



Where to go: Community Testing

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DPDK Summit Userspace - Dublin- 2016



Agenda



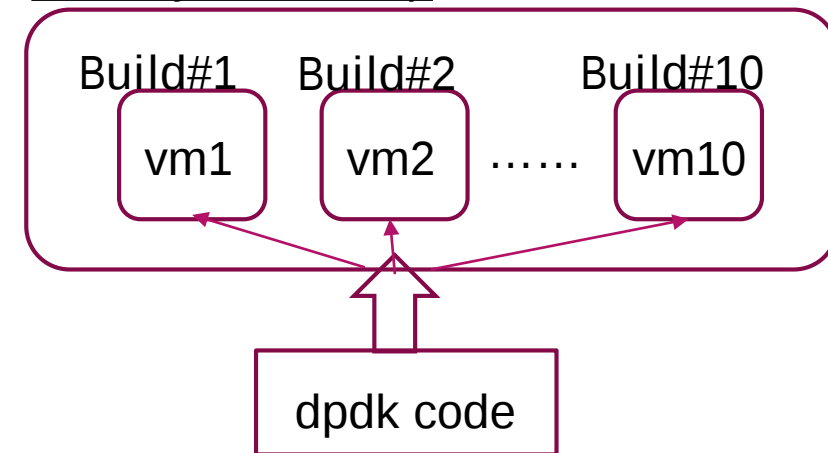
- ▶ DPDK Continuous Integration Test Status Update
 - ▶ DPDK Release Test Status Update
 - ▶ CI Comparison with Linux Foundation project
 - ▶ Suggestions for CI improvement
 - ▶ DPDK Performance Test introduction
 - ▶ Plan to publish performance numbers
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DPDK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

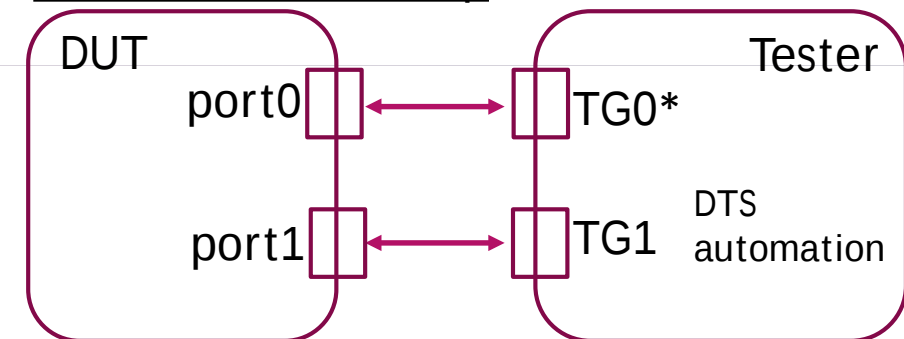


- ▶ For master branch (need register test-report mailing list)
 - ▶ Per patch-set build on one platform, covered **8** targets(gcc, icc, 64bit, 32bit, clang and etc)
 - ▶ Daily builds covered **43** different configurations, including RHEL/Ubuntu/Fedora/CentOS/SUSE and FreeBSD.
 - ▶ Daily Functional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

Build system setup



Functional test setup



TG*: Traffic generator

DPDK Validation – Release updates



- ▶ 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.

	2.2	16.04	16.07
Release Candidate	4	4	6
OS / Compiler	14/4	10/4	9/4
NIC	16	13	12
Platform + VT	9+3	10+3	9+3
Cases	5000+	4200+	4800+
Cycle (days)	20	15	20
Tested Patch	466	783	955
Effort per each RC	5	4	3
Bugs (high defects)	103	79	104 (12)

CI Comparison between Intel, DPDK.org and Linux Foundation

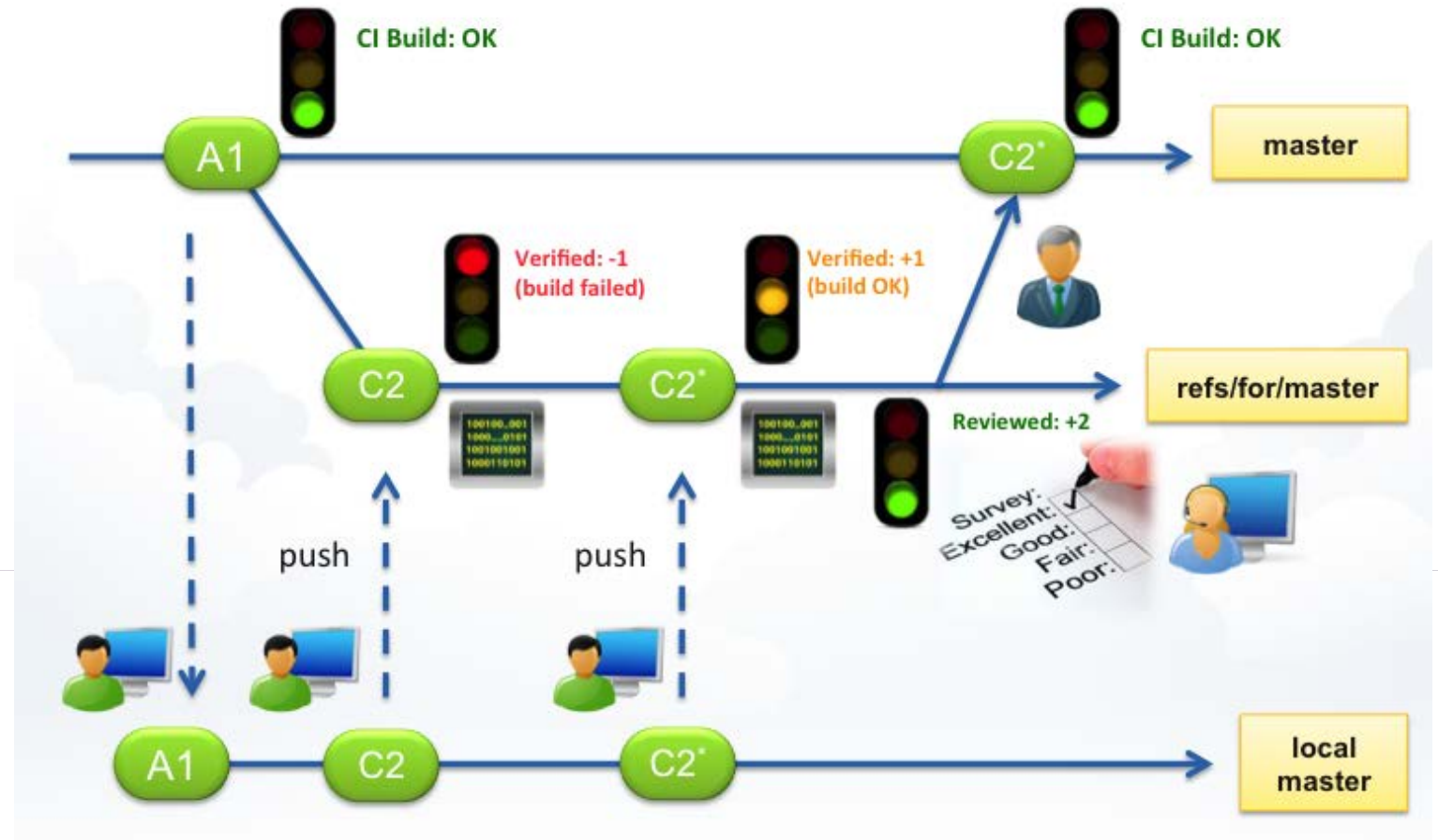


	Intel	DPDK.ORG	Linux Foundation (FD.IO/OPNFV)
Schedule Tool	Jenkins	No	Jenkins
Code Review/Patch tracking	Code Collaborator	Patchwork/Mailing list	Gerrit
IP & Code Checking	ProtexIP + Klockwork	N.A	N.A
Bug Track	JIRA	No	JIRA
Automation Test Framework	DTS	DTS	Robot Framework (based on Projects)
Regression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

An example project(fd.io)'s CI



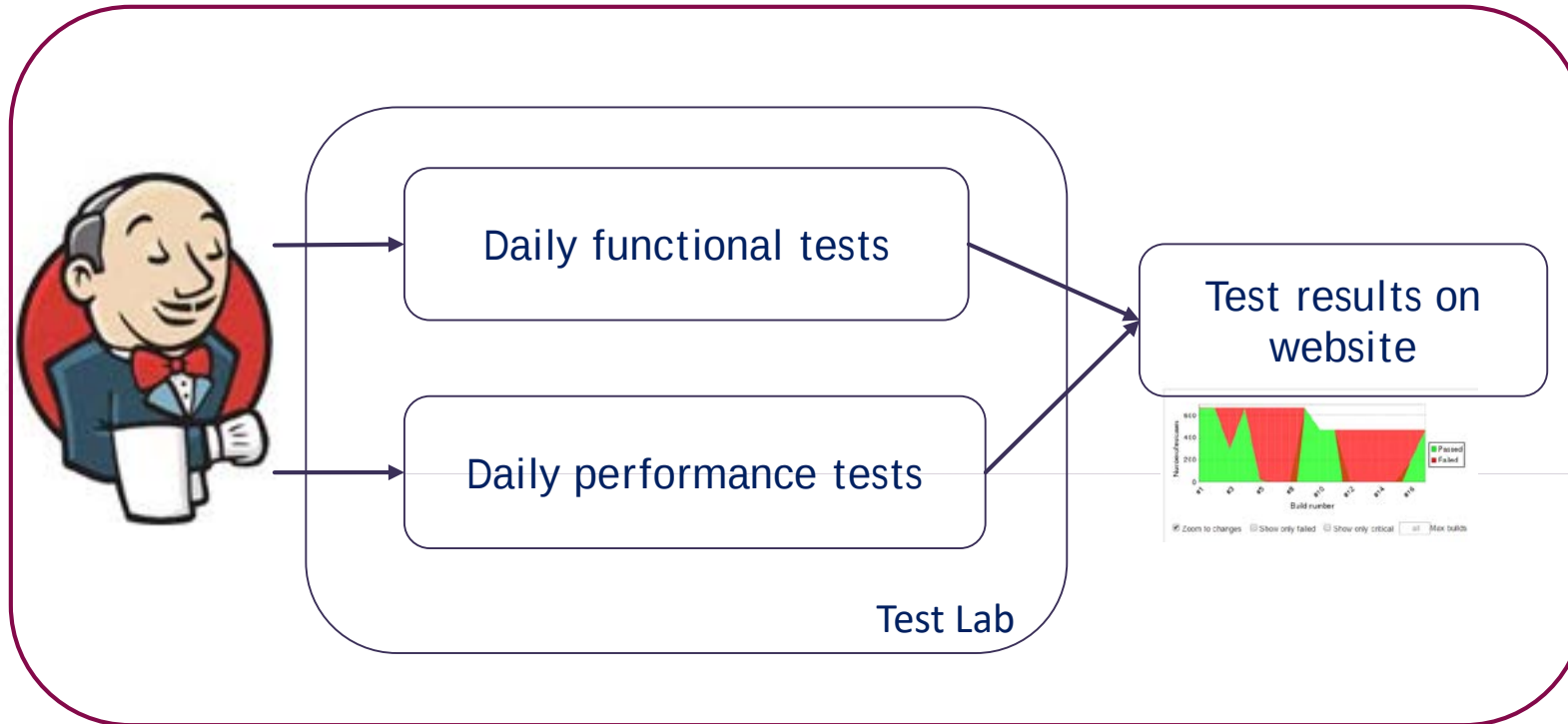
- ▶ Using Jenkins to trigger build when patch is submitted.
- ▶ Using Gerrit to do code review, and links to JIRA for the bug/feature track.
- ▶ Need both review and build pass then upstream to master



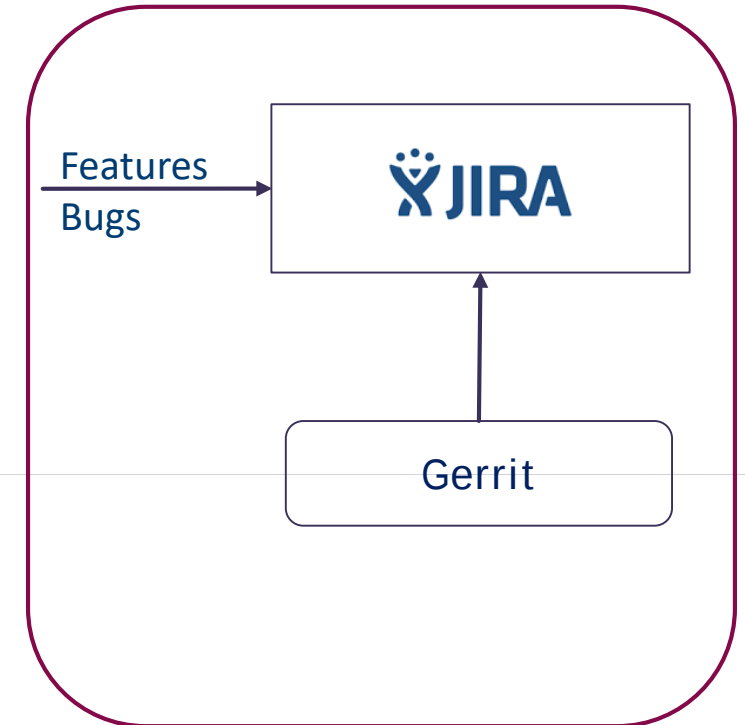
An example project(fd.io)'s CI cont.



Daily Regression test and Test results for public



Community Bug/Feature track center



Suggestion and Plan for CI Improvement



▶ 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

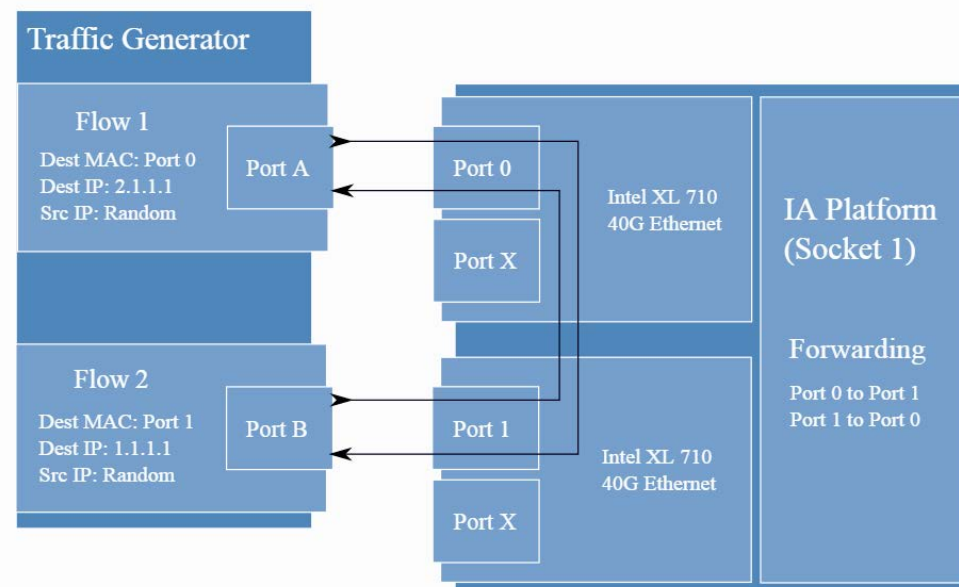
- ▶ Per patch build enhancement
 - ▶ Per patch set build→ per patch build
 - ▶ 8 configurations per build→ cover 20+ configurations per each build
- ▶ Make daily regression test results more stable on 10+ platforms.

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.

NIC performance testing setup



Proposal For Public Performance Test



Test Case & Configuration



#1 Testing on Intel Lab

Define/develop cases with community

- PMD L3FWD/Testpmd
- Virtualization (virtio/vhost)
- KNI
- Performance test per feature



#2 Testing on Open Lab (preferred)

Share BKM/script/cases
Define cases with community

- PMD L3FWD/Testpmd
- Virtualization (virtio/vhost)
- KNI
- Performance test per feature

Test Infrastructure



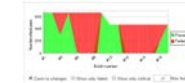
Intel share test beds with community

- Servers (4 ~6 test beds)
- Intel NIC and **external NIC**
- Software Configuration
- IXIA Tester

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.**

Test Report



Should review with intel legal:

- Send email to Community
- Weekly
- identify/ debug performance issues

- 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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