Product Analysis Brief Report

February 2014

Product Category:

Data Center Firewall

Vendor Tested:

HUAWEI

Product Tested:

USG9580 Firewall

Test Authority

USG9500 Series

KEY FINDINGS AND CONCLUSIONS

- **Maximum raw UDP throughput at 960,000 Mbps**
- **Tested "Real-World" Traffic under 5 specific data center traffic types**
- **Security Effectiveness Test: PASS**
- **Stability & Reliability Test: PASS**
- **Management & Configuration Test: PASS**
- **Total Cost of Ownership per protected Mbps is $1.74**

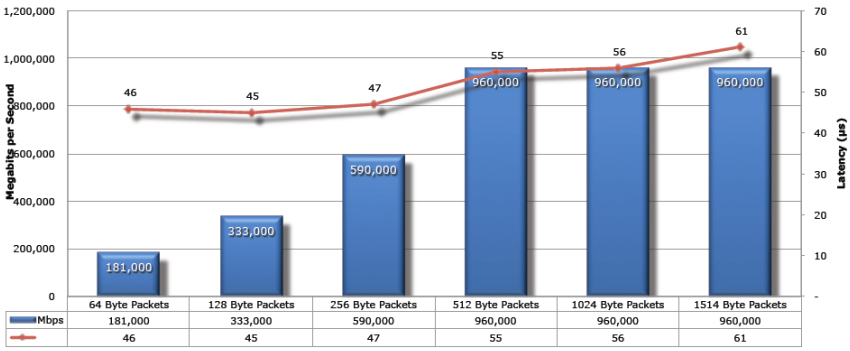
NSS Labs has released the results of the Product Analysis Report (PAR) of Huawei USG9580 firewall in the 2014 Data Center Firewall Group Test. This was the first group test after the DC Firewall test methodology was announced.

The test methodology encompasses security effectiveness, performance and stability, reliability, manageability, and total cost of ownership (TCO). This test methodology examines multiple indicators of the device under test (DUT) from multiple aspects and across the full life cycle and provides a detailed, objective performance evaluation.

The Huawei USG9580 is the flagship platform from Huawei's USG9500 series of high-end data center firewall products. The USG9500 family is positioned as an industry leading security gateway platform designed to meet the needs of enterprise cloud data centers, mid to large enterprise network perimeters, and Internet Service Provider (ISP) and Cloud Service Provider networks.

PERFORMANCE

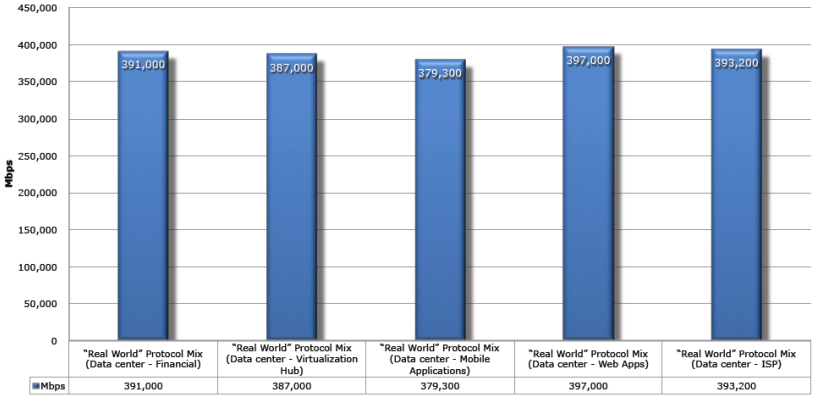
Huawei USG9580 demonstrates line rate throughput with 96 10GE ports during UDP testing at packet size 512, 1024 and 1514 bytes.



REAL-WORLD TRAFFIC MIXES

USG9580 performed very well in the performance test in a "real world" environment by introducing additional protocols and real content, while still maintaining a precisely repeatable and consistent background traffic load.

Different protocol mixes are utilized based on the intended location of the device under test (network core or perimeter) to reflect real use cases.
Due to specifications of the NSS methodology, TCP tests are run in only a single direction, which will limit the throughput of the device to 10Gbps per port pair. As part of this testing, the Huawei USG9580 was configured with 48 port pairs, limiting the maximum potential throughput to 480Gbps.



SECURITY EFFECTIVENESS

The USG9580 is tested upon a baseline configuration to complex, real world, multiple-zone configuration supporting many addressing modes, policies, applications and inspection engines. It successfully passed specified traffic that is allowed and the rest is denied, and that appropriate log entries are recorded.

Test Procedure	Result
Baseline Policies	PASS
Simple Policies	PASS
Complex Policies	PASS
Static NAT (Network Address Translation)	PASS
Address Translation)PASS Dynamic / Hide NAT	PASS
SYN Flood Protection	PASS
Address Spoofing Protection	PASS

Test Procedure	Result
Blocking Under Extended Attack	PASS
Passing Legitimate Traffic Under Extended Attack	PASS
Protocol Fuzzing & Mutation	PASS
Power Fail	PASS
Redundancy	YES
Persistence of Data	PASS

STABILITY AND RELIABILITY

Long-term stability is particularly important for an in-line device, where failure can produce network outages. The USG9580 blocked 100% of previously blocked traffic, raising an alert for each. If any non-allowed traffic passes successfully, caused by either the volume of traffic or the DUT failing open for any

TOTAL COST OF OWNERSHIP

There is a clear difference between price and value. The least expensive product does not necessarily offer the greatest value if it offers significantly lower performance than only slightly more expensive competitors. The best value is a product with a low TCO and high level of throughput.

Huawei USG9580 provided a very competitive performance / price ratio. TCO per Protected – Mbps is $1.74. It was calculated by taking the 3-Year TCO and dividing it by the NSS-Tested Throughput. Therefore 3-Year TCO/ NSS-Tested Throughput = TCO per Protected-Mbps.

TEST METHODOLOGY

Methodology Version: Network Firewall – Data Center v1.0 All Test IDs in this report refer to the methodology document, not necessarily to sections in this report. A copy of the test methodology is available on the NSS Labs website at www.nsslabs.com.

MORE INFORMATION

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