NETGEAR® BUSINESS

Experience the New Generation of Gigabit Smart Switch with Remote/Cloud Management

The NETGEAR® new GS748Tv6 Gigabit Smart switch offers new, powerful L2+/ Layer 3 Lite features with enhanced performance and usability. It is purposely designed for the future where increased traffic and application-oriented tasks demands more intelligence at the edge, higher realiability and improved network efficiency on top of operational cost savings and ease of management.

The GS748T comes with 48 Gigabit Ethernet ports with 2 dedicated Gigabit SFP and 2 combo copper/SFP ports, all with increased number of simultaneously connected ports.

This new Gigabit Smart switch GS748Tv6 with Remote/Cloud Management from NETGEAR is the optimized solution providing the best value at an affordable SMB price point.

Highlights

Designed for Converged Network, Big or Small

- Gigabit speed with non-blocking architecture supporting 100% Gigabit throughput

- Auto Voice VLAN for fast and reliable deployment of VoIP

- Auto Video VLAN, following the same concept of Auto Voice, help speed up your deployment of IP-based surveillance system

- Static routing, helps to route internal traffic for more efficient use of network resources

- IGMP and MLD snooping, providing advanced multicast filtering

Build a Future-proof Network with NETGEAR

- Solid performance with non-blocking architecture, 16K MAC addresses, 256 VLANs, 100 shared ACL entries, 32static routes, and 512 Multicast Groups

- Comprehensive IPv6 supporting management, QoS and ACL, ensuring investment protection and a smooth migration to IPv6-based network

- Up to 4 SFP ports offer more connectivity ports and providing better value and usability at no extra cost

- Energy Efficient Ethernet (IEEE802.3az) support for more energy saving in the future when more IEEE-compliant end devices come to market

- Advanced QoS with IPv4/ IPv6 traffic filtering and prioritization

- Dynamic VLAN assignment for easy user authentication and location-independent access to network

- Multicast VLAN Registration for eliminating unnecessary multicast traffic and improve the efficiency of network utilization

Network Development Made Easy

- Auto Voice VLAN for easy development of VoIP

- Auto Video for simple deployment of IP Surveillance

- ACL Wizard for a guided tour to set up your network access control

Fully-integrated cloud-manageable devices

- Remote/Cloud Management capability with NETGEAR Insight. Instantly activate NETGEAR Insight Cloud management from the web GUI, for simpler   configuration and deployment from anywhere using the NETGEAR Insight app on mobile devices or the Insight Cloud portal through a web browser

Small IT, not Big IT

- Easy to manage via web-based management GUI for multi-switch deployment

- Standard-based technology, ensuring interoperability with any standard-based devices in the existing network

- Dual firmware images, improving reliability and uptime to your network

- Worry-free with NETGEAR limited lifetime hardware warranty*

Hardware-at-a-Glance

Model Name	Form-Factor	FRONT		REAR	
		10/100/1000Base-T RJ45 ports	100/1000X Fiber SFP ports	Power Supply	Fans
GS748T	Rack mount	48	2 (Dedicated) + 2 (Combo)	Internal	2

GS748T: 48-port 1000base-T Gigabit Smart Switch

- 48 Gigabit copper ports
- 2 dedicated SFP ports and 2 combo copper/SFP ports

Software-at-a-Glance

Management	IPv4 / IPv6 Multicast filtering	Auto-VoIP	EEE (802.3az) Auto-EEE	VLANs	Convergence
NETGEAR Insight mobile app or Insight Cloud Portal for local or remote management	IGMP and MLD Snooping	Yes	Yes	Static, Voice Video, MAC, Protocol-based	LLDP-MED, RADIUS, 802.1X

Performance-at-a-Glance

Model Name	Packet buffer	ACLs	MAC address table VLANs Multicast Group	Fabric	Static Routes IP interfaces
GS748T	2MB	100 shared ACLs (MAC, IP4 and IPv6)	16K MAC 256 VLANs 512 Multicast Groups	100Gbps line-rate	32 static routes IPv4

Features and Benefits

Hardware Features	
Dedicated SFP Fiber Uplinks	Dedicated SFP ports provides fiber uplinks without sacrificing any down-link Gigabit port. Up to 4 SFP ports provide not only redundant uplinks, but can also build dual redundancy by a trunked uplink with link aggregation and failover, the dual-redundancy, a powerful design for the network virtualization
Low Acoustics	Temperature-based fan-speed control minimizes system acoustic noise in any environment starting at 37.20dBA at 25°C (77°F) ambient.
Energy Efficient Ethernet (IEEE 802.3az)	Maximum power reduction for onging operational cost savings
Software Features	
Dynamic VLAN Assignment	IP phones and PCs can authenticate on the same port but under different VLAN assignment policies. Users are free to move around and enjoy the same level of network access regardless of their physical location in the network
Static Routing	A simple way to provide segmentation of the network with internal routing through the switch – reserving the router for external traffic routing only, making the entire network more efficient
Comprehensive IPv6 Support for Management, ACL and QoS	Build current network with future in mind. Ensure investment protection and a smooth migration to IPv6-based network without switch replacement
IGMP Snooping and MLD Snooping	Facilitate fast receiver joins and leaves for multicast streams. Save cost and improve network efficiency by ensuring multicast traffic only reaches designated receivers without the need of an extra multicast router.
Robust Security Features: • 802.1x authentication • DHCP Snooping • Port-based security by locked MAC • ACL filtering to permit or deny traffic based on MAC and IP addresses	Build a secured, converged network with all types of traffic by preventing external attacks and blocking malware while allowing secure access for authorized users
Auto Voice and Auto Video	Automatic Voice over IP prioritization with Auto-VoIP simplifies most complex multi-vendor IP telephones deployments either based on protocols (SIP, H323 and SCCP) or on OUI bytes (default database and user-based OUIs) in the phone source MAC address; providing the best class of service to VoIP streams (both data and signaling) over other ordinary traffic by classifying traffic, and enabling correct egress queue configuration. When deployed IP phones are LLDP-MED compliant, the Voice VLAN will use LLDP-MED to pass on the VLAN ID, 802.1P priority and DSCP values to the IP phones, accelerating convergent deployments
Comprehensive QoS Features: • Port-based or 802.1p-based prioritization • Layer 3-based (DSCP) prioritization • Port-based egress rate limiting	Advanced controls for optimized network performance and better delivery of mission-critical traffic such as voice and video
DHCP Snooping	Ensure IP address allocation integrity by allowing only clients with specific IP/MAC addresses to have access to the network
Dual Firmware Images and Configuration Files	Dual firmware image and dual configuration file for transparent firmware updates/configuration changes with minimum service interruption

Software Features (continued)

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Protected Ports	Ensure no exchange of unicast, broadcast, or multicast traffic between the protected ports on the switch, therefore, improve the security of your converged network where your sensitive phone conversation can stay private and your surveillance video clips can be forwarded to their designated storage device without leakage or alteration
Dynamic ARP Inspection	Prevents a class of man-in-the-middle attacks, where an unfriendly station intercepts traffic for other stations by poisoning the ARP caches of its unsuspecting neighbors
Multicast VLAN Registration	Eliminates the replication of the same multicast traffic for every VLAN by sending multicast traffic only on to the dedicated multicast/source VLAN, resulting in more efficient utilization of network bandwidth

Example Application

Converged Network Application

GS748T

Internet

File Servers
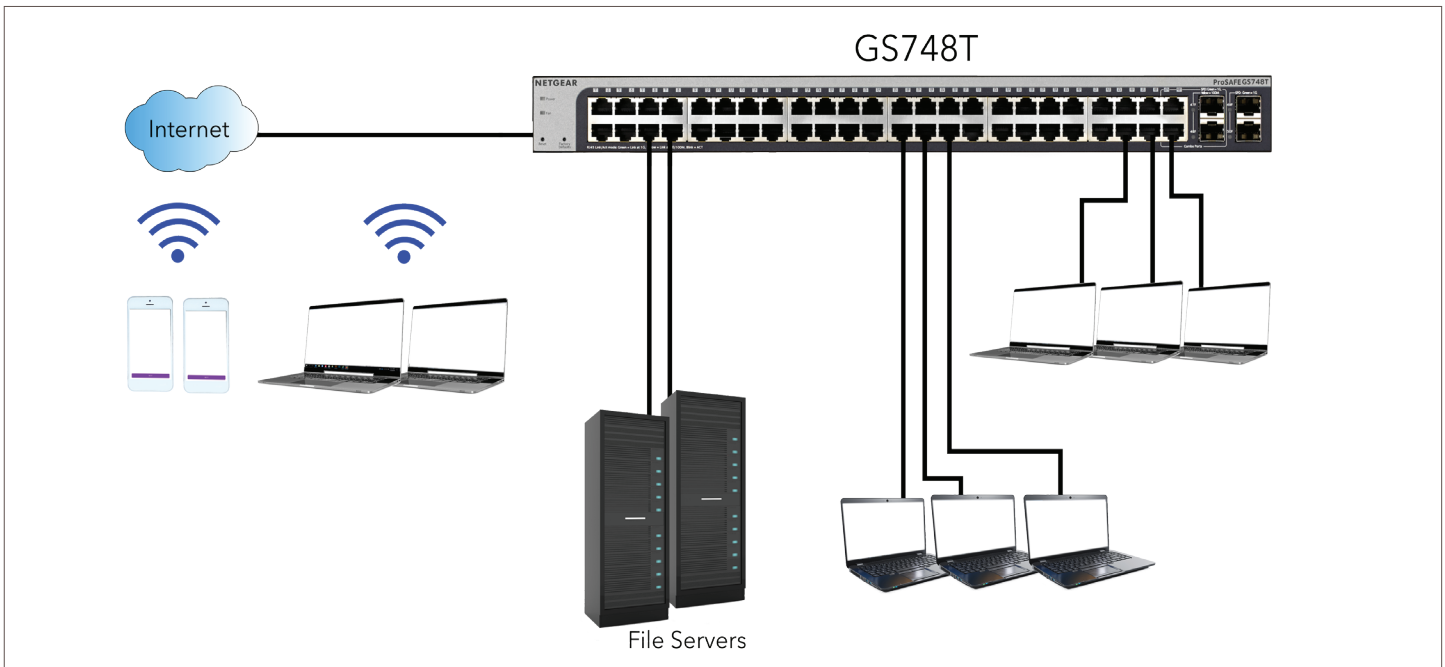
Why is the NETGEAR latest generation of Gigabit Smart switch the right choice for SMBs?

NETGEAR Gigabit Smart switches offer the best return on your investment:

- Well-staged for future network upgrade with Gigabit to desktop and network virtualization

- Cost-effectively bring intelligence to the edge of the network with traffic management features from the Smart switches

- Improved usability for easier and smoother deployment of voice, video and WLAN on the same converged platform

- Limited lifetime* warranty for peace-of-mind

NETGEAR ®
INSIGHT

Simply activate NETGEAR Insight Cloud management to manage your network. Anytime. Anywhere.

Activating NETGEAR Insight Cloud management enables users to experience simpler configuration and deployment from anywhere using the NETGEAR Insight app from mobile devices or the Insight Cloud portal from any device with a web browser.

Unique advanced management features of these Insight managed devices include:

* Remote monitoring and management with performance dashboards and troubleshooting features including remote reboot, port and PoE advanced configuration including remote enable/disable/power-cycle, PoE scheduling, and firmware updates with auto-schedule mode

* Single pane-of-glass multi-device, multi-network, and multi-site remote monitoring and notifications with the NETGEAR Insight app

* Full-fledged local or remote access for configuration, management, and monitoring on a larger display using your tablet, laptop, or desktop computer through the NETGEAR Insight Cloud portal

* Configurable in-app and email alerts and notifications

* Auto-join and configure (zero-touch provisioning) for additional Insight managed devices added to the network

* Centralized network configuration (policies) across Insight managed switches, and access points for VLANs, ACLs, QoS, LAGs, etc.

* Cloud-based network administration, monitoring, and firmware management

For more information about NETGEAR Insight-manageable device settings, please see at:
https://www.netgear.com/support/product/Insight.aspx

✔ TOTAL NETWORK SOLUTION

As a part of NETGEAR's Total Network Solution, this product is compatible with a wide range of routers, access points and switches that can be remotely managed through the Insight Remote Cloud Management platform.

Find out more: www.netgear.com/total

Technical Specifications	GS748Tv6
Interfaces	48 10/100/1000 Mbps auto-sensing Gigabit-Ethernet switching ports, and two dedicated 1000Mbps SFP fiber ports, and two combo 1000Mbps SFP fiber ports
Unified Network Management (Discovery, Setup, Monitoring, And Management)	
Discovery, setup, monitoring and management	NETGEAR Insight mobile app on phone or tablet; Insight Cloud portal from PC, Mac, or tablet web browser
Remote/Cloud management	Anywhere, anytime, from the palm of your hand using Insight mobile app or from any PC, Mac, or tablet web browser using the Insight Cloud portal
Centralized network configuration (policies)	Centralized network configuration (policies) across Insight managed switches, and wireless access points for VLANs, ACLs, QoS, and LAGs
Device auto-join and configure (zero-touch provisioning)	Additional Insight managed devices added to the network automatically inherit the network configuration
Multi-site, multi-network single pane-of-glass view	Manage multiple sites, locations, and networks in a single view using the Insight mobile app or Insight Cloud portal
Multi-switch, multi-port concurrent configuration for ACLs, VLANs, QoS, PoE, etc	Apply settings and policies on multiple ports across multiple switches all at the same time using the Port Config Wizard
Performance Specification	
Forwarding modes	Store-and-forward
Packet Buffer	2MB
Bandwidth	100Gbps
Priority queues	8
Priority queuing	Weighted Round Robin (WRR)
MAC Address database size	16k media access control (MAC) addresses
Addressing	48-bit MAC address
Multicast groups	512
Number of static routes	32
Number of routed VLANs	15
Number of ARP Cache entries	512
Number of DHCP snooping bindings	8K
Number of DHCP static entries	1024
ACL	100 shared for MAC, IP and IPv6 ACLs
Jumbo frame support	up to 9K packet size
Acoustic noise (ANSI-S10.12)	37.2 dBA
Mean Time Between Failures (MTBF)	390,728 hours (44.6 years)
L2 Services - VLANs	
IEEE 802.1Q VLAN Tagging	Yes
Protocol based VLANs	Yes
MAC based VLANs	Yes
Voice VLAN	Based on phones OUI bytes (internal database, or user-maintained) or protocols (SIP, H323 and SCCP)
Protocol-based VLAN	Yes

Network Security	GS748Tv6
IEEE 802.1x	Yes
Guest VLAN	Yes
RADIUS based VLAN assignment via .1x	Yes
MAC-based .1x	Yes
RADIUS Accounting	Yes
Network Storm Protection, DoS	Yes
Broadcast, Unicast, Multicast DoS Protection	Yes
DoS Attacks	Yes
Dynamic ARP inspection	Yes
L2 Services - Availability	
IEEE 802.3ad - LAGs	Yes
LACP	Yes (26 LAGS with max. of 8 members in each LAG)
Broadcast Storm Control	Yes
IEEE 802.3x (Full Duplex and flow control)	Yes
IEEE 802.1D Spanning Tree Protocol	Yes
IEEE 802.1w Rapid Spanning Tree	Yes
IEEE 802.1s Multiple Spanning Tree	Yes
L2 Services - Multicast Filtering	
IGMP Snooping (v1, v2 and v3)	Yes
MLD Snooping Support (v1 and v2)	Yes
IGMP Snooping Queries	Yes
Block Unknown Multicast	Yes
Multicast VLAN Registration	Yes
L2 Services - Multicast Filtering	
IGMP Snooping (v1, v2 and v3)	Yes
MLD Snooping Support (v1 and v2)	Yes
IGMP Snooping Queries	Yes
Block Unknown Multicast	Yes
Multicast VLAN Registration	Yes
L3 Services - DHCP	
DHCP Client	Yes
DHCP Snooping	Yes
L3 Services - IPv4 Routing	
Static Routing	Yes
VLAN Routing	Yes
IP Source Guard	Yes

Network Monitoring and Discovery Services	GS748Tv6
802.1ab LLDP	Yes
SNMP	v1, v2c, v3
RMON 1,2,3,9	Yes
Network Traffic	
Access Control Lists (ACLs)	L2 / L3 / L4
IP-based ACLs (IPv4 and IPv6)	Yes
MAC-based ACL	Yes
TCP/UDP-based ACL	Yes
MAC lockdown	Yes
MAC lockdown by the number of MACs	Yes
IEEE 802.1x Radius Port Access Authentication	Yes
Network Traffic	
Port-based security by locked MAC addresses	Yes
Dynamic VLAN Assignment	Yes
Dynamic ARP inspection	Yes
Quality of Service (QoS)	
Access Lists	Yes
L2 MAC, L3 IP and L4 Port ACLs	Yes
Egress rate limiting	Yes
Support for IPv6 fields	Yes
DiffServ QoS	Yes
IEEE 802.1p COS	Yes
Dst MAC and IP	Yes
IPv4 and v6 DSCP	Yes
IPv4 and v6 TOS	Yes
WRR (Weighted Round Robin)	Yes
Strict Priority Queue Technology	Yes
Auto-VoIP	Yes, based on protocols (SIP, H323 and SCCP) or on OUI bytes (default database and user-based OUIs) in the phone source MAC address
Auto Video	Yes
Port Mirroring	Yes

IEEE Network Protocols	GS748Tv6
• IEEE 802.3 Ethernet • IEEE 802.3i 10BASE-T • IEEE 802.3u 100BASE-T • IEEE 802.3ab 1000BASE-T • IEEE 802.1Q VLAN Tagging • IEEE 802.3x Full-Duplex Flow Control • IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX • IEEE 802.3ae 10-Gigabit Ethernet • IEEE 802.3ad Trunking (LACP)	• IIEEE 802.1AB LLDP with ANSI/TIA-1057 (LLDP-MED) • IEEE 802.1p Class of Service • IEEE 802.1D Spanning Tree (STP) • IEEE 802.1s Multiple Spanning Tree (MSTP) • IEEE 802.1w Rapid Spanning Tree (RSTP) • IEEE 802.1x Radius network access control

Management	
Password Management	Yes
Configurable Management VLAN	Yes
Admin Access Control via Radius and TACACS+	Yes
Web-based Graphical User Interface (GUI)	Yes
IPv6 Management	Yes
Dual Software (firmware) Image	Yes
Dual Configuration File	Yes

Management	
SNTP Client over UDP Port 123	Yes
SNMP v1/v2C	Yes
SNMP v3 with Multiple IP Addresses	Yes
RMON 1,2,3,9	Yes
Port Mirroring	Yes
Many to One Port Mirroring	Yes
Cable Test Utility	Yes
SSL/HTTPS and TLS v1.2 and v1.3 for Web-based access	Yes
File Transfers (uploads, downloads)	TFTP / HTTP
HTTP Download (firmware)	Yes
Syslog (RFC 3164)	Yes

LEDs	
Per Port	Speed, Link, Activity
Per Device	Per Device Power and Fan

Physical Specifications	
Weight (kg)	3.46 kg (7.63 lb)
Dimensions (WxDxH) mm	440 x 257 x 43 mm (17.3 x 10.1 x 1.7 in)

Power Consumption (when all ports used, line-rate traffic and max PoE if applicable)	GS748Tv6
Worst case, all ports used, line-rate traffic	41.1W
Environmental Specifications	
Operating	
Operating Temperature	32° to 122°F (0° to 50°C)
Humidity	90% maximum relative humidity, non-condensing
Altitude	10,000 ft (3,000 m) maximum
Storage	
Storage Temperature	– 4° to 158°F (–20° to 70°C)
Humidity (relative)	(relative) 95% maximum relative humidity, non-condensing
Altitude	0,000 ft (3,000 m) maximum
Electromagnetic Emissions and Immunity	
Certifications	CE mark, commercial FCC Part 15 Class A, VCCI Class A ICES-003 Class A, KC class A, UKCA class A, BSMI class A; RCM class A
Safety	
Certifications	CE, UKCA, CB, CSA, RCM, BSMI
Warranty and Support	
Hardware Limited Warranty	Limited Lifetime*
Lifetime 24x7 online Technical Support*	Limited Lifetime*
Lifetime Next-Business-Day (NBD) Replacement	Limited Lifetime*
ProSUPPORT OnCall 24x7**	Category 1 PMB0311 (1 yr) PMB0331 (3 yr) PMB0351 (5 yr)
Package Contents	
All models	Gigabit Smart switch Power cord Rack mount kit Installation guide

Ordering Information	
GS748T	
GS748T-600AUS	Australia and New Zealand
GS748T-600EUS	Europe, including United Kingdom
GS748T-600INS	India
GS748T-600JPS	Japan
GS748T-600KOS	South Korea
GS748T-600NAS	North America, Latin America
GS748T-600PES	Middle East
GS748T-600PRS	China
GS748T-600TWS	Taiwan
GS748T-600UKS	Hong Kong and Singapore
Optional Modules, Software License and Accessories	
AGM731F	1000Base-SX SFP GBIC (Multimode)
AGM732F	1000Base-LX SFP GBIC (Single mode)
AGM734-10000S	SFP Transceiver 1000BASE-T Copper RJ45 GBIC
AFM735-10000S (GS748T combo port only)	100Base-FX SFP LC GBIC