DPDK
DATA PLANE DEVELOPMENT KIT

THE LINUX FOUNDATION

DPDK SUMMIT CHINA 2017

主办方： intel

参与方： 腾讯云 ZTE 美团云 Panabit 太一星晨 Balance Your Networks UnitedStack有云 云杉网络 Yunshan Networks

协办方： SDNLAB 专注网络创新技术 视频支持方： IT大咖说 知识分享平台

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2017 Opening Agenda/Roadmap

Heqing ZHU, Intel

DPDK China Summit 2017， Shanghai

主办方： intel

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协办方： SDNLAB

视频支持方： IT大咖说

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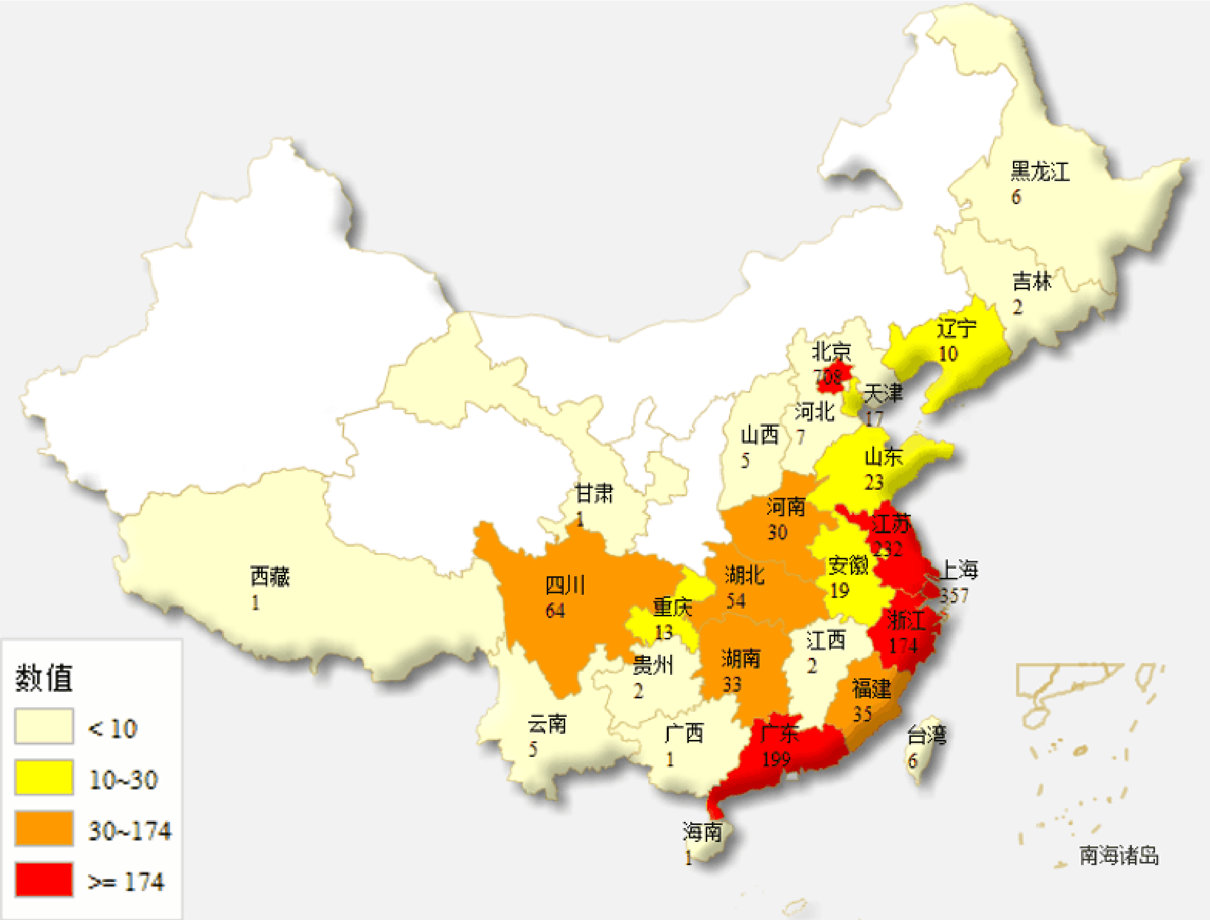
黑龙江
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吉林
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辽宁
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北京
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河北
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山东
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甘肃
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河南
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江苏
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安徽
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上海
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西藏
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四川
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湖北
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重庆
13
浙江
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云南
5
广西
1
广东
199
台湾
6
海南
1
南海诸岛
数值
< 10
10~30
30~174
>= 174

Welcome! This is 3^{rd} year of DPDK summit in China.

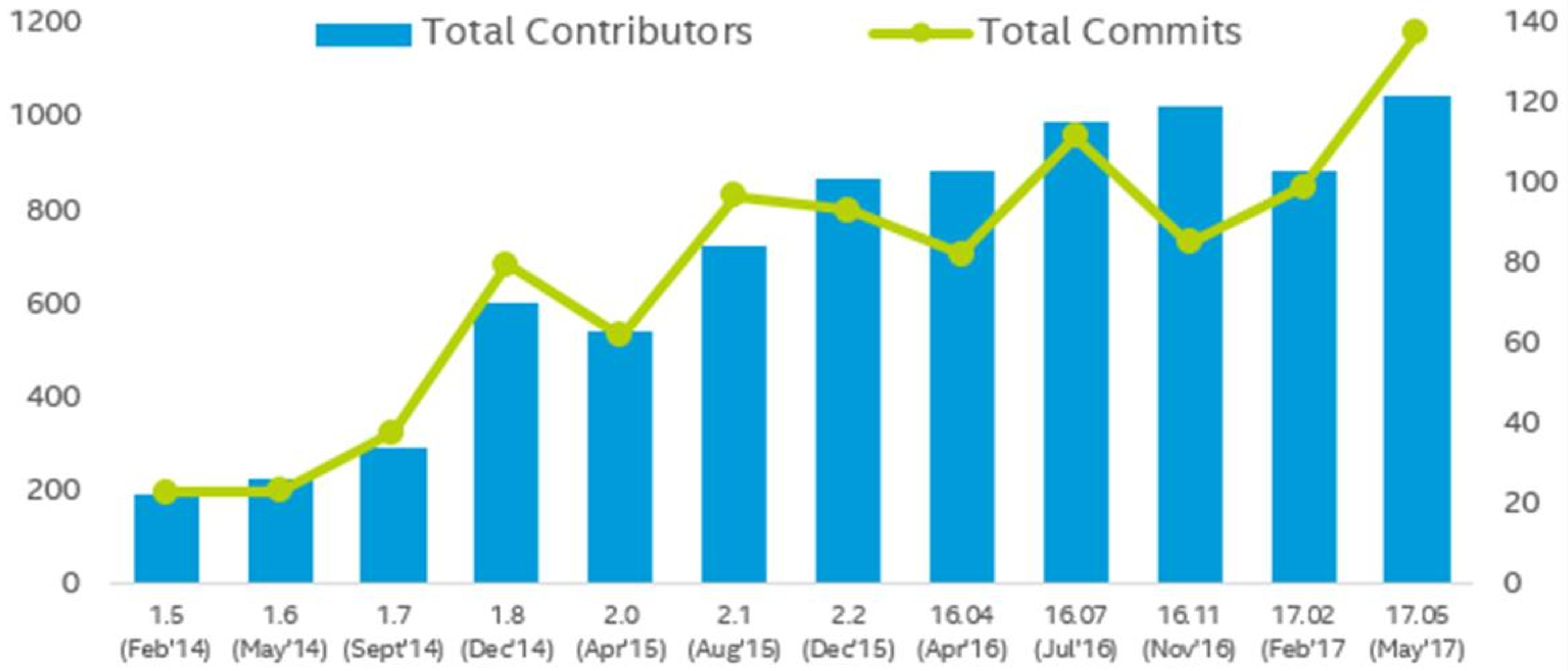
Aim to provide a regular update on data plane features and future work, use cases. A growing data plane ecosystem worldwide,

Please present on time.

Please ask questions and discuss offline

35 Tech blogs, 367 in group, 2400+ Subscribers, 32000+ read

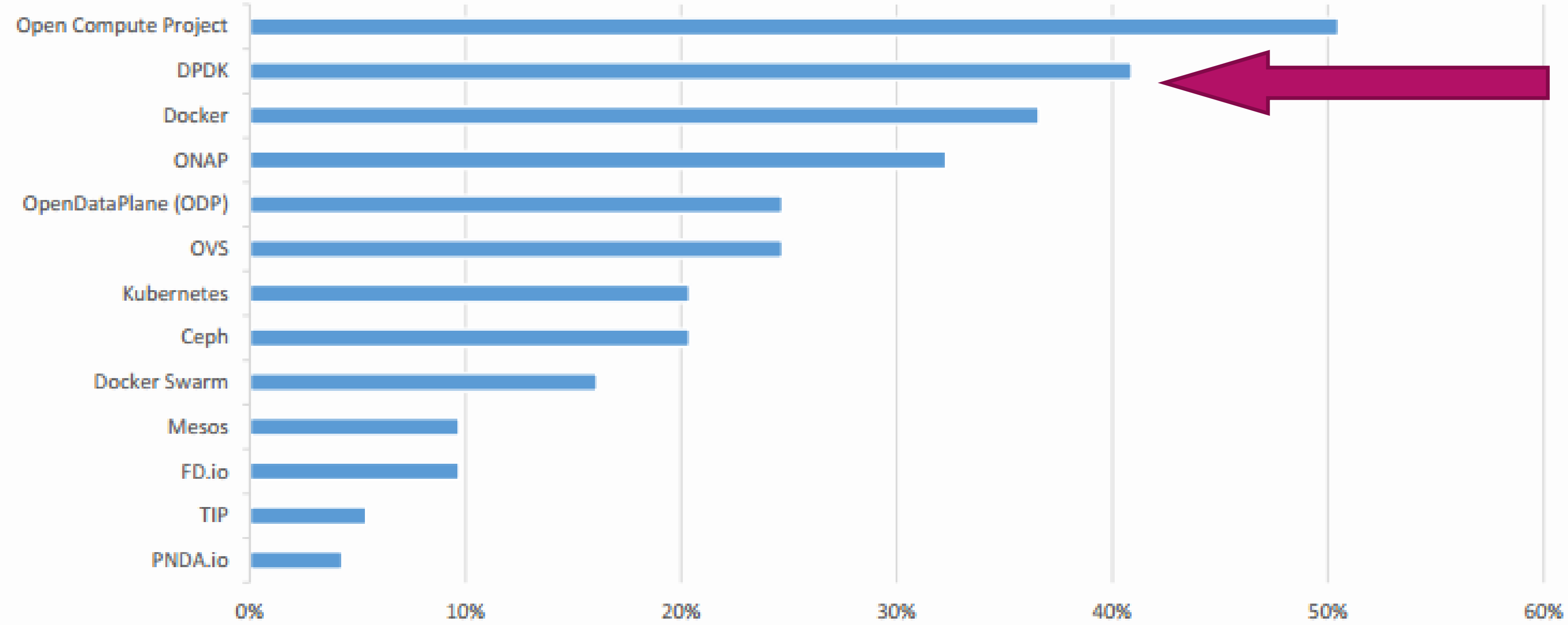
The Growing DPDK Community



OPNFV SUMMIT

JUNE 2017
BEIJING, CHINA

"In addition to OpenStack and SDN controllers (e.g., OpenDaylight, ONOS, OpenContrail), which upstream projects are most important to the success of OPNFV?"



Source: *Heavy Reading Service Provider Survey, June 2017 n=97*

No#2 in 2017
No#8 in 2016

Move to Linux Foundation

ARM AT&T CAVIUM intel

Mellanox TECHNOLOGIES NXP redhat ZTE

6WIND Atomic Rules HUAWEI SPIRENT WIND AN INTEL COMPANY

Broad industry support: hardware, software vendors, multiple industry verticals

8 founding Gold member supporters, **5** Silver members, **4** Associate members

DPDK Consumption

vSwitches/vRouters

fd.io
VPP

OvS
Open vSwitch

BESS

Lagopus

OPENCONTRAIL

CloudRouter

Packet Journey

DPDK in OS Distros

redhat

FreeBSD

WIND

ubuntu

fedora

debian

CentOS

MIRANTIS

Storage

Storage Performance Development Kit

+ Many more

Packet Generators

TRex
Realistic Traffic Generator

Pktgen

MoonGen

Ostinato

WARP17
THE STATEFUL TRAFFIC GENERATOR

TCP/IP Stacks

mTCP

fd.io

Seastar

TLDK & VPP

ANS

LWIP DPDK

DPDK Governance by two boards

Governance for DPDK is provided by two boards

A Governing Board which deals with budget, marketing, lab resources, administrative, legal and licensing issues.

This includes representatives from the Gold project members, and a Silver member representative from Huawei.

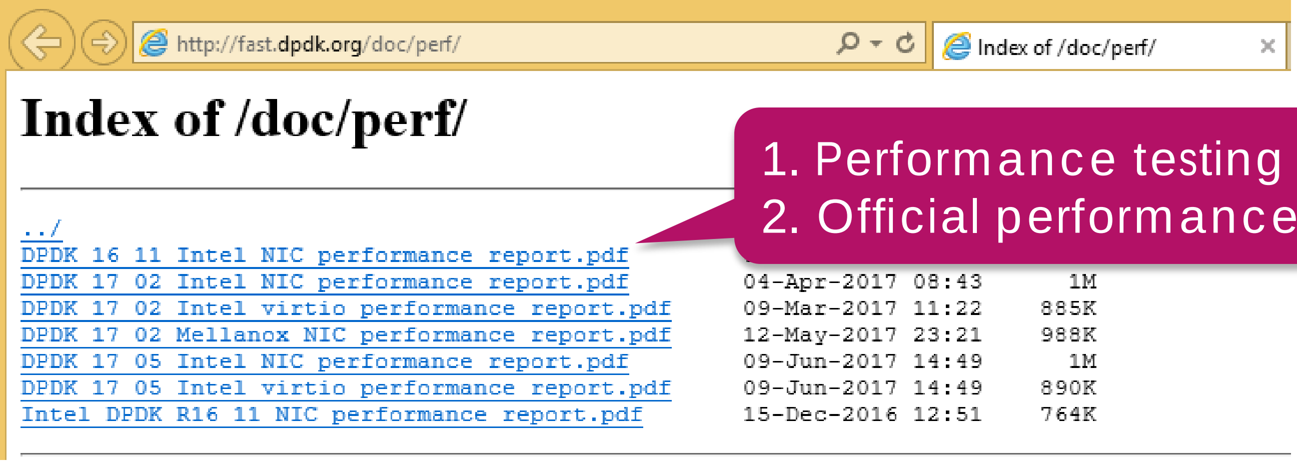
A Technical Board which deals with technical issues including approval of new sub-projects, deprecating old sub-projects, and resolution of technical disputes.

This includes representatives from Intel, Mellanox, 6WIND, Cavium, NXP, Microsoft and Brocade

These two boards are peers and work together to oversee the DPDK project.

- Project is still hosted at dpdk.org.
- Patch submission, review, and release processes in good shape.

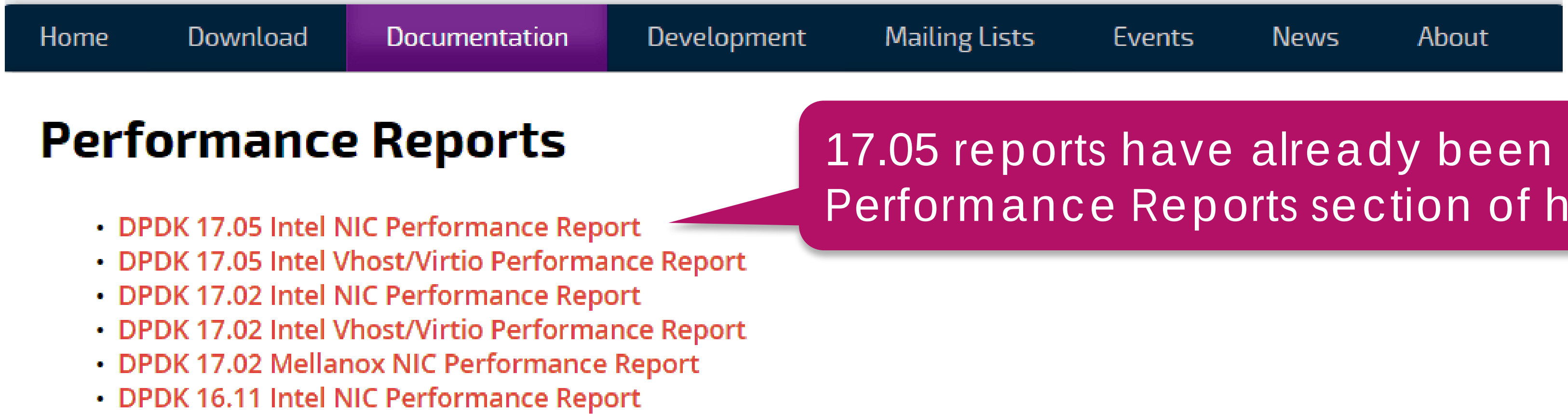
DPDK Performance Report


http://fast.dpdk.org/doc/perf/
Index of /doc/perf/

Index of /doc/perf/

```
../
DPDK_16_11_Intel_NIC_performance_report.pdf
DPDK_17_02_Intel_NIC_performance_report.pdf        04-Apr-2017 08:43       1M
DPDK_17_02_Intel_virtio_performance_report.pdf     09-Mar-2017 11:22     885K
DPDK_17_02_Mellanox_NIC_performance_report.pdf     12-May-2017 23:21     988K
DPDK_17_05_Intel_NIC_performance_report.pdf        09-Jun-2017 14:49       1M
DPDK_17_05_Intel_virtio_performance_report.pdf     09-Jun-2017 14:49     890K
Intel_DPDK_R16_11_NIC_performance_report.pdf       15-Dec-2016 12:51     764K
```

1. Performance testing is performed at the end of each release
2. Official performance reports are uploaded to DPDK.org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Performance Reports

- DPDK 17.05 Intel NIC Performance Report
- DPDK 17.05 Intel Vhost/Virtio Performance Report
- DPDK 17.02 Intel NIC Performance Report
- DPDK 17.02 Intel Vhost/Virtio Performance Report
- DPDK 17.02 Mellanox NIC Performance Report
- DPDK 16.11 Intel NIC Performance Report

17.05 reports have already been uploaded to the Performance Reports section of http://dpdk.org/doc.

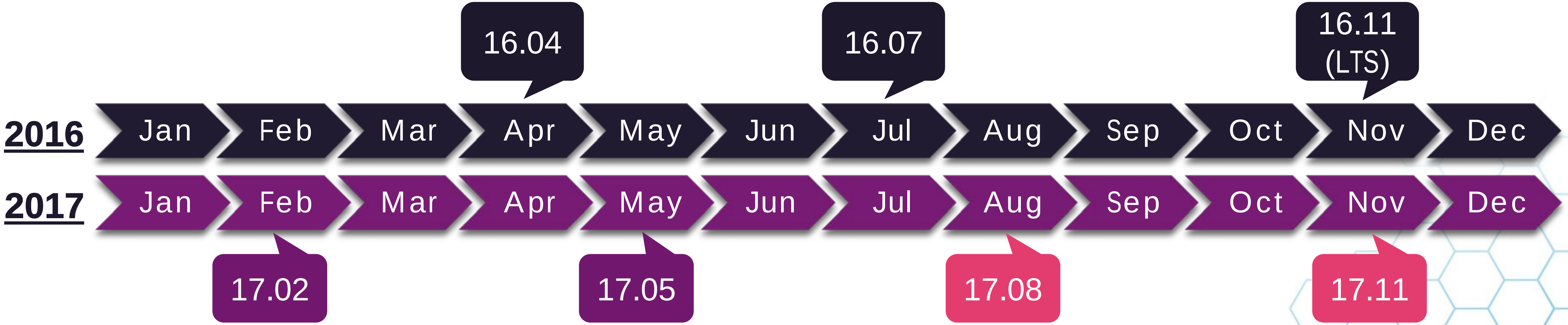
Open Lab

iol University of New Hampshire
InterOperability
Laboratory

- The Governing Board has approved budget for creation of a new DPDK lab.
- The aim is to do automated performance testing of patches before they’re applied.
  - This will help to prevent cases where patches have unexpected performance impacts.
  - At the moment, any such performance impacts may not be identified until the end of a release cycle when performance testing is performed. This leaves very little time to fix the problems before the release.
  - Having performance data for patches before they’re applied will help the maintainers to identify any problems and decide which patches should/should not be accepted.
- The plan is to host at the University of New Hampshire Interoperability Lab.

Release Plan

- Since 16.04, releases use the Ubuntu numbering scheme of YY.MM.
- We've transitioned from 3 major releases per year to 4 in 2017.
- Frequency and dates of releases will be fixed from 2017 onwards.



16.04
16.07
16.11 (LTS)

2016 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

2017 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

17.02
17.05
17.08
17.11

- Plans for future LTS releases are being discussed. The current plan is to make every .11 release in an even numbered year (16.11, 18.11 etc.) an LTS release and maintain for 2 years.

Future Roadmap, DPDK Framework

Cryptodev

1. Asymmetric support
2. Inline crypto

Compression

Discussion on the dev@dpdk.org mailing list and in the Tech Board on the mechanism for supporting programmable devices in DPDK.

Acceleration Model

1. Virtualization
2. Container

Data Pata APIs

1. Flow APIs
2. QoS APIs
3. Tunnel APIs
4. ---

Agenda for Morning

Time	Durations	Presenter	Company	Topic
8:30 - 8:45	15	Heqing Zhu	Intel	Opening
8:45 - 9:10	25	Jianfeng Tan	Intel	DPDK in container: Status Quo and Future Directions
9:10 - 9:30	20	Hailong Wang	Tencent	F-Stack, a full user space network service on DPDK
9:30 - 10:00	30	Cunming Liang	Intel	A Better Virtio towards NFV Cloud
10:00 - 10:20	20	Changpeng Liu/Xing Zen	Intel	Accelerate VM I/O via SPDK and Crypto for Generaic vHost
10:20 - 10:40	20	Break		
10:40 - 11:15	35	Huai Huang	Meituan	OVS-DPDK Practices in Meituan Cloud
11:15 - 11:45	30	Fangliang Lou	ZTE	Network performance tuning, lesson learned.
11:45 - 12:15	30	Liang Ma	Intel	OPDL: On The Path To Packet Processing Nirvana

Agenda for Afternoon

Time	Durations	Presenter	Company	Topic
13:30 - 14:10	40	Helin Zhang Jingjing Wu	Intel	Intel® 25GbE Ethernet Adapter Advanced Features for NFV, Adaptive VF
14:10 - 14:30	20	Fan Zhang	Intel	Accelerate VPP workload with DPDK Cryptodev Framework
14:30 - 14:45	15	Haohao Zhang	Tencent	Data Center Security Use Case with DPDK
14:45 - 15:15	30	Yunhong Jiang Wei Wang	Intel	Towards Low Latency Interrupt Mode PMD
15:15 - 15:35	20	Break		
15:35 - 16:05	30	Hao Lin	T1Networks	Telco data plane status, challenges and solutions
16:05 - 16:35	30	Zhaohun Sun	Panabit	Support Millions users in vBRAS
16:35 - 16:50	15	Jie Zheng	United Stack	A High speed DPDK PMD approach in LXC
16:50 - 17:20	30	Kai Wang	Yunshan	Cloud Data Center, Network Security practices
17:20 - 17:50	30	DPDK Box Lucky Draw, Social		

Further Info

- Open source website (dpdk.org):
  - Download the code, access the documentation, join the mailing lists etc.
- DPDK Summit events:
  - Includes videos and presentations from previous events.
  - Subscribe to quarterly newsletter.
- Videos and training:
  - Intel® Network Builders University
  - BrightTalk webinars
- Meet-ups
- Interested in contributing?
  - Subscribe to the mailing lists .
  - Review the Contributor's Guidelines and contribute patches!

Thanks!!

欢迎关注**DPDK开源社区**