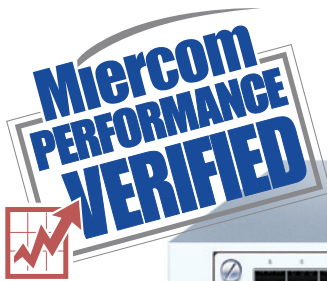# Comparative Performance and Resilience Test Results - UTM Appliances

Miercom tests comparing Sophos SG Series appliances against the competition

Overview

Firewalls not only provide your first line of defense against external intruders but also connect you to the outside world. Enabling security on your firewall should not come at the cost of performance.

While all network vendors provide datasheet performance numbers showing the maximum achievable throughput, third-party testing can offer proof points for real-life scenarios. Network experts Miercom have run extensive tests on a number of appliances to verify performance.

Competitive solutions tested

The tests compared products suitable for a typical 50 – 100 user organization from four vendors:

‣ Sophos SG 210 and SG 230

‣ DELL SonicWALL NSA 2600

‣ Fortinet FortiGate 100D

‣ WatchGuard XTM 525

Note: for all appliances sizing is an average guideline and customers should always contact their vendor or a qualified reseller to identify the right appliance models for their individual infrastructure requirements.

Test conditions

All appliances were tested at Miercom's test labs using state of the art test equipment from Ixia and Spirent. Where possible, mixed network traffic simulating real-world conditions were used to measure throughputs. This means that the results in this report may differ from vendors' stated throughputs which typically indicate best-case scenarios.

Results

The tests measure firewall performance in the most common day-to-day scenarios.

Sophos SG appliances came top in all throughput tests: firewall enabled, firewall + Application Control enabled, firewall + Intrusion Prevention System enabled, and connections per second.

"We are proud to award the Sophos SG 230 and the Sophos SG 210 Unified Threat Management appliances with the Miercom Performance Verified Certification."
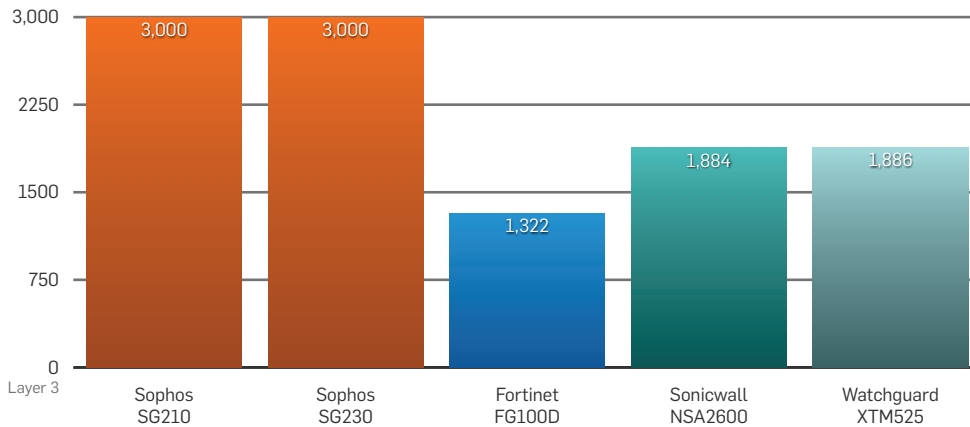
Miercom

1. Firewall throughput

The firewall is the most fundamental function of your UTM. Any slowdown here impacts all traffic passing through the device.

Therefore firewall throughput should ideally allow line rate for your connections. This test was conducted with three 1Gbps ports giving a theoretical maximum of 3Gbps/3,000Mbps. Only the Sophos appliances were able to operate at wire speed.

"The SG 230 and SG 210 were clearly, in order, the top two appliances in the field."

Miercom

Unidirectional Firewall Throughput (Mbps)

|				
Sophos SG210	Sophos SG230	Fortinet FG100D	Sonicwall NSA2600	Watchguard XTM525
3,000	3,000	1,322	1,884	1,886

Source: Miercom, June 2014

Maximum Firewall Throughput (Max)

As the first firewall throughput test did not stretch the Sophos SG appliances to their limits they were re-tested to ascertain their maximum throughput. To do this Miercom used more ports and sent traffic in both directions at the same time. Both Sophos appliances reached maximum throughput of over 10Gbps.

Bidirectional Firewall Throughput (Mbps)

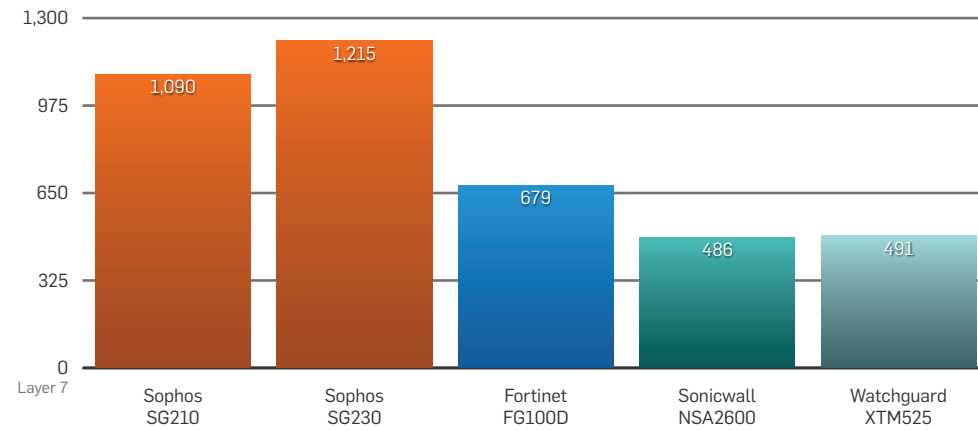|	
Sophos SG210	Sophos SG230
10,441	10,332
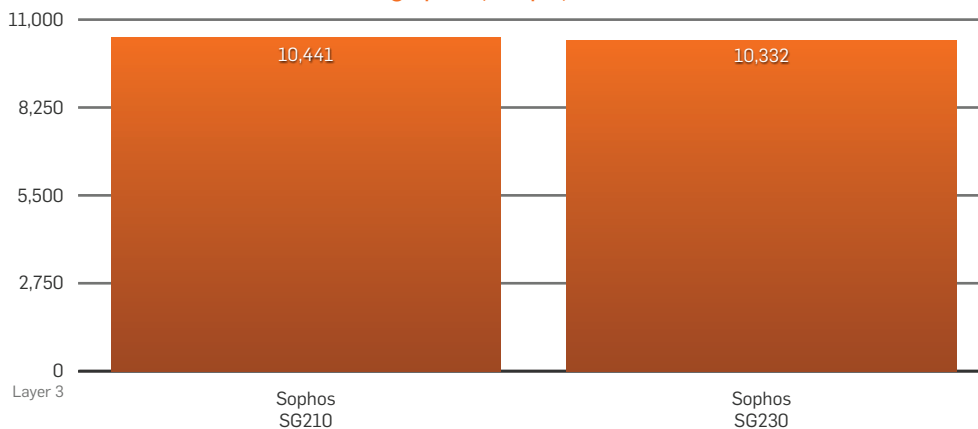
Source: Miercom, June 2014

2. Application Control Throughput

Application Control allows you to effectively monitor and manage different types of traffic going through your gateway such as VPN, YouTube or Facebook without having to block traffic completely. This test looks at Layer 7 (Application layer) throughput. To analyse traffic at this layer requires the assembly of multiple packets of traffic in order to determine the application used. As such, application control inevitably comes at a certain cost in overheads and performance.

The two Sophos appliances lead the field in terms of application control throughput. The SG 210 was 60% faster than the nearest competitive product.

Application Control Throughput (Mbps)

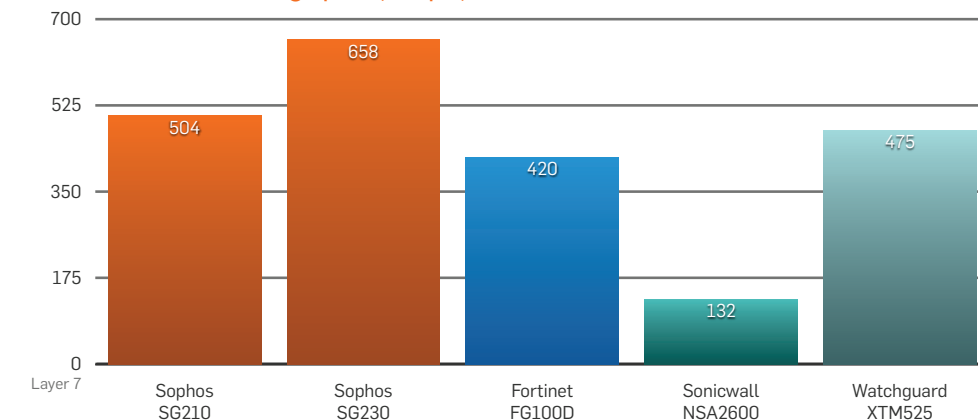|	Sophos SG210	Sophos SG230	Fortinet FG100D	Sonicwall NSA2600	Watchguard XTM525
Layer 7	1,090	1,215	679	486	491

Source: Miercom, June 2014

3. IPS Throughput

Intrusion Prevention Systems monitor the network for suspicious traffic and can block exploits of known vulnerabilities. Similar to application control, this is a resource intensive process where packets are assembled and inspected.

The Sophos SG appliances delivered the fastest performance of the products tested.

Firewall + IPS Throughput (Mbps)

|	Sophos SG210	Sophos SG230	Fortinet FG100D	Sonicwall NSA2600	Watchguard XTM525
Layer 7	504	658	420	132	475

Source: Miercom, June 2014

4. Connections per second

This test verifies the maximum number of new TCP connections a security appliance can establish per second. Establishing TCP connections is resource-consuming and usually draws resources from the security-detection engine of the appliance.

The maximum number of new connections established per second gives an indication of the appliances ability to maintain security without impacting performance.

The Sophos SG appliances again lead the field in this test.

Connections per second
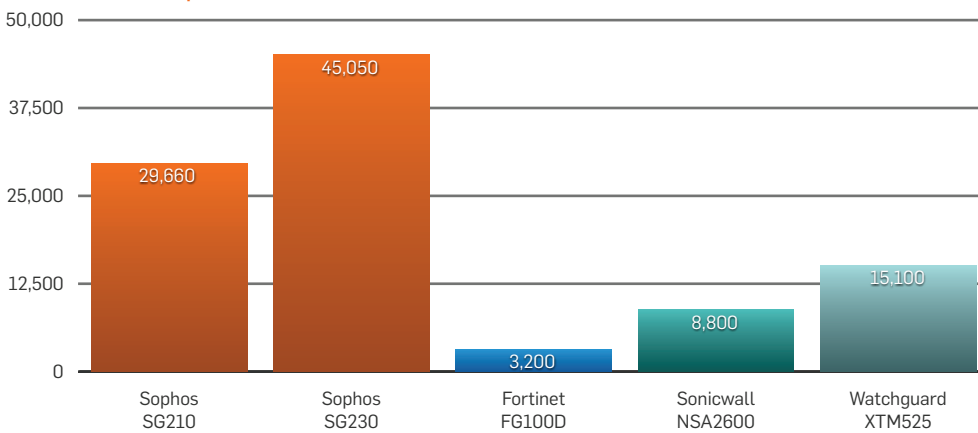
Source: Miercom, June 2014

Conclusion

In independent testing based on real-life scenarios the Sophos SG appliances delivered the fastest performance, even when enabling additional security and control features, beating comparative solutions from Fortinet, Dell SonicWALL and WatchGuard.

Next steps

For more information, including demo videos and a free trial, visit www.sophos.com/utm.

Contact your Sophos partner today to discuss how you can enhance your network protection with Sophos UTM.

"The Sophos SG 230 and SG 210 proved best in competitive performance tests compared to other leading UTM product solutions."

Miercom

About Miercom

Miercom has published hundreds of product comparison analysis articles over the years in leading networking periodicals, including Network World, CommunicationsWeek/InternetWeek, Business Communications Review, No Jitter, UBM TechWeb, Communications News, xchange and Internet Telephony.

The pioneer of the business of independent, hands-on testing of products and services for the enterprise network and telecommunications service providers, Miercom has remained the global leader in independent, hands-on testing for more than 26 years.

Comprehensive test programs are offered by Miercom that lead to the following certifications: **Performance Verified,Certified Secure**, **Certified Green**, **Certified Interoperable** and **Certified Reliable**, which can be earned in standalone or competitive testing. These certifications are recognized by networking vendors and end-user organizations as an accurate, unbiased validation of the ability of the product or service to perform in a real-world network.

For more information about Miercom testing and consulting services as well as certifications, please visit www.miercom.com.

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