Community & Tools

Thomas Monjalon – DPDK Maintainer – Mellanox
Qian Xu – DPDK CI & Bugzilla Manager – Intel

DPDK Summit Userspace – Dublin – 2017
Agenda

- Community Growth
- Community Interactions
- Community Tools
- 10K sessions per week

- Stable in 2017
Sponsors

- CDN hosting
  fast.dpdk.org

- Server hosting
  gandi.net
1618 members in dev@

New registration peak was in 2015

743 members in users@
People participating in

- dev@
  - stable since 2016
- users@
Since last year

- 4 releases
  - 16.11 (LTS)
  - 17.02
  - 17.05
  - 17.08

- new contributing companies
  - Microsoft
  - Solarflare
  - Atomic Rules
  - WIND
  - ZTE
Patches per Company

[Graph showing the number of patches per company over time, with specific companies and corresponding colors identified:
- Intel
- 6WIND
- Cavium
- Brocade
- Mellanox
- NXP
- RedHat
- Cisco
- Solarflare
- Broadcom]
CPU Hardware Support

- ARM
- IBM
- Cavium
- NXP
- Intel
Kernel

- FreeBSD
  - Light support

- Linux
  - hugepages
  - UIO / VFIO
  - TAP / AF_PACKET v4
  - UNCI (not submitted)
- Legals, Lab, Events and more

- Governing Board

  + 1 silver representative

- Technical Board is more active
Online Resources

- Managed with git
  - git://dpdk.org/tools/dpdk-web

- Downloads
- Docs
- Boards
  - Charter
  - Minutes
- Ecosystem
  - Courses
  - News
  - Projects
Online Source Code

- Cgit
  - History browsing
  - Available: http://dpdk.org/browse/dpdk/tree/

- Elixir
  - Code browsing
  - https://github.com/free-electrons/elixir
  - Not yet available
Repositories

- Main git trees
  - dpdk.git
  - dpdk-stable.git
- Apps
  - pktgen-dpdk.git
  - spp.git
- Tools
  - dpdk-web.git
  - dpdk-ci.git
  - dts.git
- GitHub account

- Next sub-trees
  - dpdk-next-crypto.git
  - dpdk-next-eventdev.git
  - dpdk-next-net.git
  - dpdk-next-pipeline.git
  - dpdk-next-tm.git
  - dpdk-next-virtio.git

- Draft trees
  - dpdk-draft-cli.git
  - dpdk-draft-ipsec.git
  - dpdk-next-build.git
Mailing Lists

- May be upgraded to mailman 3
- 10 lists
  - dev
  - stable
  - users
  - announce
  - test-report
  - ci
  - web
  - dts
  - spp
  - moving
- Flow is large (many new threads each day)

- Take care of your readers: http://dpdk.org/ml
  - Good (and short) title attract more people
  - Sync clock with NTP
  - Inline replies
  - Drop useless context
  - Remove disclaimer in footer

- Focus on threads you are involved in
  - Disable nodupes option
    - http://dpdk.org/ml/options/dev/
  - Filter based on List-Id
  - Receive every messages in filtered folder
  - Receive copy in inbox when you are To/Cc'ed
- Integrated with distributed CI

- To be upgraded to 2.0
  - REST API
  - Series
  - Cover letters
  - Permalink on comments
Test Tools

- checkpatch
- check-git-log
- test-build
- coverity
- clang analyzer
- doxygen
- codespell (not used)
- test apps
- dts
- packet fuzzing?
Tools --- CI, lab, bugzilla

- DPDK Continuous Integration Update
- DPDK Open lab proposal
- New Bug system Bugzilla
DPDK Continuous Integration Process

1. Push
2. Pull
3. Schedule jobs
4. Git pull
5. Apply build/test
6. Report result
7. Send to dpdk.org
8. Notify by mail

<table>
<thead>
<tr>
<th>Context</th>
<th>Check</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>checkpatch</td>
<td>success</td>
<td>coding style OK</td>
</tr>
<tr>
<td>Intel-compiler</td>
<td>success</td>
<td>Compilation OK</td>
</tr>
</tbody>
</table>

Build
Function test
Performance test

Jenkins server
Dpdk.org
CI expert
Patchwork
DPDK CI update

- Per patch build: Cover 1 master + 6 next repos.
- Per patch check format: patch check
- Per patch set performance: work in process

- Daily Intel build
- Daily Intel function regression(master)
Objective and scope

- Identify any regression in DPDK performance/function.
- Identify any regression in the performance of DPDK-enabled application.
- Demonstrate any new feature performance of DPDK.
- May be used as a training or demo lab for DPDK events.

Host: University of New Hampshire InterOperability Lab (UNH-IOL) in US

What UNH-IOL provide:

- Hosting space for 2, 19” racks of equipment
- A test framework to execute the test cases and report results to the community
- A mechanism for secure remote access for scheduled test and debug purposes by DPDK members.
- Man-hours are limited to 1 graduate student and 50% of 1 undergraduate student.

Open lab participants at the beginning:
First focus: Per patch set performance test

Initial test case is IO performance test, and plan to add more areas of tests in future. Will use Trex as traffic generator.

Automation framework solution

<table>
<thead>
<tr>
<th>Option1 --- dts</th>
<th>Option2 --- different framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>😊   Common framework, one developed, all can use; Not limited to Intel, ARM is also using it.</td>
<td>Tailed for each vendor, easy to use</td>
</tr>
<tr>
<td>😞  some vendor met issues, need dts to be more general</td>
<td>Can’t be used by others, need develop new module by each vendor</td>
</tr>
</tbody>
</table>

Next milestone in Jan 2018

Each vendor ship machines to lab; Set up tests and make it running.
Objective and scope:
A central place for all community members to file bugs and enhancements. It’s mainly for issue resolving, NOT for optimization or feature design discussion. NOT to replace vendor specific buy system.


What kind of bug: Build, usage bug, failed case.

Who is the assignee: maintainer or volunteers

What to do when no assignee: Bug manager (Qian)

Notes for filing bugs

- Detailed
- Reproducible
- Priority/Severity
Bug workflow

Notes:
- The initial bug status is UNCONFIRMED.
- The bug can be marked as RESOLVED if the patch is sent to community
- QA verified it and ensure the bug is VERIFIED.
  Or else the bug can go back to CONFIRMED.

Link to the Bug workflow
Questions?

Thomas Monjalon
thomas@monjalon.net

Qian Xu
qian.q.xu@intel.com