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Spectrum Scale Technology Refresh

Background

The IBM Spectrum Scale environment supports Transitory (ingest), Processing (preparation), and Presentation (public facing) storage needs at the Library

Over 20 Petabytes of data stored

NSD nodes: 4 bare metal, 1 VM

CES nodes: 6 VMs

Factors for Refresh

1. Server hardware End of Life – HPE DL380 Gen8
2. Operating System approaching EOL – RHEL 7
3. Cluster Export Services (NFS protocol) did not perform optimally on VMs

Data Migration Cycle

As components of the Spectrum Scale architecture age these need to be replaced.

1. Server hardware
2. Operating System and software application versions
3. …and Storage Hardware

Process

Prerequisites

1. Procure new servers: 4 HPE DL380 Gen10 NSD nodes, 6 DL380 Gen10 CES nodes
2. Provision RHEL 8 (Kickstart, Ansible), SAN & Ethernet interfaces, present LUNs, deploy Spectrum Scale 5.1.x
3. Ensure all NSDs see the same LUNs, establish intra-cluster network (legacy and ACI), setup key based authentication
4. Disable DMAPI on all file systems, remove tiebreaker node

Process (continued)

5. Associate new nodes with existing NSDs and promote them as file system managers

6. Add new protocol nodes to CES cluster and allocate IPs

7. Update round-robin host record pointing to new protocol nodes

8. Remove old nodes from cluster. ~~Take a bat to them on a vacant lot~~. Recover their HBAs / NICs and responsibly decommission.

Benefits

- Supported hardware
- Supported software
- Nodes are now included in our regular OS patch cycle – no longer needy pets.
- Can go out on gravel rides without checking work phone

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Thank you!

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