



Hardware Comparison

The Netgate® hardware comparison chart is designed to give visitors a quick side-by-side comparison of Netgate appliances against one another. While most of this data (and more) exists on individual product pages, we believe the chart makes it fast and easy for viewers to quickly determine which appliance is best for their needs.








The comparison matrix has two critical dimensions:

1. Packet Sizes: iPerf3 and IMIX
2. Secure Networking Function: Routing (Forwarding), Firewall, VPN

This provides a very clear manner by which products can be compared - and under different levels of user-experienced traffic conditions. We see this as crucial given our user base varies, literally, from home consumers (with relatively light bandwidth and firewall needs) all the way to sophisticated enterprises (who demand predictable performance under the most strenuous encryption and packet mix conditions).



Netgate Hardware Comparison Chart

WHO	NEEDS	PERFORMANCE		HARDWARE				
		iPerf3 ² Basic Traffic (Primarily Data Download)	IMIX ³ Complex Traffic (Voice, Data, and Video)	CPU	Storage	Memory	Network Ports	
SG-1100 Desktop  \$179	Consumer <input checked="" type="checkbox"/> Remote Worker <input checked="" type="checkbox"/> Business <input checked="" type="checkbox"/> Enterprise	<ul style="list-style-type: none"> - Cost efficient / Low power - Sleek, compact - Silent operation (fanless) - Put on a desktop, shelf, or wall - (3) 1 GbE switched ports 	L3 Forwarding: 880 Mbps Firewall: 656 Mbps (10k ACLs) IPsec VPN: 74.2 Mbps (AES-128-CBC + SHA1)	L3 Forwarding: 480 Mbps Firewall: 190 Mbps (10k ACLs) IPsec VPN: 46 Mbps (AES-128-CBC + SHA1)	Dual Core Cortex-A53 ARM64 SoC @ 1.2GHz	8 GB eMMC	1 GB DDR4	(3) switched ports: (3) 1 Gbps Marvell switch with 1 Gbps uplink
SG-2100 Desktop  \$299	Consumer <input checked="" type="checkbox"/> Remote Worker <input checked="" type="checkbox"/> Business <input checked="" type="checkbox"/> Enterprise	<ul style="list-style-type: none"> - Cost efficient / Low power - Sleek, compact - Silent operation (fanless) - Put on a desktop, shelf, or wall - Upgradeable Storage - Equipped for memory-intensive packages, e.g., IDS/IPS - (1) 1 GbE (RJ45/SFP) WAN port - (4) 1 GbE switched LAN ports 	L3 Forwarding: 1.56 Gbps Firewall: 881 Mbps (10k ACLs) IPsec VPN: 118 Mbps (AES-128-CBC + SHA1)	L3 Forwarding: 842 Mbps Firewall: 314 Mbps (10k ACLs) IPsec VPN: 68 Mbps (AES-128-CBC + SHA1)	Dual Core Cortex-A53 ARM64 SoC @ 1.2GHz	8 GB eMMC (Upgradeable)	4 GB DDR4	(5) independent and switched ports: (1) 1 GbE (RJ45/SFP combo) (4) 1 Gbps LAN Marvell switch with 2.5 Gbps uplink
SG-3100 Desktop  \$399	Consumer <input checked="" type="checkbox"/> Remote Worker <input checked="" type="checkbox"/> Business <input checked="" type="checkbox"/> Enterprise	<ul style="list-style-type: none"> - Cost efficient / Low power - Sleek, compact - Silent operation (fanless) - Put on a desktop or shelf - (2) 1 GbE WAN ports - (4) 1 GbE switched LAN ports 	L3 Forwarding: 3.64 Gbps Firewall: 2.44 Gbps (10k ACLs) IPsec VPN: 453 Mbps (AES-128-CBC + SHA1)	L3 Forwarding: 1.98 Gbps Firewall: 1.04 Gbps (10k ACLs) IPsec VPN: 108 Mbps (AES-128-CBC + SHA1)	Dual Core Cortex-A9 ARM7 SoC @ 1.6GHz	8 GB eMMC (Upgradeable)	2 GB DDR4	(6) independent and switched ports: (2) 1 Gbps WAN/OPT ports (4) 1 Gbps LAN Marvell switch with 2.5 Gbps uplink
SG-5100 Desktop  \$699	Consumer <input checked="" type="checkbox"/> Remote Worker <input checked="" type="checkbox"/> Business <input checked="" type="checkbox"/> Enterprise	<ul style="list-style-type: none"> - Cost efficient / Low power - Compact - Silent operation (fanless) - Put on a desktop, shelf, or wall - Upgradeable memory and storage - QuickAssist & AES-NI - High Availability - Runs pfSense® or TNSR® Software - (6) 1 GbE independent ports 	L3 Forwarding: 3.66 Gbps Firewall: 3.65 Gbps (10k ACLs) IPsec VPN: 923 Mbps (AES-128-CBC + SHA1)	L3 Forwarding: 3.78 Gbps Firewall: 1.84 Gbps (10k ACLs) IPsec VPN: 380 Mbps (AES-128-CBC + SHA1)	Quad Core Intel® Atom™ C3558 @ 2.2GHz	8 GB eMMC (Upgradeable)	4 GB DDR4 (Upgradeable to 16GB)	(6) independent ports: (4) GbE RJ45 Intel SoC Integrated MAC (2) GbE RJ45 Intel i210
XG-7100 Desktop/Rack  \$899/\$999	Consumer <input checked="" type="checkbox"/> Remote Worker <input checked="" type="checkbox"/> Business <input checked="" type="checkbox"/> Enterprise	<ul style="list-style-type: none"> - Desktop or Rack Mount - Expandable memory - Upgradeable storage - Network expandable (1U rackmount) - QuickAssist & AES-NI - High Availability (1U rackmount) - (2) 10 GbE SFP+ - (8) 1 GbE switched ports 	L3 Forwarding: 18.60 Gbps⁴ Firewall: 6.81 Gbps (10k ACLs) IPsec VPN: 1.28 Gbps (AES-128-CBC + SHA1)	L3 Forwarding: 6.18 Gbps Firewall: 1.85 Gbps (10k ACLs) IPsec VPN: 385 Mbps (AES-128-CBC + SHA1)	Quad Core Intel® Atom™ C3558 @ 2.2GHz	32 GB eMMC (Upgradeable to 256GB M.2 SSD) (Expandable to 2x 256GB SSD SATA RAID1 on 1U)	8 GB DDR4 (Upgradeable to 24GB)	Up to (14) independent and switched ports: (2) 10 Gbps Intel x553 SFP+ ports (8) 1 Gbps Marvell switch with 2 x 2.5 Gbps uplink (Expandable to 4-Port Intel 1 GbE on 1U) (Expandable to 2- or 4-Port X710 Intel 10 GbE SFP+ on 1U)
XG-1537 Rack  \$1,949	Consumer <input checked="" type="checkbox"/> Remote Worker <input checked="" type="checkbox"/> Business <input checked="" type="checkbox"/> Enterprise	<ul style="list-style-type: none"> - Rack Mount - Expandable memory - Expandable storage - Network expandable - High Availability - Runs pfSense® or TNSR® Software - (2) 10 GbE SFP+ - (2) 1 GbE ports 	L3 Forwarding: 16.40 Gbps Firewall: 14.48 Gbps (10k ACLs) IPsec VPN: 2.77 Gbps (AES-128-CBC + SHA1)	L3 Forwarding: 11.46 Gbps Firewall: 5.00 Gbps (10k ACLs) IPsec VPN: 2.10 Gbps (AES-128-CBC + SHA1)	Eight Core Intel Xeon® 1.7 GHz	256 GB Micron M.2 SSD (Expandable to 2x 256GB SSD SATA RAID1)	8 GB DDR4 RDIMM (Expandable to 32GB ECC)	Up to (8) independent ports: (2) 1 GbE LAN/WAN via Intel i350-AM2 (2) 10 GbE SFP+ LAN/WAN via SoC (Expandable to 4-Port Intel 1 GbE) (Expandable to 2- or 4-Port X710 Intel 10 GbE SFP+)
XG-1541 Rack  \$2,649	Consumer <input checked="" type="checkbox"/> Remote Worker <input checked="" type="checkbox"/> Business <input checked="" type="checkbox"/> Enterprise	<ul style="list-style-type: none"> - Rack Mount - Expandable memory - Expandable storage - Network expandable - High Availability - Runs pfSense® or TNSR® Software - (2) 10 GbE SoC 10GBase-T - (2) 1 GbE ports 	L3 Forwarding: 17.40 Gbps Firewall: 14.63 Gbps (10k ACLs) IPsec VPN: 2.82 Gbps (AES-128-CBC + SHA1)	L3 Forwarding: 15.41 Gbps Firewall: 6.10 Gbps (10k ACLs) IPsec VPN: 2.81 Gbps (AES-128-CBC + SHA1)	Eight Core Intel Xeon® 2.1 GHz	256 GB Micron M.2 SSD (Expandable to 2x 256GB SSD SATA RAID1)	16 GB DDR4 RDIMM (Expandable to 32GB ECC)	Up to (8) independent ports: (2) 1 GbE LAN/WAN via Intel i350-AM2 (2) 10GBase-T LAN/WAN via SoC (Expandable to 4-Port Intel 1 GbE) (Expandable to 2- or 4-Port X710 Intel 10 GbE SFP+)

Footnotes:

- All performance tests are based upon maximum memory configuration and base model port configuration (no port expansion). Throughput measurements are based upon maximum bidirectional traffic across all available ports.
- iPerf3 traffic is TCP - 1460 byte payload and TCP framing.
- Simple IMIX traffic is sets of 7 (40) byte packets, (4) 576 byte packets, 1 (1500) byte packets, plus Ethernet framing overhead.
- XG-7100 performance number exceeds that of the XG-1537/41, as all tests were run by maximizing throughput across available base model physical ports (XG-7100 with 10 ports vs. XG-1537/41 with only 4 ports). The XG-1537/41 exceed the XG-7100 by per-port performance.

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