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

<table>
<thead>
<tr>
<th>Test</th>
<th>Priority</th>
<th>JIRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scalability Tests adding More VMs in succession and building a performance profile as we add more VMs.</td>
<td>1</td>
<td>238</td>
</tr>
<tr>
<td>OverlayNetworking Tests: VXLAN performance testing, encap, decap, encap and decap</td>
<td>1</td>
<td>241</td>
</tr>
<tr>
<td>Matchaction performance testing? The cost of the different actions supported by a vSwitch</td>
<td>1</td>
<td>242</td>
</tr>
<tr>
<td>VM2VM Tests (PHY-VNF-vSwitch-VNF-PHY), with scaling number of VMs in path (combines two tests in the list)</td>
<td>1</td>
<td>243</td>
</tr>
<tr>
<td>Classifying L2, L3 and L4 traffic Profile Tests, Flows, new flows/sec, L2/L3/L4 etc. entries in&quot;fast&quot; path tables, ...</td>
<td>2</td>
<td></td>
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<tr>
<td>Stream/bulk Data transfer &quot;unidirectional stream&quot; performance request&amp; response/transaction rate tests</td>
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<tr>
<td>Performance testing with Mirroring enabled on the switch</td>
<td>2</td>
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<tr>
<td>TCP Max connections per second, Max # of active sessions, Max transactions per second</td>
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<tr>
<td>IPv6 Support and Testing</td>
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<tr>
<td>Best of N and Worst of N Tests</td>
<td>2</td>
<td></td>
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<tr>
<td>Measuring how many instances of a vSwitch would be required to support 1 million simulataneous flows</td>
<td>2</td>
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<tr>
<td>Resilience tests</td>
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<tr>
<td>Performance characterization runs vs.number of &quot;x&quot;. Tests with Restricted Resources (Host with X Cores, vSwitch with Y Cores?)</td>
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<td></td>
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<tr>
<td>Flows, new flows/sec, L2/L3/L4 etc. entries in&quot;fast&quot; path tables, ...</td>
<td>2</td>
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<tr>
<td>Tests to evaluate vSwitch contribution to 3GPP performance objectives (3GPP TS 23.203 Policy and Charging Control Architecture)</td>
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<tr>
<td>Programming rate of Forwarding_table /flow_table</td>
<td>2</td>
<td></td>
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<tr>
<td>SOAK tests (using RFC 2889 Max Forwarding Rate, not RFC 2544, to collect intermediate results)</td>
<td>2</td>
<td></td>
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<tr>
<td>Tests suggested by OVS developers (there were a few)</td>
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<tr>
<td>Box-full tests, where all CPU cores are doing useful work: vNet4 vSwitch with Nx VNFs, vNet6 vSwitch with Nx VNF chained topologies</td>
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<td></td>
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<tr>
<td>LatencyAndLatencyVariation with dedicated latency measurement streams</td>
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<tr>
<td>Tests with Restricted Resources (Host with X Cores, vSwitch with Y Cores, ? overlap with 14, … vs number of &quot;X&quot;)</td>
<td>2</td>
<td></td>
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<tr>
<td>Spanning Tree/Rapid Spanning Tree integration testing</td>
<td>2</td>
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</tbody>
</table>

Testing Topologies

<table>
<thead>
<tr>
<th>Topology</th>
<th>Priority</th>
<th>JIRA</th>
</tr>
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<tbody>
<tr>
<td>vNet vComp2 for VM2VM virt interface testing</td>
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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.