

# 通过ilorest使用SPP批量刷新HPE ProLiant Gen8/Gen9/Gen10服务器的所有固件版本

BIOS iLO Service Pack for ProLiant Firmware 赵晓静 2019-03-17 发表

## 组网及说明

用户需求：如何使用SPP批量升级Gen8/Gen9/Gen10 服务器的所有固件版本

软件版本： ilorest-2.3.X以上版本

系统版本：

Red Hat Enterprise Linux 5 Server (x86-64)

Red Hat Enterprise Linux 6 Server (x86-64)

Red Hat Enterprise Linux 7 Server

SUSE Linux Enterprise Server 11 (AMD64/EM64T)

SUSE Linux Enterprise Server 12

## 问题描述

如何使用SPP批量升级Gen8/Gen9/Gen10 服务器的所有固件版本

## 过程分析

1. 在HPE官网下载最新ilorest工具，安装在任意redhat5/6/7或者suse11/12的linux系统上。

[https://support.hpe.com/hpsc/swd/public/detail?swItemId=MTX\\_f738de6ff67a44579ba3bda458#tab-history](https://support.hpe.com/hpsc/swd/public/detail?swItemId=MTX_f738de6ff67a44579ba3bda458#tab-history)

安装命令：rpm -ivh ilorest-2.3.3-7.x86\_64.rpm

2. 上传shell脚本和到linux系统，并赋予可执行权限

chmod +x update\_spp.sh

3. 修改iloinfo.csv里面的ilo信息为用户实际信息，并将该文件也上传到linux系统，举例如下：

其中第一列为iLO的IP地址，第二列为iLO的用户名，第三列为iLO的密码。

```
[root@localhost ~]# cat iloinfo.csv
```

```
ip,user,password
```

```
10.12.XX.XX,Administrator,password
```

```
10.12.XX.XX,Administrator,password
```

4. 脚本内容与执行脚本：

```
#!/bin/bash
```

```
#author="xiaojing.zhao@h3c.com"
```

```
#script="Batch Update SPP"
```

```
#date=`date +%F.%T`
```

```
update_spp ()
```

```
{
```

```
    echo -e "\n=====iLO "$IP"--update spp=====
```

```
===== " >> out.log
```

```
    ilorest list --select HpServerBootSettings. -u "$USER" -p "$PASSWD" --url="$IP" | awk '/PersistentBootConfigOrder/,/Type=HpServerBootSettings/{if(i>=1)print x;x=$0;i++}' >> out.log
```

```
g
```

```
    ilorest set PersistentBootConfigOrder=[CD.Virtual.2.1] --select HpServerBootSettings. --commit -u "$USER" -p "$PASSWD" --url="$IP" >> out.log
```

```
    ilorest virtualmedia 2 http://10.12.175.64/FW/SPP2018110.iso --bootnextreset -u "$USER"
```

```
-p "$PASSWD" --url="$IP" >> out.log
```

```
    ilorest reboot ForceRestart -u "$USER" -p "$PASSWD" --url="$IP" >> out.log
```

```
}
```

```
for LINE in `cat iloinfo.csv | sed '1d`
```

```
do
```

```
    IP=`echo $LINE | awk -F, '{print $1}`
```

```
    USER=`echo $LINE | awk -F, '{print $2}`
```

```
    PASSWD=`echo $LINE | awk -F, '{print $3}`
```

```
    #echo "test" $IP
```

```
    update_spp
```

```
echo "SPP is starting to update!"
```

```
done
```

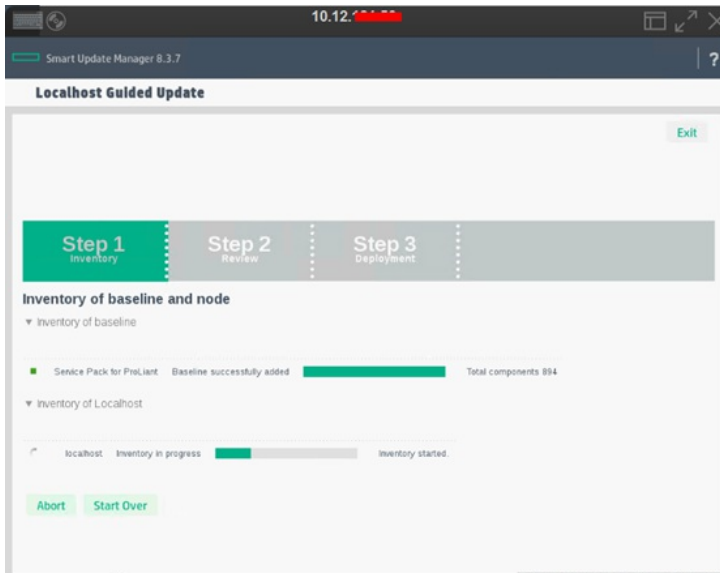
执行脚本命令 ./update\_spp.sh

```
[root@localhost ~]# ./update_spp.sh
One or more properties were changed and will not take effect until system is reset.
The operation completed successfully.
The operation completed successfully.
SPP is starting to update!
One or more properties were changed and will not take effect until system is reset.
The operation completed successfully.
The operation completed successfully.
SPP is starting to update!
[root@localhost ~]#
```

执行脚本后可以登录iLO remote console查看刷新进度（自动刷新）。



刷新完成后，自动重启，无需人工干预。



5. 可以查看日志执行情况，在shell脚本的同路径下有个out.log文件  
cat out.log

```

=====iLO 10.12.XX.XX--update spp=====
PersistentBootConfigOrder=Generic.USB.1.1
  HD.SD.1.2
  HD.EmbsATA.1.2
  NVMe.DriveBay.6.1
  NIC.LOM.1.1.Httpv4
  NIC.LOM.1.1.Ipv4
  NIC.LOM.1.1.Httpv6
  NIC.LOM.1.1.Ipv6
  HD.EmbsATA.1.3
  Unknown.Unknown.200.2
  Unknown.Unknown.200.1
iLOrest : RESTful Interface Tool version 2.3
Copyright (c) 2014, 2018 Hewlett Packard Enterprise Development LP
-----
Discovering data...Done
Committing changes...
Logging session out.
iLOrest : RESTful Interface Tool version 2.3
Copyright (c) 2014, 2018 Hewlett Packard Enterprise Development LP
-----
Discovering data...Done
iLOrest : RESTful Interface Tool version 2.3
Copyright (c) 2014, 2018 Hewlett Packard Enterprise Development LP
-----
Discovering data...Done

After the server is rebooted the session will be terminated.
Please wait for the server to boot completely to login again.
Rebooting server in 3 seconds...
Rebooting server in 3 seconds...
Logging session out.

=====iLO 10.12.XX.XX--update spp=====
PersistentBootConfigOrder=Unknown.Unknown.200.2
  Generic.USB.1.1
  HD.SD.1.2
  NIC.LOM.1.1.Httpv4
  NIC.LOM.1.1.Ipv4
  NIC.LOM.1.1.Httpv6
  NIC.LOM.1.1.Ipv6
  HD.EmbRAID.1.2
  HD.EmbRAID.1.3
  HD.EmbRAID.1.4
  Unknown.Unknown.200.4

```

```

Unknown.Unknown.200.3
iLOrest : RESTful Interface Tool version 2.3
Copyright (c) 2014, 2018 Hewlett Packard Enterprise Development LP
-----
Discovering data...Done
Committing changes...
Logging session out.
iLOrest : RESTful Interface Tool version 2.3
Copyright (c) 2014, 2018 Hewlett Packard Enterprise Development LP
-----
Discovering data...Done
iLOrest : RESTful Interface Tool version 2.3
Copyright (c) 2014, 2018 Hewlett Packard Enterprise Development LP
-----
Discovering data...Done

After the server is rebooted the session will be terminated.
Please wait for the server to boot completely to login again.
Rebooting server in 3 seconds...
Rebooting server in 3 seconds...
Logging session out.

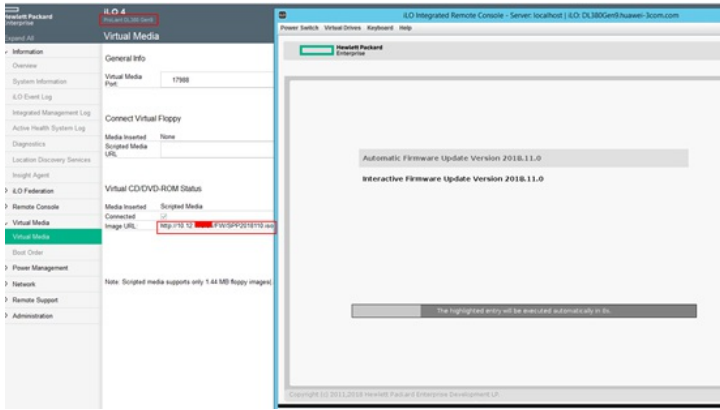
```

## 6. 到iLO界面查看验证刷新固件版本

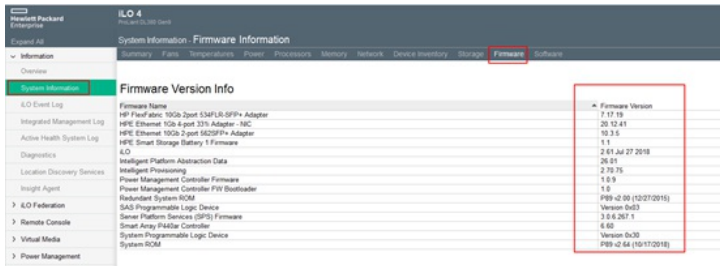
| Firmware Name                              | Firmware Version       | Location                       |
|--|------------------------|--------------------------------|
| iLO 5                                      | 1.37 Oct 25 2018       | System Board                   |
| System ROM                                 | U30 v1.46 (10/02/2018) | System Board                   |
| Intelligent Platform Abstraction Data      | 7.2.0 Build 30         | System Board                   |
| System Programmable Logic Device           | 0x2A                   | System Board                   |
| Power Management Controller Firmware       | 1.0.4                  | System Board                   |
| NVMe Backplane Firmware                    | 1.20                   | System Board                   |
| Power Supply Firmware                      | 1.00                   | Bay 1                          |
| Innovation Engine (IE) Firmware            | 0.1.6.1                | System Board                   |
| Server Platform Services (SPS) Firmware    | 4.0.4.268              | System Board                   |
| Redundant System ROM                       | U30 v1.42 (06/20/2018) | System Board                   |
| Intelligent Processor                      | 3.10.222               | System Board                   |
| Power Management Controller FW Bootloader  | 1.1                    | System Board                   |
| HPE Ethernet 1Gb 4-port 331i Adapter - NIC | 20.12.41               | Embedded LOM                   |
| Embedded Video Controller                  | 2.5                    | Embedded Device                |
| NVMe Drive                                 | HPK2                   | NVMe Drive Port 1A Box 6 Bay 1 |

## 解决方法

`ilo rest virtualmedia 2 http://10.12.XX.XX/FW/SPP2018110.iso --bootnextreset -u "$USER" -p "$PASSWD" --url="$IP" >> out.log`  
 --这里的http web服务器是需要自行配置的，然后将SPP的镜像文件放到http web服务器即可。其中--bootnextreset参数表示下次启动自动reset。  
`ilo rest set PersistentBootConfigOrder=[CD.Virtual.2.1] --select HpServerBootSettings.`  
 这条语句是将CD-ROM设置为第一启动项 (one time boot settings)。  
 --脚本中我以Gen10为例，Gen9测试也同样适用 (UEFI Mode)。如下截图所示：



刷新完成自动重启，登录iLO界面验证固件版本即可。



--如果是Gen8的话 ( Legacy Mode ) ，这里第一启动项属性需要修改为如下内容：  
 ilorest set Boot/BootSourceOverrideSupported=[Cd] --select=ComputerSystem.

Gen8完整脚本如下，执行方法都一样

```
#!/bin/bash
#author="xiaojing.zhao@h3c.com"
#script="Batch Update SPP"
#date=`date +%F.%T`
update_spp ()
{
  echo -e "\n=====iLO "$IP"--update spp=====
===== " >> out.log
  ilorest list --select ComputerSystem. -u "$USER" -p "$PASSWD" --url="$IP" | awk '/Boot=/,/
BootSourceOverrideTarget=None/{if(i>=1)print x;x=$0;i++}' >> out.log
  ilorest set Boot/BootSourceOverrideSupported=[Cd] --select=ComputerSystem. --commit
-u "$USER" -p "$PASSWD" --url="$IP" >> out.log
  ilorest virtualmedia 2 http://10.12.175.64/FW/SPP2018110.iso --bootnextreset -u "$USER"
-p "$PASSWD" --url="$IP" >> out.log
  ilorest reboot ForceRestart -u "$USER" -p "$PASSWD" --url="$IP" >> out.log
}
for LINE in `cat iloinfo.csv | sed '1d'`
do
  IP=`echo $LINE | awk -F, '{print $1}`
  USER=`echo $LINE | awk -F, '{print $2}`
  PASSWD=`echo $LINE | awk -F, '{print $3}`
  #echo "test" $IP
  update_spp
  echo "SPP is starting to update!"
done
```

附件下载：script\_spp.zip