Where to go: Community Testing

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Agenda

- DPDK Continuous Integration Test Status Update
- DPDK Release Test Status Update
- CI Comparison with Linux Foundation project
- Suggestions for CI improvement
- DPDK Performance Test introduction
- Plan to publish performance numbers
**DPDK Continuous Integration Test Status Update**

- For master branch (need register test-report mailing list)
  - Per patch-set build on one platform, covered 8 targets (gcc, icc, 64bit, 32bit, clang and etc)
  - Daily builds covered 43 different configurations, including RHEL/Ubuntu/Fedora/CentOS/SUSE and FreeBSD.
  - Daily Functional regression tests, totally ~270 tests running on 3 platforms.
- Enhanced automated framework DTS to support virtualization tests.
Covered major OS distributions: Ubuntu, SUSE, RHEL, FreeBSD, Fedora, CentOS, WindRiver and etc.

Executed all new features (Intel) testing and regression tests on different IA platforms for all major PMD drivers.

Published all the tested platforms and NICs in the release notes since R16.04.

Reduce test effort per release candidate from 5-day to 3-day.
## CI Comparison between Intel, DPDK.org and Linux Foundation

<table>
<thead>
<tr>
<th>Feature</th>
<th>Intel</th>
<th>DPDK.ORG</th>
<th>Linux Foundation (FD.IO/OPNFV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule Tool</td>
<td>Jenkins</td>
<td>No</td>
<td>Jenkins</td>
</tr>
<tr>
<td>Code Review/Patch tracking</td>
<td>Code Collaborator</td>
<td>Patchwork/Mailing list</td>
<td>Gerrit</td>
</tr>
<tr>
<td>IP &amp; Code Checking</td>
<td>ProtexIP + Klockwork</td>
<td>N.A</td>
<td>N.A</td>
</tr>
<tr>
<td>Bug Track</td>
<td>JIRA</td>
<td>No</td>
<td>JIRA</td>
</tr>
<tr>
<td>Automation Test Framework</td>
<td>DTS</td>
<td>DTS</td>
<td>Robot Framework (based on Projects)</td>
</tr>
<tr>
<td>Regression - Building</td>
<td>iLab, Building Test on 43 Configurations</td>
<td>Integrated with CI (nightly)</td>
<td></td>
</tr>
<tr>
<td>Regression - Function</td>
<td>Nightly function testing on 10+ platforms(publish 3 platforms results on dpdk.org)</td>
<td>Integrated with CI (nightly)</td>
<td></td>
</tr>
<tr>
<td>Regression - Performance</td>
<td>Nightly performance test</td>
<td>No</td>
<td>Integrated with CI (nightly)</td>
</tr>
<tr>
<td>Test Lab</td>
<td>50 test beds</td>
<td>NA?</td>
<td>Owned by Linux Foundation</td>
</tr>
<tr>
<td>Report Dashboard</td>
<td>Mail list / ISS/Sharepoint</td>
<td>No</td>
<td>Jenkins Server</td>
</tr>
</tbody>
</table>
Using Jenkins to trigger build when patch is submitted.

Using Gerrit to do code review, and links to JIRA for the bug/feature track.

Need both review and build pass then upstream to master.
An example project (fd.io)’s CI cont.

Daily Regression test and Test results for public

- Daily functional tests
- Daily performance tests

Test Lab

Test results on website

Community Bug/Feature track center

Features

Bugs

Gerrit
Suggestions

- Group the CI test team for the community
- Enable Jenkins as CI Tool
- Use Gerrit to review/track/apply patch sets, trigger patch checking and testing
- Use Bugzillar or JIRA to track bug
- Setup public test lab, verify external NIC PMD and performance test

What we do now for CI enhancement

- Per patch build enhancement
  - Per patch set build → per patch build
  - 8 configurations per build → cover 20+ configurations per each build
  - Make daily regression test results more stable on 10+ platforms.
DPDK Performance Test Introduction

- NIC Performance testing
  - NIC L2/L3 forwarding performance
  - NIC single core performance
- NIC Feature Performance testing
  - Vxlan, VEB, flow director.....
- Vhost/Virtio performance testing
  - DPDK vhost + virtio-pmd/virtio-net RX/TX, NIC2VM, VM2VM, scaling...
- Others
  - KNI.
  - Packet-processing, ip-pipeline
  - Some integration performance testing for OVS/VPP.
  - On-demand test.
Proposal For Public Performance Test

**Test Case & Configuration**
- Define/develop cases with community
  - PMD L3FWD/Testpmd
  - Virtualization (virtio/vhost)
  - KNI
  - Performance test per feature

**Test Infrastructure**
- Intel share test beds with community
  - Servers (4-6 test beds)
  - Intel NIC and external NIC
  - Software Configuration
  - IXIA Tester

**Test Report**
- Should review with Intel legal:
  - Send email to Community
  - Weekly
  - Identify/Debug performance issues

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**#1 Testing on Intel Lab**
- Share BKM/script/cases
- Define cases with community
  - PMD L3FWD/Testpmd
  - Virtualization (virtio/vhost)
  - KNI
  - Performance test per feature

**#2 Testing on Open Lab (preferred)**
- Build up open performance lab like Linux Foundation
  - Servers (4-6 test beds)
  - Intel NIC and external NIC
  - Mainstream Linux Distrib
  - Software PktGen, T-REX or IXIA.

- Use CI to manage report
- Monitor regularly performance report (Weekly?)
- Extend performance for patch
- Work with Open Test Lab to tune performance
Questions?

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