

[ESXI 更新 BIOS 方法與步驟]

[擎昊科技工程部專用]

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[ESXI 更新 BIOS 方法與步驟]

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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。

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

3. 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.

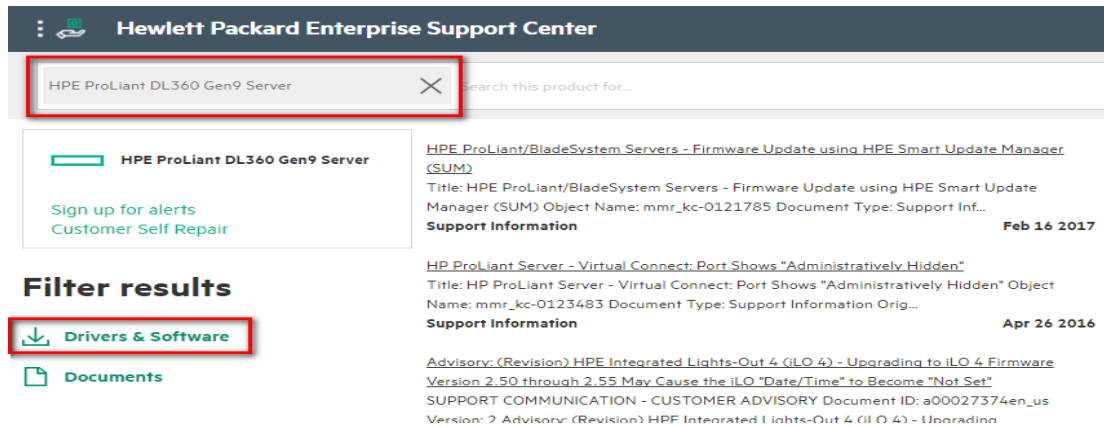
HPE 文件

https://support.hpe.com/hpsc/doc/public/display?docId=emr_na-a00039267en_us

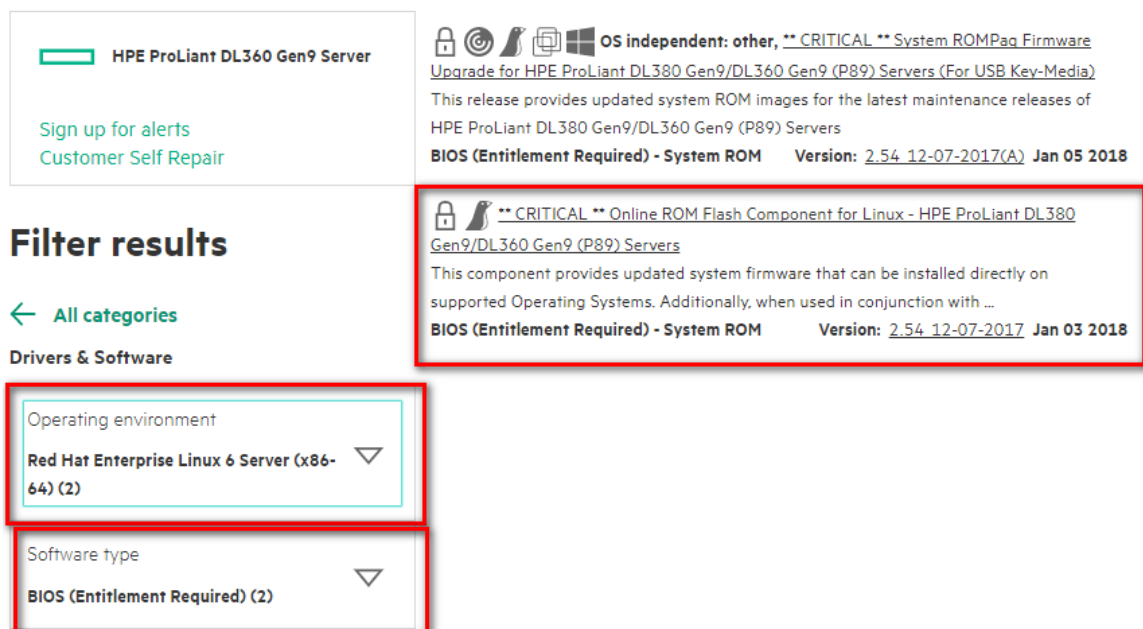
Firmware

<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

S&I product documentation and software downloads are currently being migrated, please visit the [S&I portal](#) for your S&I 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](#)

4. Online 更新 Firmware 方法與步驟

1. 執行 `smbiosDump | grep -i bios`，查詢現行 BIOS 版本。

```
[root@localhost:~/opt] smbiosDump | grep -i bios
Dumping live SMBIOS data!
  BIOS Info: #8
    BIOS flashable
    BIOS shadowing allowed
    BIOS Boot Spec supported
  System BIOS release: 2.52
```

2. 解壓縮套件，執行 `unzip` (套件名稱)，確認是否有 `.vmexe` 副檔名的檔案。(需要先透過 vSphere Client 將下載好的套件檔案上傳。)

```
[root@localhost:/vms/volumes/5a573b22-d95f6c30-546c-98f2b32c9af4] unzip CP034252.zip
Archive: CP034252.zip
  inflating: CP034252.vmexe
  inflating: CP034252.vmlfile
  inflating: CP034252.xml
  inflating: README.txt
[root@localhost:/vms/volumes/5a573b22-d95f6c30-546c-98f2b32c9af4] ls
CP034252.vmexe      CP034252.xml      ESXi650-201712001.zip
CP034252.vmlfile   CP034252.zip      README.txt
```

3. 執行 `./檔案名稱.vmexe`，並輸入 Y 開始安裝。

```
[root@localhost:/vms/volumes/5a573b22-d95f6c30-546c-98f2b32c9af4] ./CP034252.vmexe
OS Version found (6.5.0)
./_CP034252.scexe: Process (6.5.0) with path [./ESXi_6.5]
HPSETUP - x-Build 5 ( Sep 7 2016 - 16:39:27 )
Name: Online ROM Flash Component for VMware - 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_
```

4. 安裝完成後如下圖，重新開機使新的 Firmware 生效，或另擇日重啟。

```
[root@localhost:~/volumes/5a573b22-d95f6c30-546c-98f2b32c9af41] ./CP034252.vmxexe
OS Version found [6.5.0]
./CP034252.scexe: Process [6.5.0] with path [./ESXi_6.5]
HPSETUP - x-Build 5 ( Sep 7 2016 - 16:39:27 )
Name: Online ROM Flash Component for VMware - 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

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.
Results of esxi_flash: 1
```

5. 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)

iLO 4
ProLiant DL380 Gen9

Local User: Administrator
iLO Hostname: ILOSGH747V8PS

HOME | SIGN OUT

Collapse All

iLO Overview

- Information
 - Overview**
 - System Information
 - iLO Event Log
 - Integrated Management Log
 - Active Health System Log
 - Diagnostics
 - Location Discovery Services
 - Insight Agent
- iLO Federation
- Remote Console
- Virtual Media
- Power Management

Information

Server Name	
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

Status

System Health	OK
Server Power	ON
UID Indicator	UID OFF
TPM Status	Not Present
SD-Card Status	Not Present
iLO Date/Time	Thu Jan 11 07:07:05 2018

Connection to HPE

Not registered

POWER: ON UID: OFF

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

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:

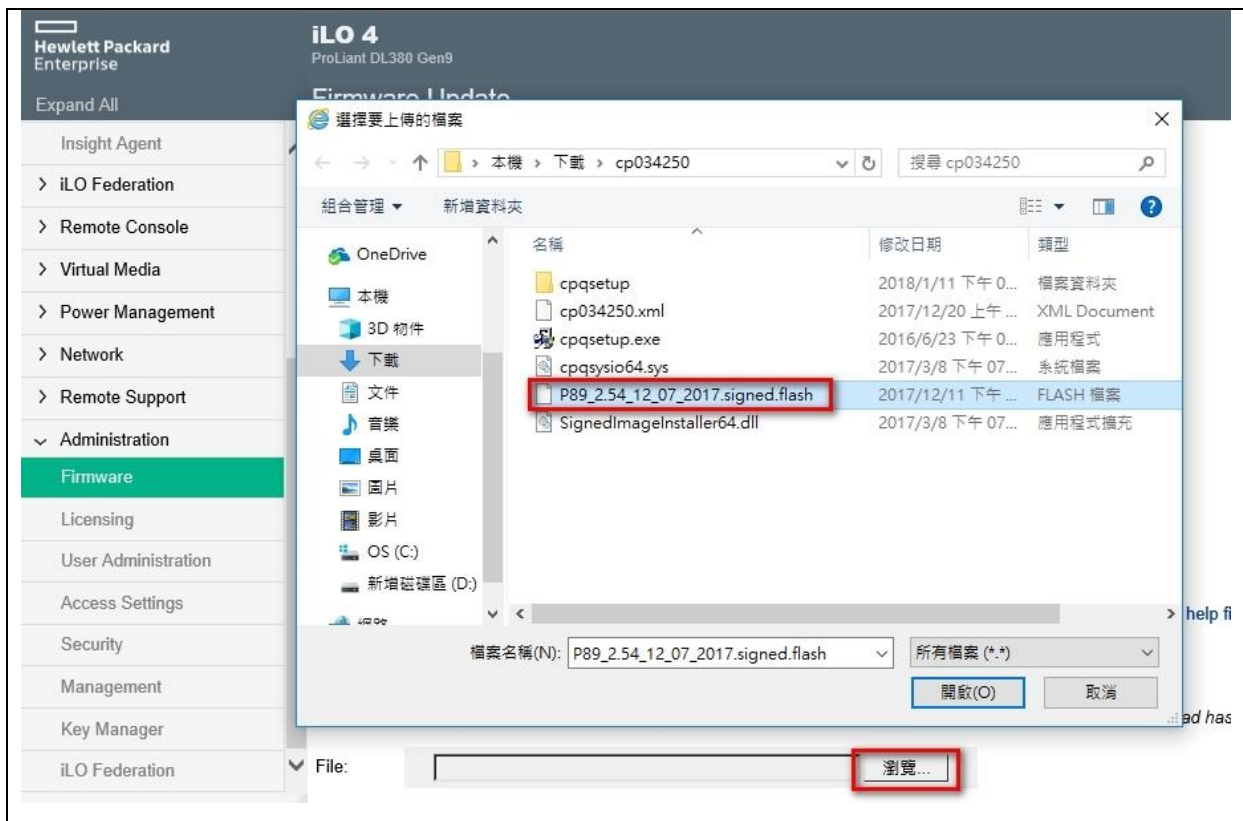
- HPE System ROM
- System Programmable Logic Device
- SL/XL Chassis Firmware

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

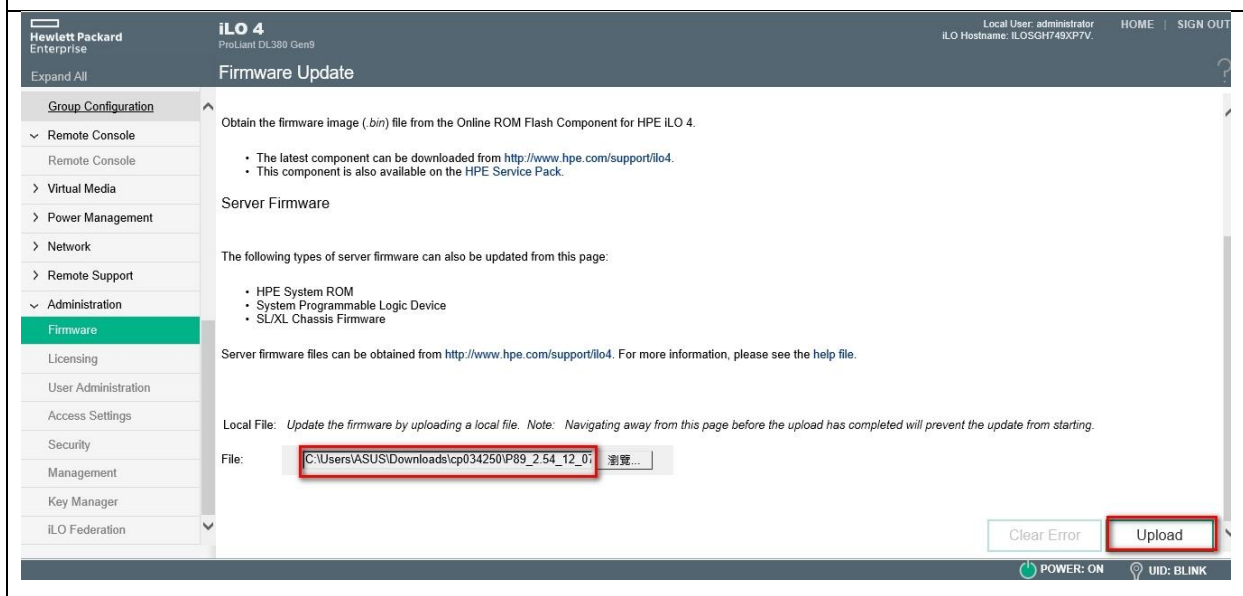
Local File: *Update the firmware by uploading a local file. Note: Navigating away from this page before the upload has completed will prevent the update from starting.*

File: 瀏覽...

3.選擇 P89_2.54 的 Flash 檔案進行更新



4.選擇 Upload 開始更新



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

iLO 4 Overview

Local User: administrator | ILO Hostname: ILOSGH749XP7V

Expand All

- Information
 - Overview
 - System Information
 - iLO Event Log
 - Integrated Management Log
 - Active Health System Log
 - Diagnostics
 - Location Discovery Services
 - Insight Agent
 - iLO Federation
 - Remote Console
 - Remote Console
 - Virtual Media
 - Power Management
 - Network
 - Remote Support

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

HPE ProLiant

(C) Copyright 1982 - 2017 Hewlett Packard Enterprise Development LP
 iLO Hostname: DL380 Gen9
BIOS Version: P89 v2.54 (12/07/2017)
 Serial Number: SGH749XP7V

System Memory: 32 GB
 2 Processor(s) detected, 16 total cores enabled, Hyperthreading is enabled
 Proc 1: Intel(R) Xeon(R) CPU E5-2620 v4 @ 2.10GHz
 Proc 2: Intel(R) Xeon(R) CPU E5-2620 v4 @ 2.10GHz
 QPI Speed: 8.0 GT/s

HPE Power Profile Mode: Maximum Performance
 Power Regulator Mode: Static High Performance
 Advanced Memory Protection Mode: Advanced ECC Support
 Inlet Ambient Temperature: 20°C / 82°F
 Boot Mode: UEFI

Redundant ROM Detected - This system contains a valid backup system ROM
 HPE SmartMemory authenticated in all populated DIMM slots.

Starting drivers. Please wait, this may take a few moments....

iLO 4 IPv4: 192.168.79.48
 iLO 4 IPv6: FE80::9AF2:B3FF:FE2E:3F0A

F9 System Utilities | **F10** Intelligent Provisioning | **F11** Boot Menu | **F12** Network Boot

7.檢查 iLo 資訊，確認 BIOS 是否更新完成 (v2.54)

Information

Server Name	
Product Name	ProLiant DL380 Gen9
UUID	30393137-3436-4753-4837-343958503756
Server Serial Number	SGH749XP7V
Product ID	719064-B21
System ROM	P89 v2.54 (12/07/2017)
System ROM Date	12/07/2017
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 06:28:41 2018

Connection to HPE

Not registered

Active Sessions

User	IP Address	Source
Local User: administrator	192.168.39.99	HTTPS