Hardware Comparison

The Netgate® hardware comparison chart is designed to give visitors a quick side-by-side comparison of Netgate appliances running pfSense® Plus software 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, literaly, 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	pfSense Performance[5]		Hardware			
			iPerf3[2] Basic Traffic (Primarily Data Download)	IMIX[3] Complex Traffic (Voice, Data, and Video)	CPU	Storage	Memory	Network Ports
Netgate 1100 Desktop  $189	Home	-Cost-efficient/Low power -Sleek, compact -Silent operation (fanless) -Put on a desktop, shelf, or wall	L3 Forwarding: **927 Mbps** Firewall: **607 Mbps** (10k ACLs) IPsec VPN: **247 Mbps** (AES-CBC-128 + SHA1 w/SafeXcel)	L3 Forwarding: **472 Mbps** Firewall: **191 Mbps** (10k ACLs) IPsec VPN: **90 Mbps** (AES-CBC-128 + SHA1 w/SafeXcel)	Dual Core Cortex-A53 ARM64 SoC @ 1.2 GHz	10.6 GB eMMC	1 GB DDR4	**(3) switched ports:** (3) 1 Gbps Marvell switch with 1 Gbps uplink
Netgate 2100 Desktop  $369 **BASE** $412 **MAX**	Home Home Pro Branch/ Small Business	-Cost efficient/ Low power -Sleek, compact -Silent operation (fanless) -Put on a desktop, shelf, or wall -Upgradeable Storage	L3 Forwarding: **2.20 Gbps** Firewall: **964 Mbps** (10k ACLs) IPsec VPN: **254 Mbps** (AES-GCM-128 + SHA1 w/SafeXcel)	L3 Forwarding: **594 Mbps** Firewall: **249 Mbps** (10k ACLs) IPsec VPN: **90 Mbps** (AES-GCM-128 + SHA1 w/SafeXcel)	Dual Core Cortex-A53 ARM64 SoC @ 1.2 GHz	**BASE:** 10.6 GB eMMC **MAX:** 128 GB M.2 SSD (SATA)	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
Netgate 4200 Desktop  $599 **MAX**	Home Pro Branch/ Small Business Medium Business	-Cost efficient/ Low-power -Silent operation (fanless) -Desktop, optional wall mount -FastVPN w/IPsec, OpenVPN, WireGuard® -Handles demanding IDS/IPS needs -High Availability	L3 Forwarding: **8.75 Gbps** Firewall: **8.61 Gbps** (10k ACLs) IPsec VPN: **3.20 Gbps** (AES-GCM-128w/AES-NI)	L3 Forwarding: **9.28 Gbps** Firewall: **3.21 Gbps** (10k ACLs) IPsec VPN: **1.05 Gbps** (AES-GCM-128 w/AES-NI)	Quad-core Intel Atom® C1110 with AVX2, @ 2.1 GHz	128 GB NVMe M.2 SSD	4 GB LP DDR5	**independent ports:** (4) 2.5 Gbps WAN/LAN ports (RJ45)

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Netgate 6100 Desktop  $849 **BASE** $949 **MAX**	Home Pro Branch/ Small Business Medium Business	-Silent operation (fanless) -Desktop, wall, or 1U Rack mounting -Upgradeable storage (M.2 slots) -Handles Demanding IDS/IPS needs -QuickAssist Technology & AES-NI -High Availability -1, 2.5, and 10 GbE Network Interfaces -Runs pfSense® Plus or TNSR® Software	L3 Forwarding: **18.50 Gbps** Firewall: **9.93 Gbps** (10k ACLs) IPsec VPN: **1.77 Gbps** (AES-GCM-128 w/QAT)	L3 Forwarding: **6.08 Gbps** Firewall: **2.73 Gbps** (10k ACLs) IPsec VPN: **552 Mbps** (AES-GCM-128 w/QAT)	Quad Core Intel Atom C3558 @ 2.2 GHz	**BASE:** 21.3 GB eMMC **MAX:** 128 GB NVMe M.2 SSD	8 GB DDR4	**(8) independent ports:** (2) 10 GbE SFP+ (4) 2.5 GbE Intel® i225 (2) 1 GbE Combo Ports (RJ45/SFP) Intel SoC Integrated MAC
Netgate 8200 MAX Rack  $1,549	Medium Business Large Business Data Center	-Rack Mount -Quiet integrated cooling fan -Upgradeable storage (M.2 slots) -Quick Assist Technology & AES-NI -High Availability -1,2.5, and 10 GbE Network Interfaces -Runs pfSense Plus or TNSR Software	L3 Forwarding: **18.60 Gbps** Firewall: **18.55 Gbps** (10k ACLs) IPsec VPN: **3.24 Gbps** (AES-GCM-128 w/QAT)	L3 Forwarding: **11.76 Gbps** Firewall: **5.1Gbps** (10k ACLs) IPsecVPN: **810Mbps** (AES-GCM-128 w/QAT)	Eight Core Intel Atom C3758R @ 2.4GHz	128 GB NVMe M.2 SSD	16 GB DDR4	**(8) independent and switched ports:** (2) 10 GbE SFP+ (4) 2.5 GbE Intel i226 (2) 1 GbE Combo Ports (RJ45/SFP) Intel SoC Integrated MAC

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Netgate 8300 Rack  $3,599.00 **BASE** $3,899.00 **MAX** $4,299.00 **TAA**	Medium Business Large Business Data Center Service Provider	-Rack Mount -2x Internal PSU slots. One 500W PSU (hot-swappable) included with BASE (2) PSUs included with MAX and TAA -Expandable memory -Network expandable -High Availability -Runs pfSense Plus or TNSR -TAA model adds TAA Compliance	L3 Forwarding: **36.7 Gbps** Firewall: **26.8 Gbps** (10k ACLs) IPsec VPN: **14.6 Gbps** (AES-GCM-128 w/AES-NI)		Intel Xeon D-1733NT 8-core @ 2.0 GHz	512 GB M.2 NVMe SSD	32 GB ECC DDR4	**(11) network ports total:** (4) 10G SFP+ cage ports (4) 1G SFP cage ports (3) 2.5G RJ-45 “direct” (unswitched) ethernet ports via intel i226 (Additional network port expansion available via multi-port 25G and 100G PCIe cards)

Footnotes:

1. All performance tests are based on maximum memory configuration and base model port configuration (no port expansion). Throughput measurements are based on maximum bidirectional traffic across all available ports.
2. iPerf3 traffic is TCP - 1460 byte payload and TCP framing.
3. Simple IMIX traffic is sets of 7 (40) byte packets, (4) 576 byte packets, 1 (1500) byte packets, plus ethernet framing overhead.
5. Performance tests for all appliances were performed using the latest pfSense Plus version.

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