



Hewlett Packard
Enterprise

DMFUG 2019

DMF7 Library Server

Zsolt Ferenczy

Confidentiality Notice

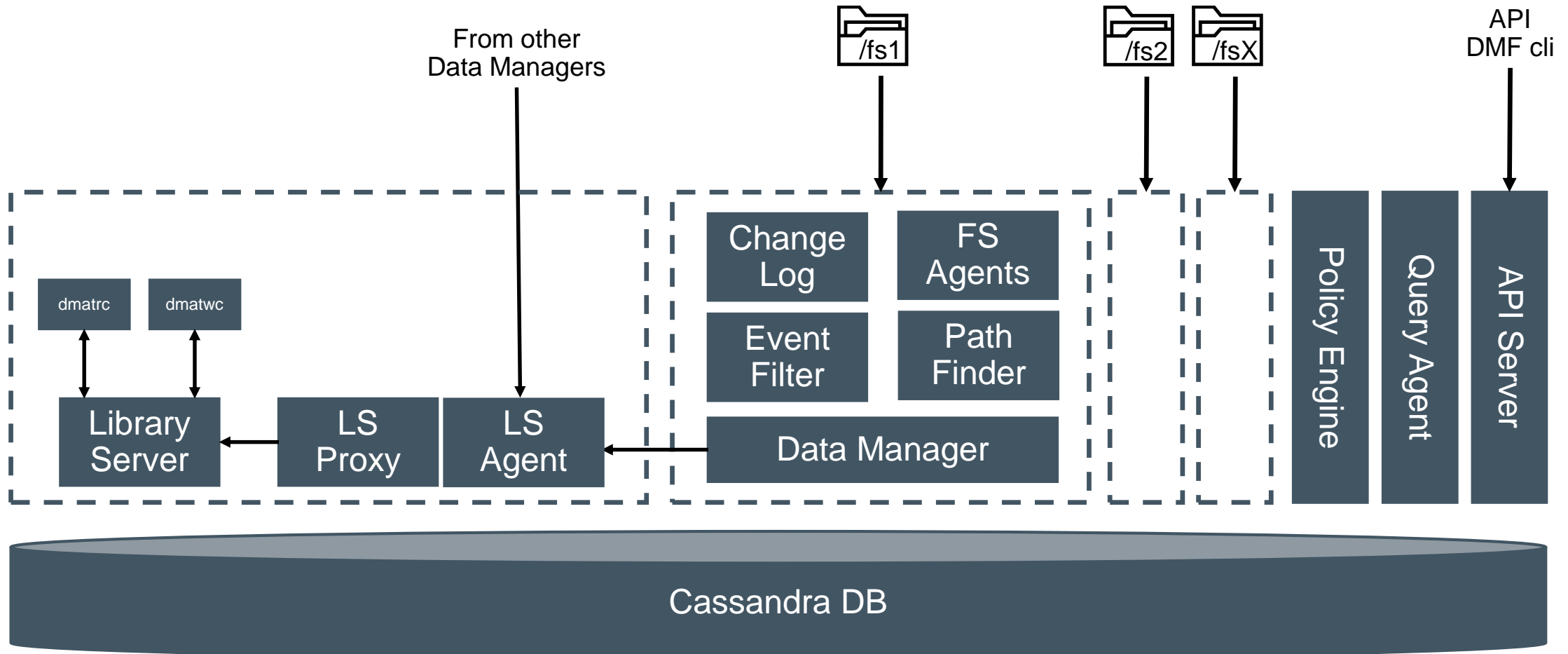
- **The information contained in this presentation** is proprietary to Hewlett Packard Enterprise (HPE) Company and is offered in confidence, subject to the terms and conditions of a Confidential Disclosure Agreement
- **HPE makes no warranties regarding the accuracy of this information.** This document contains forward looking statements regarding future operations, product development, product capabilities and availability dates. This information is subject to substantial uncertainties and is subject to change at any time without prior notification. Statements contained in this document concerning these matters only reflect Hewlett-Packard Enterprise's predictions and / or expectations as of the date of this document and actual results and future plans of Hewlett-Packard Enterprise may differ significantly as a result of, among other things, changes in product strategy resulting from technological, internal corporate, market and other changes. This is not a commitment to deliver any material, code or functionality and should not be relied upon in making purchasing decisions.



DMF7 Library Server Timeline

- DMF 7.1.0
 - Initial Release
 - CAT/VOL running in DMF7 DB
 - Mostly unmodified Library Server running under DMF7 container
- DMF 7.1.1
 - LS becomes more DMF7 Native
 - Distribute the Arena allowing for LS instances to run across the cluster
 - Run dmfservices under a DMF7 container
 - Remove node service and use DMF7 registry for mover node configuration
 - Remove dmf.conf and move configuration into the DMF7 registry
 - DMF7 CLI for managing Library Servers and VG
 - Support Migrate Groups
- DMF 7.2
 - Enable ZWS Fast Mount Cache

DMF7 | Library Server Integration



DMF7 Installation for LS

```
dmf_library_settings:
#
# The file systems referenced by the following directories must be mounted on all
DMF7LS nodes.
#
HOME_DIR:          /dmf7/admin/home
SPOOL_DIR:         /dmf7/admin/spool
TMP_DIR:           /dmf7/tmp
#
# The following node must belong to the [dmf_library_admins] group:
SERVER_NAME:       dg-pdmo1
#
# The following node must belong to the [openvault_servers] group.
# In an OpenVault HA environment, use the HA IP address on which OpenVault is
listening.
#
OV_SERVER:         dg-ov-ha
```

DMF7 Installation for LS

```
[root@dg-pdmo1 ~]# df -hT | grep dmf
dmf_library /dev/cxvm/dmfadmin      exfs      100G    9.7G    91G    10% /dmf7/admin
#           /dev/cxvm/dmftmp    exfs      4.6T    66M    4.6T    1% /dmf7/tmp
# The following node must belong to the [dmf_library_admins] group:
DMF7LS node drwxr-xr-x 5 root root 49 Jul 15 09:17 home
#           drwxr-xr-x 4 root root 38 Jul 19 12:39 jbfs
HOME_DIRECTORY /dmf7/admin/home
SPOOL_DIRECTORY /dmf7/admin/spool
TMP_DIR:        /dmf7/tmp
#
# The following node must belong to the [dmf_library_admins] group:
SERVER_NAME:    dg-pdmo1
#
# The following node must belong to the [openvault_servers] group.
# In an OpenVault HA environment, use the HA IP address on which OpenVault is
listening.
#
OV_SERVER:      dg-ov-ha
```

DMF7 Library Server CLI

```
[root@dg-pdmo1 ~]# dmf
[18:27:33.535] Launching interactive shell...
[18:27:33.582] Connected to ws://dg-tiebreak-ib0:9999
```

```
> dmf library list
```

Name	UUID	State
-----	-----	-----
jbfs_ls	e9ca04d2-9070-5771-b4b3-4f14722a0eed	Enabled

```
> dmf repo list
```

Name	UUID	Type	State
-----	-----	-----	-----
jbfs_ls.vg1_j00	0bbe86b1-12f4-52c2-ba52-37239eb530ec	VG	Enabled
jbfs_ls.vg2_j00	c3275e19-2da5-58ae-a33a-bd0b37c1a662	VG	Enabled

DMF7 Library Server CLI

```
> dmf library register --help
Usage: dmf library register [OPTIONS] [LIBRARY_CONFIG]
```

Register a library server

LIBRARY_CONFIG Library server configuration file

Example usage:

```
dmf library register
dmf library register libsrv1.yml
dmf library register libsrv1.yml --data-island dc1
```

Options:

```
--tape [default: True]
--zws [default: False]
-d, --data-island TEXT Data island
-e, --edit Stop to edit [default: False]
-t, --tags CSV Tag the job with alphanumeric value(s)
-h, --help Show this message and exit.
```

DMF7 Library Server Template

ls_name:

 DRIVE_GROUPS:

 dg_name:

 SETTINGS

 VOLUME_GROUPS:

 vg_name:

 SETTINGS



DMF7 Library Server Template

```
#-----  
#  
# This section defines the Library Server configuration.  
#  
#--- Begin of library -----  
jbfs_ls:  
  
#-----  
# The drive group manages a pool of virtual tape drives  
# associated with a given scaling unit. (That is, all of the D6020s  
# that connect to a given server, mover node, or pair of mover nodes.)  
#--- Begin of drive groups -----  
DRIVE_GROUPS:  
  
#--- Begin of drive group: dg_j00  
dg_j00: # drive group name  
#  
# The OpenVault Drive Group to be used  
# (OpenVault terminology here, not LS).  
#  
MOUNT_SERVICE_GROUP: dg_j00  
OV_INTERCHANGE_MODES: compression  
COMPRESSION_TYPE: snappy
```

DMF7 Library Server Template

```
#-----  
# The list of volume groups.  
# Use at least one volume group for each set of up to 3 daisy-chained D6020s.  
# This sample defines two volume groups: "vg1_j00" and "vg2_j00".  
#--- Begin of volume groups -----  
VOLUME_GROUPS:  
  
#--- Begin of volume group: vg1_j00  
vg1_j00:  # volume group name.  
#  
# VG repo parameters.  
#  
REPO_NAME:      "jbfs_ls.vg1_j00"  
REPO_DESCRIPTION: "First JBFS repo."  
  
ZONE_SIZE:      1G          # Verify this size is appropriate for your site.  
RESERVED_VOLUMES: 1  
ALLOCATION_GROUP: ag_j00  
  
#--- End of volume group:  vg1_j00
```

DMF7 Library Server Containers

```
> dmf status system
[18:41:33.749] syscheck check job 40026c764be84869b43465c973de649e is completed
...
- Marathon:
  Global:
  - app: /dmf-ns-alert-06607b4c56bb4064981ce1e8d16e7a4f
    healthy: N/A
    host: dg-pdmo1-ib0
    started: '2019-08-29T23:41:24.026Z'
    status: TASK_RUNNING
  - app: /dmf-ns-perf-52f44c3900e04635a7c71863703a68d6
    healthy: 'Yes'
    host: dg-pdmo2-ib0
    started: '2019-08-29T23:40:59.389Z'
    status: TASK_RUNNING
  - app: /dmf-ls-de413fc3ccf0406eb078be61483e110e
    healthy: 'Yes'
    host: dg-pdmo2-ib0
    started: '2019-07-23T05:10:21.107Z'
    status: TASK_RUNNING
```


DMF7 Library Server dmcatadm Enhancements

```
[root@tesseract-dmf-mover01 ~]# dmvoladm -l tape_ls -c "list dw>0"
```

VSN	VOLGRP	LB	DATA LEFT	DATA WRITTEN	EOT CHUNK	EOT ZONE	HFLAGS	WR/FR AGE
025300	vg1a	a1	134.892420	134.892420	10	5	-----	12d
025301	vg1b	a1	81.249930	81.249930	8	4	-----	14d

Database was not modified.

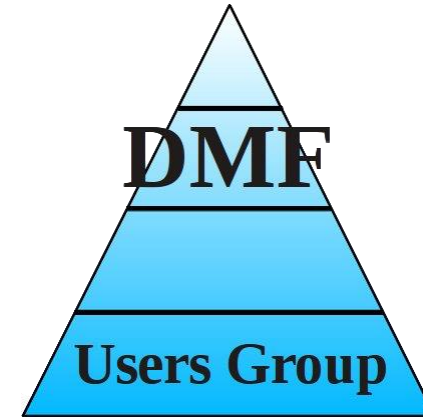
```
[root@tesseract-dmf-mover01 ~]# dmcatadm -l tape_ls -c "list vsn=025300 format 'fs opath'"
```

KEY	FILE SIZE	OBJECT PATH
560159970ee64d33accb0f0a9b9aa272	10485760	/tessfs1/hpetestdir/testfile02
f09580ea1df74c97b0706530ad175deb	6635920	/tessfs1/hpetestdir/another-testdir/testfile10
3a550292bf54400e988a11fe5c871ef7	53642490	/tessfs1/hpetestdir/another-testdir/testfile20
13a19f96fe8648d9832934120e7d42d0	10485760	/tessfs1/hpetestdir/testfile04
44c3b91eec004b0e855b2fdb41038333	53642490	/tessfs1/hpetestdir/another-testdir/testfile04

Database was not modified.



**Hewlett Packard
Enterprise**



Thank You