

OCP NVMe Cloud SSD Specification Next Steps

Ross Stenfort, Facebook
Lee Prewitt, Microsoft
Paul Kaler, HPE
William Lynn, Dell EMC

Problem

- Hyperscale and Enterprise providers require specific feature sets to manage and use SSD's at scale – traditionally those specs have been confidential
- Many features are common across providers, but each implemented slightly different – this generates lots of work but doesn't add value
- Having many similar but different firmware versions for the same SSD causes significant industry fragmentation
- SSD Manufacturers are struggling with:
 - Schedules/Delays
 - Quality/Bugs
- 3rd party compliance suites now know what Cloud providers need but not what Enterprise providers need
- There is no public document that describes the combined requirements needed for Cloud and Enterprise SSDs

Path To A Better Future

- Facebook/Microsoft/HPE/Dell EMC are working on merging their SSD requirements into a single document enabling the following benefits:
 - Enables the market to understand what features Facebook/Microsoft/HPE/Dell EMC need to use and manage SSDs at scale
 - Enables the market to understand and use the same SSDs that Facebook/Microsoft/HPE/Dell EMC are using
 - Reduces SSD market fragmentation
 - Enables open source tools like NVMe CLI to manage the SSD
 - Enables 3rd parties to focus their test/validation efforts with increased effectiveness

Facebook/Microsoft/HPE/Dell EMC are working towards unified SSD requirements built on top of the OCP NVMe Cloud SSD Specification v1.0

Introducing the new unified
OCP NVMe SSD Requirements Document

OCP NVMe SSD Doc

- The updated OCP NVMe SSD requirements document will cover the combined requirements for Cloud and Enterprise SSDs
 - NVM Express
 - PCI Express
 - Form Factor
 - Quality/Reliability
 - SMART Logs
 - Thermal
 - Power
 - Endurance
 - Device Management (SMBus, NVMe-MI, etc...)
 - Security
- The updated document incorporates FB/Microsoft/HPE/Dell EMC learnings based on large scale flash deployments
- Benefits both system makers and SSD providers
 - Creates a win-win situation for the industry

Facebook/Microsoft/HPE/Dell EMC targeting to have an updated document for review by December 2020

Thank You