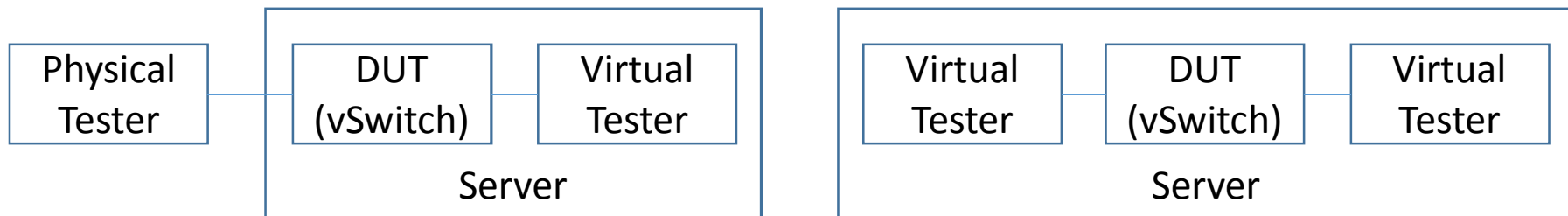# Benchmarking Methodology for Virtualization Network Performance

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Quick review on the previous version

- This draft introduces a benchmarking methodology for virtualization network performance based on virtual switch as DUT.

- Two traffic models, model A and model B:

Physical Tester	DUT (vSwitch)	Virtual Tester
	Server	

Virtual Tester	DUT (vSwitch)	Virtual Tester
	Server	

- DUT(vSwitch) and virtual tester are both VM based. Virtual tester need to be calibrated to make sure the performance of virtual tester won't badly affect the result.

- Several benchmarking test case are defined:
  - Throughput
  - Frame loss rate
  - CPU consumption
  - MEM consumption
  - Latency

Amendment in version-02

- Add descriptions on vSwitch non-VM based. Currently in most cases, vSwitch is install on host OS instead of VM.

- Change test process and test result format for CPU consumption and MEM consumption
  - Before: CPU/MEM consumption is only tested under the throughput rate for different frame length
  - Now: On different traffic rate, vSwitch's CPU/MEM consumption is tested. Because in some scenarios the traffic do not have to rise up to throughput rate.

Plan to amend in the next version

- In section 6.1, throughput test, revise the description about how to manipulate the traffic when packet loss happens. Increasing vCPU for vtester seems not helpful.

- In section 6.5, latency test, echo server might not be able to handle throughput rate or echo the request packets accurately and stably. Consider to replace it with virtual tester and make sure that all testers are time synchronized through NTP or some other mechanism.

Q & A

Call for more comments, thanks.