



SDC 18

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www.storagedeveloper.org

What's better than sg3utils, hd/sdparm

An Introduction to openSeaChest

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Problem Statement

- ❑ Supports multiple operating system
- ❑ Architecture portable
- ❑ Interface (SAS/SATA/NVMe) agnostic
- ❑ Storage media independent
- ❑ Self-Contained (short dependency tree)
- ❑ Open source

One tool to rule them all

Vision Statement

Need a highly **portable**, secure, non-disruptive software stack to enable various use cases of storage devices that are integrated in **diverse hardware platforms & operating systems.**



openSeaChest

Open source (MPL) cross-platform project, written in C, is a collection of utilities written for storage products based on the storage industry standard T10/T13/NVMe specifications that allows device diagnostics and management.

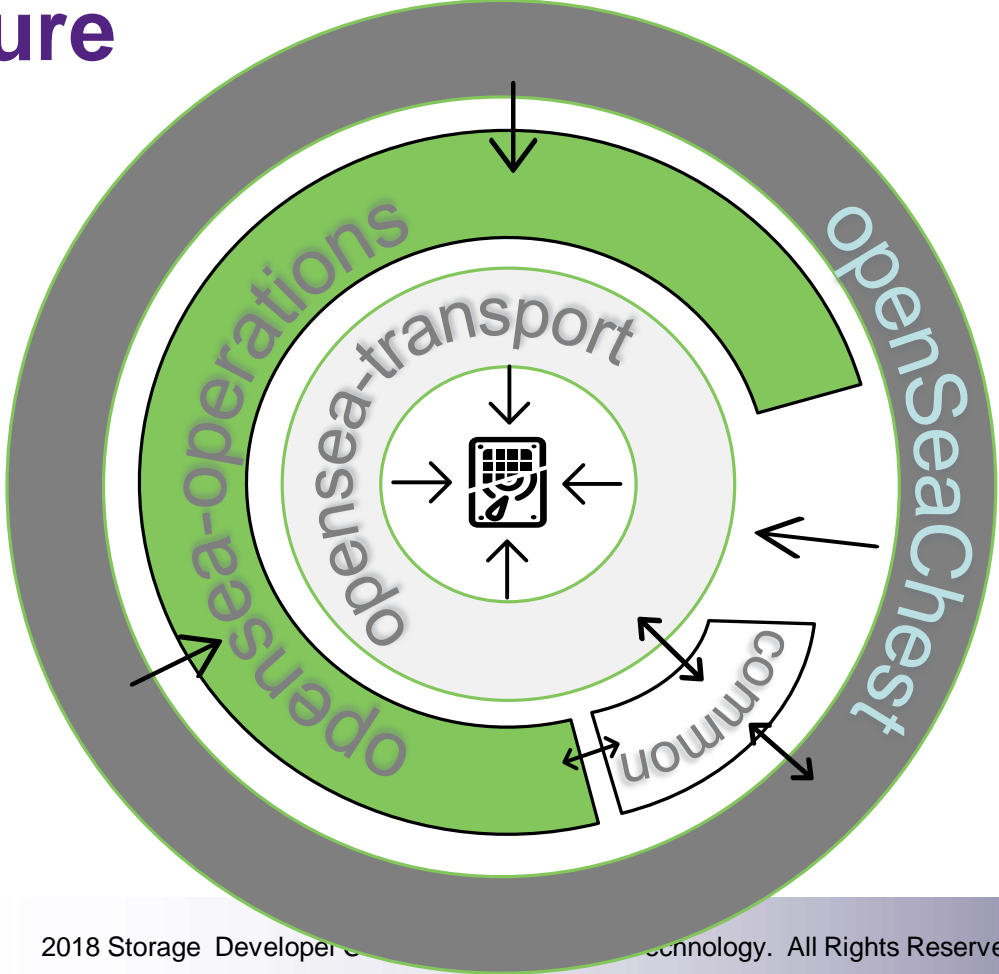


openSeaChest – key features

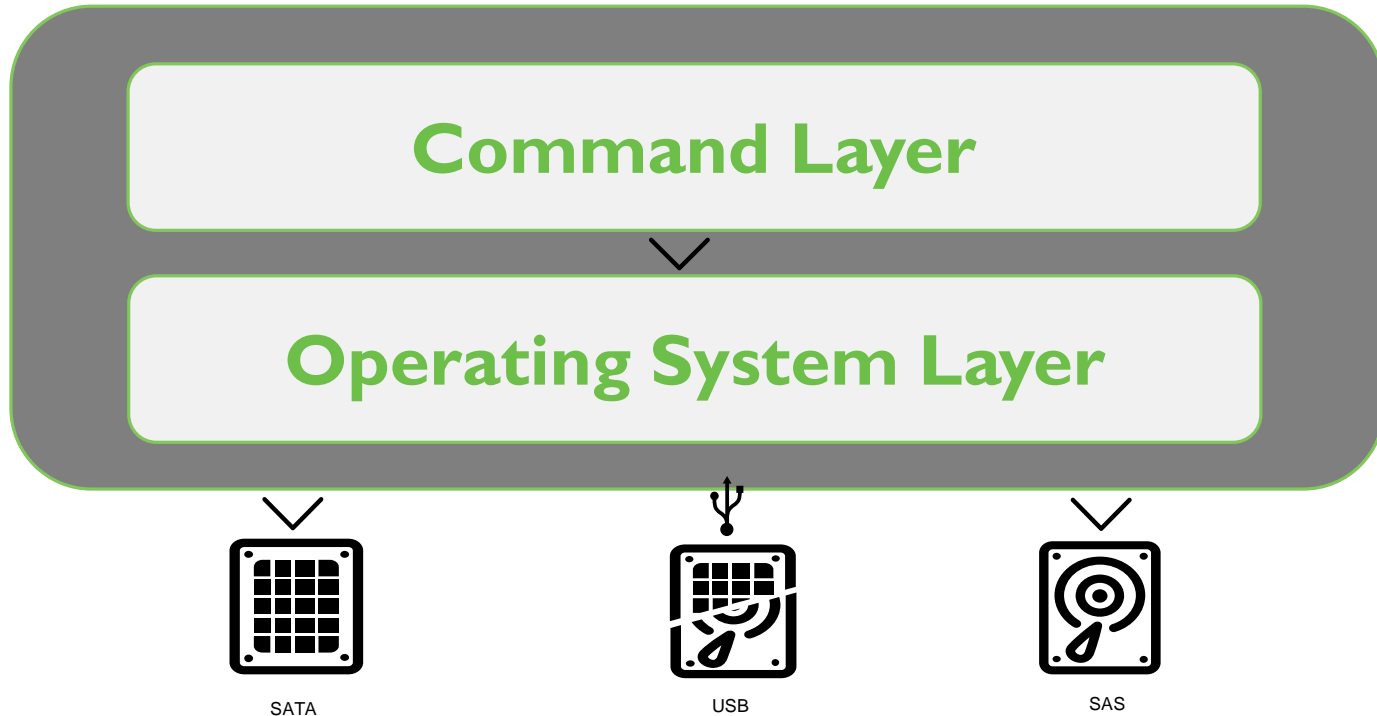
- ❑ Use case based (Power, SMART, Erase etc.)
- ❑ Supports SATA/SAS/NVMe* direct attached
- ❑ Supports Windows, Linux, FreeBSD, Solaris & Vmware*
- ❑ ARM for Lin/Win other arch (e.g. mips) for Linux
- ❑ Lightweight & portable (works anywhere)
- ❑ Built on customizable opensea-* libraries

Works on ALL vendors

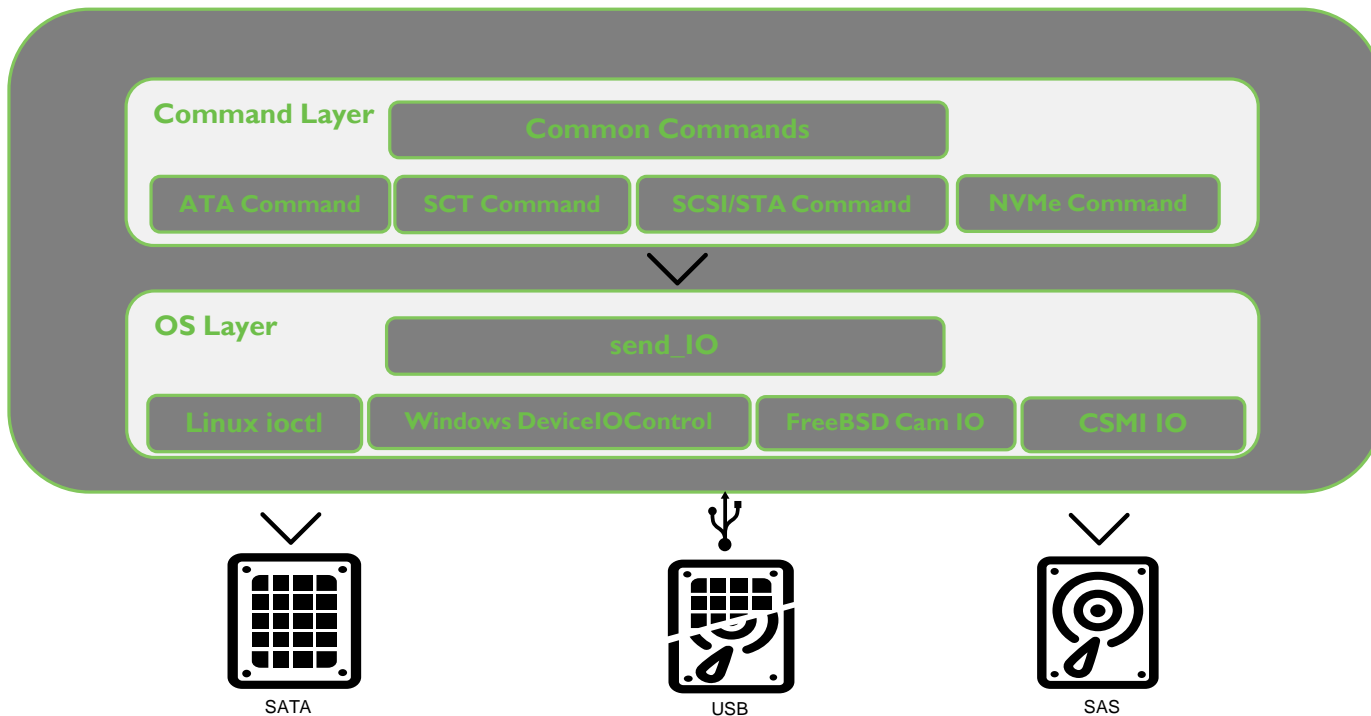
Big Picture



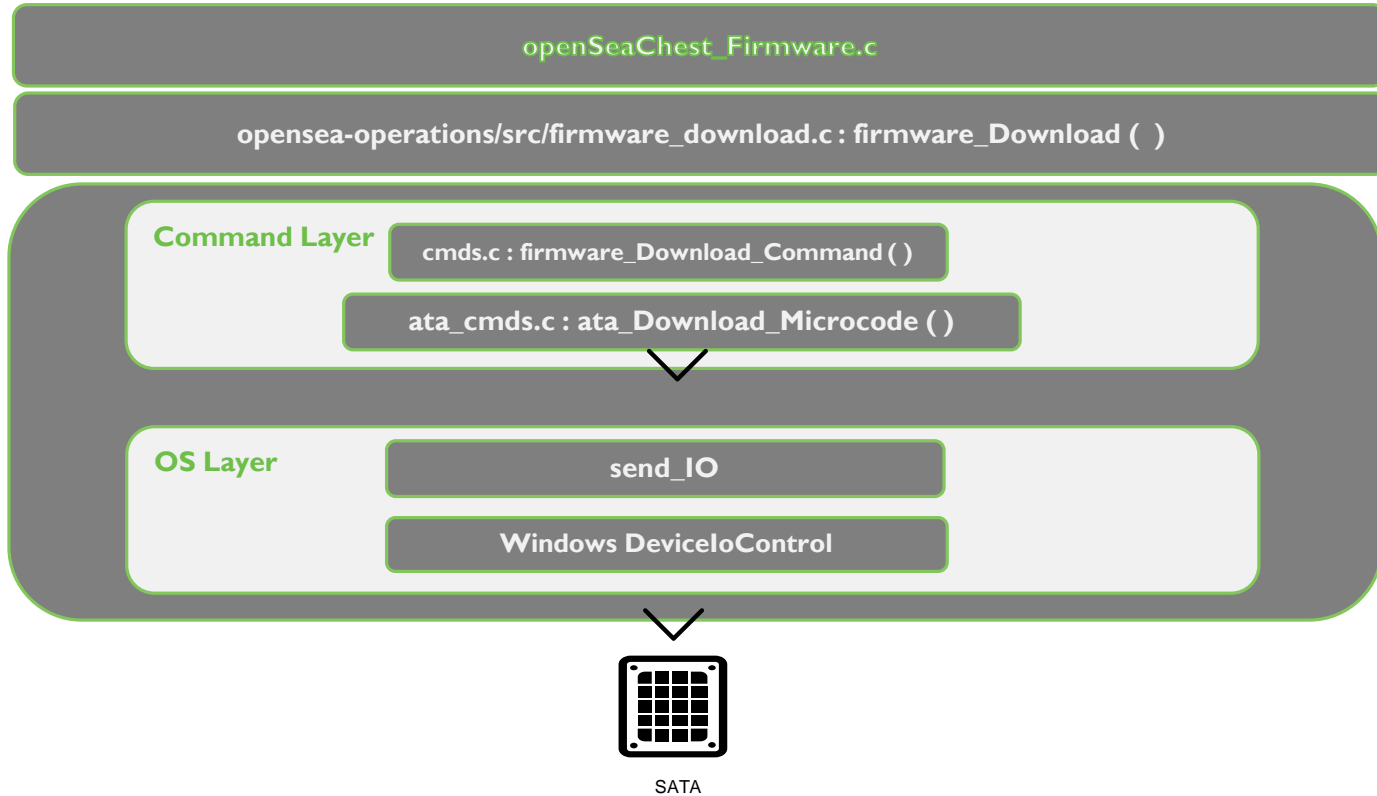
opensea-* libraries (transport)



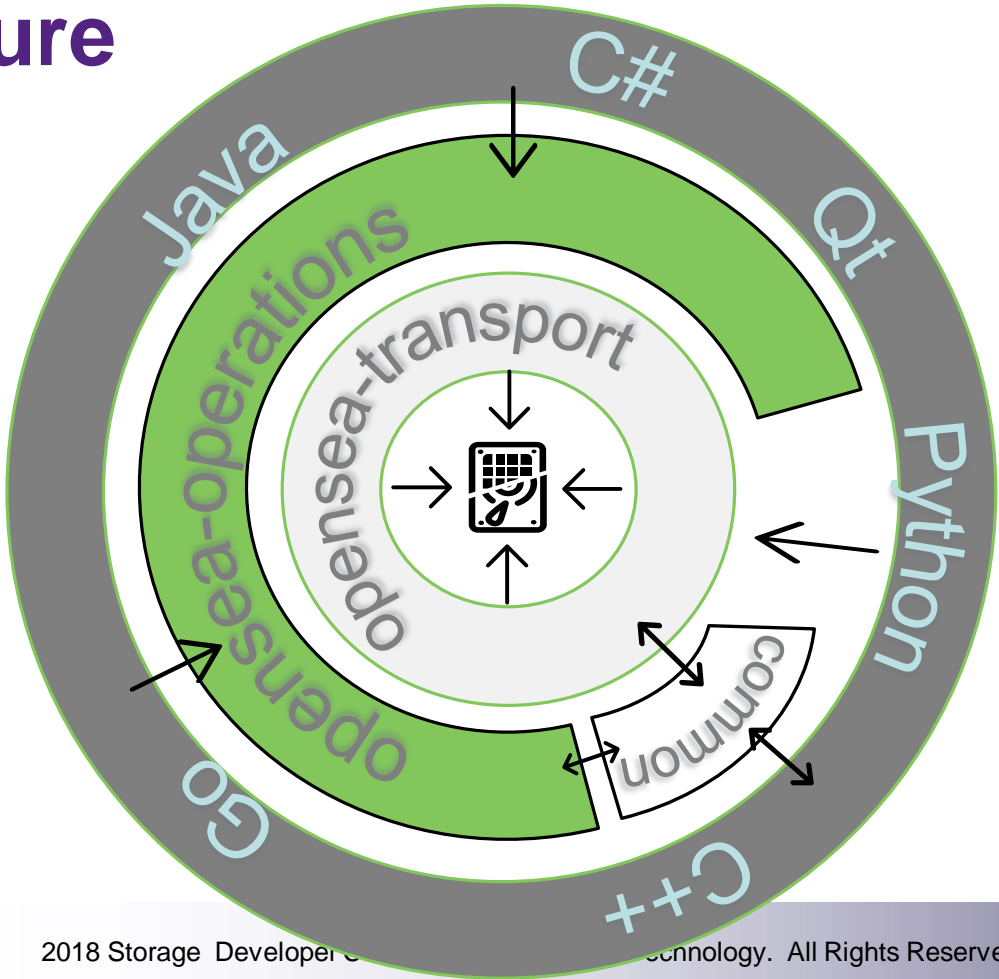
opensea-* libraries (transport)



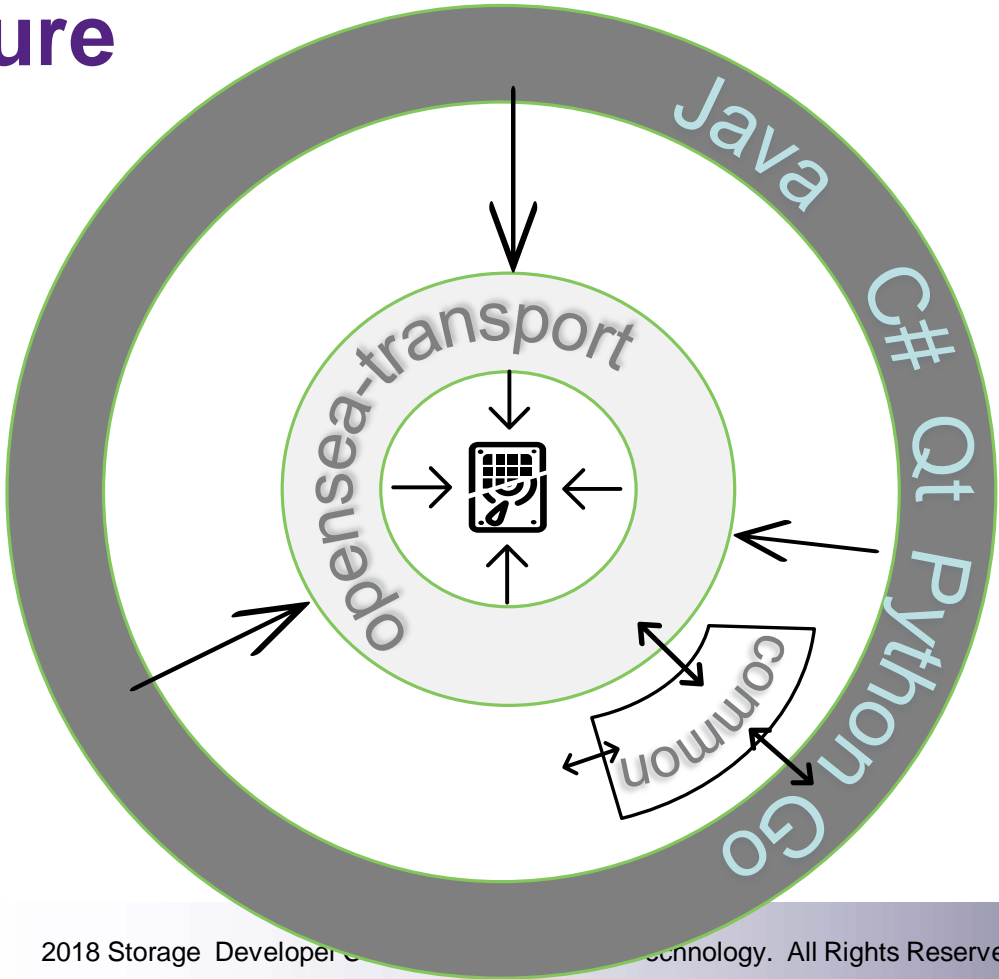
Code Flow



Big Picture



Big Picture



Toolset

- ❑ openSeaChest_Basics
- ❑ openSeaChest_Configure
- ❑ openSeaChest_Erase
- ❑ openSeaChest_Firmware
- ❑ openSeaChest_FormatUnit
- ❑ openSeaChest_GenericTests
- ❑ openSeaChest_Info
- ❑ openSeaChest_Logs
- ❑ openSeaChest_NVMe
- ❑ openSeaChest_PowerControl
- ❑ openSeaChest_SMART
- ❑ openSeaChest_ZBD

Use cases (Repurpose)

- ❑ `--showEraseSupport`

- ❑ `--performQuickestErase`

Poor Mans Bus Trace (Tips)

- ❑ -v [0-4], --verbose [0 | 1 | 2 | 3 | 4]
- ❑ Demo

Cherry Picking (Tips)

- ❑ --modelMatch [model Number]
- ❑ --onlyFW [firmware revision]
- ❑ --onlySeagate
- ❑ Demo or Screen Shots

Parallel Execution (Tips)

- Demo

Coming down the pipe?

- ❑ Vmware ESXi 6.5+ (Beta)
- ❑ Big Endian Support
- ❑ UEFI transport layer
- ❑ JSON (Maybe)
- ❑ RAID (Maybe)
- ❑ MAC OS X (USB Support)

References & Resources:

<https://github.com/Seagate/openSeaChest>

<https://github.com/Seagate> (for libraries)

<https://apps1.seagate.com/downloads/certificate.html?key=381195785857> (Bootable Linux USB Key with Tools)

Questions?