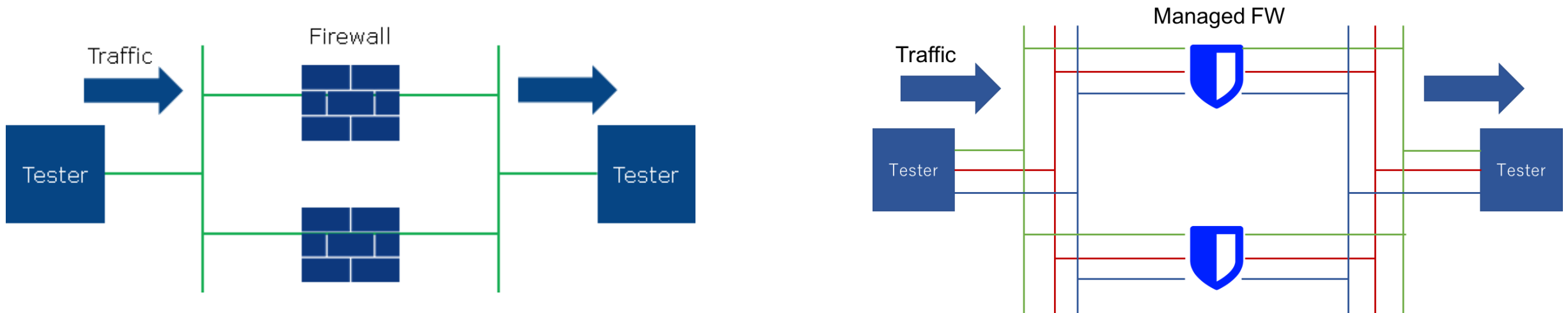


# Performance test and result of Firewall (Brocade 5600 vRouter) and ManagedFW

- The performance test of Firewall (Brocade 5600 vRouter) and ManagedFW are as follows.
- This is the result of measuring the maximum value per each measure items, not all the maximum values of each performance item were measured at the same time.
- This case is a redundant configuration by VRRP.
- The log option was not used. (Ref: Brocade's document regarding collecting logs)
- The number of rules of Firewall was measured under three conditions of 0, 50, and 100.
- The number of rules of ManagedFW was measured under two conditions of 0 and 100.
- Firewall (Brocade5600 vRouter) has 1 interface: 10 Gbps port, so we measured it on one line.
- Since ManagedFW has 1 interface: 1 Gbps port, we measured it on three lines.
- The acquired data in this test is just a reference data (champion data), so it does not guarantee the performance. We will also plan to share the data separately obtained in a condition close to the actual scenario environment.

## Test configuration



# Results

test item	test conditions	test results			
		4.2R1S1 (4CPU-16GB-8IF)	4.2R1S1 (2CPU-8GB-4IF)	Managed FW:8CPU-12GB	Managed FW:2CPU-4GB
UDP throughput	Protocol : UDP Data Size : 1,522 bytes NAT: Using	4.5 Gbps (The number of rules: 0) 4.5 Gbps (The number of rules: 50) 4.0 Gbps (The number of rules: 100)	4.5 Gbps (The number of rules: 0) 4.5 Gbps (The number of rules: 50) 4.0 Gbps (The number of rules: 100)	3.0 Gbps(*) (The number of rules: 0) 3.0 Gbps(*) (The number of rules: 100)	3.0 Gbps(*) (The number of rules: 0) 3.0 Gbps(*) (The number of rules: 100)
UDP latency	Protocol : UDP Data Size : 1,522 bytes NAT: Using	6.4 ms (The number of rules: 0) 6.3 ms (The number of rules: 50) 6.7 ms (The number of rules: 100)	6.4 ms (The number of rules: 0) 6.4 ms (The number of rules: 50) 6.7 ms (The number of rules: 100)	1.3 ms (The number of rules: 0) 1.4 ms (The number of rules: 100)	1.5 ms (The number of rules: 0) 1.4 ms (The number of rules: 100)
The number of concurrent TCP connections	Protocol: HTTP The number of new connections: 1,500 cps Multiplicity: 3 Data Size : 64 bytes NAT: using	56,000 connections (The number of rules: 0) 56,000 connections (The number of rules: 50) 56,000 connections (The number of rules: 100)	56,000 connections (The number of rules: 0) 56,000 connections (The number of rules: 50) 43,000 connections (The number of rules: 100)	56,000 connections (The number of rules: 0) 47,000 connections (The number of rules: 100)	56,000 connections (The number of rules: 0) 47,000 connections (The number of rules: 100)
The number of new TCP connections	Protocol : HTTP The number of new connections: 300 cps Multiplicity: 10 Data Size : 64 bytes NAT: using	2,900 cps (The number of rules: 0) 2,900 cps (The number of rules: 50) 2,900 cps (The number of rules: 100)	2,400 cps (The number of rules: 0) 2,400 cps (The number of rules: 50) 2,400 cps (The number of rules: 100)	2,300 cps (The number of rules: 0) 2,300 cps (The number of rules: 100)	2,200 cps (The number of rules: 0) 2,200 cps (The number of rules: 100)

\* The throughput value of 3 lines total in ManagedFW