

Hewlett Packard HPE Support Center Enterprise

SUPPORT COMMUNICATION - CUSTOMER NOTICE

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Notice: (Revision) HPE Smart Storage Battery – Battery Pre-Failure Capability Available With HPE Integrated Lights Out (iLO) 4 Firmware Version 2.55

NOTICE: The information in this document, including products and software versions, is current as of the Release Date. This document is subject to change without notice.

Release Date: 2017-09-18

Last Updated: 2017-12-21

DESCRIPTION

Document Version	Release Date	Details
3	12/21/2017	Remote IT Support information added to the Description
2	12/07/2017	SNMP section updated, added link to the HPE Systems Insight Manager - MIB Kit
1	09/19/2017	Original Document Release

HPE has added a pre-failure notification for HPE Smart Storage Battery failures to HPE Integrated Lights Out (iLO) 4 Firmware Version 2.55. The pre-failure algorithm reads the battery information in real time, to determine if the battery is expected to fail. This allows users an opportunity to schedule a time to replace the battery. HPE recommends replacing the battery within one week, to avoid impact to production that may happen when the battery fails.

When the Smart Storage Battery fails unexpectedly, any or all of the following may occur:

- Controller cache is disabled
- Server performance is reduced
- Error messages may be in the server IML logs and OS system logs, such as the Windows System Event Log

Pre-failure indicators and messages

The following sections provide examples of the pre-failure indicators and messages that will be available with iLO 4 Firmware Version 2.55:

Server Health LED

- The server health LED will switch from solid green to flashing amber when the battery is in a pre-failure state.
- Battery status may be confirmed via the IML.

iLO GUI (power tab in system information)



- The iLO GUI shows the battery status as failed (as seen below). A pre-failure status may be confirmed via the IML.

Smart Storage Battery

Index	Present	Status	Model	Spare	Serial Number	Capacity	Firmware
1	OK	Failed	727258-B21	815983-001	6EZBN0FB2	96 Watts	2.0

Integrated Management Log (IML)

- The IML shows the battery with a pre-failure status (as seen below) and may be used to differentiate between failure and pre-failure.

ID ↓	Severity	Class	Description	Last Update	Count	Category
962		Power	Smart Storage Battery pre-failure (Battery 1)	07/27/2017 20:51:48	1	Hardware, Maintenance, Power
961		Maintenance	IML Cleared (iLO 5 user: Administrator)	07/27/2017 20:49:03	1	Maintenance, Administration

SNMP (items italicized are explanations)

- A battery status of 15 is predictive failure.

Example (bolded line shows pre-failure information):

```
SNMPv2-SMI::enterprises.232.6.2.17.1.0 = INTEGER: 3
SNMPv2-SMI::enterprises.232.6.2.17.2.1.1.0.1 = INTEGER: 0
SNMPv2-SMI::enterprises.232.6.2.17.2.1.2.0.1 = INTEGER: 1
SNMPv2-SMI::enterprises.232.6.2.17.2.1.3.0.1 = INTEGER: 3
SNMPv2-SMI::enterprises.232.6.2.17.2.1.4.0.1 = INTEGER: 4 – Battery failed
SNMPv2-SMI::enterprises.232.6.2.17.2.1.5.0.1 = INTEGER: 15 – Battery status, 15=predictive failure
SNMPv2-SMI::enterprises.232.6.2.17.2.1.6.0.1 = INTEGER: 96
SNMPv2-SMI::enterprises.232.6.2.17.2.1.7.0.1 = STRING: "HPE Smart Storage Battery"
SNMPv2-SMI::enterprises.232.6.2.17.2.1.8.0.1 = STRING: "727258-B21"
SNMPv2-SMI::enterprises.232.6.2.17.2.1.9.0.1 = STRING: "6EZBN0FB2"
SNMPv2-SMI::enterprises.232.6.2.17.2.1.10.0.1 = STRING: "2.0"
SNMPv2-SMI::enterprises.232.6.2.17.2.1.11.0.1 = STRING: "815983-001"
```

NOTE: The cpqh1th MIB in the 11.05 and later MIB Kit download has the Smart Storage Battery predictive failure decoding as shown below:

```
cpqHeSysBatteryStatus OBJECT-TYPE
SYNTAX INTEGER {
noError(1),
generalFailure(2),
shutdownHighResistance(3),
shutdownLowVoltage(4),
shutdownShortCircuit(5),
shutdownChargeTimeout(6),
shutdownOverTemperature(7),
shutdownDischargeMinVoltage(8),
shutdownDischargeCurrent(9),
shutdownLoadCountHigh(10),
shutdownEnablePin(11),
shutdownOverCurrent(12),
shutdownPermanentFailure(13),
shutdownBackupTimeExceeded(14),
predictiveFailure(15)
}
```

Link to download the MIB: HPE Systems Insight Manager - MIB Kit

https://support.hpe.com/hpsc/doc/public/display?docId=emr_na-c04272529

RESTful Interface Tool

Additional information on the RESTful Interface tool is available at <https://www.hpe.com/us/en/servers/restful-api.html>

Example (bolded line shows pre-failure information):

```
"SmartStorageBattery": [
{"ChargeLevelPercent": 100,
"ErrorCode": "Pre-Failure",
"FirmwareVersion": "2.0",
"Index": 1,
"MaximumCapWatts": 96,
"Model": "727258-B21",
"ProductName": "HPE Smart Storage Battery ",
"RemainingChargeTimeSeconds": 0,
"SerialNumber": "6EZBN0FB2",
"SparePartNumber": "815983-001",
>Status": {
"Health": "Critical",
"State": "Enabled"}
}
],
```

Remote Insight Board Command Language (RIBCL)

See the HPE iLO 4 Scripting and Command Line Guide for additional information http://h20565.www2.hpe.com/hpsc/doc/public/display?sp4ts.oid=5219994&docLocale=en_US&docId=emr_na-c03334058

Sample scripts are at <http://www.hpe.com/info/ilo>

Example (bolded line shows pre-failure information):

```
<SMART_STORAGE_BATTERY>
<LABEL VALUE = "Battery 1"/>
<PRESENT VALUE = "Yes"/>
<STATUS VALUE = "Pre-Failure Warning"/>
<MODEL VALUE = "727258-B21"/>
<SPARE VALUE = "815983-001"/>
<SERIAL_NUMBER VALUE = "6EZBN0FB2"/>
<CAPACITY VALUE = "96 Watts"/>
<FIRMWARE_VERSION VALUE = "2.0"/>
</SMART_STORAGE_BATTERY>
```

Remote IT Support

- See the Remote IT Support page for additional information on Remote Support capabilities and configuration: <https://www.hpe.com/us/en/services/get-connected.html>
- The iLO GUI shows the battery status as failed: **iLO4_101_SmartStorageBatteryFailed**
- A pre-failure status may be confirmed via the IML.

DETAILS

This applies to any HPE ProLiant Gen9 series server with an HPE Smart Storage Battery. HPE iLO 4 Firmware Version 2.55, which features the battery pre-failure notification capability, is available for download at <http://h20564.www2.hpe.com/hpsc/swd/public/readIndex?sp4ts.oid=5228286&swLangOid=8&swEnvOid=4064>

In case a Smart Storage battery pre-failure warning is displayed, follow the steps below:

1. Generate an AHS log
2. Upload the AHS log to the Active Health System Viewer <https://ahsv.support.hpe.com/hpesc/public/home/signin> to confirm a battery failure.
3. Contact HPE support <https://www.hpe.com/us/en/contact-hpe.html> to log a case
4. Provide details of the messages/pre-failure indicators

RECEIVE PROACTIVE UPDATES: Receive support alerts (such as Customer Advisories), as well as updates on drivers, software, firmware, and customer replaceable components, proactively via e-mail through HPE Subscriber's Choice. Sign up for Subscriber's Choice at the following URL: [Proactive Updates Subscription Form](#).

NAVIGATION TIP: For hints on navigating HPE.com to locate the latest drivers, patches, and other support software downloads for ProLiant servers and Options, refer to the [Navigation Tips document](#).

SEARCH TIP: For hints on locating similar documents on HPE.com, refer to the [Search Tips document](#).

Hardware Platforms Affected: HPE ProLiant ML30 Gen9 Server, HPE ProLiant XL270d Gen9 Server, HPE ProLiant XL260a Gen9 Server, HPE ProLiant XL730f Gen9 Server, HPE ProLiant DL180 Gen9 Server, HPE ProLiant DL360 Gen9 Server, HPE ProLiant BL460c Gen9 Server Blade, HPE ProLiant DL380 Gen9 Server, HPE ProLiant ML350 Gen9 Server, HPE ProLiant XL230a Gen9 Server, HPE ProLiant XL250a Gen9 Server, HPE ProLiant DL388 Gen9 Server, HPE ProLiant XL740f Gen9 Server, HPE ProLiant XL750f Gen9 Server, HPE ProLiant DL120 Gen9 Server, HPE ProLiant ML150 Gen9 Server, HPE ProLiant DL60 Gen9 Server, HPE ProLiant DL80 Gen9 Server, HPE ProLiant ML110 Gen9 Server, HPE ProLiant XL170r Gen9 Server, HPE ProLiant XL190r Gen9 Server, HPE ProLiant WS460c Gen9 Graphics Server Blade, HPE ProLiant DL580 Gen9 Server, HPE ProLiant BL660c Gen9 Server Blade, HPE ProLiant DL560 Gen9 Server, HPE Apollo 4200 Gen9 Server, HPE ProLiant XL450 Gen9 Server

Operating Systems Affected: Not Applicable

Software Affected: Not Applicable

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