OCP Datacenter NVMe SSD Introduction

Ross Stenfort, Meta

Connect. Collaborate. Accelerate.





Flash Industry: 2019 Perspective

➤ Challenges

- Customer requirements are confidential
 - Standards have many optional features, but what do customers really require?
- SSD industry highly fragmented with lots of SKUs
 - Many customers ask for similar but different features
- SSD Suppliers have finite resources
- 3rd party test providers don't know what customers require

> Result

- Delayed schedules
- Quality suffers
- Difficult product and feature decisions

Customers and Suppliers struggle...



Solution: Collaboration

- Collaboration to align on public specifications
- Enables Industry Focus on Standard Customer Requirements
 - More efficient SSD development
 - 3rd party test providers understand test requirements
 - Enables open-source tools

Event Timeline

2019 2020 2021

Meta / MSFT start development on public SSD Specification

Meta / MSFT contribute NVMe Cloud SSD V1.0

Meta / MSFT/ HPE/ DELL EMC contribute Datacenter NVMe SSD V2.0

Datacenter NVMe SSD Specification Goals:

- Aligns SSD needs and requirements between Hyperscale/OEMs and SSD makers
- Share flash learnings based on Hyperscale and Enterprise deployments
- Provide everything needed to build a SSD for Hyperscale/OEM

Datacenter NVMe SSD Specification Coverage:

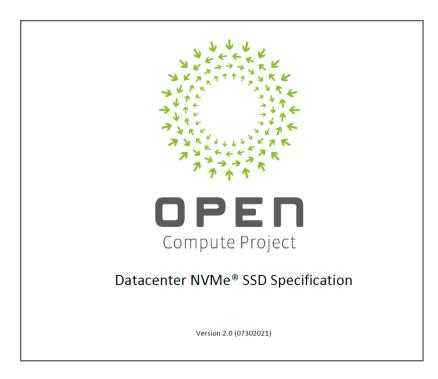
- NVM Express
- Reliability
- Security

- PCI Express
- Thermal
- Form Factor

- SMART Logs
- Power
- SMBUS

Contribution website links:

- https://www.opencompute.org/documents/nvme-cloud-ssd-specification-v1-0-3-pdf
- https://www.opencompute.org/documents/datacenter-nvme-ssd-specification-v2-0r21-pdf





OCP Datacenter NVMe Specification is an industry collaboration win.

Thank You

