SPDK - THE FUTURE IS NOW

Jim Harris
Principal Software Engineer
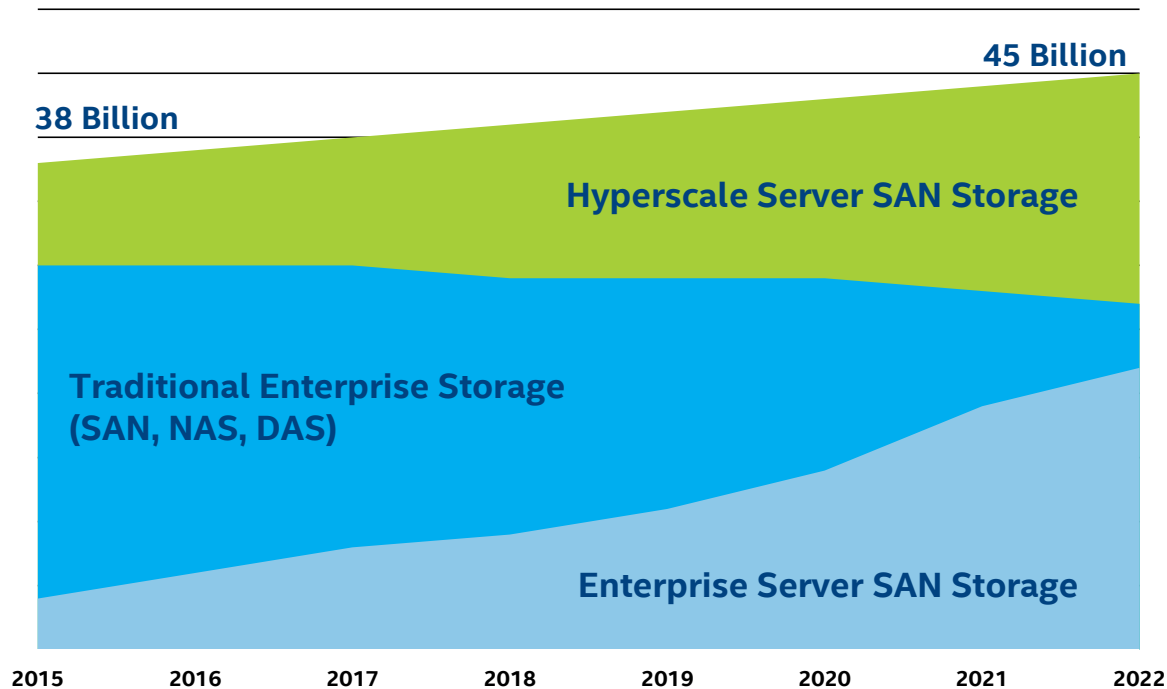Data Center Group

Traditional Enterprise Storage, Hyperscale Server SAN and Enterprise Server SAN Revenue Projections 2015-2022[†]

45 Billion

38 Billion

Hyperscale Server SAN Storage

Traditional Enterprise Storage (SAN, NAS, DAS)

Enterprise Server SAN Storage

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |

[†]Source: © Wikibon Server SAN Research Project 2015, see Wikibon Premium "Server SAN 2012–2026"

NVM IS THE CATALYST

"EMC* Declares 2016 The "Year of All-Flash" For Primary Storage"

"By 2020, EMC* estimates that all storage used for production applications will be flash-based"

Source: http://www.emc.com/about/news/press/2016/20160229-04.htm

* Other names and brands may be claimed as the property of others

STORAGE PERFORMANCE DEVELOPMENT KIT

Where does it fit?

STORAGE PERFORMANCE DEVELOPMENT KIT

- Open Source

- Composable Building Blocks

- BSD Licensed

- Userspace and Polled Mode

http://spdk.io

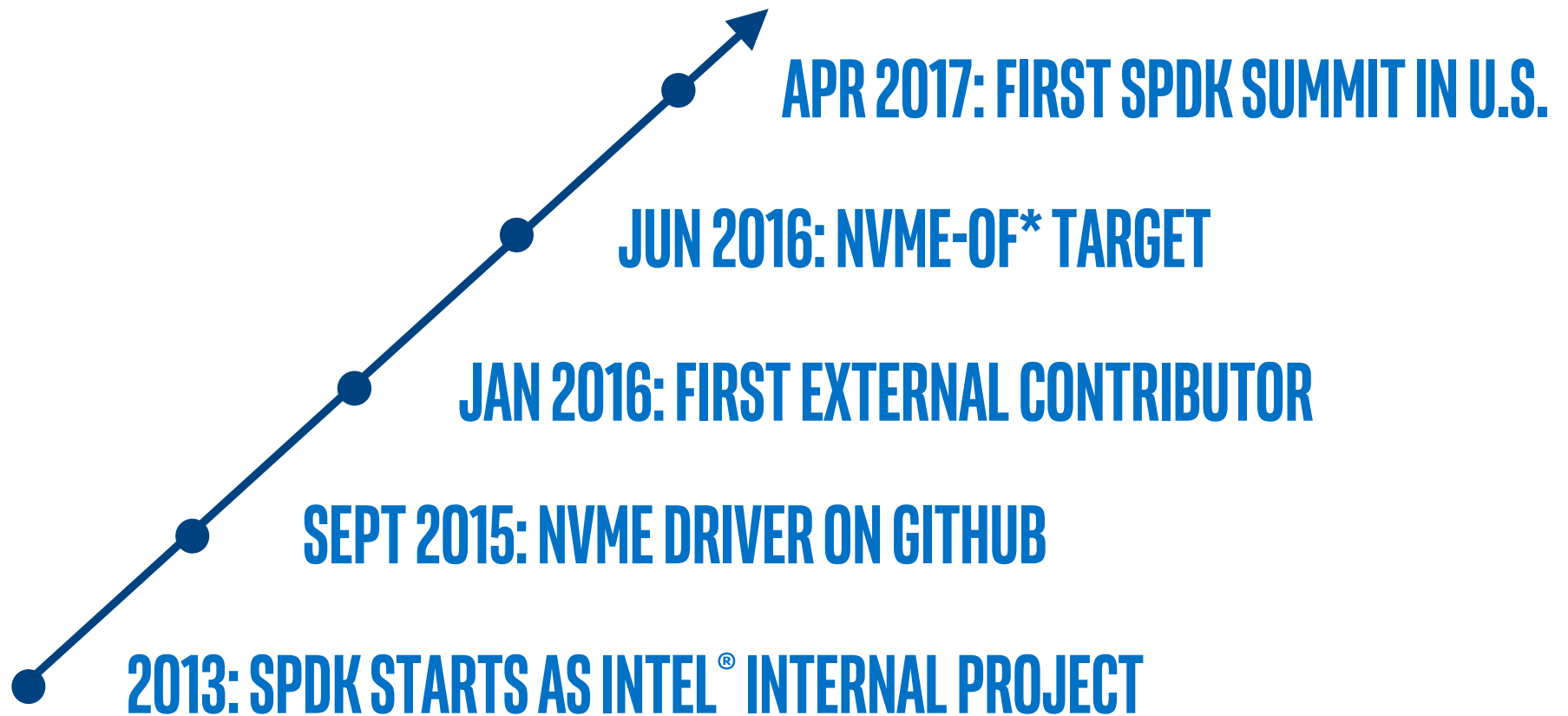intel

EFFICIENCY

SIMPLICITY

FLEXIBILITY

SPDK HISTORY

APR 2017: FIRST SPDK SUMMIT IN U.S.

JUN 2016: NVME-OF* TARGET

JAN 2016: FIRST EXTERNAL CONTRIBUTOR

SEPT 2015: NVME DRIVER ON GITHUB

2013: SPDK STARTS AS INTEL® INTERNAL PROJECT

WHAT IS SPDK?
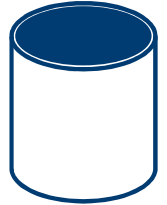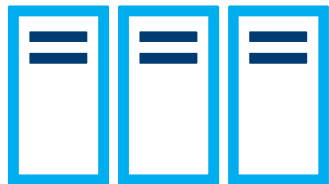
Technology

ARCHITECTURE

Released
Q2'17
Pathfinding

Storage Protocols

iSCSI Target | vhost-scsi Target | NVMe-oF* Target | vhost-blk Target | Object

SCSI | NVMe

Storage Services

Block Device Abstraction (BDEV)

3rd Party | Blob bdev

NVMe | Linux Async IO | Ceph RBD

BlobFS

Blobstore

Drivers

NVMe Devices

NVMe-oF* Initiator | NVMe* PCIe Driver

Intel® QuickData Technology Driver

Integration

RocksDB

Ceph

Core

Application Framework

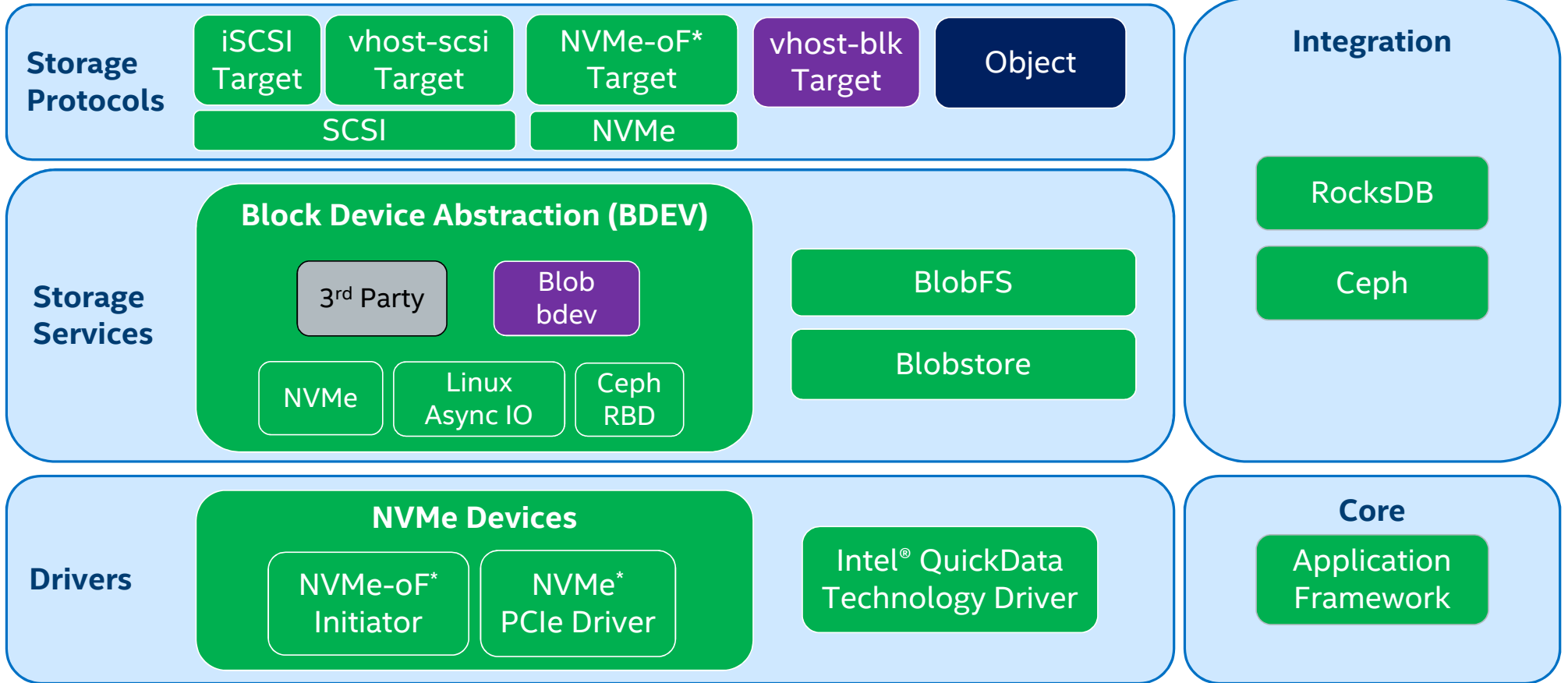(intel)

SPDK LOOK FORWARD: TECHNOLOGY

- **Blobstore Usage Models**

- **Accelerator Integration**

- **Usability**

- **Validation and Testing Frameworks**

- **Networking**

WHAT IS SPDK?

Technology + Community

SPDK LOOK FORWARD: COMMUNITY

- **Roadmaps**

- **Development Process**

- **Meetups**

WHAT IS SPDK?

Technology + Community =

Innovation

Notices and Disclaimers

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Learn more at intel.com, or from the OEM or retailer.

No computer system can be absolutely secure.

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visit **http://www.intel.com/performance**.

Intel, the Intel logo, Xeon, and others are trademarks of Intel Corporation in the U.S. and/or other countries.

*Other names and brands may be claimed as the property of others.

© 2017 Intel Corporation.