NVMe mapping for SCSI Layout

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pNFS scsi layout status

- Enhancement / replacement of the block layout RFC to take advantage of unique device identification and persistent reservations
- Explicitly tied into SCSI
- Released as RFC 8154 in May 2017
Multi-host NVMe devices

- Since version 1.1 NVMe allows access to the same namespace from multiple hosts
  - Using multiple “controllers”
  - Including a version of SCSI Persistent Reservations
- Multi host PCIe devices are a rather niche market
- In June 2016 the NVMe over Fabrics spec has been published
  - NVMe over RDMA, FC, etc
Using the SCSI layout with NVMe

- NVMe devices can implement all features needs for the SCSI layout
- The *NVM Express - SCSI Translation Reference* document translates the required features between NVMe and SCSI
- But unfortunately it’s not a IETF-quality spec
Using the SCSI layout with NVMe

“Using the Parallel NFS (pNFS) SCSI Layout with NVMe” ([draft-hellwig-nfsv4-scsi-layout-nvme])

- For now just points to the sections in the NVMe STLR document relevant for [draft-ietf-nfsv4-scsi-layout]
- So far only published as informal
- Multiple suggestions to make it a standards track document
Questions?