Western Digital®

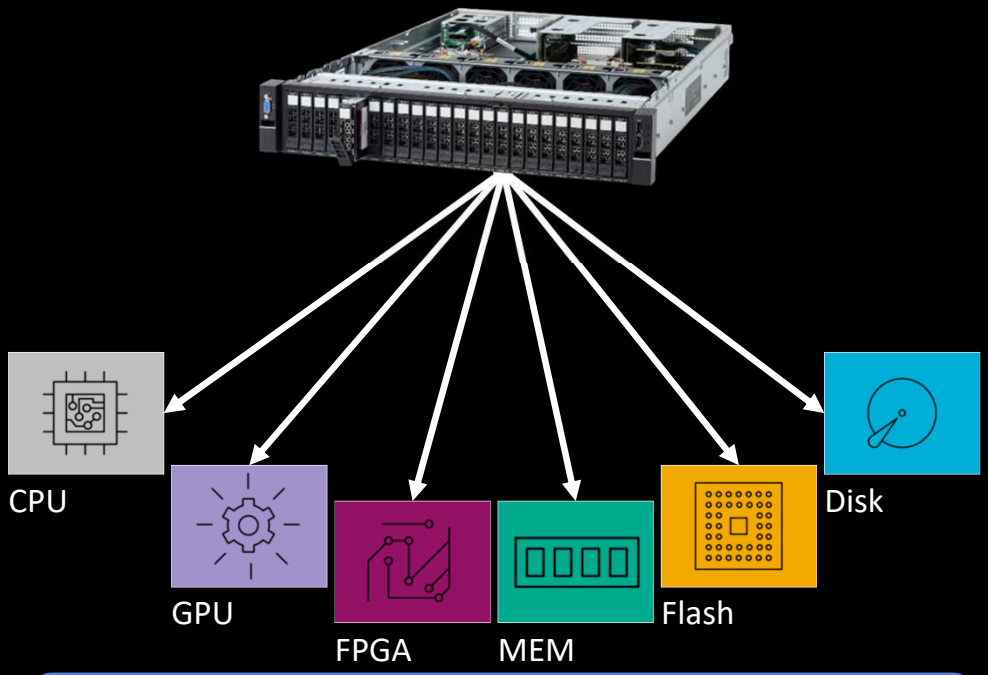
OpenEdge

Open Composable Disaggregated Infrastructure Featuring OpenFlex™

Open Composability

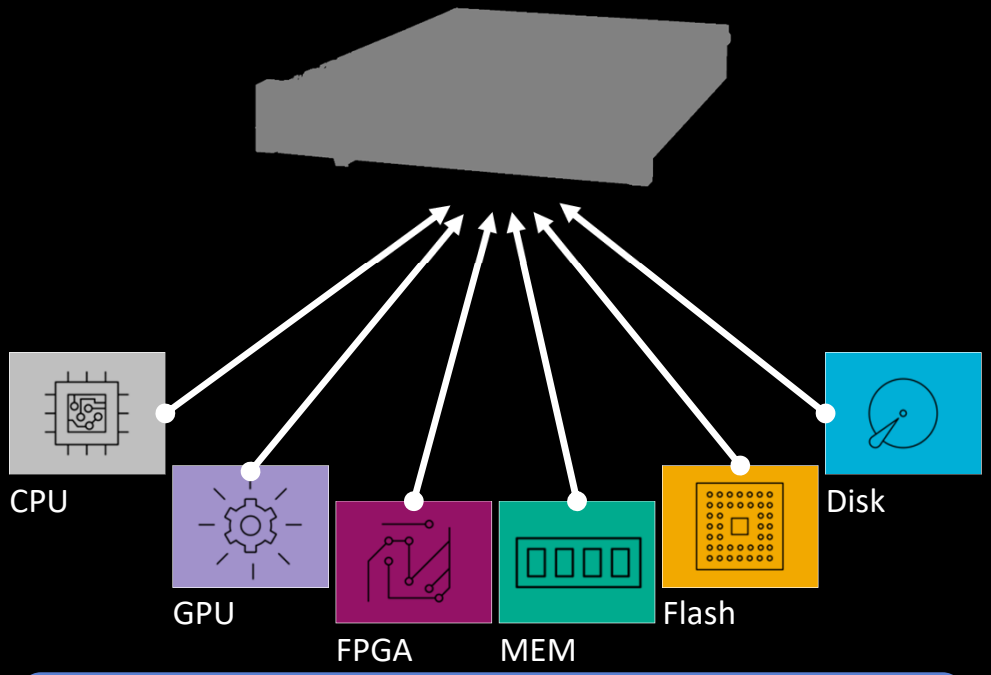
Provides the advantages of Hardware Composed Infrastructure with no vendor lock-in

Hardware Disaggregation



Disaggregate hardware components from the server so they can be efficiently pooled

Composability



Orchestrate virtual systems that can be optimally sized to the task

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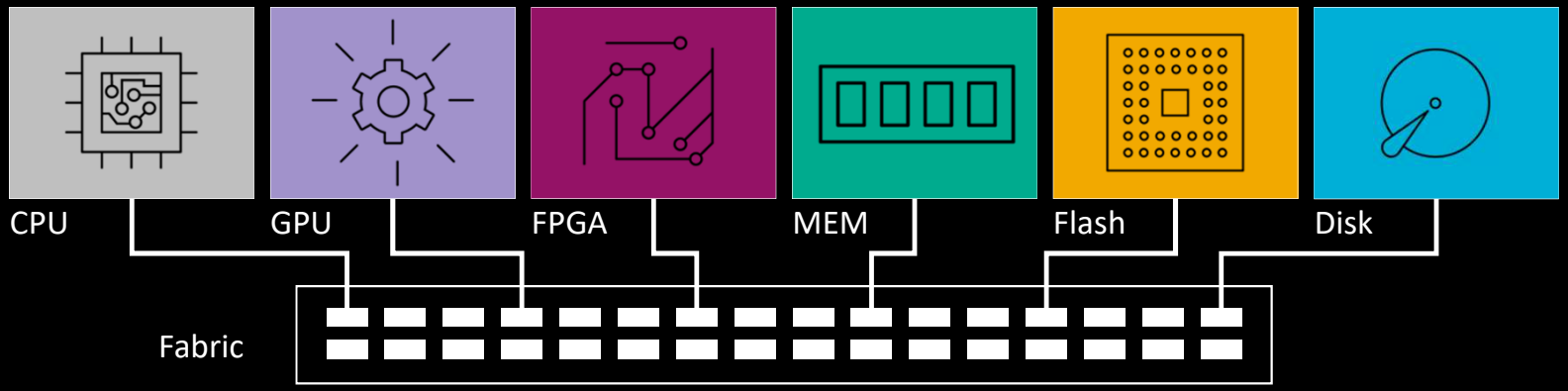
Open Composability

Fabric Attached Devices



- No physical systems – Only virtual systems
- Each device provides a resource that is offered over the fabric
- No established hierarchy – CPU doesn't 'own' the GPU or the Memory
- All devices are peers on the network & they communicate with each other

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NVMe-oF™ Fabric Devices

OpenFlex™ F3100 Fabric Device and E3000 Enclosure

- Dual-port, high-performance, low-latency fabric-attached SSD
- Self-virtualized device with up to 256 namespaces for dynamic provisioning
- 3U enclosure with 10 dual-port slots offering up to 614 TB
- Multiple storage tiers over the same wire – Flash and Disk accessed via NVMe-oF

OpenFlex™ **NVMe-over-Fabric | Infrastructure Disaggregation | Software Composable**

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OpenFlex™ Best in Class Performance Density

For Composable Disaggregated storage using NVMe over Fabrics

7.3M IOPS per RU
4KiB random read, QD=1

8.1M IOPS per RU @ 35 µsec
4KiB random write, QD=1

39 GB/s per RU
128KiB sequential read, QD=320

33 GB/s per RU
32KiB sequential write, QD=320

OpenFlex™ F3100

OpenFlex™ **NVMe-over-Fabric | Infrastructure Disaggregation | Software Composable**

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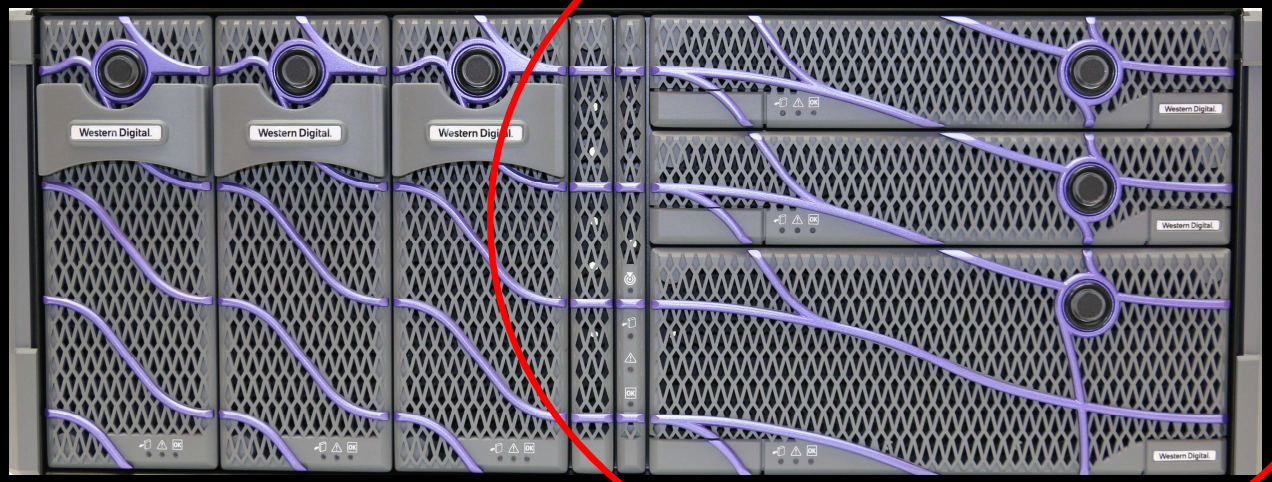
OpenFlex™ Composable Technology

High-Capacity & High-Performance Compute Fabric Device Concepts

High capacity disk
Up to 500TB

OpenFlex™ D4000
4U half width



Replace C1000 with OpenEdge compute

High performance compute

OpenFlex™ C1000
1U half width

OpenFlex™ C2000
2U half width

OpenFlex™

NVMe-over-Fabric | Infrastructure Disaggregation | Software Composable

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Open Composable API

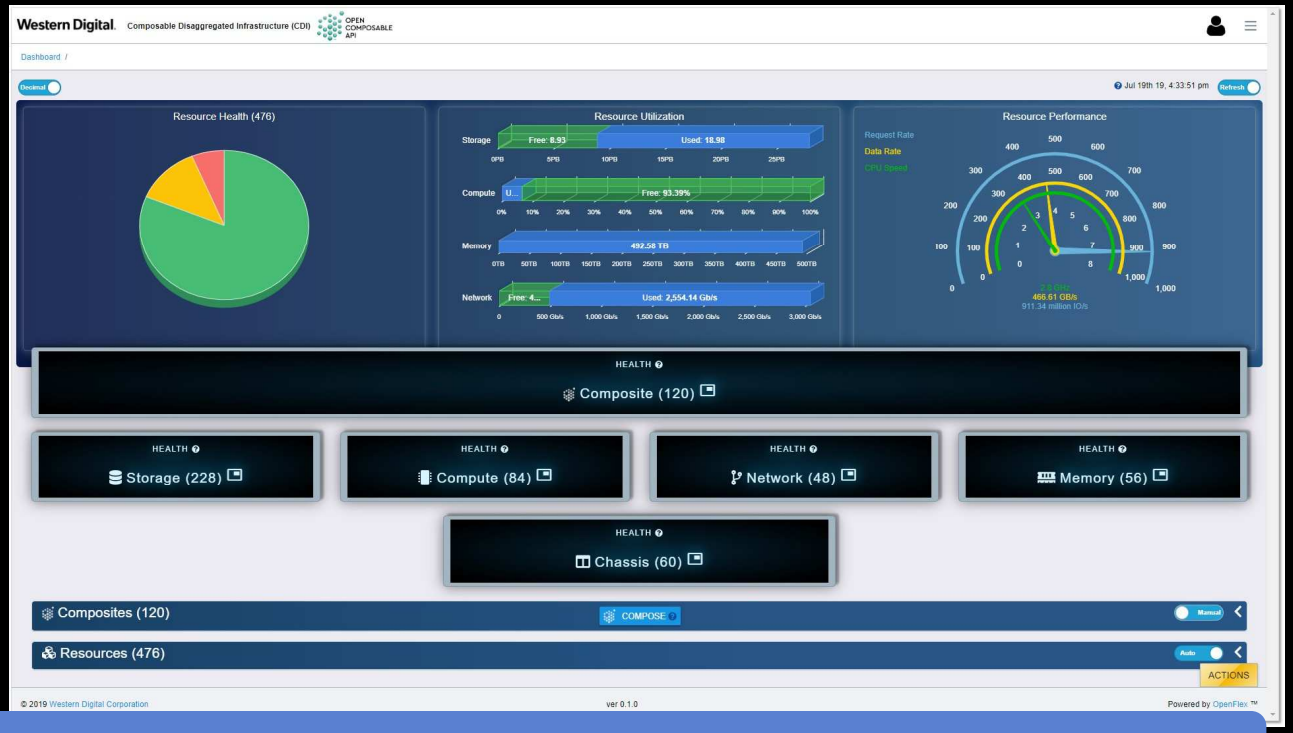
OPEN COMPOSABLE API

Device Discovery
GET /Query

System Discovery
GET /System/Query

Compose Systems
POST /System/Composites

Create Storage Volumes
POST /Storage/Devices/{id}/Volumes/



Compose your virtual systems with one API

Email inquiries to OpenComposableAPI@wdc.com

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Open Composable Compliance Lab

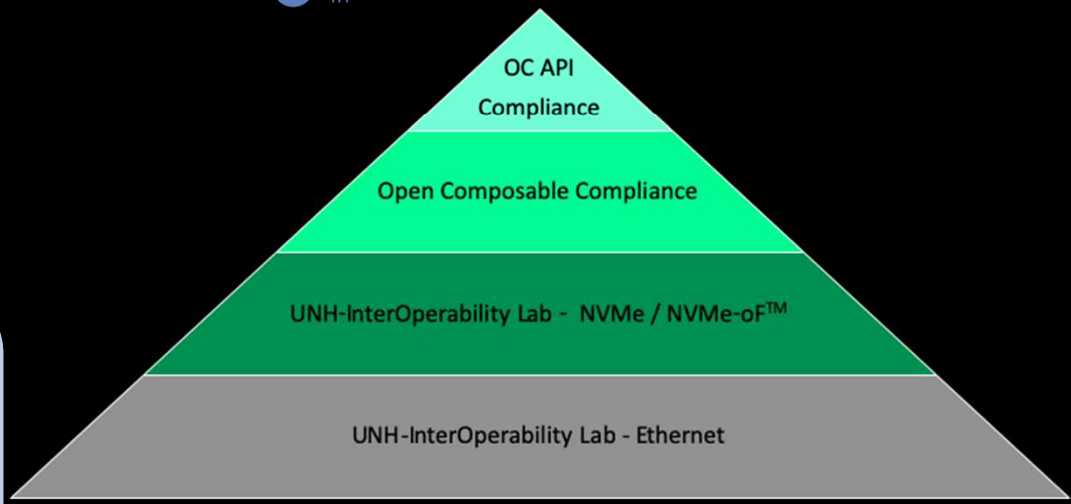
Objectives

- Create interoperability across the eco-system
- Enable customers to confidently purchase Fabric Attached Devices
- Enable composition / orchestration providers to focus on their value add
- Provide an open environment for multiple companies to debug interoperability issues
- Enable eco-system partners to verify compliance to OC API

Principals

- All Fabric Attached Devices are peers
- Vendors all benefit when customers can confidently purchase
- Provide an open environment to debug
- Leverage UNH-IOL
- OCCL is a center of excellence for NVMe-oF™

OPEN COMPOSABLE COMPLIANCE LAB™



University of New Hampshire InterOperability Laboratory

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