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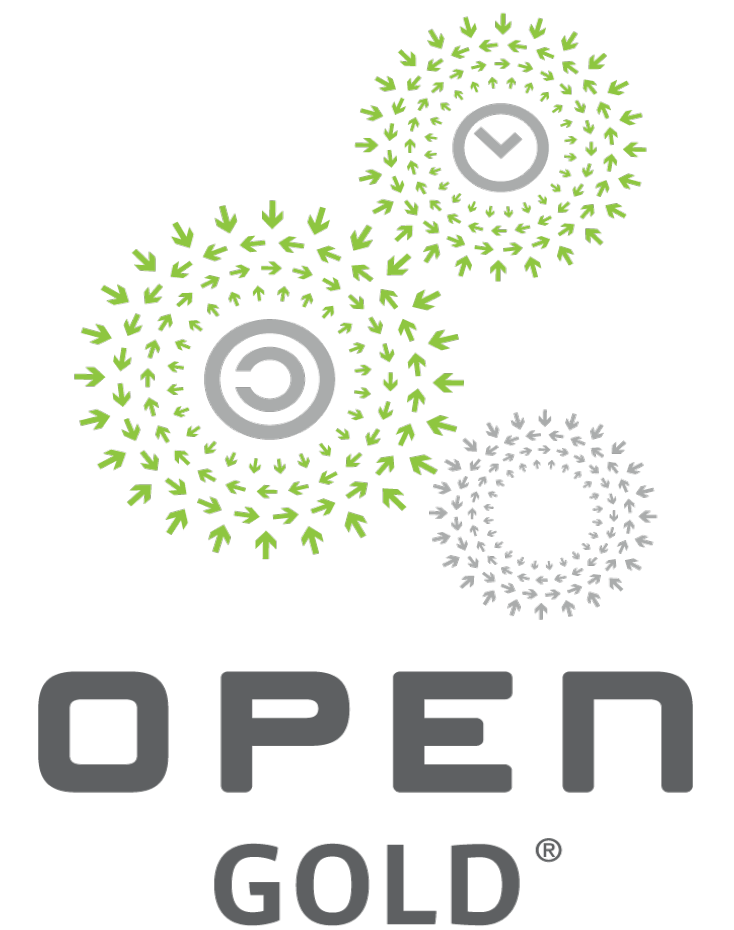


Expo Hall

# openSeaChest

Highly Portable Drive Management Project

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Seagate Technology



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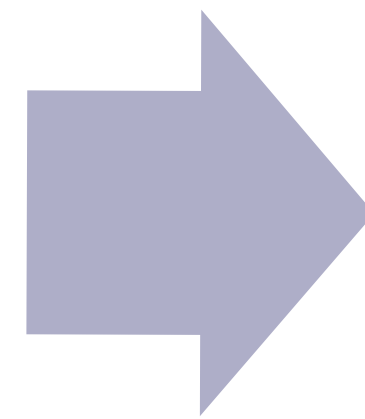
# openSeaChest - In a nutshell



MANAGEMENT

## Problem:

Need for 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.



## Solution:

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



# openSeaChest - key features



**OPEN**  
INSPIRED™

Use case based  
e.g. Power, Erase,  
Logs

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

Built on  
customizable  
opensea-\*  
libraries



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Compute Project  
SOLUTION PROVIDER®



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# openSeaChest - use cases

## Configure

Provision, PUIS  
Phy Speed, Cache,  
etc.

## Erase

Quickest Erase,  
Sanitize, Trim, etc.

## Format

PI Info, Format  
Unit, Fast Format,  
etc.

## Generic Test

Butterfly, 2 min,  
Diameter, User  
Range etc.

## Power

EPC/APM,  
Transition Power  
etc.

## SMART

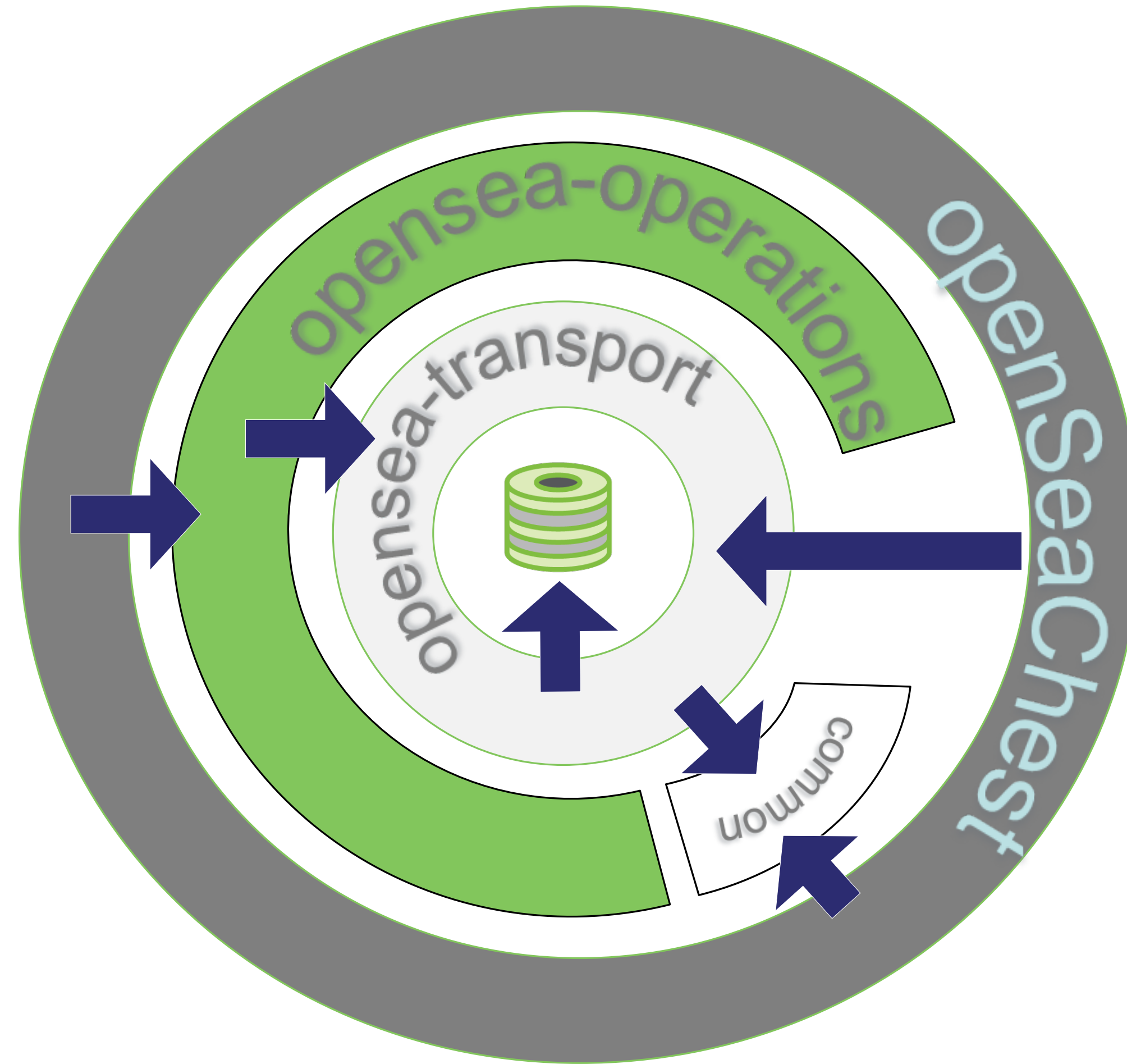
Attributes, DST,  
Defect Listing,  
Repair Defects etc.

## Logs

List, GPL/SMART,  
Mode pages etc.

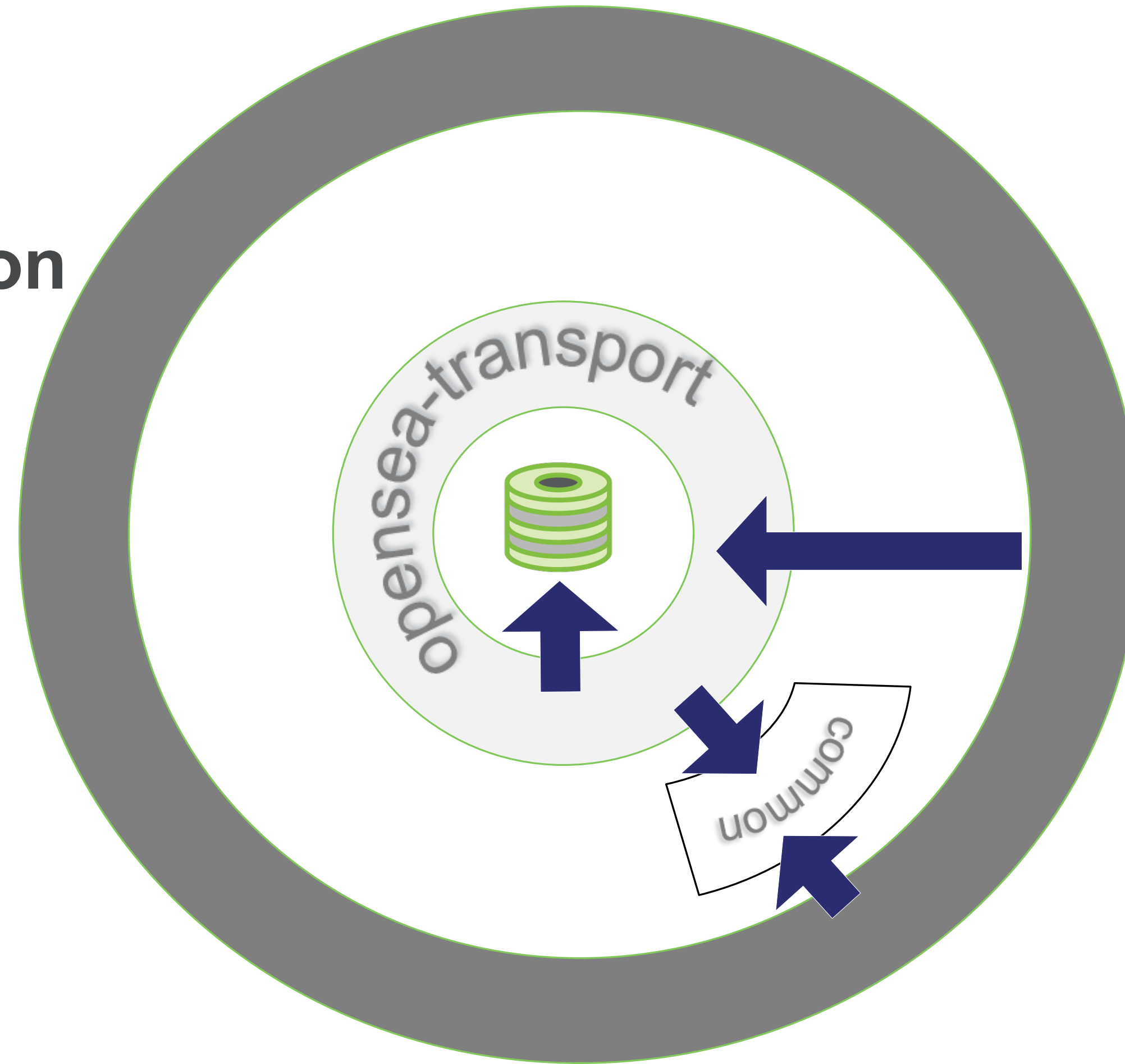


# Architectural Design



# Possible Extensions

GO, Python



C#, Java



# Project Statistics

110K lines of code.

1000+ commits

## openSeaChest

Cross platform utilities useful for performing various operations on SATA, SAS, NVMe, and USB storage devices.

● C ★ 23 🍷 6 📄 MPL-2.0 1 issue needs help Updated 3 hours ago



## opensea-operations

Cross platform library containing set of useful operations for storage devices.

● C ★ 5 🍷 7 📄 MPL-2.0 Updated 3 hours ago



## opensea-transport

Cross platform library containing common set of functions to issue standard commands to storage devices.

● C ★ 6 🍷 6 📄 MPL-2.0 Updated 10 hours ago



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# Call to Action

Big Endian  
Support

UEFI  
Transport  
Layer

Extensions  
(python/Ruby/  
Go)

Build your  
own apps

## References

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

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

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



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