Go Beyond Network Connectivity with Easy Management

Today’s growing businesses demand and rely more on their network to carry out mission critical business activities. Companies are putting more network traffic and applications on their Ethernet infrastructure. For example, the increasing deployments of VoIP phones and IP cameras require more than simple plug-and-play connectivity. It needs the network intelligence to separate the voice and video traffic from data, and prioritize them accordingly.

Smart Managed Plus Switches meet this growing need by providing fundamental network features that will help optimize the performance of business networks. Smart Managed Plus Switches also offer traffic monitoring for users to observe traffic behavior. If there are connectivity issues, these switches can identify and even locate connection problems via cable diagnostic test. To optimize traffic through the switches, Smart Managed Plus Switches offer both port and tag-based prioritization to keep latency-sensitive traffic moving ahead of less critical packets. Also, Smart Managed Plus Switches offer port and 802.1Q-based VLAN as a means of improving security and network performance.

Smart Managed Plus Switches are an upgrade from the plug-and-play Unmanaged Switch, delivering great value for empowering your network, delivering great value to the end user.

### Highlights

#### Hardware Highlights
- 48 - Port Gigabit
- 2 - Port SFP for fibre uplinks
- Rack-mount or Desktop
- Internal power supply to eliminate power brick
- No fan for silent operation
- 50°C Maximum Operating Temperature

#### Software Highlights
- VLAN support for traffic segmentation
- Quality of Service (QoS) for traffic prioritization
- Auto “denial-of-service” (DoS) prevention
- Link Aggregation to add redundancy and increase your network speed
- Loop prevention and broadcast storm controls
- IGMP snooping v1, v2 and v3 support for multicast optimization
- Rate limiting for better bandwidth allocation
- Port mirroring for network monitoring
- Jumbo frame support
- Energy Efficient Ethernet (IEEE802.3az) support for maximum power savings
- Troubleshoot connection issues via cable test

#### Industry Leading Warranty
- LIFETIME 24/7 Technical Support
- LIFETIME Next Business Day Replacement
- LIFETIME Hardware Warranty*
Hardware at a Glance

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Form-Factor</th>
<th>10M/100M/1G Copper Ports</th>
<th>Internal Power Supply</th>
<th>1G SFP Ports</th>
<th>LED's</th>
<th>Case Material</th>
<th>Fans</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS750E</td>
<td>Rackmount/Desktop</td>
<td>48</td>
<td>Yes</td>
<td>2</td>
<td>Power, Port Link/Speed/Activity</td>
<td>Metal</td>
<td>Fanless</td>
</tr>
</tbody>
</table>

- 48 x Gigabit Copper Ports
- 2 x SFP Ports

Software at a Glance

<table>
<thead>
<tr>
<th>LAYER 2 FEATURES</th>
<th>Management</th>
<th>VLANs</th>
<th>QoS</th>
<th>Port Trunking (Manual LAG)</th>
<th>IP Multicast Filtering</th>
<th>Rate Limiting &amp; Priority Queueing</th>
<th>Jumbo Frame Support</th>
<th>IEEE (802.3az) Energy Efficient Ethernet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Browser-based GUI (HTTP), PC-Based ProSAFE Plus Utility</td>
<td>Port-based, IEEE 802.1Q-based, Voice VLAN, Video VLAN</td>
<td>Port-based, IEEE 802.1p/DSCP-based</td>
<td>Static LAG and LACP</td>
<td>IGMP Snooping</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

Performance at a Glance

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Fabric</th>
<th>Packet buffer</th>
<th>Latency (Max Connection Speed)</th>
<th>VLANS</th>
<th>MAC Address Table VLANs</th>
<th>Priority Queues</th>
<th>Multicast IGMP Group</th>
<th>Packet Forwarding Rate (64 byte)</th>
<th>Jumbo Frames (bytes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS750E</td>
<td>100Gbps line-rate</td>
<td>1.5MB</td>
<td>10Mbps: &lt;32µs 100Mbps: &lt;6µs 1000Mbps: &lt;4µs</td>
<td>4K</td>
<td>16K Entries (dynamic)</td>
<td>8 (WRR)</td>
<td>128</td>
<td>11.9 Mfps</td>
<td>up to 9K</td>
</tr>
</tbody>
</table>
## Features at a glance

<table>
<thead>
<tr>
<th>HARDWARE FEATURES</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rackmount form factor with fanless design</td>
<td>Adapts to your needs and configuration in any environment, even noise-sensitive (in a classroom, in a conference room, in a doctor’s office…)</td>
</tr>
<tr>
<td>50° C Maximum Operation Temperature</td>
<td>Built with top quality components that allows the switch to work in small IT cabinets.</td>
</tr>
<tr>
<td>100Gbps non-blocking switching architecture</td>
<td>Get all the connectivity you need to your devices without congestion.</td>
</tr>
<tr>
<td>2 extra active SFP ports to be used as a fiber uplinks</td>
<td>Add fiber to your network to avoid any interference.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOFTWARE FEATURES</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port-based and 802.1Q-based VLANs</td>
<td>Segment network into smaller groups for more secure and efficient use of network resources.</td>
</tr>
<tr>
<td>Comprehensive QoS features:</td>
<td>Advanced controls for optimized network performance and better delivery of mission-critical traffic such as voice and video. Ingress and egress rate limiting allows for bandwidth shaping for mitigating network resources constraints or for optimizing guest access bandwidth on the network.</td>
</tr>
<tr>
<td>• Port-based or 802.1p-based prioritization</td>
<td></td>
</tr>
<tr>
<td>• Layer 3-based (DSCP) prioritization</td>
<td></td>
</tr>
<tr>
<td>• Port-based ingress and egress rate limiting</td>
<td></td>
</tr>
<tr>
<td>IGMP Snooping</td>
<td>For improved network efficiency on delivering multicast traffic. Save cost and improve network efficiency by ensuring multicast traffic only reaches designated receivers without the need of an extra multicast router.</td>
</tr>
<tr>
<td>Port trunking / Link Aggregation</td>
<td>Build up bigger bandwidth to support aggregated uplink/downlink traffic or to provide redundant link(s) using Static Manual LAGs or LACP.</td>
</tr>
<tr>
<td>Voice VLAN</td>
<td>The feature enables auto assignment of voice traffic (based on OUI) to a special VLAN (aka Voice VLAN), allowing the assignment of special QoS parameters to that traffic, giving it high priority services. Port has to be MANUALLY assigned to be a member of the Voice VLAN.</td>
</tr>
<tr>
<td>Loop prevention and auto DoS prevention</td>
<td>Detect and prevent accidental network loops and protect against DoS attacks.</td>
</tr>
<tr>
<td>Port Mirroring</td>
<td>For better and quicker network diagnostics and troubleshooting.</td>
</tr>
<tr>
<td>Energy Efficient Ethernet (IEEE 802.3az)</td>
<td>For maximum power savings and reduced energy costs.</td>
</tr>
<tr>
<td>Cable Test</td>
<td>Easily identify bad Ethernet cables.</td>
</tr>
</tbody>
</table>
Example Application

GS750E in a Business Environment

**Why Smart Managed Plus Switches from NETGEAR?**

Why the NETGEAR Smart Managed Plus Switch is the ideal upgrade from Unmanaged Switches for SMB networks:

1. Visibility to identify any possible cable issues or abnormal traffic behavior with cable health test and port statistics.
2. Security to protect the SMB networks for possible threats thanks to Auto DoS and Storm Control.
3. Enhanced Control to improve your network performance with VLAN, QoS and Multicast Support.
4. Reliability, to assure that the SMB networks are up and running we introduced Link Aggregation and Loop Prevention to minimize possible downtimes.
5. Lifetime limited warranty and lifetime support chat.
## Technical Specifications

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>GS750E</th>
</tr>
</thead>
<tbody>
<tr>
<td>100M/1G/10G RJ-45 copper ports</td>
<td>48</td>
</tr>
<tr>
<td>1G SFP ports</td>
<td>2 SFP</td>
</tr>
<tr>
<td><strong>PERFORMANCE SPECIFICATION</strong></td>
<td></td>
</tr>
<tr>
<td>Packet buffer memory (Dynamically shared across only used ports)</td>
<td>1.5MB</td>
</tr>
<tr>
<td>Forwarding modes</td>
<td>Store-and-forward</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>100 Gbps</td>
</tr>
<tr>
<td>Priority queues</td>
<td>8</td>
</tr>
<tr>
<td>Priority queuing</td>
<td>Weighted Round Robin (WRR)</td>
</tr>
<tr>
<td>MAC Address database size (48-bit MAC addresses)</td>
<td>16K</td>
</tr>
<tr>
<td>Multicast groups</td>
<td>128</td>
</tr>
<tr>
<td>Number of VLANs</td>
<td>4K</td>
</tr>
<tr>
<td>Packet forwarding rate (64 byte packet size) (Mfps or Mpps)</td>
<td>11.9 Mfps</td>
</tr>
<tr>
<td>Speed / Latency</td>
<td>10Mbps: &lt;32µs 100Mbps: &lt;6µs 1000Mbps: &lt;4µs</td>
</tr>
<tr>
<td>Jumbo frame support</td>
<td>Up to 9K packet size</td>
</tr>
<tr>
<td>Acoustic noise level @ 25°C (dBA) (ANSI-S10.12)</td>
<td>Fanless</td>
</tr>
<tr>
<td>Mean Time Between Failures (MTBF) @ 25°C</td>
<td>1,031,177 hours</td>
</tr>
<tr>
<td><strong>L2 SERVICES - VLANS</strong></td>
<td></td>
</tr>
<tr>
<td>IEEE 802.1Q VLAN tagging</td>
<td>Yes</td>
</tr>
<tr>
<td>Port-based VLANs (physical)</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>L2 SERVICES - AVAILABILITY</strong></td>
<td></td>
</tr>
<tr>
<td>Broadcast, multicast, unknown unicast storm control</td>
<td>Yes</td>
</tr>
<tr>
<td>Static Manual LAGs (Port Trunking)</td>
<td>Yes</td>
</tr>
<tr>
<td>LACP</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>L2 SERVICES - MULTICAST FILTERING</strong></td>
<td></td>
</tr>
<tr>
<td>IGMP snooping (v1, v2 and v3)</td>
<td>Yes</td>
</tr>
<tr>
<td>IGMP snooping querier</td>
<td>No</td>
</tr>
<tr>
<td>Block unknown multicast</td>
<td>Yes</td>
</tr>
<tr>
<td>IGMP snooping router port</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>L3 SERVICES - DHCP</strong></td>
<td></td>
</tr>
<tr>
<td>DHCP client</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>LINK AGGREGATION</strong></td>
<td></td>
</tr>
<tr>
<td>Static Manual LAGs (Port Trunking)</td>
<td>Yes</td>
</tr>
<tr>
<td>LACP</td>
<td>Yes</td>
</tr>
<tr>
<td># of Static or LACP LAGs # of Members in each LAG</td>
<td>8 LAGs with max 8 members in each LAG</td>
</tr>
<tr>
<td>PRODUCT</td>
<td>GS750E</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>NETWORK MONITORING AND DISCOVERY SERVICES</td>
<td></td>
</tr>
<tr>
<td>Broadcast, multicast, unknown unicast storm control</td>
<td>Yes</td>
</tr>
<tr>
<td>DoS attacks prevention</td>
<td>Yes</td>
</tr>
<tr>
<td>QUALITY OF SERVICE (QOS)</td>
<td></td>
</tr>
<tr>
<td>Port-based rate limiting</td>
<td>Ingress and egress</td>
</tr>
<tr>
<td>Port-based QoS</td>
<td>Yes</td>
</tr>
<tr>
<td>IEEE 802.1p COS</td>
<td>Yes</td>
</tr>
<tr>
<td>IPv4 DSCP</td>
<td>Yes</td>
</tr>
<tr>
<td>IPv4 ToS</td>
<td>Yes</td>
</tr>
<tr>
<td>TCP/UDP-based</td>
<td>No</td>
</tr>
<tr>
<td>Weighted Round Robin (WRR)</td>
<td>Yes</td>
</tr>
<tr>
<td>Strict priority queue technology</td>
<td>No</td>
</tr>
<tr>
<td>Voice VLAN</td>
<td>Yes</td>
</tr>
<tr>
<td>IEEE STANDARDS SUPPORTED</td>
<td></td>
</tr>
<tr>
<td>• IEEE 802.3 Ethernet</td>
<td></td>
</tr>
<tr>
<td>• IEEE 802.3u 100BASE-TX</td>
<td></td>
</tr>
<tr>
<td>• IEEE 802.3ab 1000BASE-T</td>
<td></td>
</tr>
<tr>
<td>• IEEE 802.1Q VLAN Tagging</td>
<td></td>
</tr>
<tr>
<td>• IEEE 802.3x Full-Duplex Flow Control</td>
<td></td>
</tr>
<tr>
<td>• IEEE 802.1p Class of Service</td>
<td></td>
</tr>
<tr>
<td>• IEEE 802.3az Energy Efficient Ethernet (EEE)</td>
<td></td>
</tr>
<tr>
<td>MANAGEMENT</td>
<td></td>
</tr>
<tr>
<td>Password management</td>
<td>Yes</td>
</tr>
<tr>
<td>Web browser-based graphical user interface (GUI)</td>
<td>Yes</td>
</tr>
<tr>
<td>ProSAFE Plus Configuration Utility (PCU) for multi-switch management</td>
<td>Yes</td>
</tr>
<tr>
<td>Firmware upgrade</td>
<td>TFTP (Plus Utility) / HTTP (Web GUI)</td>
</tr>
<tr>
<td>Config file transfers (backup, restore)</td>
<td>Plus Utility or Web GUI</td>
</tr>
<tr>
<td>Firmware upgrade through Plus Utility (TFTP)</td>
<td>Yes</td>
</tr>
<tr>
<td>Config download (to switch) through Plus Utility</td>
<td>Yes</td>
</tr>
<tr>
<td>Config upload (to server) through Plus Utility</td>
<td>Yes</td>
</tr>
<tr>
<td>Firmware upgrade through web GUI (HTTP)</td>
<td>Yes</td>
</tr>
<tr>
<td>Config download (to switch) through web GUI (HTTP)</td>
<td>Yes</td>
</tr>
<tr>
<td>Config upload (to server) through web GUI (HTTP)</td>
<td>Yes</td>
</tr>
<tr>
<td>Cable test utility</td>
<td>Yes</td>
</tr>
<tr>
<td>LEDS</td>
<td></td>
</tr>
<tr>
<td>Per port</td>
<td>Speed, Link, Activity</td>
</tr>
<tr>
<td>Per device</td>
<td>Power</td>
</tr>
<tr>
<td>PHYSICAL SPECIFICATIONS</td>
<td></td>
</tr>
<tr>
<td>Dimensions (W x D x H)</td>
<td>440 x 204 x 43 mm (17.3 x 8 x 1.7 in)</td>
</tr>
<tr>
<td>Weight</td>
<td>3.25 kg (7.17 lb)</td>
</tr>
</tbody>
</table>
## PRODUCT

<table>
<thead>
<tr>
<th>Description</th>
<th>GS750E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POWER CONSUMPTION</strong></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>Fixed internal PSU, 100-240VAC, 50-60Hz, 1A max Power cord localized to country of sale</td>
</tr>
<tr>
<td>Max power (worst case, all ports used, line-rate traffic) (Watts)</td>
<td>30.0W</td>
</tr>
<tr>
<td>Min power (link-down standby) (Watts)</td>
<td>11.38W</td>
</tr>
<tr>
<td>Heat Dissipation (max and min) (BTU/hr)</td>
<td>Max: 102.7 BTU/hr  Min: 38.9 BTU/hr</td>
</tr>
<tr>
<td>Energy Efficient Ethernet (IEEE 802.3az)</td>
<td>Yes</td>
</tr>
<tr>
<td>Short cable power reduction</td>
<td>Yes</td>
</tr>
<tr>
<td>Auto power-down</td>
<td>Yes</td>
</tr>
<tr>
<td>Fan(s)</td>
<td>Fanless</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL SPECIFICATIONS</strong></td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0° to 50°C (32° to 122°F)</td>
</tr>
<tr>
<td>Humidity (relative)</td>
<td>90% maximum relative humidity (RH), non-condensing</td>
</tr>
<tr>
<td>Altitude</td>
<td>10,000R (3,000m) maximum</td>
</tr>
<tr>
<td>Storage</td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>–20° to 70°C (– 4° to 158°F)</td>
</tr>
<tr>
<td>Humidity (relative)</td>
<td>95% maximum relative humidity, non-condensing</td>
</tr>
<tr>
<td>Altitude</td>
<td>10,000R (3,000m) maximum</td>
</tr>
<tr>
<td><strong>ELECTROMAGNETIC EMISSIONS AND IMMUNITY</strong></td>
<td></td>
</tr>
<tr>
<td>Certifications</td>
<td></td>
</tr>
<tr>
<td>47 CFR FCC Part 15, SubpartB, ClassB</td>
<td></td>
</tr>
<tr>
<td>ICES-003:2016 Issue 6, Class B</td>
<td></td>
</tr>
<tr>
<td>ANSI C63.4:2014</td>
<td></td>
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<tr>
<td>EN 55022:2010 + AC.2011, Class A</td>
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<tr>
<td>EN 55024:2010</td>
<td></td>
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<tr>
<td>EN 61000-3-2:2014, Class A</td>
<td></td>
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<tr>
<td>EN 61000-3-3:2013</td>
<td></td>
</tr>
<tr>
<td>VCCI V-3/2015.04, Class A</td>
<td></td>
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<tr>
<td>V-4/2012 4</td>
<td></td>
</tr>
<tr>
<td>Russia EAC mark</td>
<td></td>
</tr>
<tr>
<td>Korea KC mark</td>
<td></td>
</tr>
<tr>
<td>CNS 13438</td>
<td></td>
</tr>
<tr>
<td>Electromagnetic Compliance (Class A or B)</td>
<td>Class A</td>
</tr>
</tbody>
</table>
SAFETY

Certifications

<table>
<thead>
<tr>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL/cUL Listed (UL 60950-1)/CAN/CSA C22.2 No. 60960-1-07</td>
</tr>
<tr>
<td>AN/NZS 60950.1:2015</td>
</tr>
<tr>
<td>Russia EAC mark</td>
</tr>
</tbody>
</table>

WARRANTY AND SUPPORT

- **ProSAFE Lifetime Warranty**
- **Lifetime 24x7 Online Technical Support***
- **Lifetime Next-Business-Day (NBD) Replacement**
- **ProSUPPORT OnCall 24x7, Service Packs**
  - Category 1: PMB0311 (1 yr.), PMB0331 (3 yrs.), PMB0351 (5 yrs.)

PACKAGE CONTENT

- **All Models**
  - 48-Port Gigabit Smart Managed Plus Switch with 2-Port SFP (GS750E)
  - Power cord (localized to country of sale)
  - Rack-mounting kit
  - Quick install guide
  - Resource CD with installation guide, ProSAFE Plus utility software and links to additional online documentation including the Web browser-based management GUI User Manual and datasheet.

ORDERING INFORMATION

- **GS750E-100NAS**
  - North America and Latin America
- **GS750E-100EUS**
  - Europe and United Kingdom
- **GS750E-100AJS**
  - Asia Pacific and Australia

OPTIONAL MODULES AND ACCESSORIES

- **AGM731**
  - SFP Transceiver 1000BASE-SX (Short range, multimode)
- **AGM732F**
  - SFP Transceiver 1000BASE-LX (Long range, single mode)
- **AGM734**
  - SFP Transceiver 1000BASE-T Copper RJ45 GBIC

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*This product comes with a limited warranty that is valid only if purchased from a NETGEAR authorized reseller, and modifications to product may void the warranty, covers hardware, fans, and internal power supplies - not software or external power supplies; see http://www.netgear.com/about/warranty/ for details. Lifetime technical support includes basic phone support for 90 days from purchase date and lifetime online chat support when purchased from a NETGEAR authorized reseller.

**The NETGEAR OnCall 24x7 contract provides unlimited phone and email technical support for your networking product. For ProSAFE products purchased prior to 06/2014, also includes next business-day hardware replacement.

† NETGEAR #1 in Fixed Web(Smart)-Managed Worldwide Market Share according to IHS Infonetics Ethernet Switches Market Share and Forecast, 1Q17 Edition, Dec 2016.

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