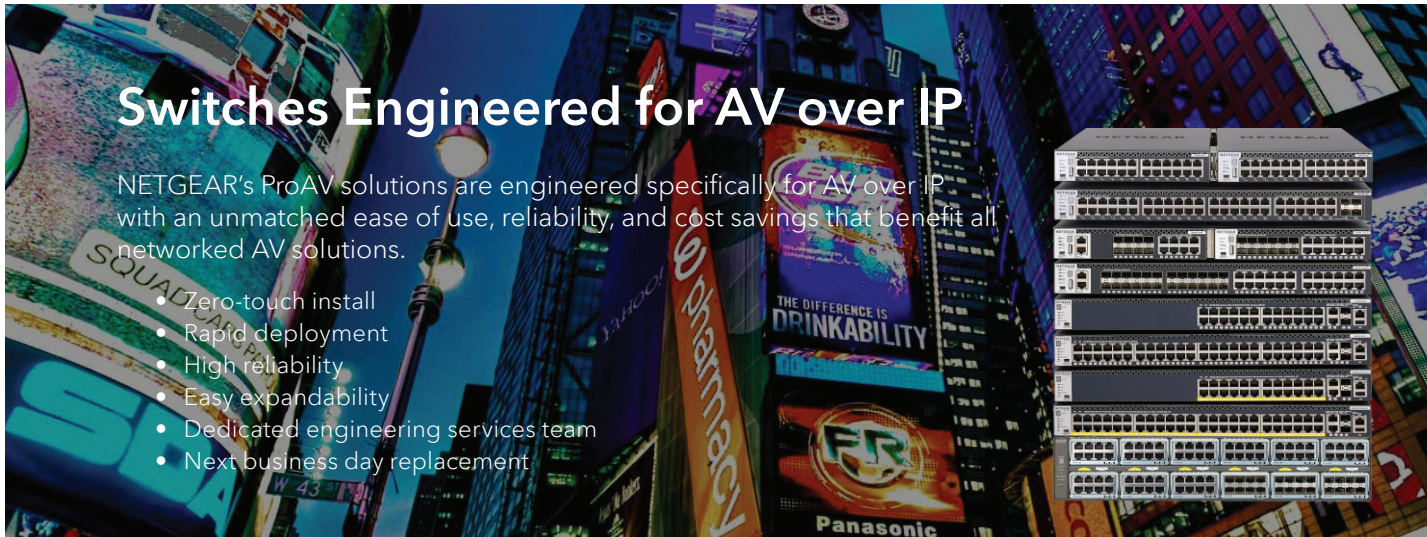
Patrick Lo

NETGEAR CEO and Co-founder

When we were a startup, almost 25 years ago, we built our very first hub. We created it to help power the future. To open doors we had only dreamt about. We began to imagine homes without wires or boundaries. Business networking without walls or barriers. Tools and services that make what matters most more secure, scalable, and enjoyable to use. And we built what we imagined.

It earned us awards, a reputation, and respect as a trusted leader in connectivity.





Switches Engineered for AV over IP

NETGEAR's ProAV solutions are engineered specifically for AV over IP with an unmatched ease of use, reliability, and cost savings that benefit all networked AV solutions.

- Zero-touch install
- Rapid deployment
- High reliability
- Easy expandability
- Dedicated engineering services team
- Next business day replacement

OVERVIEW

NETGEAR's commitment to AV over IP includes a range of products and dedicated support services. Our M4300 and M4500 series of high-performance, flexible switches are engineered for AV over IP.

NETGEAR Business has led the way for almost 25 years by successfully enabling more than 50 million businesses worldwide. We stand behind our sales partners and their customers through our community and support systems. The quality, reach, and value of our products and services is unmatched.

NETGEAR Business means solutions that fit your needs and your budget. Our comprehensive portfolio of switches enables you to order exactly the combination of fiber or copper ports you need now with room to expand for the future. Providing the ability to connect any type of AV over IP device, NETGEAR switches offer you flexible speed options from 1 Gigabit up to 100 Gigabits per port!

Certified Partners



APPLICATIONS

Video over IP

NETGEAR recognizes the explosion of video over Ethernet and has specifically designed products for AV over IP installations.

From NETGEAR IGMP Plus™, which allows out-of-the-box functionality for most all multicast installations, to modular switches accommodating copper, fiber, and HDMI inputs, we will work with you to find the right solution at the right price.



Audio over IP

The Pro AV world has adopted IP as their delivery method of choice and NETGEAR is here to help. Our switches provide range of sizes and mounting methods to accommodate any install - from the university campus to touring road show.

If you are using Dante or AVB (license required) in your audio deployment, you can trust that NETGEAR's Pro AV switches are designed to seamlessly integrate into your solution. Easy to use, easy to manage.



NETGEAR is a founding member of the Software Defined Video over Ethernet (SDVoE) alliance. A nonprofit consortium of technology providers collaborating to standardize the adoption of Ethernet to transport AV signals in professional AV environments, and to create an ecosystem around SDVoE technology allowing software to define AV applications.

Our switches are designed to accommodate the high bandwidth required for SDVoE-enabled products transporting high-resolution video, multi-channel audio, and control with negligible latency.

SUPPORT & DESIGN SERVICES

NETGEAR now offers design services to support partners as they design and deploy professional audio and video solutions which require IP networking infrastructure.

This dedicated Pro AV Engineering Services team of experts has been conceived to empower those who are designing and installing AV over IP systems by providing free network design assistance, training, and installation support.



ProSUPPORT for Business

The NETGEAR ProSUPPORT for Business offerings provide you with peace of mind by extending and enhancing the standard warranty or support coverage included with your product purchase.

With ProSUPPORT, you get 24/7 direct access to NETGEAR technical support engineers who can rapidly resolve technical issues both big and small. Connect with the people that have built your products and build the relationship that will contribute to your business success.

PRO AV TECHNICAL TRAINING

At NETGEAR we believe in working with our partners to empower them with the knowledge to create and sell solutions not just products. As part of this commitment, we offer a free 'Switching for AVoIP' training course. The user-paced online version provides an overview of many concepts of networking as it pertains to AV signals. For an in-depth learning experience, we also offer an in-person course with a qualified instructor.



Attendees will become a certified NETGEAR AVoIP Switch Installation Partner and have the skills necessary to configure and deploy NETGEAR Pro AV switching solutions. Successful completion also provides coveted AVIXA Renewal Credits.

Find out more:
www.netgear.com/proav

Fully Managed Switches

Fully Managed, M4300 series (L3), Gigabit and 10-Gigabit



MODEL	M4300-28G	M4300-28G-POE+ (550W PSU)	M4300-28G-POE+ (1000W PSU)	M4300-52G
SKU	GSM4328S	GSM4328PA	GSM4328PB	GSM4352S
Primary Port Speed	1G	1G	1G	1G
1G Copper Ports	24	24	24	48
10G Copper Ports	2	2	2	2
SFP/QSFP Ports	2 (SFP+)	2 (SFP+)	2 (SFP+)	2 (SFP+)
PoE Type		PoE+	PoE+	
PoE Ports		24	24	
PoE Budget		480W	630W, 720W w/2nd PSU	
IGMP Support	Yes	Yes	Yes	Yes
AVB Support				
Acoustic Noise	30.3dBA	39.8dBA	39.8dBA	31.5dBA
Stackable	Yes	Yes	Yes	Yes
Management	Local GUI or CLI	Local GUI or CLI	Local GUI or CLI	Local GUI or CLI
Warranty	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*

Fully Managed Switches

Fully Managed, M4300 series (L3), Gigabit and 10-Gigabit



MODEL	M4300-52G-POE+ (550W PSU)	M4300-52G-POE+ (1000W PSU)	M4300-8X8F	M4300-12X12F
SKU	GSM4352PA	GSM4352PB	XSM4316S	XSM4324S
Primary Port Speed	1G	1G	10G	10G
1G Copper Ports	48	48		
10G Copper Ports	2	2	8	12
SFP/QSFP Ports	2 (SFP+)	2 (SFP+)	8 (SFP+)	12 (SFP+)
PoE Type	PoE+	PoE+		
PoE Ports	48	48		
PoE Budget	480W, 1,440 w/ redundant PSU	591W, 1,440 w/ redundant PSU		
IGMP Support	Yes	Yes	Yes	Yes
AVB Support				
Acoustic Noise	39.8dBA	39.8dBA	36.9dBA	36.9dBA
Stackable	Yes	Yes	Yes	Yes
Management	Local GUI or CLI	Local GUI or CLI	Local GUI or CLI	Local GUI or CLI
Warranty	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*

Fully Managed Switches

Fully Managed, M4300 series (L3), Gigabit and 10-Gigabit



MODEL	M4300-16X (299W PSU)	M4300-16X (600W PSU)	M4300-24X	M4300-24XF
SKU	XSM4316PA	XSM4316PB	XSM4324CS	XSM4324FS
Primary Port Speed	10G	10G	10G	10G
1G Copper Ports				
10G Copper Ports	16 (Multi-Gigabit)	16 (Multi-Gigabit)	24	2
SFP/QSFP Ports			4 (SFP+)	24 (SFP+)
PoE Type	PoE+	PoE+		
PoE Ports	16	16		
PoE Budget	199W	500W		
IGMP Support	Yes	Yes	Yes	Yes
AVB Support				
Acoustic Noise	35dBA	35dBA	37dBA	39.07dBA
Stackable	Yes	Yes	Yes	Yes
Management	Local GUI or CLI	Local GUI or CLI	Local GUI or CLI	Local GUI or CLI
Warranty	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*

Fully Managed Switches

Fully Managed, M4300 series (L3), Gigabit and 10-Gigabit



MODEL	M4300-24X24F	M4300-48X	M4300-48XF	M4300-96X (EMPTY SWITCH)
SKU	XSM4348S	XSM4348CS	XSM4348FS	XSM4396K0
Primary Port Speed	10G	10G	10G	10G
1G Copper Ports				
10G Copper Ports	24	48	2	up to 96 (Multi-Gigabit)
SFP/QSFP Ports	24 (SFP+)	4 (SFP+)	48 (SFP+)	up to 96 (SFP+) / 24 (QSFP+)
PoE Type				PoE+
PoE Ports				up to 48
PoE Budget				1,440W
IGMP Support	Yes	Yes	Yes	Yes
AVB Support				
Acoustic Noise	35.8dBA	40.3dBA	42.4dBA	35.8dBA no PoE 66.8dBA max PoE
Stackable	Yes	Yes	Yes	Yes
Management	Local GUI or CLI	Local GUI or CLI	Local GUI or CLI	Local GUI or CLI
Warranty	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*

Fully Managed Switches

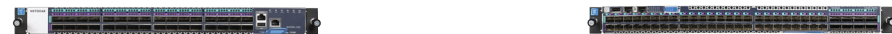
Fully Managed, M4300 series (L3), Gigabit and 10-Gigabit



MODEL	M4300-96X (STARTER KIT)	APM408C	APM408P	APM408F	APM402XL
SKU	XSM4396K1	APM408C	APM408P	APM408F	APM402XL
Primary Port Speed	10G	10G	10G	10G	10G
1G Copper Ports					
10G Copper Ports	up to 48 (Multi-Gigabit)	8 (Multi-Gigabit)	8 (Multi-Gigabit)		
SFP/QSFP Ports	48 (SFP+) / up to 96 (SFP+) or 12 (QSFP+)			8 (SFP+)	2 (QSFP+)
PoE Type	PoE+		PoE+		
PoE Ports	up to 48		8		
PoE Budget	1,440W				
IGMP Support	Yes	Yes	Yes	Yes	Yes
AVB Support					
Acoustic Noise	35.8dBA no PoE 66.8dBA max PoE	fanless	fanless	37.2dBA	37.2dBA
Stackable	Yes	Yes	Yes	Yes	Yes
Management	Local GUI or CLI	Local GUI	Local GUI	Local GUI	Local GUI
Warranty	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*

Fully Managed Switches

Fully Managed, M4500 series (L3), 10, 25, 50 and 100-Gigabit



MODEL	M4500-32C	M4500-48XF8C
SKU	CSM4532	XSM4556
Primary Port Speed	100G	25G
1G Copper Ports		
10G Copper Ports		
SFP/QSFP Ports	32 (QSFP28)	48 (SFP28) / 8 (QSFP28)
PoE Type		
PoE Ports		
PoE Budget		
IGMP Support	Yes	Yes
AVB Support		
Acoustic Noise	64dBA	68dBA
Stackable		
Management	CLI	CLI
Warranty	Limited Lifetime*	Limited Lifetime*

Smart Pro w/Optional Cloud Management

Insight Managed Smart Cloud, L2, Gigabit

Insight Managed Smart Cloud, L2+/L3 Lite, Gigabit/10G SFP+



MODEL	GC108P	GC108PP	GC728XP	GC752XP
SKU	GC108P	GC108PP	GC728XP	GC752XP
Primary Port Speed	1G	1G	1G	1G
1G Copper Ports	8	8	24	48
10G Copper Ports				
SFP/QSFP Ports			4 (SFP+)	4 (SFP+)
PoE Type	PoE+	PoE+	PoE+	PoE+
PoE Ports	8	8	24	48
PoE Budget	64W, 126W w/larger PSU	126W	390W	505W
IGMP Support	Yes	Yes	Yes	Yes
AVB Support				
Acoustic Noise	fanless	fanless	39dBA	33dBA
Stackable				
Management	Insight Cloud or Local GUI	Insight Cloud or Local GUI	Insight Cloud or Local GUI	Insight Cloud or Local GUI
Warranty	5 years	5 years	Limited Lifetime*	Limited Lifetime*

Smart Pro w/Optional Cloud Management

Smart Managed Pro with Cloud, L2/L2+/L3 Lite, Gigabit



MODEL	GS110TUP	GS710TUP	GS728TPV2	GS728TPPV2
SKU	GS110TUP	GS710TUP	GS728TP	GS728TPP
Primary Port Speed	1G	1G	1G	1G
1G Copper Ports	9	9	24	24
10G Copper Ports				
SFP/QSFP Ports	1 (SFP)	1 (SFP)	4 (SFP)	4 (SFP)
PoE Type	PoE+ / PoE++	PoE+ / PoE++	PoE+	PoE+
PoE Ports	8 / 4	8 / 4	24	24
PoE Budget	240W	480W	190W	380W
IGMP Support	Yes	Yes	Yes	Yes
AVB Support				
Acoustic Noise	fanless	33dBA	38.1dBA	35dBA
Stackable				
Management	Insight Cloud or Local GUI	Insight Cloud or Local GUI	Insight Cloud or Local GUI	Insight Cloud or Local GUI
Warranty	Limited Lifetime*	2 years	Limited Lifetime*	Limited Lifetime*

Smart Pro w/Optional Cloud Management Smart Pro Switches

Smart Managed Pro, L2+ with static routing, Gigabit



MODEL	GS752TPV2	GS752TPP	S3300-28XP	S3300-52XP
SKU	GS752TP	GS752TPP	GS728TXP	GS752TXP
Primary Port Speed	1G	1G	1G	1G
1G Copper Ports	24	24	24	48
10G Copper Ports				
SFP/QSFP Ports	4 (SFP)	4 (SFP)	4 (SFP+)	4 (SFP+)
PoE Type	PoE+	PoE+	PoE	PoE
PoE Ports	24	24	24	48
PoE Budget	380W	760W	195W, 720W w/ redundant PSU	390W, 1,440W w/ redundant PSU
IGMP Support	Yes	Yes	Yes	Yes
AVB Support			Yes	Yes
Acoustic Noise	38dBA	43dBA	36.8dBA	40dBA
Stackable			Yes	Yes
Management	Insight Cloud or Local GUI	Insight Cloud or Local GUI	Local GUI	Local GUI
Warranty	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*

Smart Pro Switches

Smart Managed Pro, L2+ with static routing, Gigabit



MODEL	GS724Tv4	GS748Tv5	GS716Tv3	GS105E	GS108PE
SKU	GS724T	GS748T	GS716T	GS105E	GS108PE
Primary Port Speed	1G	1G	1G	1G	1G
1G Copper Ports	24	46	16	5	8
10G Copper Ports					
SFP/QSFP Ports	2 (SFP)	4 (SFP)	2 (SFP)		
PoE Type					PoE
PoE Ports					4
PoE Budget					53W
IGMP Support	Yes	Yes	Yes	Yes	Yes
AVB Support	Yes	Yes	Yes		
Acoustic Noise	fanless	37.2dBA	fanless	fanless	fanless
Stackable					
Management	Local GUI	Local GUI	Local GUI	Local GUI	Local GUI
Warranty	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*	Limited Lifetime*

*This product comes with a limited warranty that is valid only if purchased from a NETGEAR authorized reseller, and covers unmodified hardware, fans and internal power supplies - not software or external power supplies, and requires product registration at <https://www.netgear.com/business/registration> within 90 days of purchase; see <https://www.netgear.com/about/warranty> for details. For warranty on fully managed switches, visit <http://www.netgear.com/business/products/switches/managed/> which are warranted for their lifetime, as long as the original bona fide end user continues to own or use this product.

Third-Party Modules

ZeeVee HDMI Module for M4300-96X



MFG: ZEEVEE

Model No: ZyPer4K Quad Encoder

Description: 4x HDMI Input module for M4300-96X, on-board SDVoE encoder

Contact ZeeVee for details: <https://www.zeevee.com/zyper4k-hdmi-module/>

DVIGear HDMI Module for M4300-96X

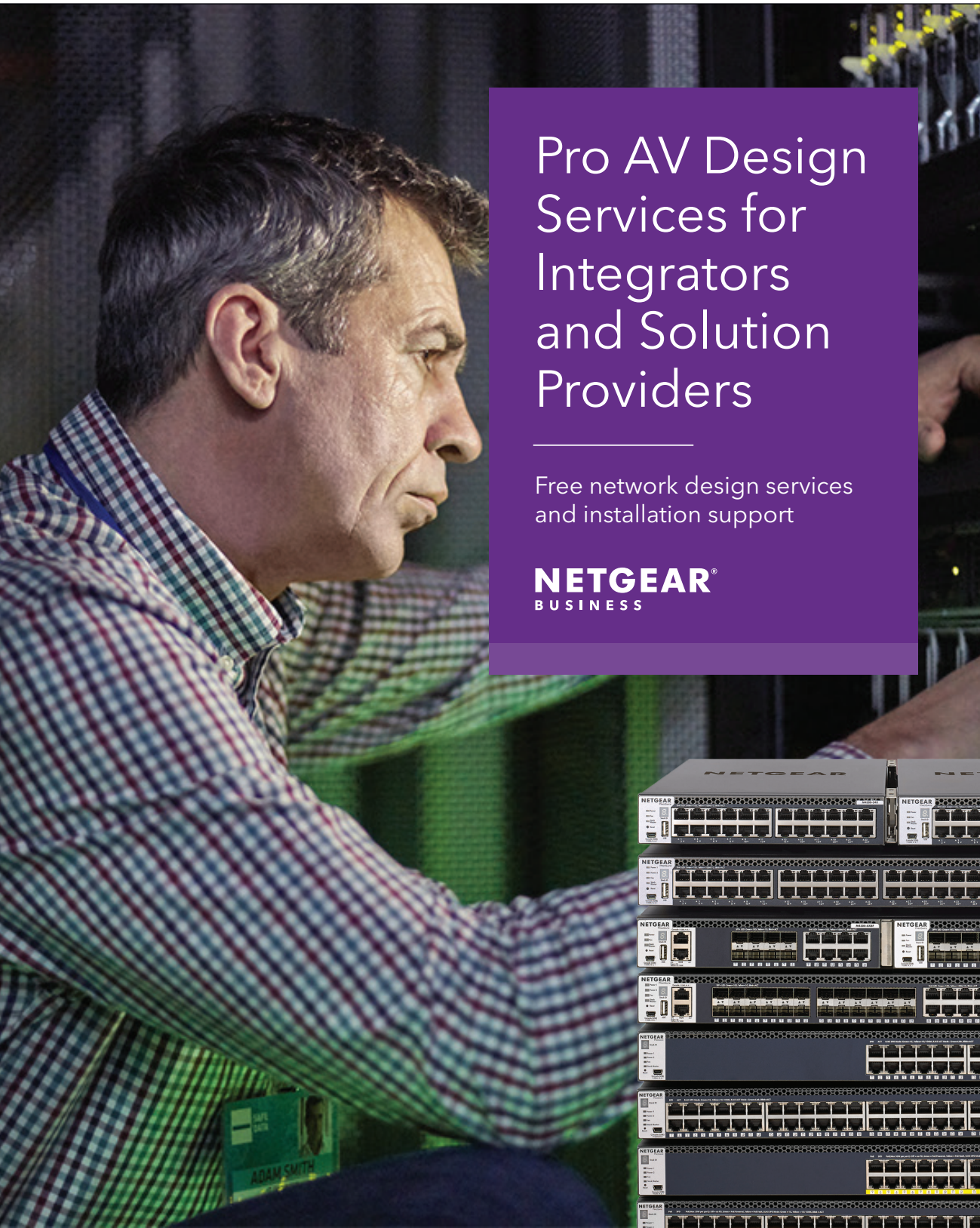


MFG: DVI GEAR

Model No: DN-150-TX-Quad

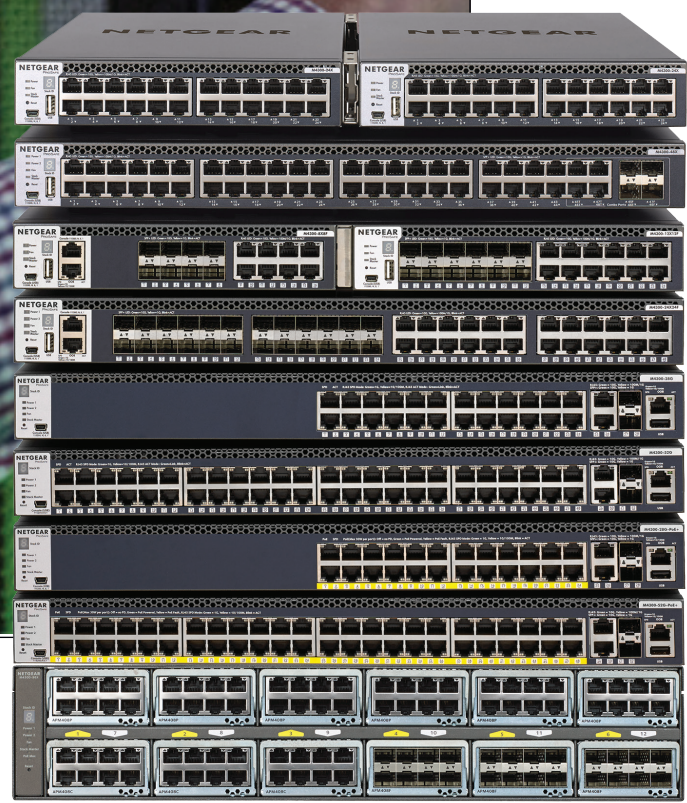
Description: 4x HDMI Input module for M4300-96X, on-board SDVoE encoder

Contact DVIGear for details: <https://www.dvigeart.com/displaynet-dn-150-tx-quad.html>



Pro AV Design Services for Integrators and Solution Providers

Free network design services and installation support



NETGEAR now offers design services to support partners as they design and deploy professional audio and video solutions which require IP networking infrastructure.

This dedicated Pro AV Engineering Services team of experts has been conceived to empower those who are designing and installing AV over IP systems by providing free network design assistance, training, and installation support. From pre-sales and post-sales support to technical training, to white papers and best practices, these services are positioned to help educate tech managers and integrators to become masters of AV deployments which require IP networking.

NETGEAR has reshaped the organization to address the specific needs of both enterprise and residential AV systems integrators. In order to streamline the adoption of AV over IP and to ensure the successful transition from legacy matrix switching to AV over ethernet, residential and business integrators depend on a solid partner to guide the way. NETGEAR is determined to be this partner. This new structure for NETGEAR is essentially a design center with a number of the company's top networking professionals who are accomplished at documenting, drawing, and producing AV architectures.

"This technology transition to AV over IP is an exciting new space where NETGEAR is driving the integration. We are in the market to simplify and streamline IP networking for small and medium partners who don't have the resources, the budget, or the right IT teams to leverage more complex AV installations."

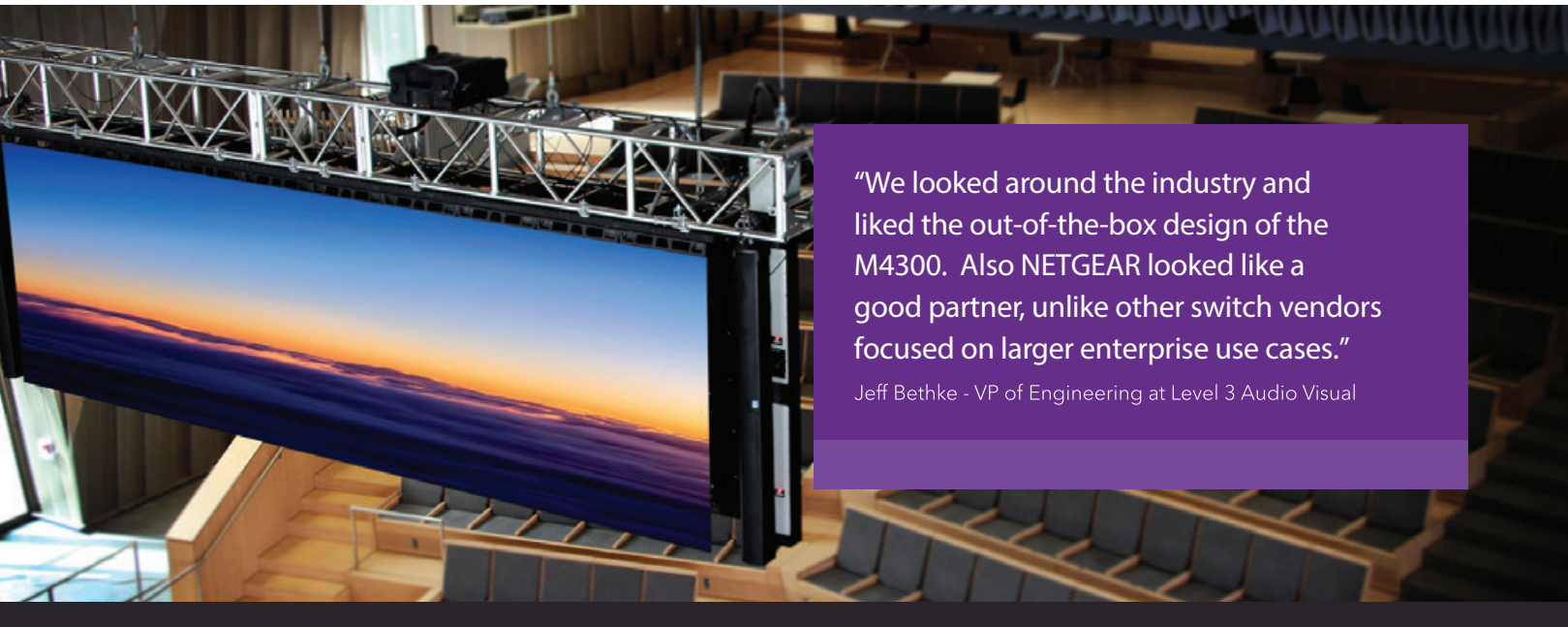
Laurent Masia, director of product line management for NETGEAR



- 24/7 pre-sales services by knowledgeable Pro AV technical networking experts
- Consistent, reliable and effective Pro AV pre and post-sales support
- Technical training for installers and integrators
- Product training on demand
- Configuration guides and coaching
- Deployment support
- Installation troubleshooting
- Isolating problems for escalation triage

To learn more about Pro AV custom integration visit netgear.com/av-over-ip. This new service from NETGEAR for the AV installer and integrator communities is available now.

Contact the team: ProAVDesign@netgear.com.



“We looked around the industry and liked the out-of-the-box design of the M4300. Also NETGEAR looked like a good partner, unlike other switch vendors focused on larger enterprise use cases.”

Jeff Bethke - VP of Engineering at Level 3 Audio Visual



“This installation is an example of how innovative IP technology opens up so much more potential for all kinds of customers...”

Jeff Bethke - VP of Engineering at Level 3 Audio Visual

Company:
Level 3 AudioVisual

Technology:
AV Manufacturer

Website:
level3av.com

Location:
Mesa, AZ, USA

One seamless, versatile network provides the ultimate in flexibility for the Health Sciences Innovation Building.

SUMMARY

To support its new Health Sciences Innovation Building, with its state-of-the-art, ground-breaking design, the University of Arizona has chosen an IP-based network designed and installed by AV specialist Level 3 Audio Visual.

The network provides optimal versatility because it does not matter where access points or devices are located: they can be instantly connected. The use of 10Gb M4300 and S3300 IP switches play a key role in providing the flexibility, scalability, and ease-of-use important to both the University and Level 3.

BACKGROUND

The University of Arizona Health Sciences faculty is the statewide leader in biomedical research and health professions training. The popularity of the faculty, led to the University deciding to invest in creating the nine-floor Health Sciences Innovation Building (HSIB) in Tucson. Supporting a range of disciplines - including medicine, nursing and pharmacy - the design of the building aims to raise the bar with innovative design and making the best of the latest in technology.

Facilities include a multi-purpose presentation and performing arts center, dozens of meetings rooms and huddle locations, administrative offices, a medical simulation unit, recording and debriefing center, a filming studio, an LED wall, plus a centralized broadcast booth.

THE CHALLENGE

The design of this impressive layout initially presented a major challenge for broadcast and comms networking, which needed to include not centralized control, but also lecture capture and recording, and a variety of content streaming. The University wanted to have one single system, content and services can be instantly routed anywhere in the building, across hundreds of access points, devices and users.

The design and scale of the building meant that a traditional approach using a traditional coax structure was going to be tough: cable runs would need to be 700 or 800 feet, and the headend for the AV network was distributed over long distances.

SOLUTION

Following a thorough RFP process, the university chose an IP-centric, innovative proposal from Level 3 Audio Visual. Based in Mesa, Arizona, Level 3 has built a reputation for high-quality AV design, management and integration and has worked with the University on multiple occasions over the years.

Jeff Bethke, VP of Engineering at Level 3 Audio Visual, says “We talked the University through the benefits of using IP technology, which overcomes the distance limitations, as well as giving them the long-term flexibility they need to route any signal or service to anywhere in the building, while also providing excellent quality.

VERSATILE IP BACKBONE

The result is an IP-based infrastructure, with full redundancy using dual single-mode fiber backbones trunk ports and a stacked architecture, enabling any signal to be routed to any device or location throughout the building.

An integral part of the system’s superior performance and flexibility is the use of eight stackable M4300 IP switches from NETGEAR at the core, plus approximately 20 10Gpbs S3300 switches at the edge.

Jeff Bethke explains, “We had already started to look at standardizing on a single switching platform, especially as customers are looking for more than just control: audio is a big growth area for us. We looked around the industry and liked the out-of-the-box design of the M4300. Also NETGEAR looked like a good partner, unlike other switch vendors focused on larger enterprise use cases. The NETGEAR price points also make sense for us.”

INSTALLATION

Following laboratory-simulation of the network, installation took place in managed phases and was completed by the end of August 2019, ready for the new semester. Jeff Bethke calls out the positive benefits of the NETGEAR switches. “The very simple to use interface made commissioning the switches so much nicer, we can log in to one place and manage everything across QoS and VLAN settings. It’s a huge time saver.”

Jeff Bethke also comments on the support provided by NETGEAR. “Every time I call tech support I get great help, and I can also choose support via the website. Either way, the response is fast.”

RESULTS

Today, the University of Arizona’s HSIB has one single infrastructure that can support thousands of devices, with full redundancy, flexibility and scalability. Level 3 has already started some additional projects within the building, which thanks to the design, can be achieved comparatively easily and fast.

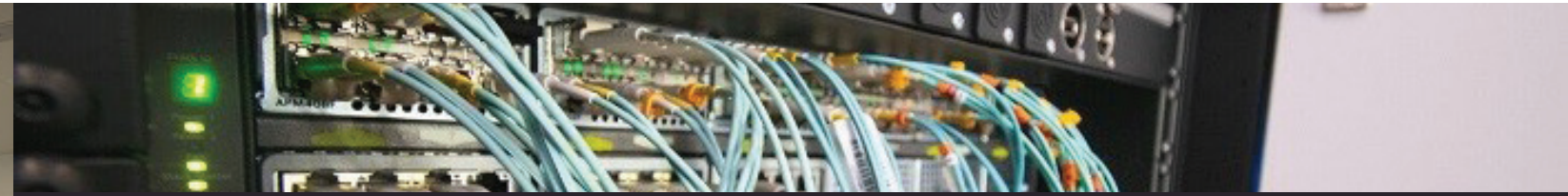
Jeff Bethke concludes, “This installation is an example of how innovative IP technology opens up so much more potential for all kinds of customers, including the University of Arizona. The M4300 switches are an important component of the network’s design, helping us and the University to deliver a superior user experience.”





"It developed the first endoscopy site in the UK - and to the best of our knowledge on the planet - utilising uncompressed 4K video (SDVoE) over a 10GB Ethernet network using fibre interconnectivity."

Andrew Chapple, Communications Manager,
Quadram Institute



SOLUTION

Two-Way Audio & Uncompressed 4K: For performing endoscopies that could be monitored by medical staff, students and researchers onsite and in remote locations. Using NETGEAR's M4300 switches afford us 10G connectivity which is considerable bandwidth for the required two-way audio and uncompressed 4K video with near zero latency from four sources simultaneously.

"We used NETGEAR switches as we needed a modular switch that would allow us to provide maximum flexibility and expandability in the future. The nice thing about this NETGEAR solution is that it is basically pre-configured to work with ZeeVee's encoders/decoders. Multicast configuration can be tricky; using NETGEAR switches was very simple." - Kevin Madeja - Snelling Business System

This multi-view platform enables live visual and voice interaction between clinicians performing procedures in the four interconnected endoscopy suites and those viewing from other locations in the facility and beyond its walls.

All specifications of the system meet stringent government and industry requirements for medical applications.

For example, the equipment in the endoscopy suites that is directly connected to the endoscopic medical equipment have medical grade power supplies, galvanized isolation and anti-bacterial coating.

Innovative Uncompressed 4K AVoIP Solution: "As the leading facility for endoscopies in the country, it is important that the AV system does all it can to support those performing the procedures, as well as those being trained to perform them," said Kevin Medeja, Group Technical Officer, Snelling Business Solutions.

"The level of performance and sophistication we were able to achieve would not have been possible using an HDBaseT or compressed SDVoE AVoIP (AV over IP solution)."

To capture and stream AV sources for this ground-breaking system, Snelling selected ZeeVee ZyPer4K SDVoE encoders for fiber Ethernet, which deliver uncompressed 4K 4:4:4 video over a 10G NETGEAR optical IP network.

Outputs from the high-resolution endoscopy camera, as well as the suite's PTZ cameras, were connected to the encoders. ZeeVee's technology enables streams from multiple sources to be seen in multi-view format on a single display, all in real-time.

IP Switch Choice: To support the required 10G Ethernet infrastructure, NETGEAR M4300 switches were selected. NETGEAR are also an SDVoE Alliance co-founding member.

"This ambitious project underscores how the demands of today's AV applications in the medical arena, including the requirements for the highest video quality and low latency, can be met and exceeded in healthcare environments," said Richard Jonker, VP SMB Product Line Management, NETGEAR.

"The convergence between AV and IT is here and it's supporting new ways for practitioners to deliver better outcomes.

RESULTS

ZeeVee ZyPer4K, NETGEAR M4300 switches and SDVoE technology combined to provide the following benefits to Quadram Institute's endoscopy suite, seminar rooms and remote medical community:

Multiview was Critical: Multiview processing built into the decoder reduced the complexity of the installation by removing additional image processing hardware.

Image Quality: The 10G system provided pixel-perfect resolution, clarity, and color reproduction. A 1G compressed SDVoE AVoIP solution had the potential to introduce compression artifacts and reduced quality, which is unacceptable for medical applications.

Latency: The system's two-way communication required near zero latency, and SDVoE technology provides sub-100 microseconds of latency.

Galvanic Isolation: Stray currents that compromise visual acuity are unacceptable in a facility performing endoscopic procedures on patients. The 100% fibre infrastructure eliminated this threat.

Worry-free Deployment and Configuration: ZeeVee products are auto-discovered by the ZyPer Management Platform and NETGEAR switches are pre-configured for AV over IP distribution.

Future-proofing: Built-in 10-Bit HDR support allows Quadram Institute to expand its application with the latest technology at any point in the future without having to replace any of the core infrastructure.

Company name:
Quadram Institute

Company size:
400+

Industry:
Medical

Company website:
quadram.ac.uk

Social:
facebook.com/
QuadramInstitute

Geographic region:
Norwich, England

NETGEAR's M4300 helps implement a system with zero-latency and pixel-perfect uncompressed 4K video quality.

BACKGROUND

The Quadram Institute in Norwich, England, is a groundbreaking medical centre focusing on food science and health. The new £84 million facility brings together more than 100 clinicians and 300 researchers from several founding partner organisations.

It also includes one of the UK's largest endoscopic and bowel cancer screening suites capable of handling more than 40,000 procedures a year, making it one of the largest in Europe.

To support its crucial diagnostic, teaching and research mandates, the Quadram Institute needed an AV system to elevate the level of collaboration between clinicians, students and researchers conducting and monitoring the procedures performed on site.

In addition to meeting rigorous health codes, the system would need to provide video imaging of the highest quality as well as video switching with near zero latency to facilitate real-time viewing and interaction among medical and clinical staff.

PROBLEM/OBJECTIVE

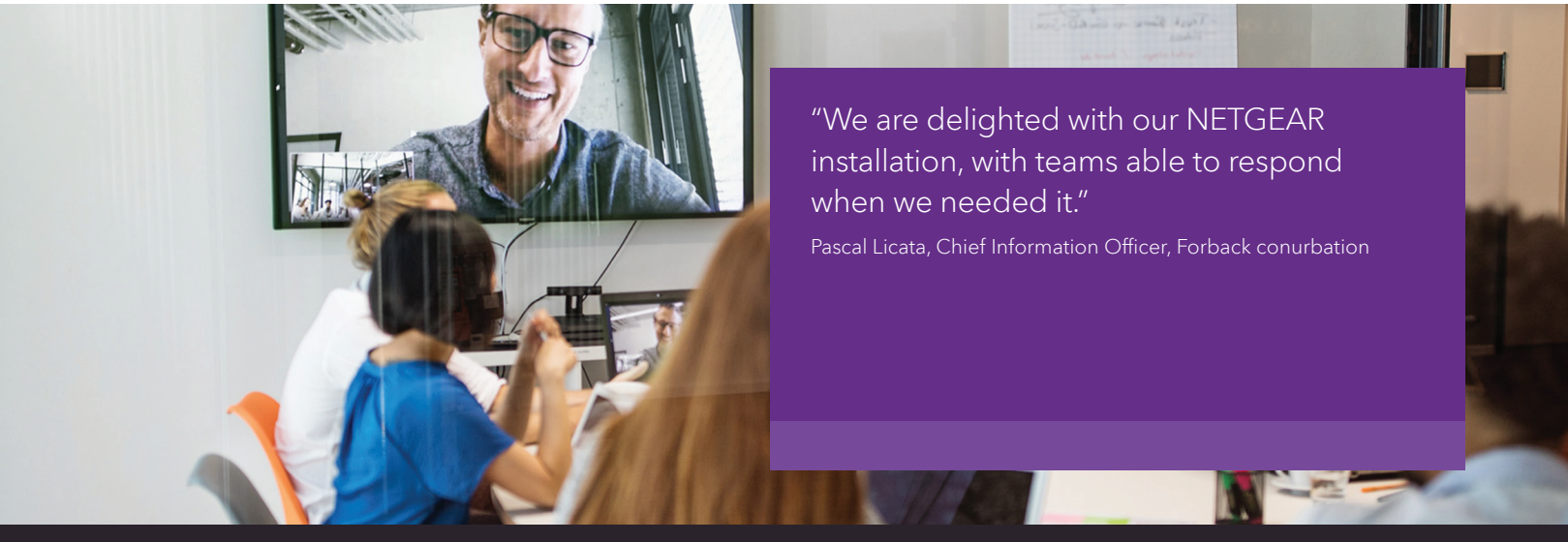
Snelling Business Systems, the UK-based global AV systems integrator, was selected to handle the comprehensive and critical AV requirements—creating the first endoscopy site in the UK utilising SDVoE technology to distribute uncompressed 4K video over a NETGEAR 10GB Ethernet network.

For reasons of bandwidth as well as electrical isolation, the system infrastructure was specified for 100% optical fibre connectivity, another first for a medical imaging facility.

"There was no doubt the integration of cutting-edge video and networking technology would be critical to achieving our vision of a world-class, forward-thinking institute," said Andrew Chapple, Communications Manager, Quadram Institute.

"Snelling Business Systems has proven its merit as a technology partner who helped us realise our vision with zero compromise."





"We are delighted with our NETGEAR installation, with teams able to respond when we needed it."

Pascal Licata, Chief Information Officer, Forbach conurbation



"The installation of the 10 Gigabit switches has been a real revolution for our in-house teams, they now benefit from a broadband network to work in the best conditions."

Pascal Licata, Chief Information Officer, Forbach conurbation

Company:
Communauté d'Agglomération de Forbach

Structure size:
300 people

Business Line:
Public sector

Website:
www.agglo-forbach.fr

Location:
Forbach, France

Integrator:
SYSTEM SOLUTIONS

Installed solutions:
M4300 and S3300 series switches

The Forbach conurbation deploys NETGEAR 10 Gigabit PoE solutions to rebuild its core network and remote sites

BACKGROUND

The conurbation of Forbach, established in 2002 and located in the department of Moselle, carries out numerous missions ranging from the development of economic, social, cultural, touristic, and sports projects to the development of the territory. Comprising twenty-one municipalities, the conurbation of Forbach wanted to operate a global overhaul of their network core and their remote sites. The objective was to merge the solutions used to optimize the entire network and thus facilitate its management.

Their systems teams also wanted to improve performance in order to decongest the network.

Moreover, the installation of these equipments had to be as simple as possible in order to avoid further work and to stay within budget.

To meet this goal, the Forbach conurbation hired an integrator, System Solutions, which recommended the installation of NETGEAR 10 Gigabit PoE+ switches. System Solutions is an ICT partner that has been accompanying its customers in the implementation and management of infrastructure since 1996.

THE SOLUTION

In its desire to standardize and utilize their network park, the conurbation of Forbach has decided to replace all their installed appliances. In short, 55 NETGEAR switches were configured between 2018 and 2019 before being dispatched to the various city councils.

The advantage of moving to a 10 Gigabit network.

The Chief Information Officer of the conurbation, Pascal Licata, was convinced by the high level of reliability and high transfer speeds achieved with the 10 Gigabit switches.

Designed to keep up with changing requirements, NETGEAR 10 Gigabit Switches help bring data to users' fingertips, from everyday tasks to background maintenance (backup, restore data, etc.). In addition to avoiding bottlenecks, the installation of 10 Gigabit switches allows hundreds of people in the urban area to have increased bandwidth.

Moving from 1 to 10 Gigabit represents a significant upgrade that translates into increased efficiency in getting data available: this allows the staff of the various city councils to get immediate benefits for all tasks involving heavy data transfers. Also, the 10 Gigabit network is an obvious asset in the daily use of cloud tools.

The advantage of PoE+ for the conurbation

This network environment redesign has been achieved with NETGEAR PoE+ switches, which offers another advantage to the conurbation with the ability to power compatible equipment without the need for additional cable pull. In this context, only one RJ45 network cable provides data and electricity.

More commonly known as PoE+ (Power over Ethernet Plus), the IEEE 802.3at standard provides greater flexibility to city halls by delivering up to 30 watts per port, while providing backward compatibility with 802.3af (PoE). They now power IP Telephony, Video Surveillance, Conference Equipment, and Wi-Fi Access Points, from a centralized switch.

Sites can also enable and disable power to devices as needed to keep energy costs at their lowest.

Furthermore, PoE+ makes it easy to deploy or extend the network, and is also an effective way to save money. With PoE switches, it becomes possible to position devices where the installation of an electrical power supply would have been impractical (ceilings, walls, etc.). A benefit for the various city councils is not having to increase costs for this project, such as installation of new electrical outlets.

THE RESULTS

Once the installation by System Solutions was completed, the conurbation of Forbach was quickly able to see results. The most obvious result is the simplicity of implementation that saves complicated installation costs. The conurbation of Forbach was also satisfied with the optimization of its network installation and convinced by the resulting speeds. The shift to more cost-effective 10 Gigabit switching solution allows the conurbation to meet its high-speed network needs, including access to its network core, virtual servers, and various stored data. A gain in productivity, and thus more time for the teams in the municipalities. Finally the easy to use monitoring interface was particularly appreciated and adopted by the conurbation teams, and increased the effectiveness of customer support to ensure the monitoring of the installations.

DEVICES INSTALLED DURING DEPLOYMENT

