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Motorola Solutions Technical Notification (MTN)

TITLE: ESXi loses connection with DAS (Model 3520) attached by HPE H241 and/or Fans are running at high speed on HP DL380 Gen9 servers

TECHNOLOGY: ASTRO 25

SYMPTOMS:

1. ESXi loses connection with DAS (Model 3520) attached by HPE H241. DAS was reporting generic controller issues to UEM.
2. Fans are running at high speed in servers despite no actual reason for them to do so on HP DL380 Gen9 servers.

MODELS / SYSTEM RELEASES / KITS / DATE/CODES AFFECTED:
ProLiant DL380 Gen9 with HBA H241 Card / Dot Hill Model 3520
VMware ESXi 5.5(7.14, 7.15, 7.16), 6.0(7.17)

SEVERITY RECOMMENDATION:
High / Safety - Perform Immediately

ROOT CAUSE / DEFINITIVE TEST:

1. Issue is caused by a combination of third party vendor firmware and driver defects. Older storage controller firmware issue can cause VMS storage to become unreachable and VMS to loose connection to both datastores (local and the das) and the DAS becoming inoperable.
2. Due to a defect in HP firmware the HP Active Health System (AHS) or HPE Integrated Lights-Out (iLO) logs may indicate that the fans are running at high speeds (for example, above 70% duty)

WORKAROUNDS AND CORRECTIVE ACTIONS:

1. Complete “Disable Application” procedure if it is applicable for a virtual machine.
2. Shutdown all virtual machines.
3. Reboot ESXi server.

This workaround provides only a temporary recovery as the issue will take place again sometime after the reboot.

RESOLUTIONS AND REPAIR PROCEDURES:

This is general recommended update for all Customers.

RESOLUTION:
Before You Begin:

- An NM Client with a network connection to the storage controller enclosure (DAS) is required.
- The *Dothill Firmware Media* is required and is inserted into the optical drive of the NM Client.

- Verify whether it is a single-controller or a dual-controller storage enclosure (DAS).
  Either visually verify that there are two physical storage controllers in the DAS or determine this from the system configuration: L1/M1 configurations are non-redundant, all other configurations are redundant.

Proceed to appendices. First perform instructions in **Appendix A**. and then perform instructions in **Appendix B**.

PARTS REQUIRED (HARDWARE/SOFTWARE):

Media Name	KC Number	Release
Dothill Firmware Media	KC877V0B0000071710	A7.14/A7.15/A7.16/A7.17
HP Firmware Install Media (DL380 G9)	KC877L0DJ000071755	A7.14/A7.15/A7.16/A7.17
VMware vSphere 5.5 Upgrade Media	KC877V0CS000071604	A7.14/A7.15/A7.16
VMware vSphere 6.0 Upgrade Media	KC877V0CS000071702	A7.17

ADDITIONAL INFORMATION:
NA

REFERENCE THE FOLLOWING DOCUMENTS/PROCESSES FOR INSTALLATION PROCEDURES:
NA

WHEN TO APPLY RESOLUTION:
After reboot __
After (re)installation _X_
After upgrade _
After power cycle __
After database restoration __
After failure __
On FRU replacement __
During maintenance __
Immediately _X_
As instructed X_
Information only __

LABOR ALLOWANCE:
This is an informational bulletin. No labor warranty is implied, intended or authorized for U.S. Domestic Partners/Customers. Other regions should follow their own standard procedures.

For assistance with this bulletin please contact your MSI Technical support centre
https://www.motorolasolutions.com/en_us/support.html

Appendix A: Updating Storage Controller Modules Firmware

*If you are about to apply this procedure in the time when symptom #1 is observable, please apply instructions in **WORKAROUNDS AND CORRECTIVE ACTIONS** section of this document before continuing.*

Please contact SSC team for further assistance in case of an abnormal completion of any step or unsuccessful execution of any script within the scope of this procedure.

Perform all steps consequently; run next script only after the previous script's execution is completed.

Conventions

- Storage controller module A – installed into upper slot of the controller enclosure.
- Storage controller module B – installed into bottom slot of the controller enclosure and is available for only dual-controller configuration.
- IP addresses of network ports of the above controllers hereinafter referred to as `<controller-a-ipaddr>` and `<controller-b-ipaddr>` respectively.

Viewing System Status

1. On NM Client, run Internet Explorer and in the web browser address field, type `https://<controller-a-ipaddr>/` and press Enter. Login in to RAIDar management webpage using username `manage`.
2. In the **Configuration View** panel, right-click the system and select **View** > **Overview**. Be sure that the system health status is OK. If system health status is not OK, please capture screenshots of the errors/alarms/warnings and DAS logs. This information will be requested when contacting the SSC for support. .

Shutting Down Virtual Machines

Shut down all virtual machines, which use this storage controller enclosure as their datastore (be sure you completed it for all ESXi hosts connected to this storage controller enclosure).

Proceed to the appropriate chapter depending on the storage controller enclosure configuration:

*For single-controller storage enclosure, continue with chapter **Appendix A** > **Single-Controller Configuration**.*

*For dual-controller storage enclosure, continue with chapter **Appendix A** > **Dual-Controller Configuration**.*

Single-Controller Configuration

Management Controller Restart

Perform a restart of the Management Controller A:

1. Run Internet Explorer.
2. Sign in to RADar management webpage `https://<controller-a-ipaddr>/` using username `manage`.
3. In the **Configuration View** panel, right-click the local system and select **Tools** > **Shut Down or Restart Controller**.
4. In the main panel, set the options:
    a. Select the Restart operation.
    b. Select the type of controller processor to restart - Management.
    c. Select to restart the processor in controller A.
5. Click **Restart now**. A confirmation dialog appears.
6. Click **Yes** to continue, a second confirmation dialog appears.
7. Click **Yes** to continue, a message describes restart activity.

The restart should take approximately two minutes. Once the restart is complete, the log-in page appears. Continue as soon as you can successfully login back to `https://<controller-a-ipaddr>/`

Updating Controller-Module Firmware

To update controller-module firmware:

1. In the **Configuration View** panel, right-click the system and select **Tools** > **Update Firmware**. The table titled **Current Controller Versions** shows the currently installed versions.
2. Click **Browse** and navigate to the *Dothill Firmware Media*. Search a file with extension .bin in directory `\firmware\DH3520\`.
3. Select the found firmware file to install and click **Open**.
4. Click **Install Controller-Module Firmware File**. A dialog box shows firmware-update progress. The process starts by validating the firmware file:
    a. If the file is invalid, verify that you specified the correct firmware file. If you did, try downloading it again from the source location.
    b. If the file is valid, the process continues.
5. When firmware upload starts user will see a progress screen, user will be automatically signed out after the upload finishes and the Management Controller A will restart. Until the restart is complete, the RAIDar Sign In page will be unavailable. Wait around 15 minutes until the user can login to the controller's RAIDar Sign page.
6. In the Internet Explorer, click **Gear icon** and then select **Internet Options** . In **Internet Options** window, click **Delete** in **Browsing history** section. In a new window, check the following checkboxes: **Temporary Internet files and website files** and **Cookies and website data**, and click **Delete**.
7. Then sign in back to RAIDar webpage `https://<controller-a-ipaddr>/` .

Final Check

1. Right-click the top item of the tree in the **Configuration View** panel.
2. Select **Tools** > **Update Firmware**.
3. Result: The table titled **Current Controller Versions** shows the currently installed versions.
4. In the **Current Controller Versions** table, verify that the **Bundle Version** value for Controller A is equal to the name of the file that you selected earlier for the firmware update.

Dual-Controller Configuration

Disabling PFU

1. Run Internet Explorer.
2. Sign in to RADar management webpage `https://<controller-a-ipaddr>/` using username `manage`.
3. Right-click the top item of the tree in the **Configuration View** pane tree hierarchy. Click **Configuration** > **Advanced Settings** > **Firmware**.
4. Verify that the check box for **Partner Firmware Update** is unchecked. If it is checked then clear it and **Apply** your changes.

Firmware Update

Perform the following instructions below for controller A first. As soon as firmware update for the controller A is finished successfully repeat the same instruction for controller B.

Management Controller Restart

Restart the Management Controller in the controller to be updated. To perform a restart:

1. In the **Configuration View** panel, right-click the local system and select **Tools** > **Shut Down or Restart Controller**.
2. In the main panel, set the options:
   a. Select the **Restart** operation.
   b. Select the type of controller processor to restart - **Management**.
   c. Select to restart the processor in controller **A**(**B**).
3. Click **Restart now**. A confirmation dialog appears.
4. Click **Yes** to continue, a second confirmation dialog appears.
5. Click **Yes** to continue, a message describes restart activity.

The restart should take approximately two minutes. Once the restart is complete, the log-in page appears. Continue as soon as you can successfully login back to `https://<controller-a-ipaddr>/` (`https://<controller-b-ipaddr>/`).

Updating Controller-Module Firmware

To update controller-module firmware:

1. In the **Configuration View** panel, right-click the system and select **Tools** > **Update Firmware**. The table titled **Current Controller Versions** shows the currently installed versions.
2. Click **Browse** and navigate to the *Dothill Firmware Media*. Search a file with extension `.bin` in directory `\firmware\DH3520\`.
3. Select the found firmware file to install and click **Open**.
4. Click **Install Controller-Module Firmware File**. A dialog box shows firmware-update progress. The process starts by validating the firmware file:
   a. If the file is invalid, verify that you specified the correct firmware file. If you did, try downloading it again from the source location.
   b. If the file is valid, the process continues.
5. When firmware update on the controller A(B) is complete, user is automatically signed out and the Management Controller A(B) will restart. Until the restart is complete, the RAIDar Sign In page will say that the system is currently unavailable. Wait until this message is cleared.
6. In the Internet Explorer, click **Gear icon** and then select **Internet Options** . In **Internet Options** window, click **Delete** in **Browsing history** section. In a new window, check the following checkboxes: **Temporary Internet files and website files** and **Cookies and website data**, and click **Delete**.

7. Then sign in back to RAIDar webpage `https://<controller-a-ipaddr>/` .

Final Check

1. Right-click the top item of the tree in the **Configuration View** panel.
2. Select **Tools > Update Firmware**.
3. Result: The table titled **Current Controller Versions** shows the currently installed versions.
4. In the **Current Controller Versions** table, verify that the **Bundle Version** value for Controller A(B) is equal to the name of the file that you selected earlier for the firmware update.

Appendix B: Updating HP DL380 Gen9 BIOS/iLO Firmware and VMware ESXi

*If you are about to apply this procedure in the time when symptom #1 is observable, please apply instructions in **WORKAROUNDS AND CORRECTIVE ACTIONS** section of this document before continuing.*

Please contact SSC team for further assistance in case of an abnormal completion of any step or unsuccessful execution of any script within the scope of this procedure .

Perform all steps consequently; run next script only after the previous script's execution is completed. Always wait until a script completes its execution.

Conventions

- `<ilo_ipaddr>` - an IP address of iLO network port, where iLO web interface available.
- `<cd_drive>` - a drive letter assigned to CD-ROM or DVD-ROM disc drive in your NM client.
- `<esxi_ipaddr>` - an IP address of network management port of the affected ESXi host (VMS).

Preparing for Service Mode

1. Insert *HP Firmware Install Media* disc into the ESXi host's (VMS) optical disc drive.
2. Insert the *VMware Vsphere Upgrade Media* disc into the optical drive of the NM Client.
3. Run VMware vSphere Client on your NM Client and login in to the affected ESXi host using `<esxi_ipaddr>` and account root.
4. Disable (if applicable) and then shut down all virtual machines, which are running on the affected ESXi host (VMS).
5. Browse to the host in the vSphere Web Client navigator, then Right-click the host and select **Maintenance Mode** > **Enter Maintenance Mode**.

Changing the ESXi Host Boot Order

Run Internet Explorer and in the web browser address field, type `https://<ilo_ipaddr>/` and press Enter. Login in to iLO web interface using username `Administrator`.

Click **Expand All** on the top-left corner of the page and in the navigation tree view on the left side of the page, click **Boot Order**. Select an **CD/DVD Drive** option from the **Select One-Time Boot Option** list and click **Apply**.

Uploading Software Depot to the ESXi

Open an Administrator Command Prompt window (run as administrator) on an NM Client and at this command prompt, run `powershell.exe` command.

At the PowerShell prompt, change directory to `<cd_drive>:\bin` and then run two commands in series;

```
Start-Transcript
.\upload-patches.ps1
```

At the dialogue's questions prompt, enter corresponding answers (values): `<esxi_ipaddr>`, password of this ESXi root account, and a path to depot - `<cd_drive>:\depot`. Confirm your entered values by entering `y` character.

During execution, upload-patches.ps1 script outputs a path string started with `/vmfs` and ended with `/depot`. Save this path string since it is required to use it in steps below (hereinafter referred to as `<depot_path>`).

Updating the Host Firmware and ESXi Software

Open a command prompt window as Administrator (run as administrator) on your NM client and at this command prompt, run `powershell.exe` command.

At the PowerShell prompt, change directory to `<cd_drive>:\bin` and then run two commands in series;

```
Start-Transcript
.\upgrade-esxi.ps1 -noreboot
```

At the dialogue's questions prompt, enter corresponding answers (values): `<esxi_ipaddr>`, password of this ESXi root account, and the path string to depot `<depot_path>`. Confirm your entered values by entering `y` character.

Run VMware vSphere Client on your NM Client and login in to the affected ESXi host using `<esxi_ipaddr>` and account root.

Browse to the host in the vSphere Web Client navigator, then Right-click the host and select **Maintenance Mode** > **Exit Maintenance Mode**.

Browse to the host in the vSphere Web Client navigator, then Right-click the host and select **Reboot**. Provide a reason for the reboot.

Please be noted that further steps are executed automatically with the following process:

- *Rebooting*
- *Booting HP Firmware Install Media* disc
- *Updating the host firmware*
- *Rebooting*
- *Updating of ESXi hypervisor*
- *Rebooting*
- *Starting the ESXi hypervisor*

SECTION 1: General Information

NOTE: PRICE QUOTES GIVEN BY UOST ARE VALID FOR ONLY 90 DAYS

Date		Case Number	
System ID		Site ID	
System Name		Site Name	
Customer Name			
Form Completed by		Field Contact	
Organization		Organization	
Phone Number		Phone Number	
Pager Number		Pager Number	
Fax Number		Fax Number	

SECTION 2: Order Information

Product Type: _____ Serial Number _____

Reason for Software / Hardware Change: _____

Downgrade? If so, list current and target releases. _____

Software / Hardware Description: _____

Part # or Version # _____ Quantity _____

Date Required _____

SECTION 3: Shipping / Billing Information

Ship To:		Bill To:	
Email:			
Attn:		Attn:	
Phone:		Phone:	

Customer Billing		**Internal Billing**	
P.O. #:		PROJECT #:	
CUST #:		FSB #:	
TAG #:		DEPT #:	
		APC #:	

MOTOROLA SOLUTIONS

Software Order Form

Upgrade Operations Software Team

Phone Number: (800) 221-7144

° This form has been sent to you because you have requested an order from the Upgrade Operations Software Team.

° Please fill out the order form and email back to the Upgrade Operations Software Team

° If desired, please provide your email address on the order form and we will provide a tracking number when your order ships for your convenience.

° Orders will normally be processed in 3-5 business days once all information has been received.

° If additional space is required for software information, please use the optional addendum on page 3 below in addition to the original order form. This form is for use with large orders with multiple part numbers.

NOTE:

1) If this in an SSA CUSTOMER please order via Motorola factory order.
2) Limited Liability is Implied to the maximum of order amount.
3) Price quotes provided by UOST are valid for 90 days

Thank you and have a good day!

Supplemental Order Information Addendum

(Optional)

Software Description _____

Part# or Version # _____

Quantity: _____

Software Description _____

Part# or Version # _____

Quantity: _____

Software Description _____

Part# or Version # _____

Quantity: _____

Software Description _____

Part# or Version # _____

Quantity: _____

Software Description _____

Part# or Version # _____

Quantity: _____

Software Description _____

Part# or Version # _____

Quantity: _____

Software Description _____

Part# or Version # _____

Quantity: _____