

Storage Updates for OpenVMS 8.4

New Features, Storage, Future...

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Agenda



OpenVMS 8.4 Storage Software Updates

- HBVS Enhancements
- BACKUP Enhancements
- Storage Management Product Updates

New Storage

OpenVMS Storage solutions

New Thoughts...what you think?

HBVS Features for OpenVMS 8.4



Extended Membership (from 3Member to 6Member)

- Increased redundancy, helps build additional multi-site scale out replication solution
- Increases application parallel read capability distributed to all members

Write Bitmap Improvements

- Asynchronous SetBit mechanism
- Guess Sequential IO – Set Extra Bits

Utilize controller read-ahead cache by "SPLIT_READ_LBN" feature

- The virtual unit logical blocks (LBNs) are split equally between source members with lowest and same read cost

HBVS Features for OpenVMS 8.4

Faster Minicopy and MiniMerge; Shadow Server doesn't have to check all bits, driver will inform the next bit set

Stall Writes

- SET SHADOW/[NO]STALL=WRITES[=n]
- n- the number of seconds to stall the write. Default SHADOW_MBR_TMO

More bitmaps for Minicopy



OpenVMS 8.4 Storage Features

2TB Support is introduced in OpenVMS 8.4

- Previous 1TB limitation is eliminated
- INIT, MOUNT, VERIFY, BACKUP application support included

What do you think about > 2TB Support???



BACKUP - Optimized Compression Feature

PRE-V8.4

- Use ZIP utility (4GB max size)
- Use SPOOL utility (Not available on IA64)

SOLUTION IN V8.4

- BACKUP Compression Support (zlib library)

Advantages

- Lesser disk/tape space to store daily backups. 2-3x size reduction [depends on type of data]
- One utility for compression on all platforms

Storage Management Product Updates

ABS – Archive Backup System

- ABS V4.5 (1200)
- Software Encryption Support

Data Protector – OpenVMS as Client

- DP latest Version 6.11

Backup

- Compression Support
- 2TB Volume support on OpenVMS 8.4

SLS – Storage Library System

- Only on Alpha and VAX
- SLS V2.9J ECO02

SWRAID

- Version V3.0-138B
- RAID Level 0, 5, 0+1

DFO

- Version 3.0

New Storage Introduction



New in EVA



Attributes	EVA4400	EVA6400	EVA8400 w/14GB Cache	EVA8400 w/22GB Cache	EVA4100/6100/8100
Controller/Us	HSV300/2U	HSV400/4U	HSV450/4U	HSV450-1/4U	HSV200 & 210/U
Max Shelves	8	18	27 (18 & 9)	27 (18 & 9)	1-4 / 4-8 / 2-18
Cabinet 42Us	1 cab (19U)	1 Cab (42U)	2 Cabs (42U & 19U)	2 Cabs (42U & 19U)	1/1/2 Cabinet
Host Ports	4	8	8	8	4 / 4 / 8
Device Ports	4	8	12	12	4 / 4 / 4
Drives	96	216	324	324	56/112/240
Scalability	50.4TB FC/112TB FATA	97TB FC and 216 FATA	146TB FC & 324TB FATA	146TB FC & 324TB FATA	25.2 FC/56 FATA/ 50.4 FC/112FATA / 108 FC/240FATA
Cache/pair	4GB	8GB	14GB	22GB	4GB / 4GB / 8GB

- Increased Cache (22GB)
- Vraid 6, 32TB LUN, 2048 Vdisks, 64 Snapshots
- 72GB Solid State Disk
- Improved Command View Performance




Virtual Tape Library

Presents Disk storage as tapes

- Improves RTO/RPO (Recovery Time Objective/Recovery Point Objective)

Offerings from HP

- HP VLS (Virtual Library System)
 - Accelerated De-duplication[Coming Up]
- HP D2D (Disk-to-Disk)
 - Dynamic/Inline De-duplication

General Features

- Auto Migration
- Low Bandwidth/Remote Replication



HP Disk-Based Data Protection

For Data Centers And Remote Offices

New Features

- HP StoreOnce Deduplication
- 64-bit architecture
- 10GbE
- 8Gb FC
- NAS (NFS & CIFS) backup target
- Optional D2D Replication Manager software
- OST Plug-in
- HP Systems Insight Manager support



D2D2500 Series

- Entry-level - choice of 1.5 & 3TBs usable



D2D4106 Series

- 4.5 to 9TBs usable with upgrade



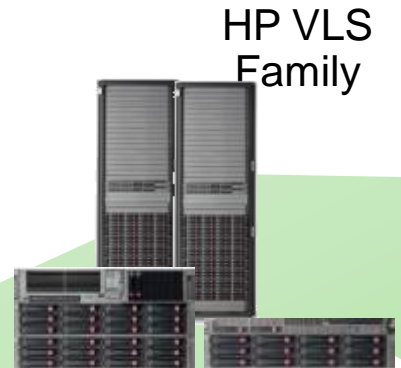
D2D4112 Series

- 9 to 18TBs usable with upgrade



D2D4312 Series

- Leading capacity
- Scalable to 36TBs usable



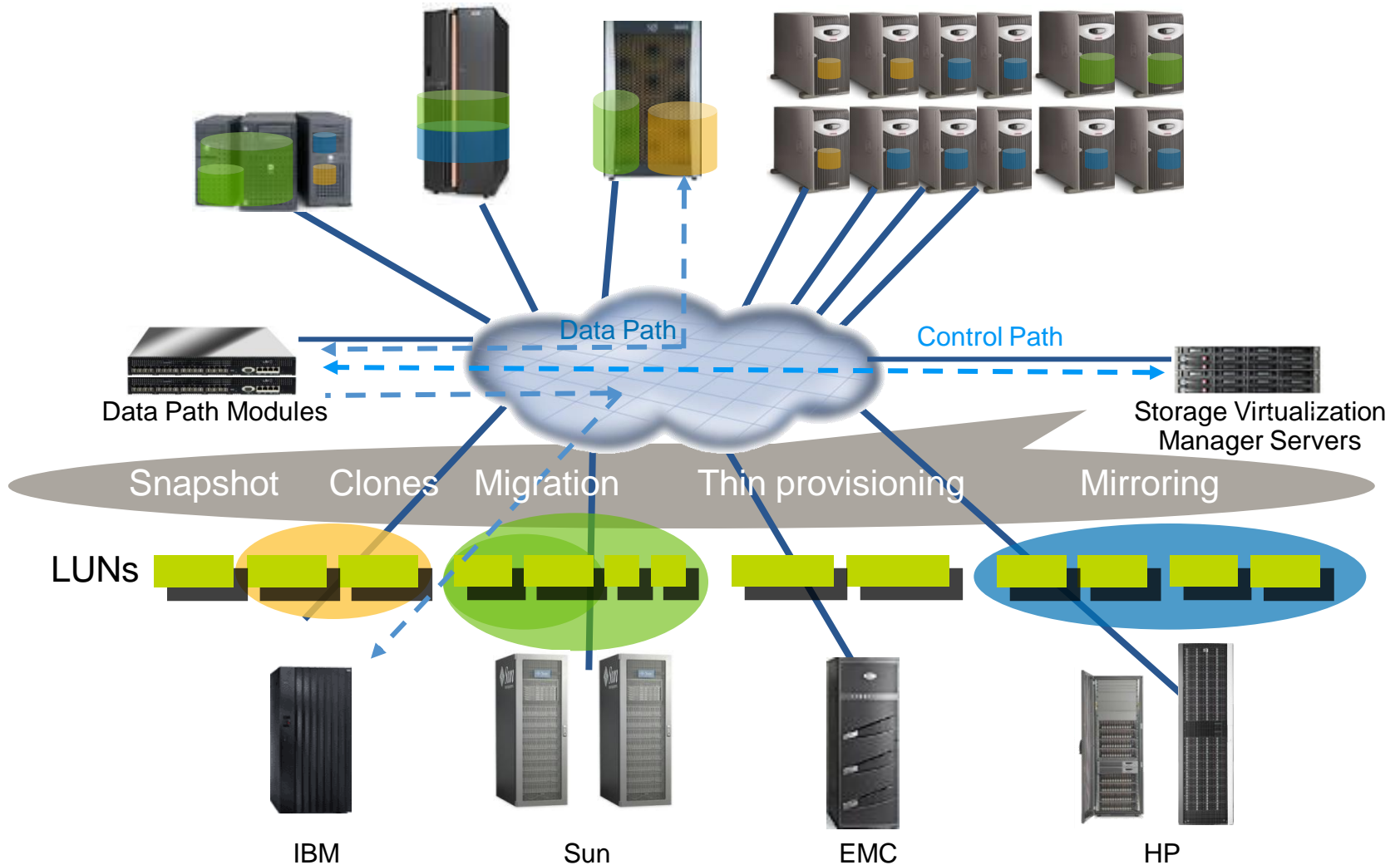
HP VLS Family

- Single or multi-node systems
- High performance & scalable
- Large FC SANs

Featuring deduplication for performance critical environments

All feature HP StoreOnce deduplication and offer data replication and NAS and/or VTL targets for backup

SVSP Architecture



OpenVMS Storage Solutions



OpenVMS 8.4 Storage Support



Fibre Device Support

- HP StorageWorks MSA2000fc/sa G2 Modular Smart Array (FC)
- P2000 G3 (FC)
- EVA4400/6400/8400
- XP20000/24000
- 1/2-port 8 Gb Fibre Channel Adapter PCI-Express (PCIe)
- 2-port 8 Gb Fibre Channel Mezzanine Card for HP BladeSystem (currently Qlogic)

SAS Device Support

- Blade Solution with p700m/p411 Raid Controller and 3Gb BLSAS Switch
 - HP StorageWorks MDS600 (blade/rack mounted)
 - HP StorageWorks MSA2000sa Modular Smart Array (SAS)
- MSA60/70 w/p800 Smart Array Controller or w/ HP SC44Ge SAS HBA

Archiving Device Support

- HP StorageWorks D2D Backup Systems
- HP StorageWorks Ultrium Tape blades
- HP StorageWorks Secure Key Manager (SKM)
- MSL LTO4 Encryption Kit
- VLS 6000/9000/12000 Series



Third Party Storage Support

HP OpenVMS certifies only HP StorageWorks storage solutions

- New StorageWorks solutions with latest technology are supported on OpenVMS

3rd party storage providers certify and offer support to customers with OpenVMS

- Please refer to their support



Feedback



THANK YOU

