

# Benchmarking Methodology for Virtualization Network Performance

**draft-huang-bmwg-virtual-network-performance-01**

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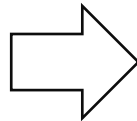
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Spirent Communications

# Changes from -00 to -01

- Test models
- Test considerations
- Test indicators
  - Throughput
  - CPU consumption
  - MEM consumption
  - Latency (TBD)



- Test models
- Test considerations
- Test indicators
  - Throughput
  - Frame loss rate
  - CPU consumption
  - MEM consumption
  - Latency

- With test consideration added
- With the indicators of frame loss rate added
- With the content of latency testing added

# Test considerations

- Besides the test parameters such as the hypervisor type, NIC speed, the CPU and MEM allocated, some information about the physical server which is called compute environment needs to be record.

Compute environment componenets	Model
CPU	
Memory	
Hard Disk	
10G Adaptors	
Blade/Motherboard	

Figure 2: Compute Environment

# Test indicators: Frame loss rate

- Aim to test the percentage of frames that have been forwarded which actually fails to be forwarded due to lack of resources according to RFC2544.

Byte	Maximum frame rate (Gbps)	90% Maximum frame rate (Gbps)	80% Maximum frame rate (Gbps)	...	frame rate with no loss (Gbps)
64					
128					
256					
512					
1024					
1518					

Test result format

# Test indicators: Latency

- With the help of the echo server, physical tester is used to test the latency.

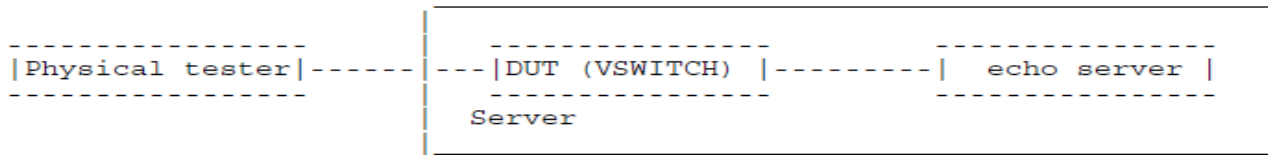
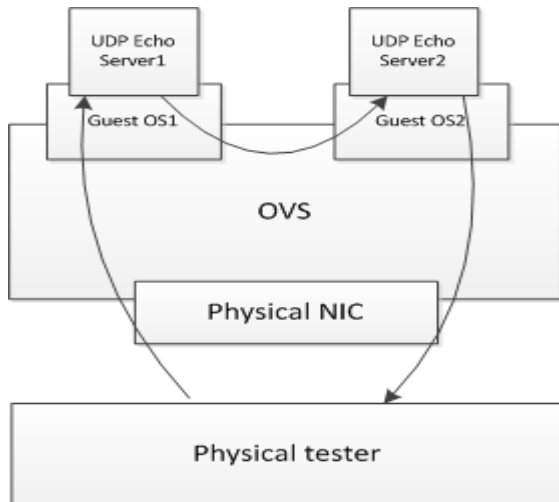


Figure 9: time delay test model



topology

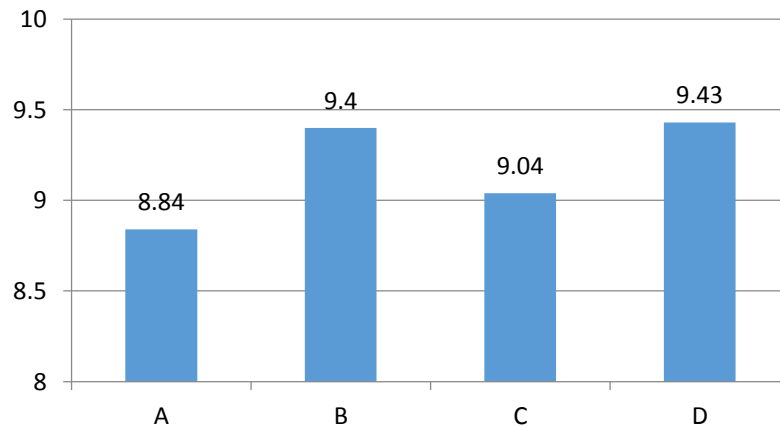
Byte	Time delay(Gbps)
64	
128	
256	
512	
1024	
1518	

Test result format

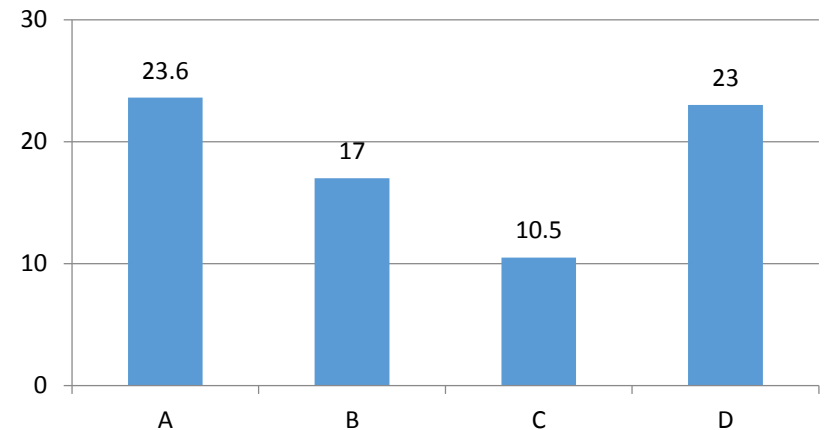
# SDN/NFV test result introduction

- Test of virtual switch including the indicators of throughput and CPU

**Throughput (G)**



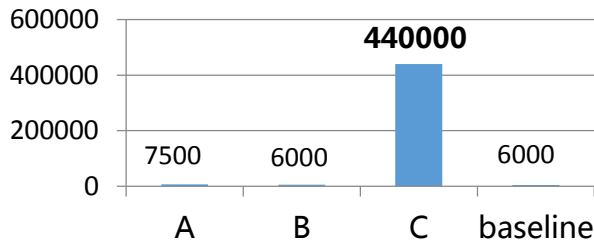
**CPU (%)**



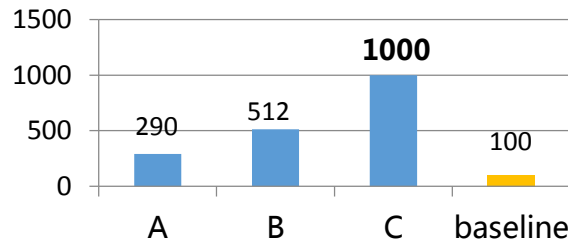
# SDN/NFV test result introduction

- Test of SDN controller based on openflow1.3

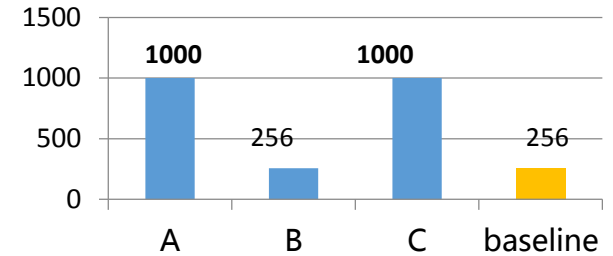
Flow setup load



Flow table capacity

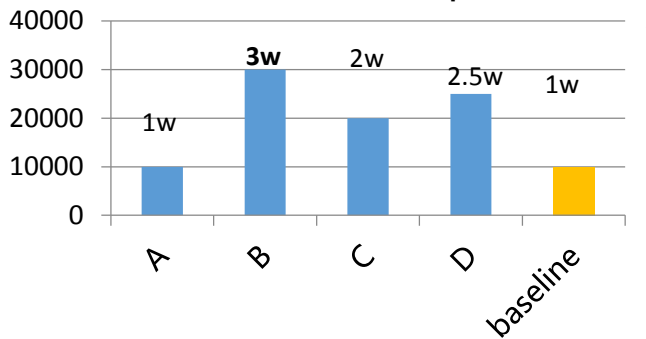


Switch limitation

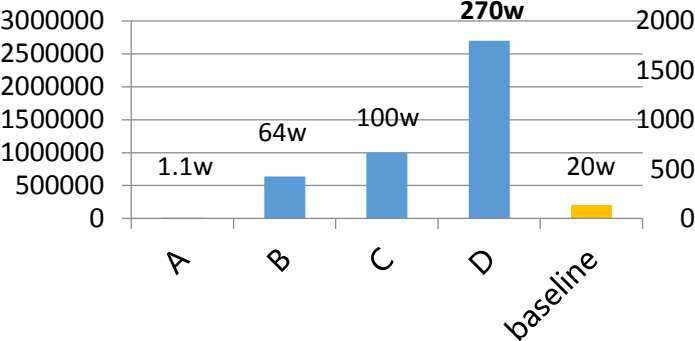


- Test of VNF (vLB)

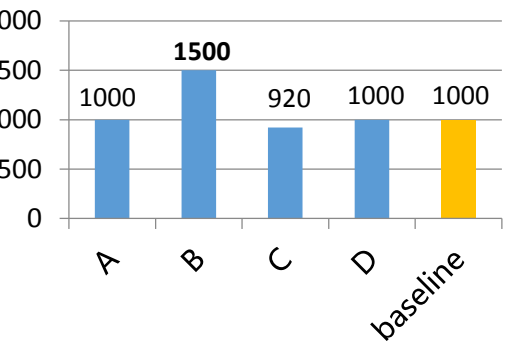
New connection per second



Connection per second



Throughput ( Mbps )



Next Step...

Solicit comments and suggestions...



# MANY THANKS

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