

# [ Linux 更新 BIOS 方法與步驟 ]

**[ 擎昊科技工程部專用 ]**

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撰寫人: 沈勁嶸、姜柏任



KINMAX TECHNOLOGY INC

擎昊科技股份有限公司

電話：03-6562709

免費諮詢專線：0800-046629

服務信箱：service.hc@kx.com.tw

公司地址：新竹縣竹北市縣政九路 147 號 5 樓

# [ Linux 更新 BIOS 方法與步驟 ]

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## 1. 說明

過去 10 年中的英特爾處理器 ( CPU ) ，存在嚴重的晶片級安全漏洞，是「現代的設計缺陷」，該漏洞允許用戶程式辨別受保護內存記憶體的內容，駭客可以利用這個缺點更容易地發現其他安全漏洞。

## 2. 影響

目前微軟 Windows 和 Linux 開發人員已經開始著手進行修復，但更新後會繞過一些 CPU 架構，會對英特爾的產品性能產生衝擊，可能會降速 2% 至 30%，大部分的電腦則是 2% 至 4%，若系統上的應用有大量與作業系統互動的複合式工作負載，效能下降的程度會更高。

## 3. HPE 解決方法

HPE 原廠提供更新 BIOS Firmware 來修復英特爾(Intel)漏洞的問題

- Online – 進入系統利用工具包更新 BIOS Firmware
- iLo – 利用 ProLiant Server 中的 iLo 來更新 BIOS Firmware

## 4. ProLiant Gen9 BIOS Firmware 載點 & 文件

**For ProLiant Gen9 series servers**, update to System ROM Version 2.54 (except for the ProLiant DL20 Gen9 or ML30 Gen9)

**For the ProLiant DL20 Gen9 or ProLiant ML30 Gen9 server**, update to System ROM Version 2.52.

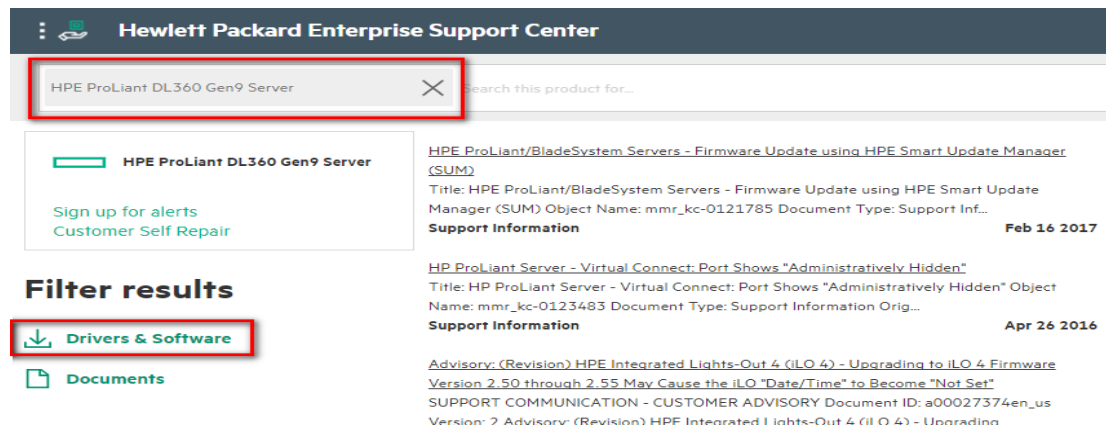
HPE 文件

[https://support.hpe.com/hpsc/doc/public/display?docId=emr\\_na-a00039267en\\_us](https://support.hpe.com/hpsc/doc/public/display?docId=emr_na-a00039267en_us)

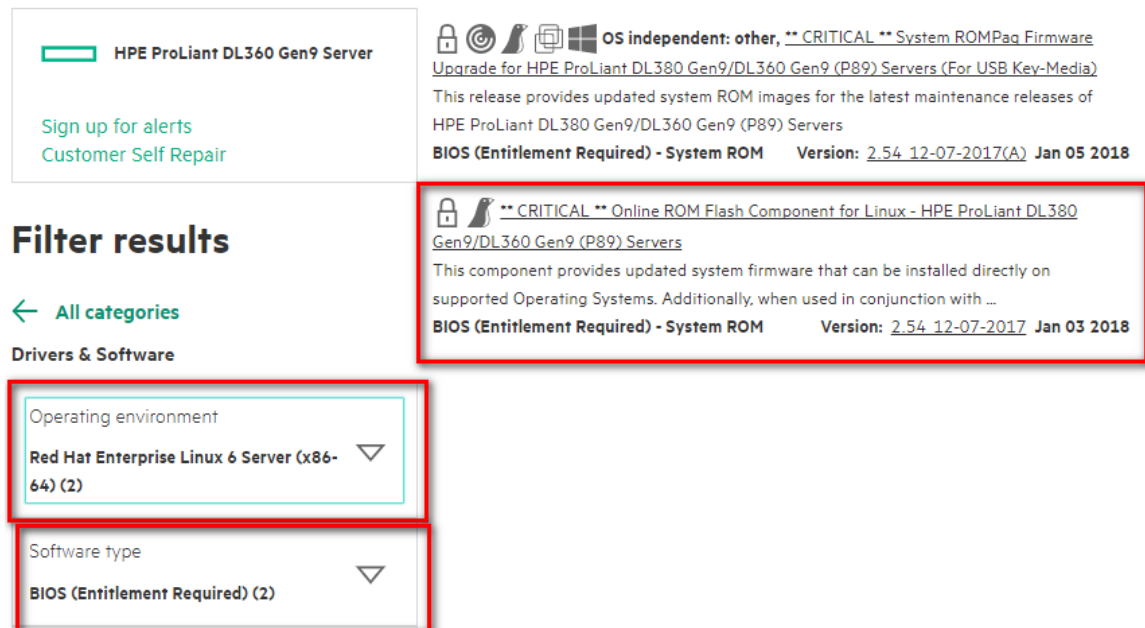
Firmware

<https://support.hpe.com/hpsc/public/home>

1. 點選上方網站，輸入機器型號後，選擇 Drivers and Software (例如 DL360 Gen9，如下圖)。



2. 左側選擇 OS 版本及 Software Type，就會篩選出相關軟體並點擊進入下載頁面。



3. 確認版本及 OS 支援沒有問題，即可下載。

## Drivers & software

### Drivers & software

SGI product documentation and software downloads are currently being migrated, please visit the [SGI portal](#) for your SGI documentation and software needs during this migration period.

#### Online ROM Flash Component for Linux - HPE ProLiant DL380 Gen9/DL360 Gen9 (P89) Servers

By downloading, you agree to the terms and conditions of the [Hewlett Packard Enterprise Software License Agreement](#).

**Note:** Some software requires a valid warranty, current Hewlett Packard Enterprise support contract, or a license fee.

Type: BIOS (Entitlement Required) - System ROM  
Version: 2.54\_12-07-2017(3 Jan 2018)  
Operating System(s): SUSE Linux Enterprise Server 11 (AMD64/EM64T) [View all](#)  
File name: firmware-system-p89-2.54\_2017\_12\_07-1.1i386.rpm (5.9 MB)

[Download](#)

Description Revision History

## 5. Online 更新 Firmware 方法與步驟

1. 執行 `dmidecode | grep - bios` · 查詢現行 BIOS 版本。

```
[root@localhost firmware-system-p89-2.54_2017_12_07-1.1]# dmidecode | grep -i bios
OS
# SMBIOS entry point at 0x788db000
SMBIOS 2.8 present.
BIOS Information
    BIOS is upgradeable
    BIOS shadowing is allowed
    BIOS boot specification is supported
BIOS Revision: 2.52
```

2. 安裝套件 · 執行 `rpm -ivh (套件名稱)`

```
[root@localhost Desktop]# rpm -ivh firmware-system-p89-2.54_2017_12_07-1.1.i386.rpm
rpm
Preparing...      ##### [100%]
 1:firmware-system-p89  _##### [100%]
```

3. 確認套件位置 · 執行 `rpm -qlp (套件名稱)` · 然後尋找 `hpsetup` 的檔案。

```
[root@localhost Desktop]# rpm -qlp firmware-system-p89-2.54_2017_12_07-1.1.i386.
rpm
┆
/usr/lib/i386-linux-gnu/firmware-system-p89-2.54_2017_12_07-1.1
/usr/lib/i386-linux-gnu/firmware-system-p89-2.54_2017_12_07-1.1/.cpq_package.inc
/usr/lib/i386-linux-gnu/firmware-system-p89-2.54_2017_12_07-1.1/.hpsetup
/usr/lib/i386-linux-gnu/firmware-system-p89-2.54_2017_12_07-1.1/CP034251.xml
/usr/lib/i386-linux-gnu/firmware-system-p89-2.54_2017_12_07-1.1/P89_2.54_12_07_2
017.signed.flash
/usr/lib/i386-linux-gnu/firmware-system-p89-2.54_2017_12_07-1.1/hpsetup
/usr/lib/i386-linux-gnu/hp_sceexe_compat
/usr/lib/i386-linux-gnu/hp_sceexe_compat/CP034251.scexe
```

4. 切換至檔案路徑，並執行 `./hpsetup`，會看到現在與更新的版本，輸入 Y 開始安裝

```
[root@localhost Desktop]# cd /usr/lib/i386-linux-gnu/firmware-system-p89-2.54_20
17_12_07-1.1
[root@localhost firmware-system-p89-2.54_2017_12_07-1.1]# ls
CP034251.xml hpsetup P89_2.54_12_07_2017.signed.flash
[root@localhost firmware-system-p89-2.54_2017_12_07-1.1]# ./hpsetup
Flash Engine Version: Linux-1.5.9.2-4

Name: Online ROM Flash Component for Linux - HPE ProLiant DL380 Gen9/DL360 Gen9
(P89) Servers
New Version: 2.54 (12/07/2017)
Current Version: 2.52 (10/25/2017)
The software is installed but is not up to date.
Do you want to upgrade the software to a newer version (y/n) ? █
```

5. 安裝完成後如圖，重新開機後即可生效，或另擇日重啟。

```
[root@localhost firmware-system-p89-2.54_2017_12_07-1.1]# ./hpsetup
Flash Engine Version: Linux-1.5.9.2-4

Name: Online ROM Flash Component for Linux - HPE ProLiant DL380 Gen9/DL360 Gen9
(P89) Servers
New Version: 2.54 (12/07/2017)
Current Version: 2.52 (10/25/2017)
The software is installed but is not up to date.
Do you want to upgrade the software to a newer version (y/n) ? y
You must respond with y or n!
Do you want to upgrade the software to a newer version (y/n) ?y
Flash in progress do not interrupt or your system may become unusable.
Working.....
The installation procedure completed successfully.
A reboot is required to finish the installation completely.
Do you want to reboot your system now? █
```

## 6. iLo 更新 Firmware 方法與步驟

### 1. 連至 HPE iLo -> Information 的 Overview -> 確認 System ROM 的版本 (v2.42)

The screenshot shows the HPE iLO 4 Overview page for a ProLiant DL380 Gen9 server. The left sidebar has 'Overview' selected. The main content area is divided into 'Information' and 'Status' sections. In the 'Information' section, the 'System ROM' entry is highlighted with a red box, showing the version 'P89 v2.42 (04/25/2017)'. The 'Status' section shows 'System Health' as OK and 'Server Power' as ON. At the bottom, there are status indicators for 'POWER: ON' and 'UID: OFF'.

Field	Value
Server Name	ProLiant DL380 Gen9
Product Name	ProLiant DL380 Gen9
UUID	30393137-3436-4753-4837-343756385053
Server Serial Number	SGH747V8PS
Product ID	719064-B21
System ROM	P89 v2.42 (04/25/2017)
System ROM Date	04/25/2017
Backup System ROM	04/25/2017
Integrated Remote Console	.NET Java Web Start Java Applet
License Type	iLO Standard
iLO Firmware Version	2.54 Jun 15 2017
IP Address	192.168.79.223
Link-Local IPv6 Address	FE80:9AF2:B3FF:FE2E:9E02
iLO Hostname	ILOSGH747V8PS.

## 2. 選擇 Administrator 的 Firmware -> 選擇瀏覽來上傳 BIOS Firmware 檔案

Hewlett Packard Enterprise iLO 4 ProLiant DL380 Gen9

Local User: administrator  
iLO Hostname: ILOSGH749XP7V

Expand All Firmware Update

Obtain the firmware image (.bin) file from the Online ROM Flash Component for HPE iLO 4.

- The latest component can be downloaded from <http://www.hpe.com/support/ilo4>.
- This component is also available on the HPE Service Pack.

Server Firmware

The following types of server firmware can also be updated from this page:

- HPE System ROM
- System Programmable Logic Device
- SL/XL Chassis Firmware

Server firmware files can be obtained from <http://www.hpe.com/support/ilo4>. For more information, please see the help file.

Local File: Update the firmware by uploading a local file. Note: Navigating away from this page before the upload has completed will prevent the update from starting.

File:  瀏覽...

## 3. 選擇 P89\_2.54 的 Flash 檔案進行更新

Hewlett Packard Enterprise iLO 4 ProLiant DL380 Gen9

Expand All Firmware Update

選擇要上傳的檔案

本機 > 下載 > cp034250

名稱	修改日期	類型
cpqsetup	2018/1/11 下午 0...	檔案資料夾
cp034250.xml	2017/12/20 上午 ...	XML Document
cpqsetup.exe	2016/6/23 下午 0...	應用程式
cpqsysio64.sys	2017/3/8 下午 07...	系統檔案
P89_2.54_12_07_2017.signed.flash	2017/12/11 下午 ...	FLASH 檔案
SignedImageInstaller64.dll	2017/3/8 下午 07...	應用程式擴充

檔案名稱(N): P89\_2.54\_12\_07\_2017.signed.flash 所有檔案 (\*.\*)

開啟(O) 取消

File:  瀏覽...



## 4. 選擇 Upload 開始更新

Local User: administrator ILO Hostname: ILOSGH749XP7V HOME SIGN OUT

**Firmware Update**

Obtain the firmware image (.bin) file from the Online ROM Flash Component for HPE iLO 4.

- The latest component can be downloaded from <http://www.hpe.com/support/ilo4>.
- This component is also available on the HPE Service Pack.

**Server Firmware**

The following types of server firmware can also be updated from this page:

- HPE System ROM
- System Programmable Logic Device
- SL/XL Chassis Firmware

Server firmware files can be obtained from <http://www.hpe.com/support/ilo4>. For more information, please see the help file.

Local File: Update the firmware by uploading a local file. Note: Navigating away from this page before the upload has completed will prevent the update from starting.

File:  瀏覽...

Clear Error **Upload**

POWER: ON UID: BLINK

## 5. 右下角紅框部分會顯示目前更新的進度 (Installation Progress)

Local User: administrator ILO Hostname: ILOSGH749XP7V HOME SIGN OUT

**iLO Overview**

**Information**

Server Name	ProLiant DL380 Gen9
Product Name	ProLiant DL380 Gen9
UUID	30393137-3436-4753-4837-343958503756
Server Serial Number	SGH749XP7V
Product ID	719064-B21
System ROM	P89 v2.52 (10/25/2017)
System ROM Date	10/25/2017
Backup System ROM	10/25/2017
Integrated Remote Console	.NET Java Web Start Java Applet
License Type	iLO Advanced Evaluation
iLO Firmware Version	2.55 Aug 16 2017
IP Address	192.168.79.48
Link-Local IPv6 Address	FE80::9AF2:B3FF:FE2E:3F0A
iLO Hostname	ILOSGH749XP7V

**Status**

- System Health ● OK
- Server Power ● ON
- UID Indicator ● UID BLINK
- TPM Status Not Present
- SD-Card Status Not Present
- iLO Date/Time Thu Jan 11 06:26:51 2018

**Connection to HPE**

▲ Not registered

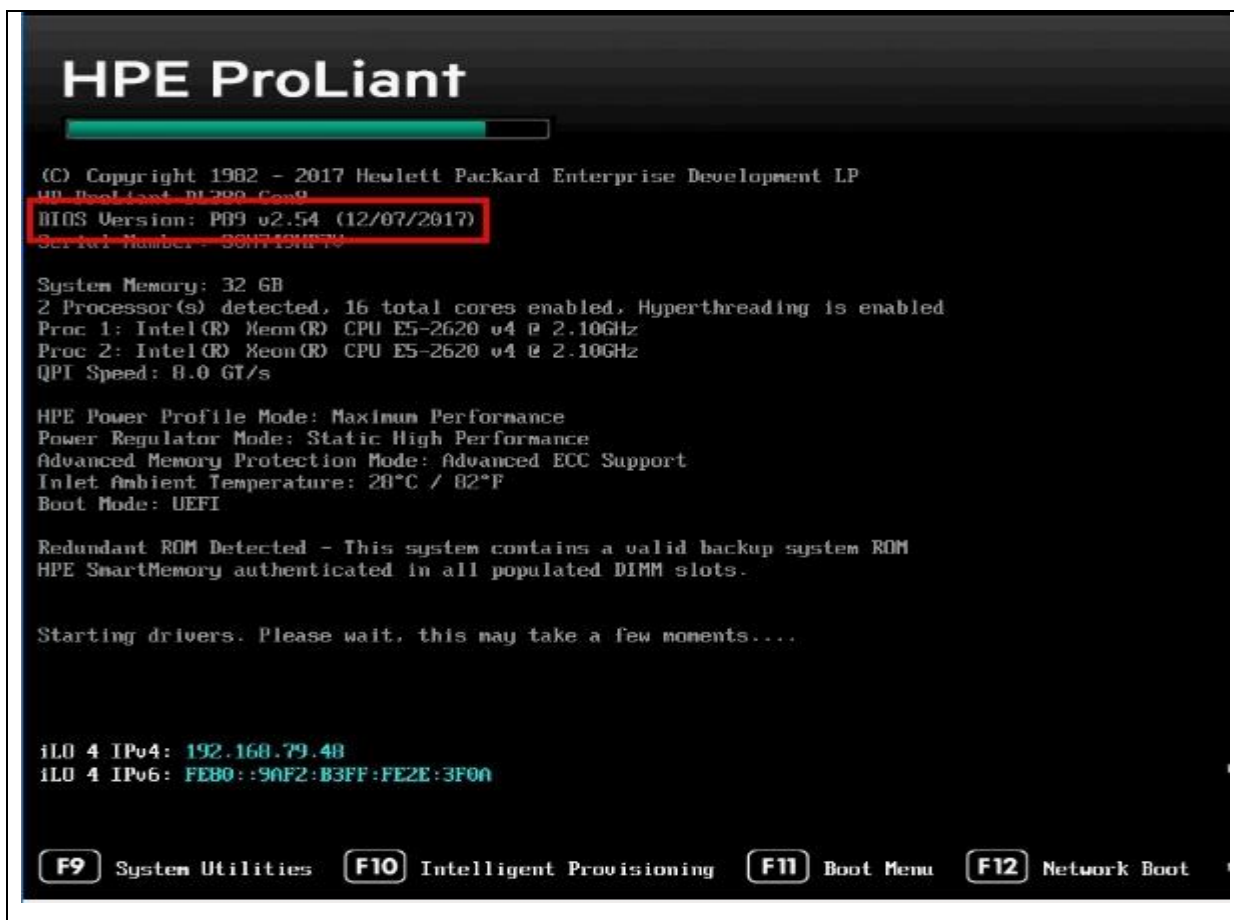
**Active Sessions**

User	IP Address	Source
Local User: administrator	192.168.39.99	HTTPS

**Installation Progress: 71%**

POWER: ON UID: BLINK

## 6. 更新完成後請記得重開機才會生效，檢查開機畫面，BIOS 是否更新完成



## 7.檢查 iLo 資訊，確認 BIOS 是否更新完成 (v2.54)

