

# Add DL360 Gen9 to Zabbix (IPMI iLO)

## Prerequisites

As per the following:

[https://www.zabbix.com/documentation/3.2/manual/installation/known\\_issues#ipmi\\_checks](https://www.zabbix.com/documentation/3.2/manual/installation/known_issues#ipmi_checks)

<https://support.zabbix.com/browse/ZBX-7190>

the openipmi package that comes with Debian is compiled without the SSL support, hence IPMI interface in Zabbix will not work. To remedy the issue we need to install openipmi with SSL support. The solution is listed in the link above:

```
# apt-get install debhelper libpopt-dev libncurses5-dev chrpath autotools-dev
# cd /tmp
# apt-get source openipmi
# cd openipmi-2.0.16
# vim debian/rules
```

Modify the file replacing **--without-openssl** with **--with-openssl** for the **./configure** command, then build the new package:

```
# dpkg-buildpackage
# cd ..
# dpkg -i openipmi*.deb libopenipmi*.deb
# apt-mark hold libopenipmi-dev libopenipmi0 openipmi
```

We'll also need freeipmi but the one supplied with Debian 8 is rather stale (1.4.5 from 2014) and does not support DDR4 modules. We shall therefore install the latest version manually:

```
# cd /root/bin
# wget http://ftp.gnu.org/gnu/freeipmi/freeipmi-1.5.5.tar.gz

# tar xvzf freeipmi-1.5.5.tar.gz
# cd freeipmi-1.5.5
# ./configure
# make
# make install

# apt-get install ipmitool
```

We don't want these packages updated automatically:

```
# apt-mark hold libopenipmi-dev libopenipmi0 openipmi
```

Restart the Zabbix server.

## Prepare iLO user

Make sure the iLO user for zabbix exists and has full permissions (it should work with read-only permissions only, but doesn't). Perhaps when the new version of **freeipmi** is available for debian, it will get better.

User Administration					
Local Users					
	Login Name	User Name			
<input type="checkbox"/>	ilo-admin	ilo-admin	✓	✓	✓
<input type="checkbox"/>			✓	✓	✓
<input type="checkbox"/>	zabbix	zabbix	✓	✓	✓

You can check successful connectivity with:

```
# ipmitool -I lanplus -H <hostIP> -U zabbix -P ***** -L USER sensor
```

## Install the IPMI template

Under **Administration -> General -> Value mapping** add the following two value maps as described in:

<https://www.zabbix.com/forum/showthread.php?t=43952>

<input type="checkbox"/>	Server HP Fan	0 ⇒ Failure 1 ⇒ OK
<input type="checkbox"/>	Server HP Health	0 ⇒ OK 1 ⇒ Error

### Value mapping

Name	Server HP Fan	
Mappings	Value	Mapped to
	0	⇒ Failure
	1	⇒ OK

### Value mapping

Name	Server HP Health	
Mappings	Value	Mapped to
	0	⇒ OK
	1	⇒ Error

Download Alexsey Ignatiev's modified template from

<https://share.zabbix.com/cat-server-hardware/hp/hp-dl360-gen9-ipmi>

and add it to Zabbix:

<input type="checkbox"/> Name ▲	Applications	Items	Triggers	Graphs
<input type="checkbox"/> IPMI_HP360G9	Applications 8	Items 79	Triggers 6	Graphs 1

# Configure Zabbix server

It looks like with only 1 IPMI poller running Zabbix server is having trouble getting all data from the host and thus marks it as Unreachable. To remedy the situation make sure we start enough pollers in `/usr/local/etc/zabbix_server.conf`:

`/usr/local/etc/zabbix_server.conf`

```
### Option: StartIPMIPollers
# Number of pre-forked instances of IPMI pollers.
#
# Mandatory: no
# Range: 0-1000
# Default:
StartIPMIPollers=5
```

## Create IPMI hosts

Create new hosts to be monitored over IPMI and link the newly imported template to them:

### Hosts

[Host](#)[Templates](#)[IPMI](#)[Macros](#)[Host inventory](#)[Encryption](#)

Host name

Visible name

Groups

In groups

Other groups

Databases

Discovered hosts

Hypervisors

Linux servers

Templates

Virtual machines

Zabbix servers

New group

IPMI Hosts

Agent interfaces

IP address DNS name Connect to Port Default

[Add](#)

SNMP interfaces

[Add](#)

JMX interfaces

[Add](#)

IPMI interfaces

IP

DNS

623

[Add](#)

Description

Monitored by proxy

(no proxy)

Enabled

☒

## Hosts

[Host](#) [Templates](#) [IPMI](#) [Macros](#) [Host inventory](#) [Encryption](#)

Linked templates

Name	Action
IPMI_HP360G9	<a href="#">Unlink</a>

## Hosts

[Host](#) [Templates](#) [IPMI](#) [Macros](#) [Host inventory](#) [Encryption](#)

Authentication algorithm

Default  
None  
MD2  
MD5  
Straight  
OEM  
RMCP+

Privilege level

Callback  
User  
Operator  
Admin  
OEM

Username


zabbix

Password

## Configure hosts

Not all sensors from the template apply to us. Missing disks, CPUs, memory, cards, etc. should be removed from monitoring.

Under **Configuration -> Hosts -> <hostname> -> Items** disable the items that are not supported or do not apply:

<input type="checkbox"/>	Wizard	Name 	Triggers	Key	Interval	History	Trends	Type	Applications	Status
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">01-Inlet Ambient</a>		01-InletAmbient	300	90	365	IPMI agent	Temp	Enabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">02-CPU 1</a>	Triggers (1)	02-CPU1	300	90	365	IPMI agent	Temp	Enabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">03-CPU 2</a>	Triggers (1)	03-CPU2	300	90	365	IPMI agent	Temp	Disabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">04-P1 DIMM 1-6</a>		04-P1DIMM1-6	300	90	365	IPMI agent	Temp	Enabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">05-P1 DIMM 7-12</a>		05-P1DIMM7-12	300	90	365	IPMI agent	Temp	Enabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">06-P2 DIMM 1-6</a>		06-P2DIMM1-6	300	90	365	IPMI agent	Temp	Disabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">07-P2 DIMM 7-12</a>		07-P2DIMM7-12	300	90	365	IPMI agent	Temp	Disabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">08-HD Max</a>		08-HDMax	300	90	365	IPMI agent	Temp	Enabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">10-Chipset</a>		10-Chipset	300	90	365	IPMI agent	Temp	Enabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">11-PS 1 Inlet</a>		11-PS1Inlet	300	90	365	IPMI agent	Temp	Enabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">12-PS 2 Inlet</a>		12-PS2Inlet	300	90	365	IPMI agent	Temp	Enabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">13-VR P1</a>		13-VRP1	300	90	365	IPMI agent	Temp	Enabled
<input type="checkbox"/>		IPMI_HP360G9: <a href="#">14-VR P2</a>		14-VRP2	300	90	365	IPMI agent	Temp	Disabled