DPDK

Introduction to DPDK Technical Board & Tree Maintainers
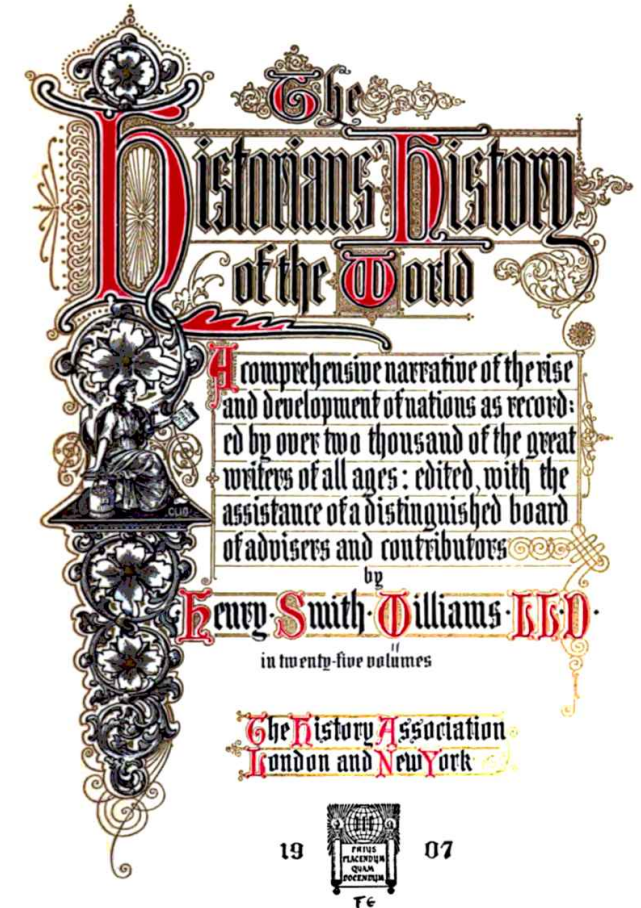
DPDK Summit USA - San Jose - 2017

DPDK Technical Board History

- Back at the dawn of time (~2013), DPDK project was entirely consensus-driven

- This led to slower decision making, and slower development

- So a technical board was created to allow trusted contributors to the project to make technical decisions on behalf of the whole community

- This tech-board was then codified in the DPDK Project Charter

By Tiffany & Co. - Google Books, Public Domain, https://commons.wikimedia.org/w/index.php?curid=3788090

Who we are

The 9 current members of techboard@dpdk.org are:

- Bruce Richardson
- Hemant Agrawal
- Jan Blunck
- Jerin Jacob
- Konstantin Ananyev
- Olivier Matz
- Stephen Hemminger
- Thomas Monjalon
- Yuanhan Liu

What Does DPDK Tech-Board Do?

The Tech-board meets every two weeks (approx.) for the purposes of:

- ▶ Approving the inclusion of new functionality, libraries or device classes, into DPDK
- ▶ Approving any new sub-trees or staging trees for DPDK project work
- ▶ Approving the appointment of committers/maintainers for those trees
- ▶ Approving any subprojects on DPDK
  - ▶ Once created – subprojects get their own technical board
- ▶ Providing technical input on contributions when requested
- ▶ *Making technical decisions when consensus cannot be reached on-list*

Intellectual Property Policy - Updates

- DPDK - User space libraries are BSD licensed.
    - Exceptions are:
        - Kernel modules are GPL-2.0 (e.g. KNI)
        - Common files between kernel and user space are Dual BSD-3-Clause / GPL-2.0
- License exception request is to be approved by GB – on request of TB.
- LF conducted License screening on DPDK code. Some discrepancies reported.
    - Differences in the BSD License text and flavors.
    - Mixed BSD with other license etc.
    - Missing License text, etc.
    - Actions are being planned to fix the issue.
- Going forward
    - Plan is to move to SPDX based licensing.
        - Short identifier for SPDK license to be added to each file.
    - Automated script to report license discrepancies in patchwork – Any volunteer?

Repositories

- **Main trees**
  - dpdk.git   *Ferruh, Thomas*
  - dpdk-stable.git   *Luca, Yuanhan*

- **Tools**
  - dpdk-web.git   *Thomas*
  - dpdk-ci.git   *Thomas*
  - dts.git   *Yong*
  - stable-scripts.git   *Luca, Yuanhan*

- **Apps**
  - pktgen-dpdk.git   *Keith*
  - spp.git   *Ferruh*

- **Sub-trees**
  - dpdk-next-crypto.git   *Pablo*
  - dpdk-next-eventdev.git   *Jerin*
  - dpdk-next-net.git   *Ferruh*
    - dpdk-next-net-intel.git   *Helin*
    - dpdk-next-net-mlx.git   *Shahaf*
    - dpdk-next-virtio.git   *Yuanhan*
  - dpdk-next-pipeline.git   *Cristian*
  - dpdk-next-qos.git   *Cristian*

- **Draft trees**
  - dpdk-draft-cli.git   *Keith*
  - dpdk-next-build.git   *Bruce*

Release process

- ▶ 4 major releases per year (.02, .05, .08, .11)
- ▶ 1 new LTS branch per year

- ▶ Maintainer's role
  - ▶ answer questions
  - ▶ make sure patches are reviewed
- ▶ Committer's role
  - ▶ easy: apply patches
  - ▶ medium: ask for review to trusted people
  - ▶ hard: reject patches when they are not mature enough

- ▶ local patch → patchwork → sub-sub-tree → sub-tree → main tree → stable tree

Tools – There's an app for that

- Patches → Patchwork
  - http://dpdk.org/dev/patchwork
  - per-patch community CI integration

- Performance → Community Lab
  - will provide a monitoring dashboard

- Bugs → Bugzilla
  - http://dpdk.org/tracker

- Features → Roadmap
  - dev@dpdk.org
  - http://dpdk.org/dev/roadmap

Roadmap – to 18.02 and beyond!

▶ meson/ninja build system

▶ **memory management** rework

▶ **multi-process** rework

▶ automatic UIO/VFIO binding

▶ **hotplug**, notifications and device ownership

▶ ethdev port representor driver

▶ adaptive virtual function (AVF) driver

▶ virtio-crypto driver

▶ eventdev optimized packet distribution library (OPDL) driver

▶ eventdev crypto adapter

▶ base band driver class (**bbdev**)

▶ infiniband driver class (**ibdev**)

▶ **FPGA** support

▶ **BPF** support

Questions?