

Vswitch Test List

VSWITCHPERF Tests to be defined

The test scratchpad (for tests that are WIP/being defined/looked at by the community) can be found here: <https://etherpad.opnfv.org/p/vSwitchTestsDrafts>

Performance tests to be defined list

| Test | Priority | JIRA |
|---|----------|------|
| Scalability Tests adding More VMs in succession and building a performance profile as we add more VMs. | 1 | 238 |
| OverlayNetworking Tests: VXLAN performance testing, encap, decap, encap and decap | 1 | 241 |
| Matchaction performance testing? The cost of the different actions supported by a vSwitch | 1 | 242 |
| VM2VM Tests (PHY-VNF-vSwitch-VNF-PHY), with scaling number of VMs in path (combines two tests in the list) | 1 | 243 |
| Classifying L2, L3 and L4 traffic Profile Tests, Flows, new flows/sec, L2/L3/L4 etc. entries in "fast" path tables, ... | 2 | |
| Stream/bulk Data transfer "unidirectional stream" performance request& response /transaction rate tests | | |
| Performance testing with Mirroring enabled on the switch | 2 | |
| TCP Max connections per second, Max # of active sessions, Max transactions per second | | |
| IPv6 Support and Testing | | |
| Best of N and Worst of N Tests | 2 | |
| Measuring how many instances of a vSwitch would be required to support 1 million simultaneous flows | 2 | |
| Resilience tests | | |
| Performance characterization runs vs. number of "x". Tests with Restricted Resources (Host with X Cores, vSwitch with Y Cores?) | | |
| Flows, new flows/sec, L2/L3/L4 etc. entries in "fast" path tables, ... | 2 | |
| Tests to evaluate vSwitch contribution to 3GPP performance objectives (3GPP TS 23.203 Policy and Charging Control Architecture) | | |
| Programming rate of Forwarding_table /flow_table | 2 | |

| | | |
|---|---|--|
| SOAK tests (using RFC 2889 Max Forwarding Rate, not RFC 2544, to collect intermediate results) | 2 | |
| Tests suggested by OVS developers (there were a few) | | |
| Box-full tests, where all CPU cores are doing useful work: vNet4 vSwitch with Nx VNFs, vNet6 vSwitch with Nx VNF chained topologies | 2 | |
| LatencyAndLatencyVariation with dedicated latency measurement streams | | |
| Tests with Restricted Resources (Host with X Cores, vSwitch with Y Cores, ? overlap with 14, ... vs number of "X") | 2 | |
| Spanning Tree/Rapid Spanning Tree integration testing | 2 | |
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| | | |

Testing Topologies

| Topology | Priority | JIRA |
|--|----------|------|
| vNet vComp2 for VM2VM virt interface testing | | |

Integration Tests

<https://etherpad.opnfv.org/p/vSwitchIntegrationTests>

Other

We should consider recommending a minimum number of iterations to repeat the test and either average out the result or calculate the variance across trials