



NETGEAR®

Smart Video Surveillance Solutions for Small and Medium-Sized Enterprises

Retail

Companies with multiple branches

Hotels and restaurants

Production facilities

NETGEAR®
video surveillance solutions

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Dear business partner,

IP video surveillance is becoming one of the most attractive markets for conventional IT resellers. There are several obvious reasons for this:

- Demand for video surveillance is continuing to grow substantially
- The costs of video surveillance are continuing to fall
- IP-based surveillance systems are becoming increasingly common on the market. IMS Research predicts an annual growth rate of 19.9% between 2013 and 2016
- IP-based video surveillance allows easier integration with existing applications such as access control systems, motion detectors, point-of-sale systems/cash registers and face or number plate recognition systems, as no analogue-to-digital conversion is necessary. The existing Ethernet network infrastructure can also be used – Power over Ethernet (PoE) technology supplies power to the connected components and also handles data transfer. Wireless cameras can be integrated in existing WLAN networks, as well as other Ethernet devices such as smoke detectors
- Security personnel, administrators and other authorized users can access the video material at any time and from any location, in real time. If an incident occurs, the recordings can be viewed without the need to travel to the scene itself. Videos can simply be sent to investigative bodies by email
- NAS (network-attached storage) solutions reduce archiving and storage costs. Unlike cassettes, the quality of digitally stored data does not deteriorate over time. The integrated data security on NAS devices ensures that all data is stored reliably and can be accessed within a few seconds
- IP-based surveillance systems are future-proof and can generally be kept up to date via simple software updates
- Legal requirements, franchise regulations etc. also increasingly include provisions relating to video surveillance

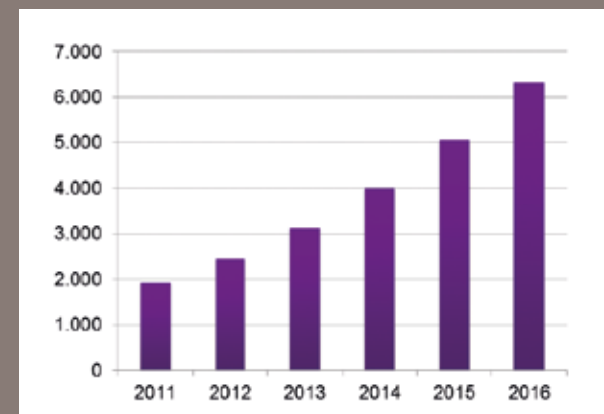
NETGEAR Surveillance allows you to share in this success with one of the most attractive and most powerful solutions on the market.

This brochure will provide you with an overview of the areas of application, key components and benefits of the NETGEAR IP surveillance solutions.

We will be happy to discuss further details with you and, of course, provide you with support for specific projects.

We wish you every success!

Sales of network cameras (\$ m.) 27% CAGR (2011–16)



IMS, April 2012

IP surveillance is one of the most attractive ICT markets



→ RETAIL

- Reduced losses resulting from theft of goods
- Problems eliminated by POS (point-of-sale) integration with video surveillance
- Accidents, theft, robbery: protection for customers and staff
- Overview of multiple stores on one interface
- Real-time access to the surveillance system via PC/Mac/mobile
- Protection against vandalism



→ PRODUCTION PLANTS

- Accidents, theft, robbery: protection for customers and staff
- Overview of multiple sites and production areas on one interface
- Real-time access to the surveillance system via PC/Mac/mobile
- Integration into existing I/O systems, alarms, locks, access control systems and fire alarms



The highly flexible NETGEAR Surveillance solution can be used with up to 128 cameras, making it ideal for a wide range of applications and requirements.

→ TRANSPORT AND LOGISTICS

- Security for incoming and outgoing goods
- Integration with access control systems, number plate recognition etc.
- Support for HD cameras
- Event detection
- Real-time access to the surveillance system via PC/Mac/mobile
- Surveillance of multiple sites from a central location
- Surveillance of traffic areas



→ HOTELS, RESTAURANTS, RESIDENTIAL ESTABLISHMENTS

- Safe, friendly environment
- Integration with I/O devices
- Mobile monitoring
- Real-time access to the surveillance system via PC/Mac/mobile
- Integration of fire alarms, door opening sensors etc.
- Privacy masking
- Digital watermarks
- Encryption on the storage system



→ PUBLIC AREAS

- Monitoring of buildings and areas accessible to the public
- Vandalism
- Crime prevention
- Integration with emergency response systems
- Event detection
- Integration with I/O devices and existing systems (lighting, air conditioning, garage doors etc.)
- Privacy masking
- Real-time access to the surveillance system via PC/Mac/mobile
- Digital watermarks
- Analysis functions

Video surveillance with NETGEAR

What components are contained in a video surveillance solution?

Small and medium-sized enterprises need cost-effective video surveillance solutions from a single source that are easy to operate but still provide a professional level of protection.

A modern infrastructure typically consists of:

- One or more NAS systems acting as the "NVR" (network video recorder)
- Central control software running on either the NAS or a server/PC (control center)
- The client software for controlling and, above all, monitoring the images from the camera (normally on a separate PC)
- Mobile apps for smartphones and tablets
- Power over Ethernet switches to transfer data from the cameras and to supply power
- WLAN components for wireless cameras
- Cameras
- Other peripheral devices, sensors etc.

NETGEAR provides you with perfectly coordinated infrastructure components:

- ReadyNAS and ReadyDATA storage from 2–360 TB
- NETGEAR ReadyNAS Surveillance network video recorder (NVR) software
- NETGEAR ReadyNAS Surveillance client software and mobile apps (included in software)
- Power over Ethernet switches ranging from 5 ports to 50 or more
- Business WLAN components

Example scenario: Video surveillance and networking in the retail sector



ReadyNAS® network-attached storage

Network video recorder for video surveillance, video monitoring, file server, disk-to-disk backup

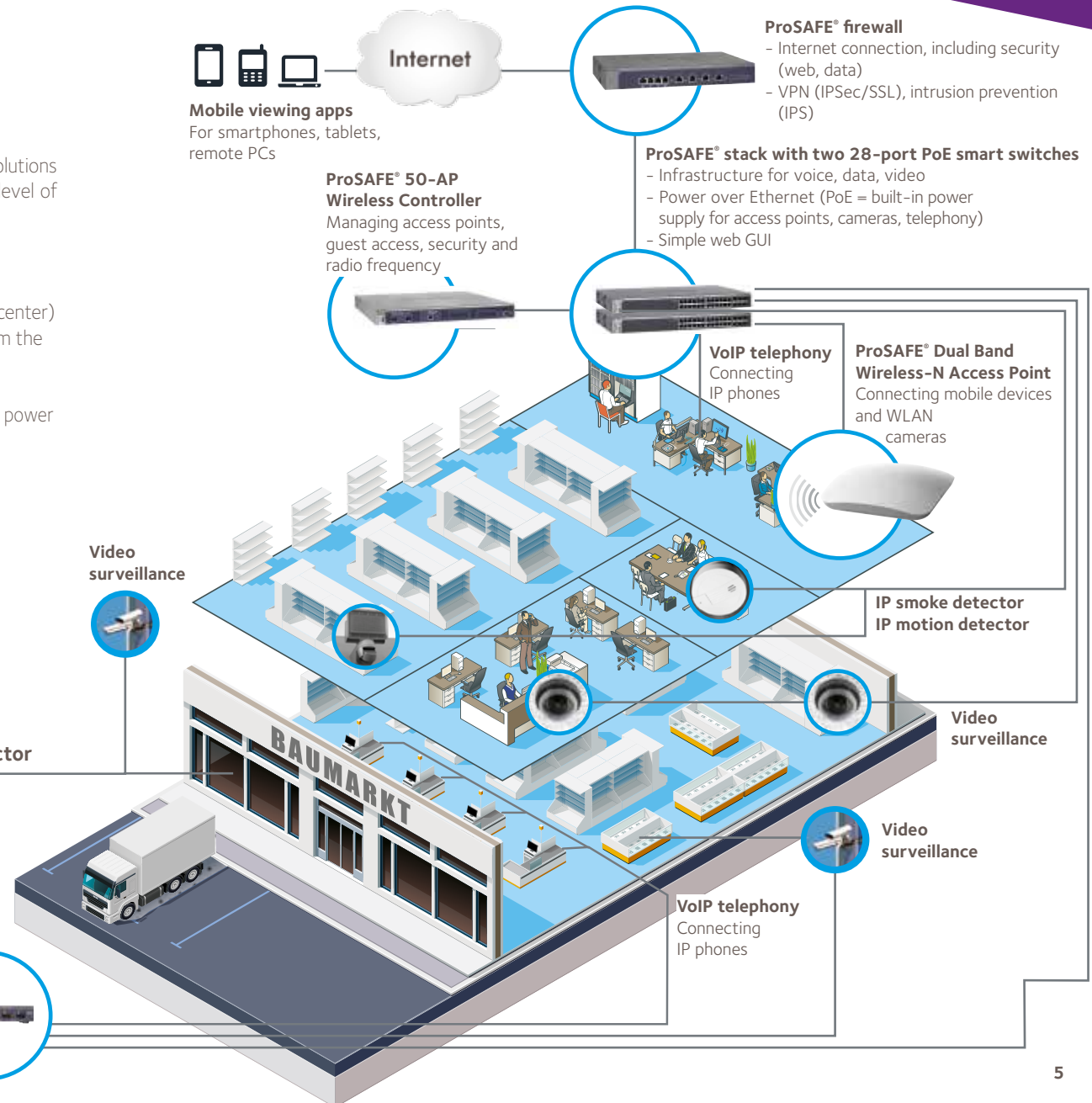
ProSAFE® 8-port PoE switch or PoE+

- Power over Ethernet (PoE = built-in power supply for outdoor and/or PTZ cameras, VoIP telephony, POS systems)



Control center and viewing

Client running surveillance software



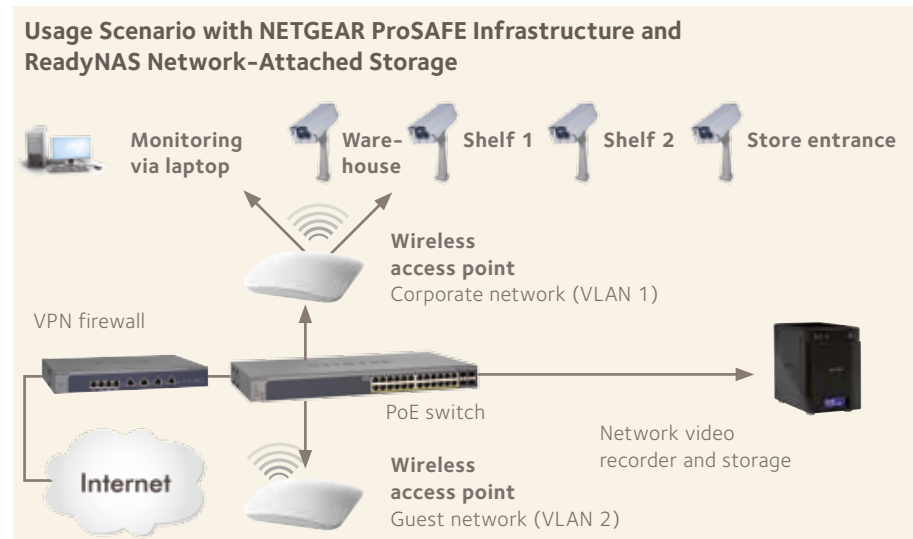
The "Brain" of the Video Surveillance Solution: ReadyNAS® Surveillance™

Why use ReadyNAS Surveillance software as the network video recorder component?

- ReadyNAS Surveillance offers the same functionality as complex high-end solutions but is much easier to manage
- ReadyNAS Surveillance also offers many more features than comparable entry-level solutions at the same price
- Easily installed on the NAS in the form of an app

Superior Hardware Components

- ReadyNAS systems for any application – 2–48 TB and up to 64 cameras per system
- Option of combining multiple storage systems
- Largest range of PoE switches in Europe



Fully Integrated Approach

- The software runs directly on the NAS
- Perfect interoperability with NETGEAR PoE switches
- ReadyNAS data backup functions also suitable for videos
- Supports over 2000 cameras

Genuine Business Features

- Intelligent search, e.g. recordings can be searched for movement, lost/unknown objects, camera occlusion, loss of focus
- Watermark for legal enforceability
- Privacy masking
- eMAP for event and device tracking
- Integration in various systems for point-of-sale surveillance, motion detection, door opening sensors, access control systems etc.



Point-of-sale (POS) systems for integrating video with POS/cash register data, e.g. Casio, IBM, Verifone



Access control systems (digital I/O, integration with nine leading suppliers)



Additional systems such as number plate recognition



Extensive playback functions

The "Brain" of the Video Surveillance Solution: ReadyNAS® Surveillance™

SME-Friendly Management

- Web-based management from anywhere
- UPnP search, auto-detection of cameras and GUI scheduling save time and effort
- Remote access and camera viewing via mobile terminals, browsers and free Windows-based software, for up to 128 cameras
- Drag-and-drop cameras, auto scan, preset point patrol and multiple viewing streams ensure easy, convenient surveillance



Simple management interface

Excellent Scalability and Flexibility

- Up to 64 cameras can be managed with each ReadyNAS system
- Multiple systems can be combined and centrally managed
- Simultaneous live view option for a maximum of 128 cameras using the Windows surveillance software
- 100% flexible licensing model based on licenses for one, two or four cameras – only pay for what you actually need
- ReadyNAS can be used simultaneously as a network video recorder (NVR) and for network-attached storage

Overview of ReadyNAS Surveillance NVR Software and Compatible ReadyNAS Storage Systems

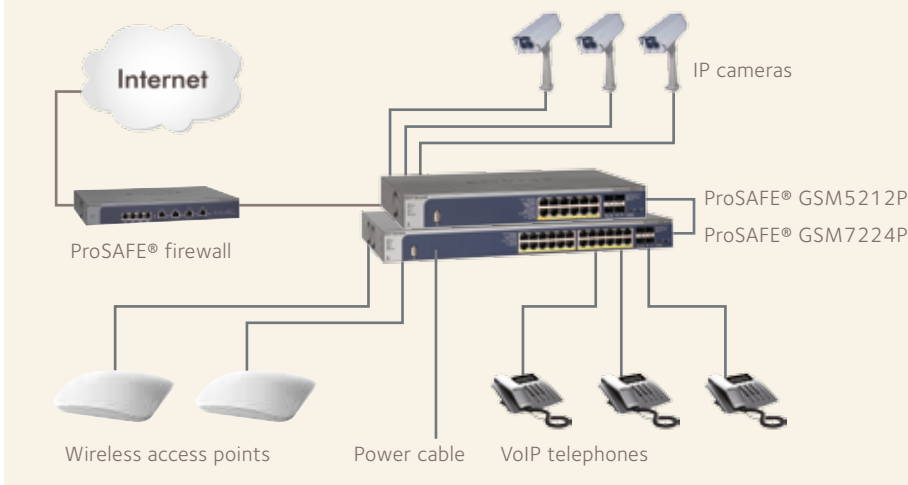
	ReadyNAS® Surveillance™	ReadyNAS® Surveillance™ Home
Max. number of cameras per ReadyNAS®	64	8
Recommended ReadyNAS® series/max. number of cameras	312/314/316: 16 516/3220: 32 716/4220: 64	102/104/2120: 8
Maximum camera connections per client	Live view: 128 cameras, playback: 16 users	Live view: 1, playback: 1 user
Recording options	Event (motion, digital input), continuous, timed	Continuous
eMAP	Yes	No
Camera input	Yes	No
Camera output	Yes	No
Motion detection (if supported by camera)	Yes	Yes
Lost connection	Yes	Yes
Alerts via email and camera	Yes	No
Integration of digital input triggers	Yes	No
Point of sale		Transaction data via TCP/IP, overlay text on live video, searchable transaction database
Web live view/playback	Yes	Yes
Windows management application for live view and playback	Yes, up to 128 cameras	No
Online scheduling tool	Bandwidth and storage calculator	Bandwidth and storage calculator
Dual stream	Yes, different streaming quality for remote viewing and recording	
ReadyNAS® models supported	ReadyNAS® 300 series ReadyNAS® 500/700 series ReadyNAS® 3220/4220	ReadyNAS® 100 series ReadyNAS® 2120
Clients	Browser, mobile, Windows application	Browser, mobile
Licensing	Free trial (64 cameras); license available to purchase on expiry	Single-camera license included
Authentication	Multi-tier user authentication (Admin, Power User, User, Guest)	Single user
Licenses	RNNVR01L-10000S: ReadyNAS® Surveillance™ single-camera license RNNVR02L-10000S: ReadyNAS® Surveillance™ two-camera license RNNVR04L-10000S: ReadyNAS® Surveillance™ four-camera license	RNNVR01L-10000S: ReadyNAS® Surveillance™ single-camera license RNNVR02L-10000S: ReadyNAS® Surveillance™ two-camera license RNNVR04L-10000S: ReadyNAS® Surveillance™ four-camera license

The "Backbone" of the Video Surveillance Solution: NETGEAR Switches

From wireless access points to network switches, NETGEAR offers a wide range of reliable, cost-effective and easily managed PoE solutions.

For a general overview of the range of NETGEAR ProSAFE PoE switches, see page 13.

Example with PoE Switch (GSM5212P) as PD and PSE



Outstanding Warranty and Support Services

- Lifetime warranty on all NETGEAR ProSAFE switches
- Lifetime next business day hardware replacement
- Lifetime software support

Overview of PoE Classes				
PoE Classes	Min. Power Supplied by Power Sourcing Equipment (PSE)	Max. Power for Powered Devices (PDs)	Description of Classes	Powered Devices (PDs)
1	4.0 W	0.44 W – 3.84 W	Very low power	IP telephone
2	7.0 W	3.84 W – 6.49 W	Low power	IP camera
3	15.4 W	6.49 W – 12.95 W	Medium power	Single-band wireless access point, video phone
4 (PoE+)	30.0 W	12.95 W – 25.50 W	High power	PTZ IP camera, dual band 11n wireless access point

Overview of Powered Devices (PDs)		
Product	Product Description	Power Consumption
GS108T	Gigabit smart switch	6 W
GSM5212P	Gigabit managed switch	15.4 W; max. 60 W
WG103	Wireless 11g access point	5 W
WNAP210	Wireless 11n access point	6 W
WNAP320	Wireless 11n access point	5.8 W
WNDAP350	Dual band wireless 11n access point	12.7 W
WNDAP360	Dual band wireless 11n access point	12.7 W
WNDAP620	3x3 dual band wireless 11n access point	8 W
WNDAP660	3x3 dual band wireless 11n access point	11.8 W

The "Heart" of the Video Surveillance Solution: NETGEAR Storage

NETGEAR ReadyNAS and ReadyDATA Storage

When selecting video surveillance solutions, it is particularly important that the storage solution provides not only the required capacity and performance but also the best possible warranty and support services.

More than Just Video Surveillance

The main advantage of a NAS device running surveillance software is that the storage device can also be set up to perform numerous additional tasks such as file sharing or backup, without the need to purchase a further device, as is the case with conventional "all-in-one" NVR systems. The software is extremely important if additional functions are to be supported. ReadyNAS and ReadyDATA from NETGEAR are the only solutions in this segment that, for example, allow users to perform a backup on the NAS as frequently as every hour without compromising performance.

This presents substantial benefits for data backup, making losses of data on the shared drive due to accidental deletion or data corruption a thing of the past.

NETGEAR ReadyNAS

ReadyNAS systems are particularly suitable for file serving and all backup requirements. They can also provide storage space for smaller virtualization environments. These systems are scalable up to 84 TB. ReadyNAS is also the platform on which the NETGEAR Surveillance video monitoring software runs. The solution is preinstalled and simply has to be enabled. Licenses are purchased on the basis of the number of cameras. NETGEAR is the only manufacturer in this segment that uses the BTRFS file system, allowing it to offer significantly superior data backup functions.

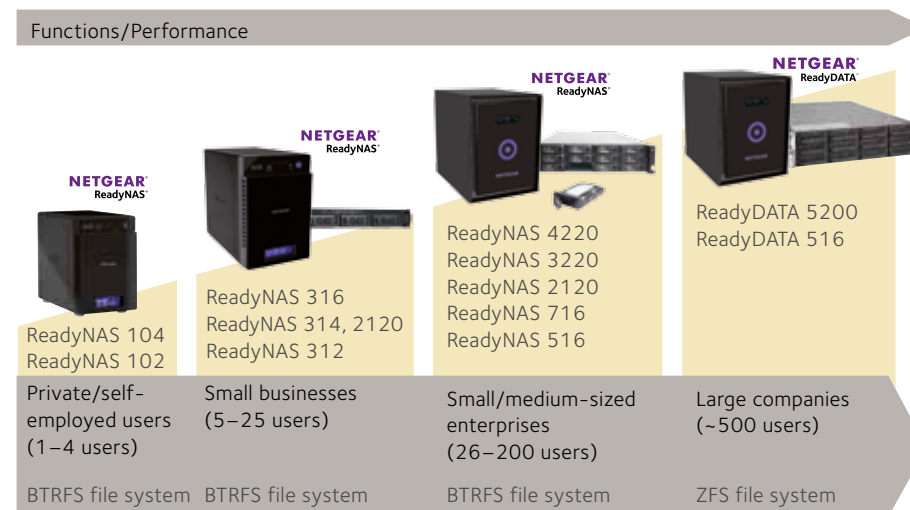
NETGEAR ReadyDATA

ReadyDATA is suitable for large and very large video surveillance systems using third-party software solutions.

ReadyDATA's scalability up to 360 TB and additional enterprise-class functions such as block-based replication, SSD caching or deduplication and capacities of up to 360 TB also make it suitable for the very largest video surveillance systems and more demanding

storage applications. The key advantage of ReadyDATA is that the customer acquires the functionality and performance typical of much more expensive devices at a considerably lower total cost. Furthermore, all licenses for the sophisticated data backup functions and 10 Gb connectivity are included in the price.

Range of NETGEAR Unified Storage Solutions for All Requirements

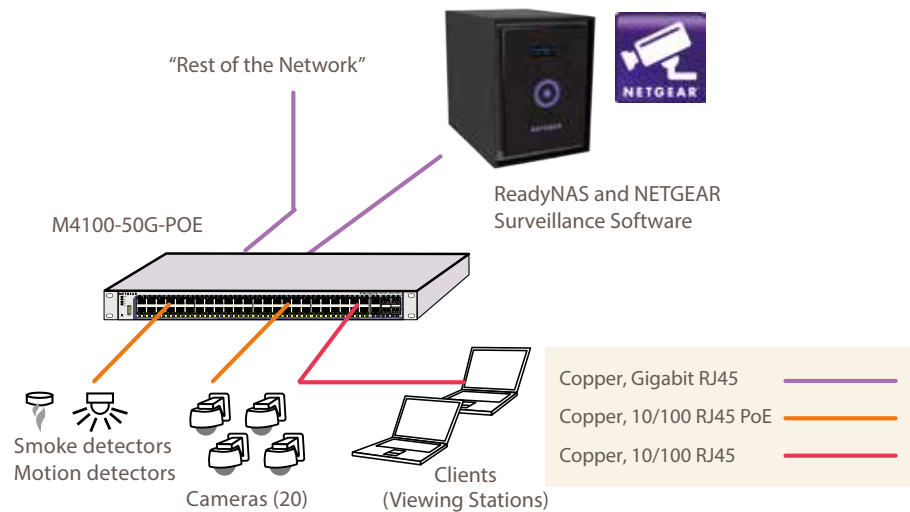


For a general overview of NETGEAR storage solutions, see page 14.

Superior Warranty and Support Services

- 5-year warranty on all NAS in 300 series or above
- 5-year next business day hardware replacement
- 5-year warranty on enterprise-class drives
- Lifetime software support

Sample Configuration 1-20 Cameras



The diagram shows a reference design for 20 IP cameras and one ReadyNAS. All traffic is managed from a central switch. This is a typical structure for smaller environments. Depending on the application, different cameras may be used.

The advantages of this setup are:

SIMPLICITY

- The switch can be configured via a central, easy-to-use web interface. It can also be managed using an industry-standard command line interface
- The switch uses PoE to power all cameras (with a total power budget of 380 W)
- The ReadyNAS system in a scenario like this may be a two, four or six-bay system from the 300 or 500 desktop series with a total capacity of, for example, 6x3 TB
- Thanks to the preinstalled video monitoring software, the system is ready for use in the shortest possible time. Over 2000 camera models are supported
- The licensing model for the system is based on one, two or four cameras
- The modern GUI allows the NAS system to be set up intuitively in just a few minutes

Minimal Impact on Bandwidth in the Rest of the Network

- The cameras transmit a unicast stream to the server, which then distributes multicast streams to the clients. This minimizes the load on the rest of the network
- The IGMP Querier and IGMP Snooper functions are integrated in the switch, enabling it to determine which ports have "interested" clients so that it can distribute all data to these ports. This eliminates unnecessary traffic and maximizes efficiency

Failure Protection and Data Backup

- Redundant power supply (RPS): The switch can be connected to an additional power supply that uses a different power source to ensure that the switch continues to operate 24/7
- External power supply (EPS): If the network's power consumption exceeds the PoE power budget, additional power can be supplied via an EPS module
- The ReadyNAS system protects data using RAID protection. It is also possible to use rsync to replicate the data to a second NAS system and thus protect against fire or theft

Bandwidth and Power Requirements for 20 IP Cameras	
Average bandwidth per camera	9.48 Mbit/s based on image resolution, compression type, frame rates and complexity
Total bandwidth for 20 cameras	9.48 Mbit/s x 20 = 190 Mbit/s
PoE class	1 (max. 2.7 W)
Total PoE power requirement	20 x 2.7 W = 54 W
Key NETGEAR Components	
Switch	M4100-50-POE (48 Fast Ethernet ports, PoE 802.3af, Layer 2+)
Storage	ReadyNAS Desktop series 300 or 500 with two, four or six drives
NVR software	NETGEAR Surveillance, five 4-camera licenses
Redundant power supply	RPS5412 (optimum one-to-one unit) or RPS4000 (for up to four switches)
External power supply	RPS4000 (additional power supply for up to four switches)

Sample Configuration Up to 128 Cameras

The design for 128 cameras consists of several IP subnets and associated VLANs without Layer 3 routing. All cameras are located in their own subnet, while the NAS systems are located in a separate subnet. The NETGEAR Surveillance monitoring software runs on the NAS system. Larger desktop systems are normally used, e.g. RN516 or RN716 (with a 10 GB connection) and the RN3220 and RN4220 rack-mount systems.

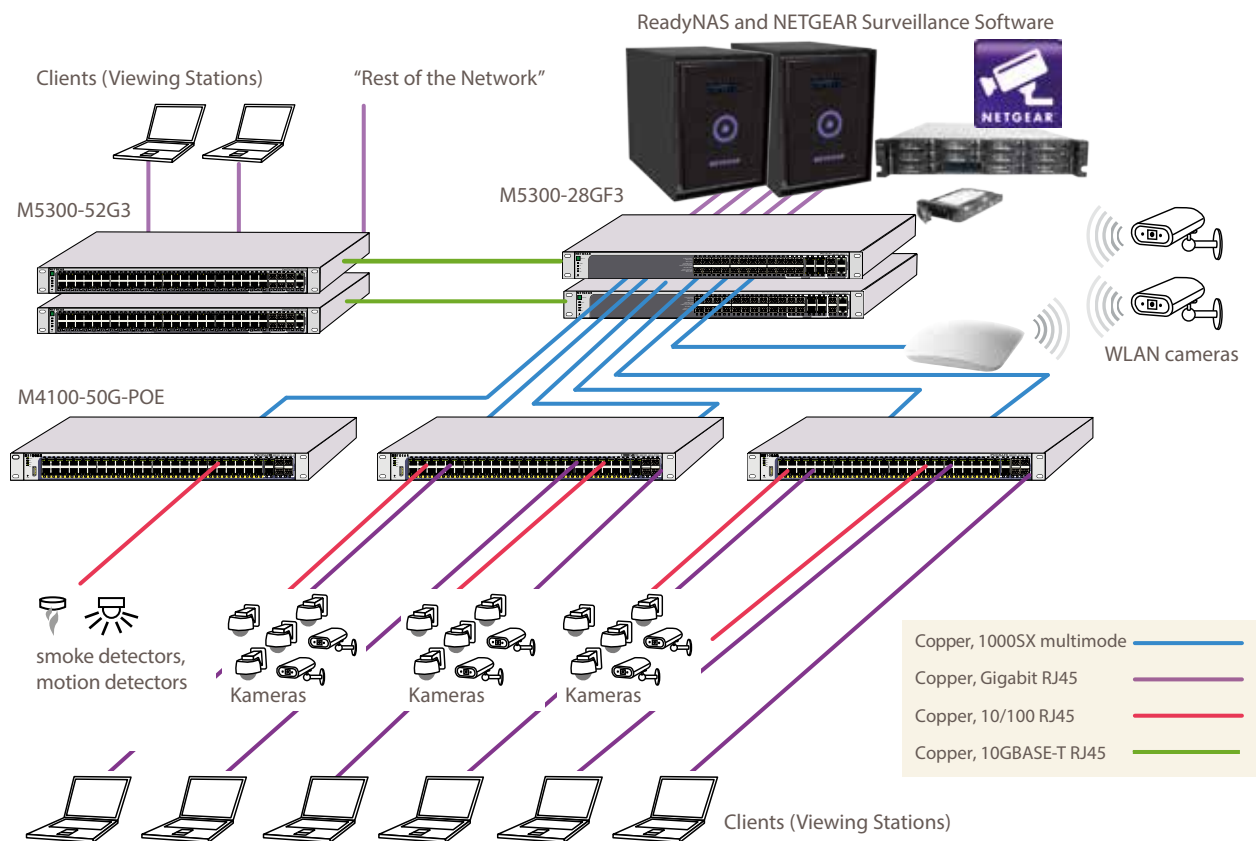
The clients may be located in yet another subnet. Each access layer switch connects and powers up to 40 cameras. All cameras are fixed Fast Ethernet models with or without the PTZ function, but can be powered by PoE.

The design results in a high-availability network with redundancies that provides an uninterrupted connection for cameras, clients and servers. This means a hardware failure has no critical effects and even key components can be replaced during operation.

The advantages of this design are:

SIMPLICITY

- The option of "private VLANs" on NETGEAR switches considerably simplifies the design, as all cameras are on the same Layer 2 network
- The NETGEAR Surveillance video monitoring system allows simultaneous live viewing of up to 128 cameras via the surveillance software
- Each NAS system supports up to 64 cameras. The licensing model for the system is based on one, two or four cameras
- Preinstalled software means that setting up and commissioning the system is straightforward
- The modern GUI allows the NAS system to be set up intuitively in just a few minutes
- If a DHCP server is available, there is no need to configure the individual cameras. Alternatively, the DHCP server included in NETGEAR switches (fully managed switches) can be used
- The redundant connections to the switches and servers allow advanced load balancing and seamless "trunked" failover in the event of an error
- The "multicast VLAN replication" (MVR) feature enables video streams from the access subnet to be distributed to any number of other subnets, completely avoiding the complexities of multicast routing to the clients



Sample Configuration Up to 128 Cameras

Minimal Effect on Bandwidth in the Rest of the Network

- The "private VLANs" allow all cameras to work separately from each other. Avoiding unnecessary transfers between the devices also saves bandwidth
- Additional bandwidth is saved by the IGMP Querier and IGMP Snooper functions
- Avoiding the use of the Spanning Tree Protocol (STP) further improves efficiency, as all links are active and load balancing is enabled

Bandwidth and Power Requirements for 128 IP Cameras	
Average bandwidth per camera	21.7 Mbit/s based on image resolution, compression type, frame rates and complexity
Total bandwidth for 40 cameras	21.7 Mbit/s x 40 = 868 Mbit/s
PoE class	1 (max. 2.7 W)
Total PoE power requirement	40x2.7 W = 108 W per access layer switch
Key NETGEAR Components	
Distribution layer switch	M5300-28GF3 (24-port Gigabit Fiber, 10 Gbit/s uplink, Layer 3)
Access layer switch	M4100-50-POE (48-port Fast Ethernet, PoE 802.3af, Layer 2+)
Remaining network switches	M5300-52G3 (48-port Gigabit Ethernet, 10 Gbit/s uplink, Layer 3)
Storage/video server	E.g. ReadyNAS 3220 or 4220, or ReadyDATA 5200
NVR software	NETGEAR Surveillance, up to 32 4-camera licenses
Redundant power supply	RPS5412 (optimum one-to-one unit) or RPS4000 (for up to four switches)
External power supply	RPS4000 (additional power supply for up to four switches)

Failure Protection

- Redundant power supplies protect against failure of the primary power supply for one of the switches and for the RN3220 and RN4220 rack-mount storage systems.
- The ReadyNAS system protects data using RAID protection. It is also possible to use rsync to replicate the data to a second NAS system and thus protect against fire or theft.
- This can be achieved for individual switches by installing the NETGEAR RPS5412 redundant power supply. If all switches are in the same rack, a NETGEAR RPS4000 can also be used to provide up to four switches with an alternative power supply.
- If more power is required than the 380 W provided by the M4100-50-POE switches, NETGEAR EPS external power supplies can provide up to 740 W.
- The redundant, stacked switches (two M5300-G28F3 switches and two M5300-52G3 switches), with switching times of less than one second, protect against hardware failure.

Configurations with More than 128 Cameras

NETGEAR network and storage components offer more than enough performance and capacity for surveillance systems with over 128 cameras. In this case, customers normally use third-party software solutions such as Milestone. Either NETGEAR ReadyNAS Rackmount

or the Rackmount version of the ReadyDATA product family are used as storage platforms, offering a total capacity of up to 360 TB. Both ReadyNAS 4220 and ReadyDATA 5200 also provide 10 Gbit Ethernet ports. We would be happy to help you compile and configure the components to suit your requirements – just give us a call!

Overview of NETGEAR PoE Switches

ProSAFE® SWITCHES WITH POE/POE+			
Model	Ports	PoE Ports	PoE Power Budget
UNMANAGED SWITCHES			
FS108P	8 x FE	4	53 W
FS116P	16 x FE	8	55 W
GS108P	8 x GbE	4	50 W
PLUS SWITCHES (Simple Management)			
GS105PE	5 x GbE	2 (PoE pass through: 20 W with AT in, 8 W with AF in)	20W or 8W
GS108PE	8 x GbE	4	53 W
JGS516PE	16 x GbE	8	85 W
JGS524PE	24 x GbE	12	100 W
SMART SWITCHES (Web-Based Management)			
GS110TP	8 x GbE + 2 SFP	8	46 W
GS510TP	8 x GbE + 2 SFP	8 (PoE+)	130 W
GS516TP	16 x GbE	8 (ports 15/16 pass through, up to 22 W)	76 W
FS726TP	24 x FE + 2 x GbE	12	100 W
FS728TP	24 x FE + 4 GbE	24	192 W
FS752TP	48 x FE + 4 GbE	48 (4 PoE+)	384 W
GS728TP	24 x GbE and 4 GbE dedicated SFP	24 (8 PoE+)	192 W
GS728TPP	24 x GbE and 4 GbE dedicated SFP	24 PoE+	384 W and up to 720 W with RPS
GS752TP	48 x GbE and 4 GbE dedicated SFP	48 (8 PoE+)	384 W
STACKABLE SMART SWITCHES			
GS728TPSB (incl. AGC761 stacking cable)	24 x GbE and 2 Combo SFP and 4 dedicated 1 G/2.5 G SFP	24 (8 PoE+)	192 W
GS752TPSB (incl. AGC761 stacking cable)	48 x GbE and 2 Combo SFP and 4 dedicated 1 G/2.5 G SFP	48 (8 PoE+)	384 W
M4100 SERIES MANAGED SWITCHES (L2+ STANDALONE)			
M4100-D10-POE (FSM5210P)	8 x FE + 2 x GbE Combo SFP	12	66 W
M4100-26-POE (FSM7226P)	24 x FE + 2 GbE Combo SFP	24	380 W
M4100-50-POE (FSM7250P)	48 x FE + 2 GbE Combo SFP	48	380 W and up to 720 W with EPS
M4100-D12G-POE+ (GSM5212P)	12 x GbE + 4 Combo SFP	12 (10 PoE+) and pass through, up to 25 W	125 W
M4100-12GF (GSM7212F)	12 x GbE with 12 shared SFP and 4 GbE PoE+	4 (PoE+)	150 W
M4100-12G-POE+ (GSM7212P)	12 x GbE + 4 Combo SFP	12 (12 PoE+)	380 W
M4100-26G-POE (GSM7226LP)	26 x GbE + 4 Combo SFP	24	192 W and up to 380 W with EPS
M4100-24G-POE+ (GSM7224P)	24 x GbE + 4 Combo SFP	24 (24 PoE+)	380 W and up to 720 W with EPS
M4100-50G-POE+ (GSM7248P)	50 x GbE + 4 Combo SFP	48 (48 PoE+)	380 W and up to 1,440 W with EPS
M5300 SERIES MANAGED SWITCHES (L2 + L3 STACKABLE)			
M5300-28G-POE+ (GSM7228PS)	24 GbE and 2 x 10GBASE-T (4 max.) and 2 x SFP+ (4 max.) and 4 Combo SFP	24 (24 PoE+)	380 W and up to 720 W with EPS
M5300-52G-POE+ (GSM7252PS)	48 GbE and 2 x 10GBASE-T (4 max.) and 2 x SFP+ (4 max.) and 4 Combo SFP	48 (48 PoE+)	380 W and up to 1,440 W with EPS
RPS/EPS OPTIONS			
PRODUCT	DESCRIPTION	ITEM NUMBER	
RPS4000	External/redundant power supply (up to four switches – RPS or EPS mode)	RPS4000-100NES/-100AJS	
APS1000W	Power modules for RPS4000	APS1000W-100NES/-100AJS	

Overview of NETGEAR Storage

	ReadyNAS 102	ReadyNAS 104	ReadyNAS 312	ReadyNAS 314	ReadyNAS 316	ReadyNAS 516	ReadyNAS 716	ReadyNAS EDA 500	ReadyNAS 2120	ReadyNAS 3220	ReadyNAS 4220S	ReadyNAS 4220X	ReadyDATA 5200	ReadyDATA 516
Recommended number of cameras	8	8	16	16	16	32	64	N/A	8	32	64	64	Depends on configuration	Depends on configuration
CPU	Marvell Armada 370, 1.2 GHz	Marvell Armada 370, 1.2 GHz	Intel Atom Dual Core 2.1 GHz	Intel Atom Dual Core 2.1 GHz	Intel Atom Dual Core, 2.1 GHz	Intel i3 Dual Core, 3.3 GHz	Intel® Xeon Ivy Bridge E3-1265Lv2, 2.5 GHz (Turbo 3.5 GHz) Quad Core	N/A	Marvell Armada XP (78230), 1.6 GHz, Dual Core	Intel Ivy Bridge i3-3220v2 Dual Core, 3.3 GHz	Intel Ivy Bridge Xeon E3-1225v2 Quad Core, 3.2 GHz	Intel Ivy Bridge Xeon E3-1225v2 Quad Core, 3.2 GHz	Intel Xeon Quad Core, 2.66 GHz	Intel Core i3 Ivy Bridge, 3.3 GHz
Memory	512 MB	512 MB	2 GB	2 GB	2 GB	4 GB ECC	16 GB ECC	N/A	2 GB	4 GB ECC	8 GB ECC	8 GB ECC	16 GB ECC	16 GB ECC
File system	BTRFS	BTRFS	BTRFS	BTRFS	BTRFS	BTRFS	BTRFS	N/A	BTRFS	BTRFS	BTRFS	BTRFS	ZFS	ZFS
Number of bays	2	4	2	4	6	6	6	5	4	12	12	12	12-60	6
Recommended number of users	1-4	1-4	5-25	5-25	5-25	26-250	100-500	N/A	5-25	26-250	50-500	50-500	50-500	26-250
1 GE ports	1	2	2	2	2	2	2 (10GBase-T)	N/A	2	4	4	4	2	2
10 GE ports	0	0	0	0	0	0	2	N/A	0	0	2 (SFP+)	2 (10GBase-T)	2	0
Power	Single	Single	Single	Single	Single	Single	Single	Single	Single	Dual hot swappable	Dual hot swappable	Dual hot swappable	Dual hot swappable	Single
USB ports (3/2)	2/1	2/1	2/1	2/1	2/1	2/1	2/1	N/A	2/1	2/2	2/2	2/2	2	0
eSATA ports	1	1	1	2	2	3	3	1	2	2	2	2	2	0
Total capacity	12 TB	16 TB*	42 TB w/ EDA TB	84 TB w/ EDA TB	96 TB w/ EDA TB	126 TB w/ EDA TB	126 TB w/ EDA TB	30 TB	16 TB*	72 TB	72 TB	72 TB	240 TB	24 TB
HDD types	2.5" SSD/SATA or 3.5" SSD/SATA												SSD, SAS, NL-SAS, SATA, SSD caching	SSD, SATA, SSD caching

* 16 TB per volume limit

Additional Resources



- [NETGEAR video surveillance solution pages on our website:](#)

- [NETGEAR bandwidth calculator:](#)

- [Range of hardware products:](#)

- [List of supported cameras:](#)

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