

**HPE Data Collection Daemon (DCD)
Release Notes
VMware ESXi
Version: 4.6.5.3**



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About this document

This document provides details of the currently supported features, enhancement, installation, patches, bugs fixed across releases (if any), known problems, issues, their workarounds, policy details, and documentation details for Data Collection Daemon (DCD) on VMWare ESXi.

Revision History

The following table lists all the details about this document and its release history.

Document details	Date
Initial release of DCD for VMware ESXi.	6 th June 2018
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Table 1: Revision History

Acknowledgments

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Open source tools

jsoncpp version 1.8.4: <https://github.com/open-source-parsers/jsoncpp>

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Introduction

Data Collection Daemon (DCD) is an agentless service for mission-critical HPE Compute Scale-up Server 3200 and HPE Superdome Flex family of servers. DCD proactively monitors the health of hardware components that are visible to the running operating system instance and reports any errors to management firmware running on the Rack Management Controller (RMC). The management service running on the RMC processes the data and serves it out-of-band to client applications.

This document discusses the most recent DCD product information for HPE Compute Scale-up Server 3200 and HPE Superdome Flex family of servers running VMware ESXi host operating system.

Features Supported

This version of DCD includes the following major features on VMware ESXi:

- DCD collects inventory data for below listed components:
 - ESXi Hypervisor
 - SAS/SATA RAID Controller - MegaRAID 9361-4i
 - Tri-Mode Storage RAID controllers - MegaRAID 9660-16i, 9670-24i and 9670W-16i; MegaRAID 9560-16i and 9560-8i
 - CPU-attached NVMe SSDs (Intel VMD-managed and Non-VMD)
 - Server Chassis-internal physical drives - hosted by MegaRAID 96xx/95xx/93xx controllers
 - RAID volumes (Logical drives) managed by MegaRAID 96xx/95xx/93xx controllers
 - Universal Backplane Management (UBM) based storage enclosures connected to MegaRAID 96xx/95xx controllers (applies to HPE Compute Scale-up Server 3200 and Superdome Flex 280)
 - Ethernet devices
 - Fibre Channel Devices
 - NVMe controllers - Intel P4800X, Samsung PM1725a & PM1725b, PM1733/1735
 - NVIDIA Graphics Processing Unit (GPU)
- DCD proactively monitors the health of the MegaRAID Controllers, attached drives, RAID volumes, NVMe Controllers, Ethernet devices and Fibre channel devices and forwards state change events to RMC.
- DCD monitors and reports OS boot completion and OS shutdown events to the RMC.
- DCD supports logging messages at different log levels.
- DCD can push the inventory to RMC immediately upon request from RMC.
- A command line utility “dcdCli” is provided to test the DCD Event Infrastructure.

For more details on supported cards and drives, please refer to the QuickSpecs of HPE Compute Scale-up Server 3200 / HPE Superdome Flex family of servers. For more details on supported inventory and events, please refer to `README` which is part of DCD documents in the `/opt/hpedcd/data` folder on product installation.

NOTE: DCD currently does not support inventory and monitoring of Intel VMD/VROC storage configurations.

Enhancements and Defect Fixes

The following changes were introduced in DCD 4.6.5.3 (**VMware ESXi 8.0 and VMware ESXi 7.0**):

- Enabled inventory and monitoring support for the following Ethernet cards on HPE Superdome Flex 280:BCM 5719 1Gb 4p BASE-T Adapter
 - BCM 57416 10GbE 2p BASE-T Adapter
- Added static boot-time inventory support for the following EDSFF-based and SFF-based storage configurations on HPE Compute Scale-up Server 3200:
 - Intel VMD-managed CPU-attached NVMe SSDs.
- Increased the default cache-refresh interval for all storage configurations to 300 seconds (5 minutes) in the DCD configuration file.
- For MegaRAID 96xx/95xx storage configurations, optimized UBM backplane FRU NVRAM data retrieval logic.
- Fixed an issue where cache-refresh for NVMe HBAs and CPU-attached NVMe SSDs (Non-VMD) happened every 10 seconds, ignoring the cache-refresh interval specified in DCD configuration file.
- Fixed an issue in DCD upgrade scenarios where dcd.conf file from the newer DCD package does not get applied to '/opt/hpedcd/vital/dcd.conf'.
- Fixed an issue where 'FireLDInfo failed' warning messages are occasionally logged in DCD log file on MegaRAID 95xx storage configurations upon deletion of logical volumes.
- Fixed an issue where DCD inventory incorrectly reports multiple UBM7 storage enclosures as a single entity in MegaRAID and SmartRAID storage configurations.

Prerequisites

- a) DCD requires VMware ESXi device drivers to be installed on the HPE Compute Scale-up Server 3200 and HPE Superdome Flex family of servers. For VMware ESXi 8.0 and 7.0, HPE publishes a tested custom ISO image containing updated drivers (including the third-party drivers bundle).
- b) On VMware ESXi 8.0, DCD requires '**Intel VROC Driver and Management Tools**' package to be installed to report complete inventory information for Intel VMD/VROC CPU-attached NVMe SSDs. The package can be downloaded from the link below:

[Intel® VROC Driver and Management Tool for VMware* ESXi* 8.x](#)

NOTE: Refer the following Technical Whitepapers for detailed information:

- [Running VMware vSphere on HPE Compute Scale-up Server 3200](#)
- [Running VMware vSphere on HPE Superdome Flex Family of Servers](#)

Supported Hardware and Software

This version of DCD runs on HPE Compute Scale-up Server 3200 / Superdome Flex family of servers, and supports the following firmware versions and operating systems:

Supported Server Firmware:

Server Model	Minimum Version	Current Version *
HPE Compute Scale-up Server 3200	1.20.x	1.55.x
HPE Superdome Flex 280	1.20.x	2.00.x
HPE Superdome Flex	3.60.x	4.5.x

* To enable all features introduced in this version of DCD, it is required to upgrade to this or a later version of the server firmware.

Supported I/O Firmware:

For internal storage configurations on HPE Compute Scale-up Server 3200 / Superdome Flex family of servers, the following firmware requirements must be met:

Device	Firmware/Image Version Requirement
MegaRAID 9560 controller	52.28.0 or later
MegaRAID 96xx controller	8.6.2.0 or later
UBM3 storage enclosure SFF backplane	1.20 or later
UBM6 storage enclosure SFF backplane	1.00 or later
UBM5 storage enclosure EDSFF backplane	1.06 or later
UBM7 storage enclosure EDSFF backplane	1.00 or later

Supported Operating Systems:

- VMware ESXi 8.0, 8.0 U1, 8.0 U2, 8.0 U3
- VMware ESXi 7.0, 7.0 U1, 7.0 U2, 7.0 U3

End of DCD Support for VMware ESXi 6.5 and ESXi 6.7

VMware has announced the end of support plan for ESXi 6.5 and ESXi 6.7. Please visit the following webpage for more details: <https://core.vmware.com/blog/reminder-vsphere-6567-end-general-support>.

To align with VMware's end of support plan for ESXi 6.5 and ESXi 6.7, HPE does not plan to make any further DCD updates such as defect fixes and enhancements on these versions of the operating system. However, HPE will continue to provide support on ESXi 7.0/8.0 and recommends upgrading to ESXi 7.0/8.0 to continue receiving DCD updates.

- For ESXi 6.5, the last supported version of DCD is 3.5.1.2 which can be downloaded from location: <http://vibsdepot.hpe.com/superdome/sdflex/dcd/march2022/hpe650/>
- For ESXi 6.7, the last supported version of DCD is 3.5.1.2 which can be downloaded from location: <http://vibsdepot.hpe.com/superdome/sdflex/dcd/march2022/hpe670/>

Installation / Upgrade

DCD component for VMware ESXi 8.0 can be downloaded from the following locations:

- <https://vibsdepot.hpe.com/superdome/sdflex/dcd/mar2025>
- https://support.hpe.com/connect/s/software/details?language=en_US&softwareId=MTX_eae650fb52f54427b0bd147344

DCD component for VMware ESXi 7.0 can be downloaded from the following locations:

- <https://vibsdepot.hpe.com/superdome/sdflex/dcd/mar2025>
- https://support.hpe.com/connect/s/software/details?language=en_US&softwareId=MTX_e6146d657e8f48bf923e93f458

Download the DCD component for VMware ESXi 6.7 and 6.5 from the following location:

- <http://vibsdepot.hpe.com/superdome/sdflex/dcd/march2022/>

DCD can be installed from the above location using any of the following commands:

```
# esxcli software vib install -v <absolute-path-to-DCD-vib>
# esxcli software vib install -d <absolute-path-to-DCD-zip>
```

To upgrade DCD to the current version (**4.6.5.3**), or downgrade from current version of DCD (**4.6.5.3**) to an older version, follow the below instructions:

- a) If the existing configuration file (`/opt/hpedcd/vital/dcd.conf`) had been customized, take backup of the same to a persistent storage directory (for example: `/scratch/tmp/`) using the below command:

```
# cp -f /opt/hpe/vital/dcd.conf /scratch/tmp/
```

- b) Upgrade/Downgrade DCD using any one of the following commands:

```
# esxcli software vib update -d <absolute-path-to-DCD-zip>
```

(or)

```
# esxcli software vib update -v <absolute-path-to-DCD-vib>
```

- c) (For downgrade scenario only) Copy the DCD configuration file (`/opt/hpedcd/data/dcd.conf`) to vital directory:

```
# cp -f /opt/hpedcd/data/dcd.conf /opt/hpedcd/vital/dcd.conf
```

- d) Transfer any custom settings from the backed-up configuration file in step a) to `'/opt/hpedcd/vital/dcd.conf'`.

- e) Restart the DCD service:

```
# /etc/init.d/hpedcd restart
```

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To verify if DCD is installed, please follow below commands on all VMware ESXi distributions:

- You can use “`esxcli software vib list | grep -i dcd`” to verify if DCD is installed.

For VMware ESXi 8.0 and 7.0 use following commands to check the status of DCD:

- To check the list of files delivered by DCD, you can use the following command:

```
# ls -l /opt/hpedcd
```

- DCD service details and status can be checked using the following command:

```
# /etc/init.d/hpedcd status
```

- DCD service can be started and stopped using the following commands:

```
# To start the service: /etc/init.d/hpedcd start
```

```
# To stop the service: /etc/init.d/hpedcd stop
```

For VMware ESXi 6.5 and ESXi 6.7, DCD service details and status can be checked using the following command:

```
# /opt/hpe/dcd/scripts/dcd_service.sh status
```

Known Behaviors, Limitations, and Workarounds

- 1) In DCD inventory and events for RAID volumes, the “DeviceName” parameter is an empty value. This is a known behavior.
- 2) Upon DCD un-installation on VMware ESXi 7.0 and 8.0, DCD product files may continue to remain under “/opt/hpedcd/vital” directory. However, on ESXi 7.0 DCD product files will persist across system reboots.
- 3) When IPMI BT interface is disabled, DCD service exits gracefully reporting this condition in DCD log file but may attempt to restart a few times.
- 4) On a Superdome Flex / Superdome Flex 280 running VMware ESXi 7.x, following reboot of the BMC (BMC_RESET_BY_WATCHDOG event in IEL), DCD fails to post all further system inventory data & events to the RMC. To work around this issue, login into the ESXi host with administrative privileges and restart the DCD service as below after the BMC reboot:

```
$ /etc/init.d/hpedcd stop  
  
$ /etc/init.d/hpedcd start
```
- 5) For MegaRAID 9560 controllers:
 - a. DCD may not report serial number for an HPE 800GB / 1.6TB / 3.2TB / 6.4TB SAS MU SFF BC PM1645a SSD attached to MegaRAID 9560 when the disk is in UBad (Unconfigured Bad) state.
- 6) In MegaRAID Storage configurations, if two or more healthy disks are hot-removed within a short span of time (< 9 seconds), then the relevant IEL events for the action can be inconsistent.
- 7) For a MegaRAID controller installed in any of the below locations, DCD reports the Physical Location as invalid (all Fs) for attached storage enclosure and physical drives. This happens due to a known issue with the management library used by DCD. At present, the storcli management utility can be used to monitor health of physical drives attached to the controller.
 - a. Superdome Flex expansion chassis
 - b. Superdome Flex non-monarch partitionable chassis
 - c. Superdome Flex 280 expansion chassis
- 8) On VMware ESXi 8.0, DCD currently does not support monitoring MegaRAID 95xx/93xx storage configurations.
- 9) On VMware ESXi 8.0, DCD may report DCD_ETHERNET_LINK_UP event when an ‘Admin Up’ operation is performed for a given ethernet port.
- 10) DCD does not report DCD_DRIVE_ERROR event when a non-VMD CPU-attached NVMe SSD causes PCIe errors and is isolated as part of error recovery. However, the IEL can be monitored for other events related to PCIe isolation of the device. For example, here is a series of IEL events related to PCIe isolation: isolation:

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Index	Date	Time	Type	Source	Par#	Severity
Data	Keyword			Details		
6523490	2024-08-29	19:15:21Z	SFW	r001u01p0c01t0	0 *CRIT (5)	000001010100000A
	PCIE_ERROR_ISOLATION_ENTERED			[rack1/chassis_u1/cpu0/ocp_slot1]		
6523491	2024-08-29	19:15:21Z	SFW	r001u01p0c01t0	0 Info (2)	000001010100000A
	PCIE_ERROR_ISOLATION_RESUME			[rack1/chassis_u1/cpu0/ocp_slot1]		
6523492	2024-08-29	19:15:21Z	MFW	r001u01c/ELS	0 Info (2)	0001000100000000
	ELSD_PROCESS_CPER					
6523493	2024-08-29	19:15:21Z	MFW	r001u01c/ELS	0 Info (2)	010100000000000B
	ELSD_WRITE_BUNDLE					
6523494	2024-08-29	19:15:21Z	MFW	r001u01c/CAE	- Info (2)	FFFFFFFFF00000576
	CAE_EVENT_GENERATED					
6523495	2024-08-29	19:15:21Z	MFW	r001u01c	0 *WARN (3)	000001010100000A
	RESOURCE_INDICTED			[rack1/chassis_u1/cpu0/ocp_slot1]		
6523496	2024-08-29	19:15:27Z	SFW	r001u01p0c16t0	0 Info (2)	000001010100000A
	DPC_OS_RETURN_SUCCESSFUL			[rack1/chassis_u1/cpu0/ocp_slot1]		
6523497	2024-08-29	19:15:27Z	MFW	r001u01c/ELS	0 Info (2)	0001000100000000
	ELSD_PROCESS_CPER					
6523498	2024-08-29	19:15:27Z	MFW	r001u01c/ELS	0 Info (2)	010100000000000B
	ELSD_UPDATE_BUNDLE					
6523499	2024-08-29	19:15:28Z	MFW	r001u01c/CAE	- Minor(0)	010100000000000B
	CAE_READ_BUNDLE					
6523500	2024-08-29	19:15:28Z	MFW	r001u01c/CAE	- Minor(0)	010100000000000B
	CAE_PROCESSED_BUNDLE					

- 11) In multi-controller MegaRAID 96xx storage configurations, the 'Volumes' section in DCD inventory may not include associated drives information.
- 12) DCD may not dynamically update the drive health information for Intel VMD/VROC CPU-attached NVMe SSDs. To work around this issue, please use 'smartmontools' to collect the drive health information.

Troubleshooting

- o If DCD service does not start after successful installation, please check the syslog (/var/log/syslog.log) for any indication of failures. Use the following command to check if the DCD daemon process is running:

```
ps -TCcjstv | egrep -w "(WID|dcdExecutive)"
```

- o The "dcdCli" command line utility enables customers to trigger test event from DCD. Test event help validate DCD's ability to monitor and generate events for supported hardware. The DCD test event feature can be used as follows:

```
dcdCli [-h] [-t <Event-ID> | --test-event <Event-ID>]
```

Example of sending DCD test event:

```
[root@ch-080:/opt/hpedcd/bin] dcdCli -t 708
dcdCli: Test Event sent to RMC. Please check logs for details.
[root@ch-080:/opt/hpedcd/bin]
```

- o For further details about troubleshooting DCD please refer to README.

System resources monitored by DCD on each OS

DCD inventories/monitors the following system resources on each OS:

Hardware Component	RMC	DCD		
		Linux (RHEL/SLES/OL)	Microsoft Windows	VMware ESXi ^❶
Chassis power supply	✓			
Chassis thermal	✓			
DIMMs	✓			
CPUs	✓			
PCIe cards	✓	❷		
Base I/O	✓			
SDF Fabric	✓			
Fans	✓			
MCA, system crashes	✓			
OS-critical system shutdown		✓	✓	✓
Ethernet cards		✓	✓	✓
InfiniBand HCAs		✓		
Fibre Channel cards		✓	✓	✓
NVMe cards		✓	✓	✓
GPU cards ^❸		✓	✓	✓
TPM ownership by OS		✓	✓	
Intel VROC/VMD Configurations				
a) VMD CPU-attached NVMe SSDs		✓		❹
b) VROC RAID Volumes				
Non-VMD CPU-attached NVMe SSDs		✓	✓	✓
MegaRAID Configurations				❺
a) Storage Controller		✓	✓	✓
b) Physical Drive		✓	✓	✓
c) Logical Volume		✓	✓	✓
d) Storage Enclosure		✓	✓	✓
SmartRAID Configurations				
a) Storage Controller		✓	✓	
b) Physical Drive		✓	✓	
c) Logical Volume		✓	✓	
d) Storage Enclosure		✓	✓	
Embedded BaseIO (Intel RSTe SATA) Configurations				
a) Storage Controller		✓		
b) Physical Drive		✓		
c) Logical Volume				
d) Storage Enclosure		N/A	N/A	N/A
SAS 9300-8e HBA Configurations ^❻				

❶ As VMware ESXi 6.5 and 6.7 have reached end of support, HPE recommends upgrading to ESXi 7.0/8.0 to continue receiving DCD updates.

❷ DCD reports PCIe registers state during an AER on (a) SLES 15 SP2 and later; (b) RHEL 8.2 and later.

❸ DCD reports inventory of GPU cards. Monitoring is not supported.

❹ On VMware ESXi 8.0, DCD currently does not support MegaRAID 95xx/93xx storage configurations.

❺ DCD does not support this storage configuration.

❻ On VMware ESXi, DCD reports only static boot-time inventory and does not support health monitoring.

Enhancements and Defect Fixes in Previous Releases

The following changes were introduced in DCD 4.5.5.4 (**VMware ESXi 8.0 and VMware ESXi 7.0**):

- Fixed an issue where DCD does not report an FC HBA port's firmware version if NVMe over Fibre Channel (NVMe-oF) is enabled.
- Optimized MegaRAID I2C bus usage to reduce the probability of bus contention with MegaRAID storage controller background accesses.

The following changes were introduced in DCD 4.4.6.1 (**VMware ESXi 8.0 and VMware ESXi 7.0**):

- Added support for new drive models.
- Added inventory and monitoring support for the following EDSFF-based and SFF-based storage configurations on HPE Compute Scale-up Server 3200:
 - MegaRAID 9660-16i, 9670-24i and 9670W-16i controllers, attached SAS/SATA/NVMe drives & RAID volumes.
- Updated Broadcom storelib library to version 8.10 for MegaRAID controllers supported on HPE Compute Scale-up Server 3200.
- Updated Broadcom storelib library to version 7.30 for MegaRAID controllers supported on HPE Superdome Flex and HPE Superdome Flex 280.
- Fixed an issue where DCD does not send the updated inventory information upon Logical Volume creation for drives connected to MegaRAID controllers.

The following changes were introduced in DCD 4.3.3.3 (**VMware ESXi 7.0 and VMware ESXi 8.0**):

- Added inventory and monitoring support for new add-in I/O Ethernet, Fibre Channel and NVIDIA GPUs devices on HPE Compute Scale-up Server 3200 and HPE Superdome Flex family of servers.
- Added support for new drive models.

The following changes were introduced in DCD 4.2.3.1 (**VMware ESXi 7.0 and VMware ESXi 8.0**):

- Added support for 'Broadcom NIC 57414 10/25GbE 2p SFP28' ethernet card on HPE Superdome Flex and HPE Superdome Flex 280.
- Added support for new drive models.
- Added support for reporting SKU Part Number in DCD system inventory data under the field 'SKU' for both I/O cards and drives.
- Added an additional field in DCD system inventory data called 'Spare Part Number' which is an exact replica of the existing 'Part Number' field for both I/O cards and drives.
- Fixed an issue where inventory was reported as an object instead of an array when there is only one instance of that device type (applicable for Ethernet, Fibre Channel and GPU).
- Fixed an issue that delayed reporting the `DCD_STARTED` event during DCD service start.
- Reduced the time taken for the DCD service to stop.

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- Reduced the time taken to report Ethernet device events to the RMC.

The following changes were introduced in DCD 4.1.0.2 (**VMware ESXi 8.0**):

- Added support for HPE Compute Scale-up Server 3200.
- Added inventory and monitoring support for add-in I/O cards on HPE Compute Scale-up Server 3200.
- Added inventory and monitoring support for the following storage configurations on HPE Compute Scale-up Server 3200:
 - Non-VMD CPU-attached NVMe SSDs
- Updated part number table for new drive models.

The following changes were introduced in DCD 3.7.0.1 (**VMware ESXi 7.0 and ESXi 8.0**):

- Updated part number table for new drive models.
- Fixed an issue where DCD occasionally reports spurious DCD_FCHBA_LINK_DOWN / DCD_FCHBA_LINK_UP event for a Fibre Channel HBA port.
- Fixed an issue where DCD occasionally reports spurious DCD_ETHERNET_LINK_DOWN / DCD_ETHERNET_LINK_UP event for an Ethernet port.

The following changes were introduced in DCD 3.6.3.4 (**VMware ESXi 8.0 only**):

- Added support for VMWare ESXi 8.0.

Note: DCD on VMware ESXi 8.0 currently does not support monitoring MegaRAID storage configurations. This support will be added in a future release.

The following changes were introduced in DCD 3.6.3.3 (**VMware ESXi 7.0 only**):

- Enhanced DCD support for Superdome Flex 280 chassis internal storage configurations involving MegaRAID 9560 to remove dependency on I/O loading rules.
- Enhanced DCD to exit gracefully when IPMI BT is disabled.
- Added support to inventory UBM6 backplanes in MegaRAID storage configurations.
- Added support to inventory GPU cards.
- Updated part number table for new drives, including Self Encrypting Drives (SED).
- Updated Broadcom storelib API to version 7.22.
- Added support to inventory storage enclosures attached to MegaRAID 9560 controllers on Superdome Flex 280 systems.

The following changes were introduced in DCD 3.5.1.2:

- Updated part number table for new SSD drives.
- Fixed an issue seen in MegaRAID configurations where the DCD service shutdown operation occasionally does not complete and times out.
- Fixed an issue where frequent calls to esxcli commands resulted in excessive logging in hostd.log of ESXi OS.

The following changes were introduced in DCD 3.4.2.0:

- Fixed an issue where Fibre Channel HBA inventory data may not get populated.

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- Updated part number table for new SSD drives.
- Added support to inventory and monitor the following NVMe cards:
 - 1) Intel P4800X
 - 2) Samsung PM1725B (1.6 TB, 3.2 TB, 6.4 TB)
 - 3) Samsung PM1733/1735 (1.6TB, 3.2 TB, 6.4 TB)

The following changes were introduced in DCD 3.3.2.0(**VMware ESXi 7.0**) and 3.3.2.1(**VMware ESXi 6.5, 6.7**):

- Upgraded LSI MegaRAID storelib library to 7.18 version.
- Added support to report the following RAID volume consistency check events for LSI MegaRAID controllers:
 - DCD_VOLUME_CC_ERROR
 - DCD_VOLUME_CC_WARNING
 - DCD_VOLUME_CC_OK
- Added support to include a new attribute “HostControllerPhysicalLocation” in DCD logical drive inventory.
- Added support to inventory and monitor the following Ethernet adapter:
 - 1) HPE Ethernet 10/25Gb 2-port 640SFP28 Adapter
- Added support to report the following event as part of DCD FibreChannel monitoring:
 - DCD_FCHBA_LINK_UP
- Added support to report the following events as part of DCD Ethernet monitoring:
 - DCD_ETHERNET_LINK_DOWN
 - DCD_ETHERNET_LINK_UP

The following changes were introduced in DCD version 3.2.3.1: (**VMware ESXi 7.0 only**)

- Fixed a segmentation fault that may occur during DCD service start-up.
- 'DcdSwVersion' attribute is added under HostOSInfo.OSSoftwareSummary sub-tree in system inventory data.
- Added support to inventory and monitor the following Ethernet adapter:
 - 1) Pensando DSP DSC-25 Enterprise 10/25Gb 2-port SFP28 Card
- Updated part number table to include HPE Superdome Flex 280 drive models, generic firmware drive models and NVMe SSDs.
- Added support to report the Manufacturer for HPE SATA disk drives.
- Added support to inventory and monitor the following Broadcom storage controllers, attached physical drives and hosted RAID volumes:
 - 1) MegaRAID 9560-16i Tri-Mode Internal RAID
 - 2) MegaRAID 9560-8i Tri-Mode Internal RAID
- Pre-enabled support to inventory NVMe drives attached to MegaRAID 9560 controllers.
- Updated Storelib version used by DCD to 07.1404.0100.0000.
- Fixed an issue where spare part number information is not reported for a Broadcom/LSI MegaRAID 9361-4i controller in JBOD mode.
- Added support to inventory and monitor the following Ethernet adapters:

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- 1) HPE Ethernet 10Gb 2-port 537SFP+ Adapter
 - 2) HPE Ethernet 10Gb 2-port 535T Adapter
 - 3) HPE Ethernet 10Gb 2-port 524SFP+ Adapter
- Added support to inventory and monitor the following FibreChannel Adapters:
 - 1) HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter
 - 2) HPE SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter
 - 3) HPE SN1610E 32Gb 1-port Fibre Channel Host Bus Adapter
 - 4) HPE SN1610Q 32Gb 1-port Fibre Channel Host Bus Adapter

The following changes were introduced in DCD version 3.1.3.0:

- Fixed the issue of DCD_OS_LAST_SHUTDOWN_CRITICAL event being logged even for normal reboots. (Only for VMware ESXi 6.5 and 6.7. For VMware ESXi 7.0, this issue was fixed as part of DCD version 3.0.7.0.)
- Added support to report the Manufacturer attribute for all resource types in the system inventory data.
- Added support to report RAID battery related events in CAE for MegaRAID SAS 9361-4i controller.
- Fixed an issue where the VolumeType attribute for a RAID 10 logical drive (managed by MegaRAID 9361-4i controller) was being reported as empty string (instead of "RAID10").
- Fixed handling of RAID volume consistency check related events for MegaRAID 9361-4i controller so that they are reported correctly to RMC.
- Fixed an issue where Part Number and Model attribute is not reported for all the ports of following Ethernet device:
 - HPE Ethernet 10Gb 2-port 562SFP+ Adapter.
- Updated part number table for new SSD drives.
- Fixed an issue where invalid Physical Location information was being reported when multiple transport protocols are enabled on the same Fibre Channel adapter.

The following changes were introduced in DCD version 3.0.7.0:

- Added support for VMWare ESXi 7.0.
- Added support to inventory and monitor the following Ethernet devices:
 - 1) HPE Ethernet 1Gb 4-port 366T Adapter
 - 2) HPE Ethernet 10Gb 2-port 521T Adapter
- Added support to inventory and monitor the following Fibre channel devices:
 - 1) HPE SN1200E 16Gb 2p FC HBA
 - 2) HPE SN1100Q 16Gb 2p FC HBA
 - 3) HPE SN1610E 32Gb 2p FC HBA
 - 4) HPE SN1610Q 32Gb 2p FC HBA
- Added support for HPE Superdome Flex 280 servers. DCD now reports physical location information for the following types of devices on these servers:
 - 1) Embedded I/O devices
 - 2) PCIe add-on I/O cards
- Fixed the issue of DCD_OS_LAST_SHUTDOWN_CRITICAL event being logged even for normal reboots. (Only for VMware ESXi 7.0)
- Fixed the issue of "show chassis info" reporting missing disks as available in FRU inventory for MegaRAID 9361-4i controller.
- Corrected DCD behavior to generate DCD_VOLUME_ERROR event when a non-redundant

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physical drive of a degraded RAID 1 / RAID 5 / RAID 6 volume (hosted by LSI MegaRAID 9361-4i) fails or goes offline.

- Fixed the issue of TotalFreeSystemMemoryGiB and TotalSystemMemoryGiB attributes being populated as 0 (zero) in system inventory data on certain systems due to esxtop command being denied memory for execution.

The following changes were introduced in DCD version 2.3-0:

- Updated part number table for new SSD models.

The following changes were introduced in DCD version 2.1.0.0:

- Added PartNumber field for LSI MegaRAID 9361-4i in DCD Inventory JSON.
- Modified PartNumber field in DCD Inventory JSON for physical disk drives controllers to use the Spare Part Number.
- Updated part number information reported for specific models of HPE Ethernet adapters.
- Fixed the issue of DCD IPv4Addresses field not being Redfish-compliant when no IPv4 address is configured on the managed server.
- Fixed issue of RAID10 logical volume (configured on LSI MegaRAID 9361-4i) incorrectly showing volume type as "RAID01" in the inventory string.
- Fixed the issue of physical location field for Ethernet device, Drives and Storage Controller being displayed as FFFFFFFFFFFFFFFFFF in inventory and events.
- Integrated with newer version of storelib libstorelib.so.07.1203.0100.0000.

The following changes were introduced in DCD version 2.0.0.0:

- Added support to inventory and monitor Ethernet devices.
- Added support for VMWare ESXi 6.7.

The following changes were introduced in DCD version 1.2.5:

- Added support for two or more MegaRAID 9361-4i controllers per partition.
- Integrated with newer version of storelib libstorelib.so.07.0309.0100.0800.
- Fixed issue of DCD events not being generated if the inventory-refresh happens at a time when a stream of events from MegaRAID 9361-4i are being processed by DCD.
- Fixed issue of missing inventory on a partition where it takes DCD a long time (several minutes or more) to inventory the partition's hardware configuration.

Support Information

You can report defects related to Data Collection Daemon (DCD) by contacting your local Hewlett Packard Enterprise representative.