



OSCP

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Health Chain Management Sub-Group Update

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History & Today

History:

- * Concept introduction under Storage Track – Mar, 2017

Today:

- * Provide overview on the project architecture
- * Update the development status
- * Share an use case in the data center environment
- * Discuss future development
- * Call for actions & participations

Disclaimer: This presentation is not a contribution to Open Compute Project

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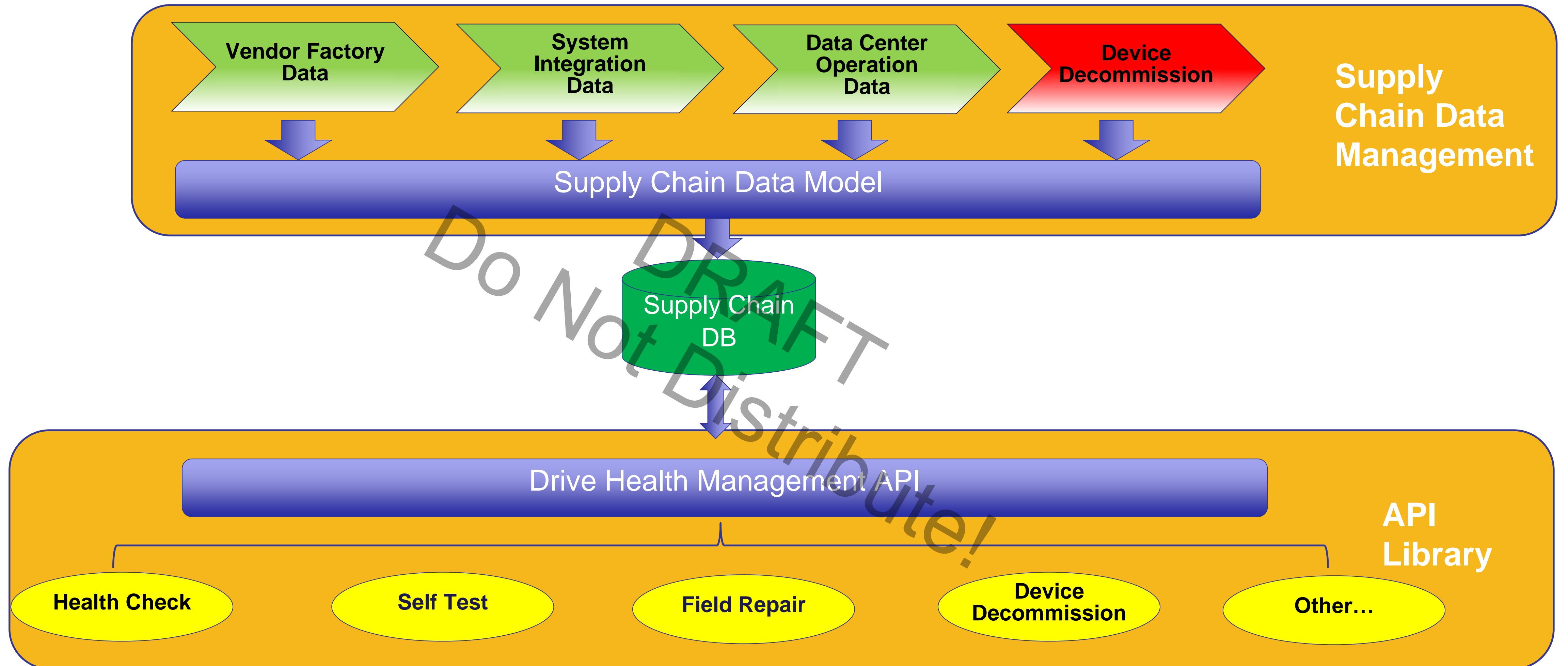
Project Overview

- A storage device vendor provided, user space library, conforming to OCP Health Chain Management API
- Targeting large storage device deployment environment
- Focusing on the storage device management, including health condition check, field configuration, decommission, and etc.
- Support all storage devices: HDD, SSD, etc. with different interfaces

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High Level Matrix



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V1.0 API Functions

- `bool getFuncArray (uint64_t array[], uint32_t size)` ← Ensures backward and forward compatibility
- `int64_t startHealthCheck (const std::string& devNode)` ← Primary function/task to verify device health
- `int64_t startSelfTest (const std::string& devNode)`
- `int64_t startOfflineSelfTest (const std::string& devNode)`

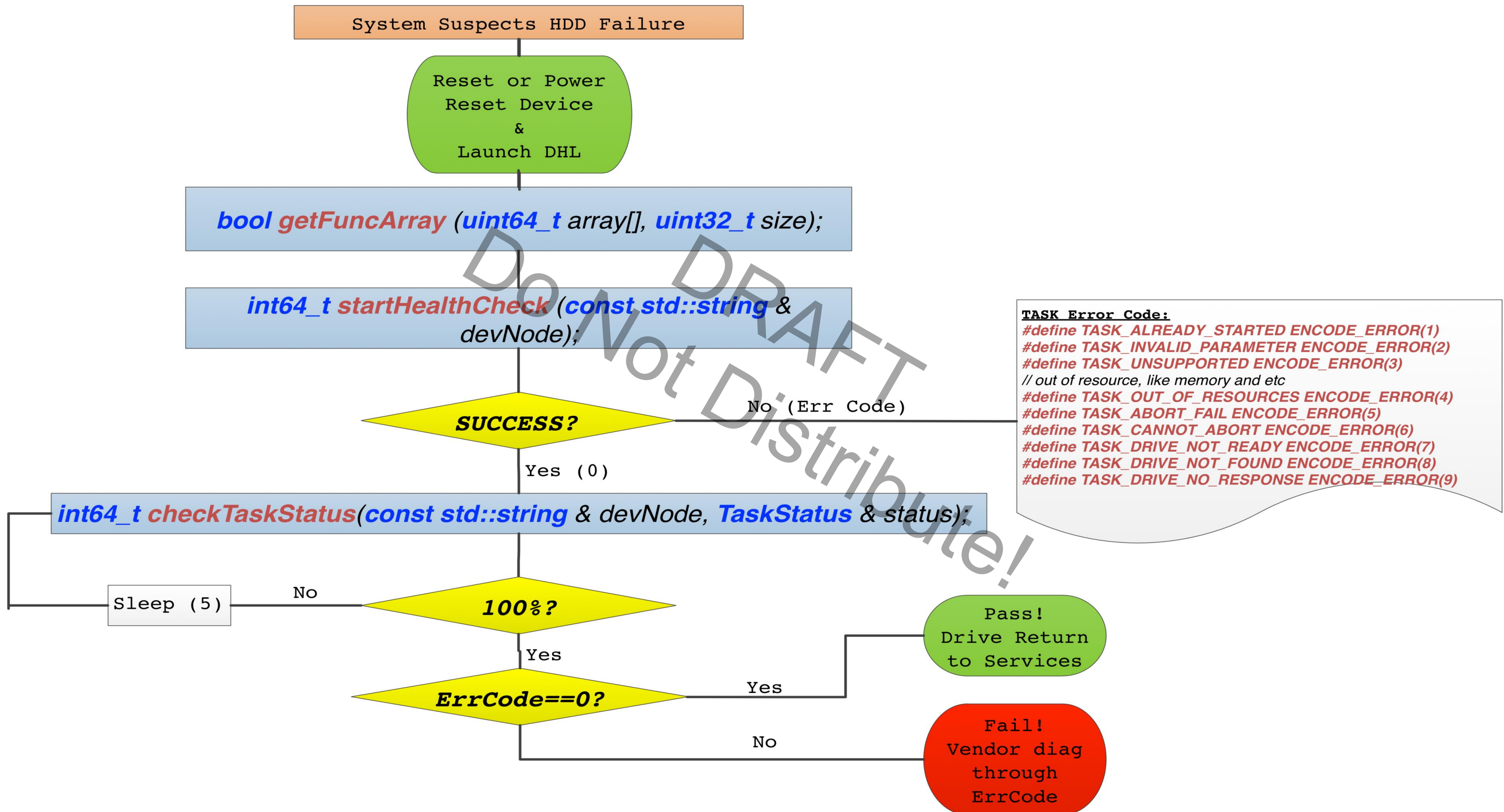
Seagate will upload the binary to the OCP Storage Github

- `std::string getErrorCodeMessage(int64_t errorCode)`
- `int64_t getWAF (const std::string & devNode, const std::string & file, double & result)`
- `int64_t getVendorLog (const std::string & devNode, const std::string & path, std::string & name, uint32_t level = 0)`

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Sample Implementation - Task Based



Hyperscale Data Center Use Case for API

- Simplified and controlled deployment of vendor diagnostic tools in heterogeneous environments
- Vendor gets to diagnose device health based on SMART and vendor unique proprietary information
- Vendor receives failure information based on vendor algorithms
- Hope to create a robust feedback loop to improve vendor products, reduce failures - measured by AFR
- Removes making guesses based on SMART and applying it across multiple vendors and families of products

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Future...

Ph 1: Passive

- Snap shot check
- Passive

Ph 2: Active

- Repair
- Security protocol enabling
- Machine Learning Integration

Ph 3: Real Time

- Real time monitor
- Prediction

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Call For Actions

- Storage vendors? Join the API implementation?
- Operational professionals? Can this lib be useful?
- C/C++ developers? Interested in being part the dev effort?
- Storage professionals? Any other use case it shall cover?

We invite you to join the future feature discussion, and development!

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