

组网及说明

无

问题描述

无

过程分析

无

解决方法

MSA存储的SSD硬盘类型和工作时间检查方法及固件升级步骤

硬盘类型及工作时间检测方法:

查看SSD硬盘型号:

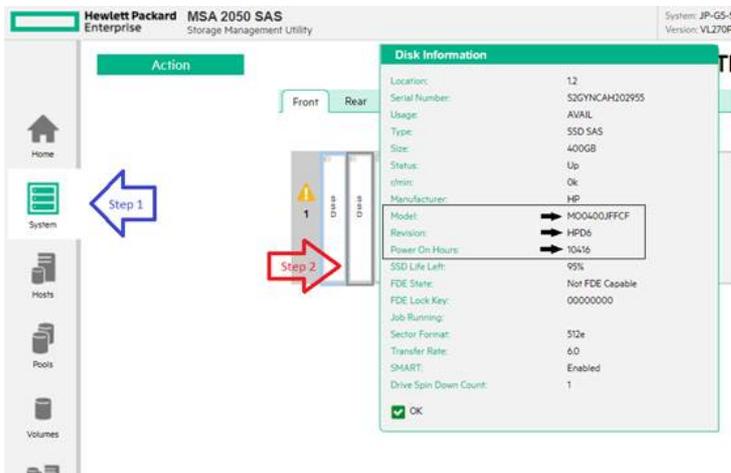
MSA可以通过以下工具查看SSD盘型号和对应的固件版本

- HPE MSA System Management Utility (SMU)
 - HPE MSA Command Line Interface (CLI)
 - HPE Systems Insight Manager (HP SIM)
1. SMU v3在主界面下选择System > Update Firmware > Update Disk Drives
 2. SMU v2在 Configuration View界面下选Tools > Update Firmware
 3. 命令行: show disks encl

```
# show disks encl
Status      Encl Slot Vendor  Model                Serial Number        Size
-----
Up          1     1     HP      MO0400JFFCF         S2GYNYAG400170      400.0GB
Up          1     2     HP      MO0400JFFCF         S2GYNCAH202955      400.0GB
Up          1     3     SEAGATE ST1200MM0108   S401VS96000R6493YTG 1200.2GB
```

查看SSD工作时间:

1. SMU下可以查看SSD盘型号, 固件版本和工作时长:



1. 命令行: show disks detail

```
# show disks 1.2 detail
Disk
----
Location: 1.2
Serial Number: S2GYNCAH202955
Vendor: HP
Revision: HPD6
Description: SSD SAS
Usage: AVAIL
Current Job:
SMART: Enabled
Speed (kr/min): 0
Size: 400.0GB
Sector Format: 512e
Transfer Rate: 6.0
Single Pathed:
Recon State: N/A
Copyback State: N/A
Disk Group:
Pool Name:
Tier: Performance
SSD Life Remaining: 95%
LED Status: Online
Drive Spin Down Count: 1
FDE State: Not FDE Capable
Temperature: 20 C
Power On Hours: 10416
Health: OK
Health Reason:
Health Recommendation:

Info: * Rates may vary. This is normal behavior. (2019-11-20 13:32:11)
Success: Command completed successfully. (2019-11-20 13:32:11)
```

硬盘升级步骤:

1, HPD8固件版本下载:

Windows下升级下载链接: https://support.hpe.com/hpsc/swd/public/detail?swItemId=MTX_d4889f64a36d4725bf152ceec4

Linux下升级下载链接: https://support.hpe.com/hpsc/swd/public/detail?swItemId=MTX_b2551e6c89b841a1b2eabd76e0

2, 升级参考视频

链接: <https://pan.baidu.com/s/1a1IMMa2XkSVQLdnUKDRmMA>提取码: gdsm

3, 升级操作

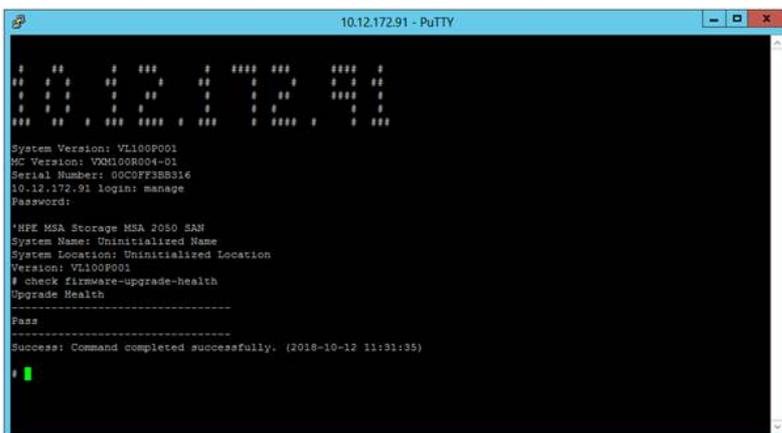
MSA2000存储系统可通过运行.exe程序、运行scexe程序或者浏览fla固件文件等方式进行硬盘固件的升级

(但是由于目前HPD8固件仅提供了.exe程序, 因此只能通过运行exe程序的方法升级至HPD8)

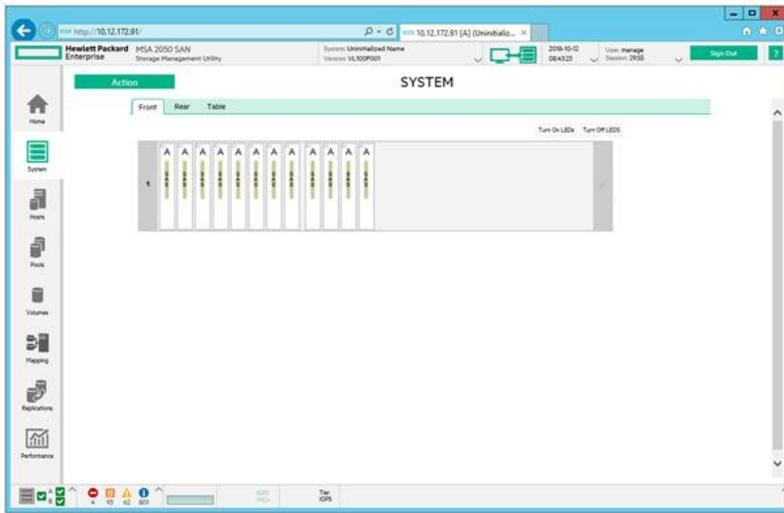
注意: MSA2000存储系统硬盘固件升级为离线操作, 在升级硬盘固件之前, 需要停止主机端、存储端的I/O

1) 运行exe程序进行硬盘固件升级

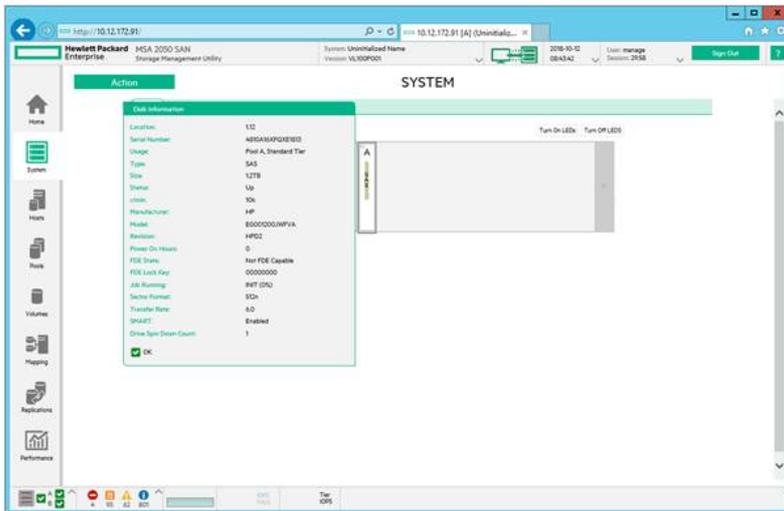
登录CLI界面, 执行check firmware-upgrade-health, 确保可通过升级健康检查。



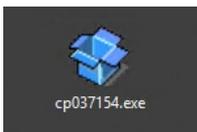
MSA2050存储系统配有12块ENT SAS硬盘。



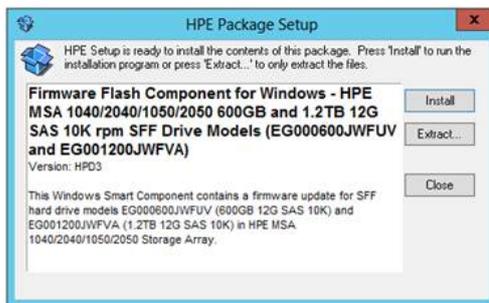
硬盘信息如下， 1.2TB 12G SAS 10K rpm SFF Drive Models (EG001200JWFVA)， 固件版本HPD2。



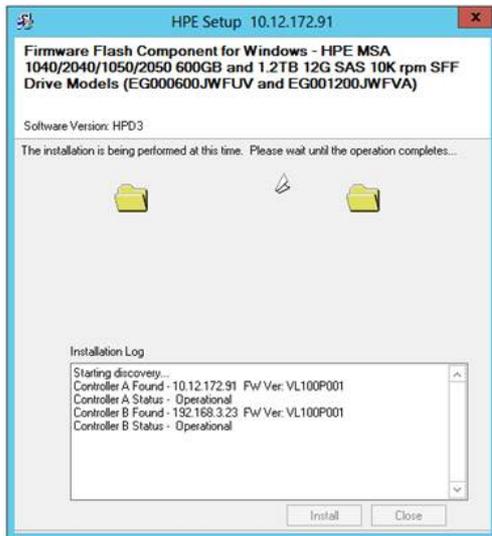
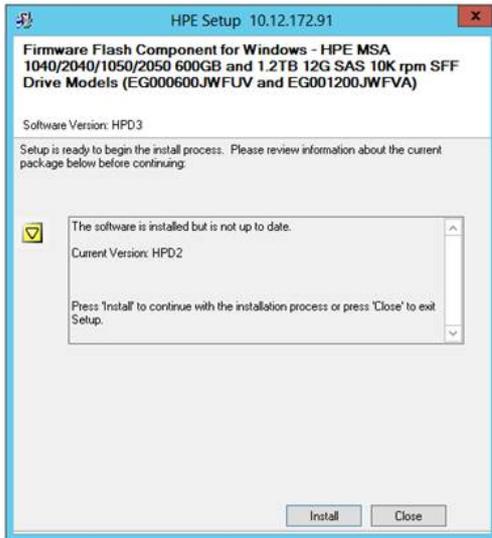
运行HPD4固件程序。



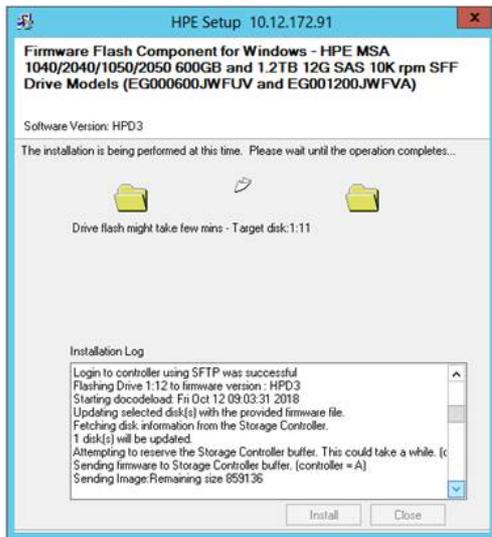
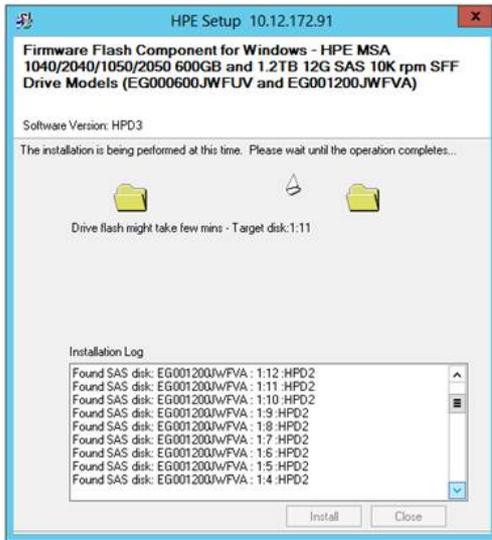
点击Install。



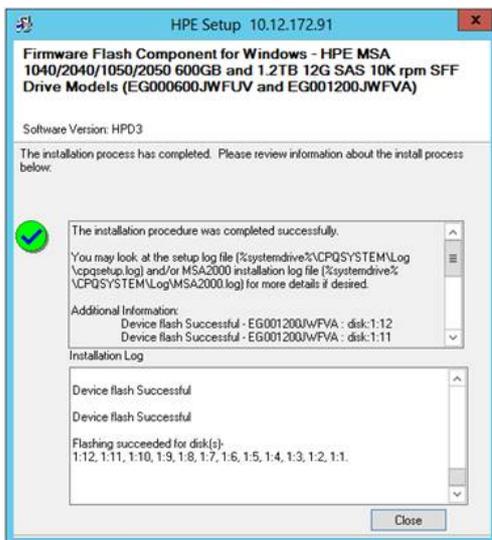
输入控制器管理IP， 存储管理员名称及密码， 点击Continue。



将逐个对1~12号槽位的硬盘进行固件升级。



固件升级完成。



2) 通过SMU界面浏览fla文件方式进行固件升级

登录CLI界面，执行check firmware-upgrade-health，确保可通过升级健康检查。

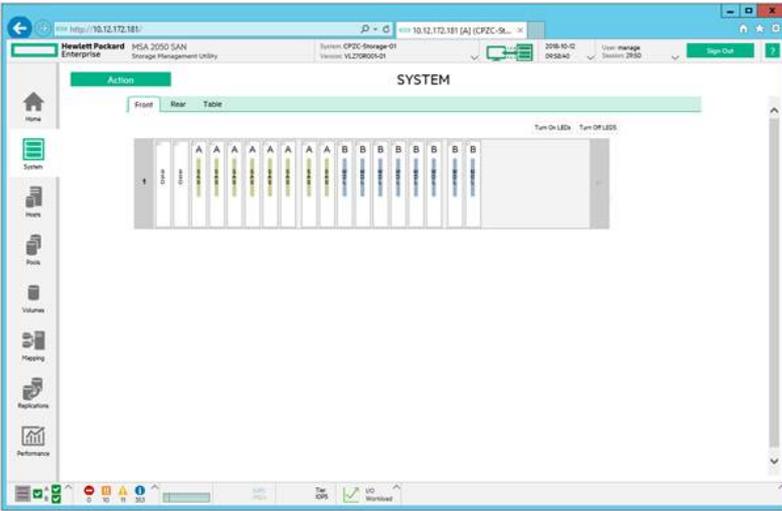
```

10.12.172.181 - PuTTY
#####
System Version: VL270R001-01
OS Version: VFM270R001-01
MC Version: VM0270R001-01
Serial Number: 00C0FF3AF18A
10.12.172.181 login: manage
Password:

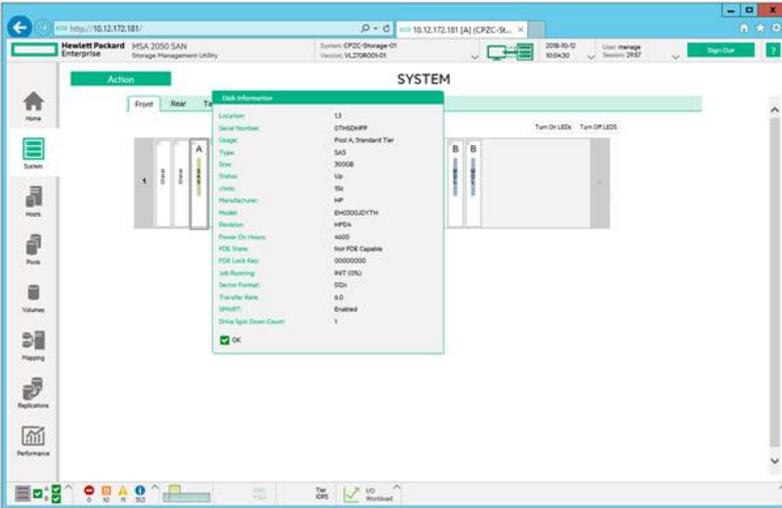
HPE MSA Storage MSA 2050 SAN
System Name: CPZC-Storage-01
System Location: Dalian
Version: VL270R001-01
# check firmware-upgrade-health
Upgrade Health
-----
Pass

Success: Command completed successfully. (2018-10-12 11:31:46)
#

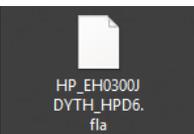
```



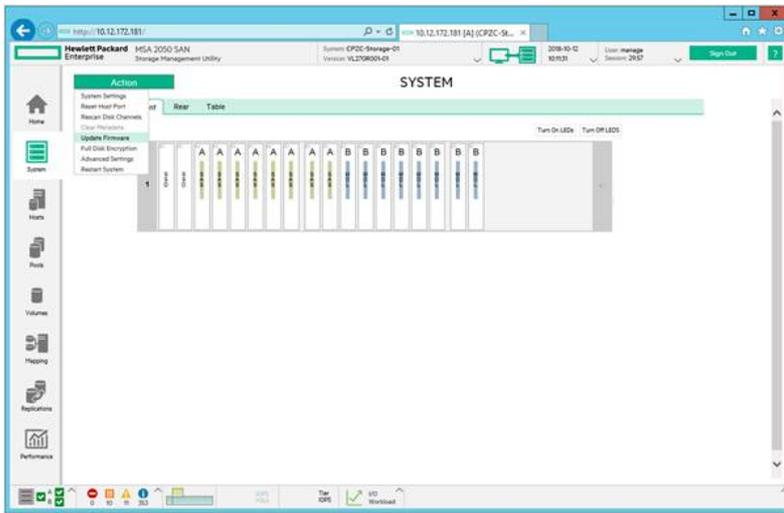
MSA2050存储系统配有8块ENT SAS硬盘，300GB 12G SAS 15K rpm SFF Drive Models (EH0300JD YTH)，固件版本HPD4



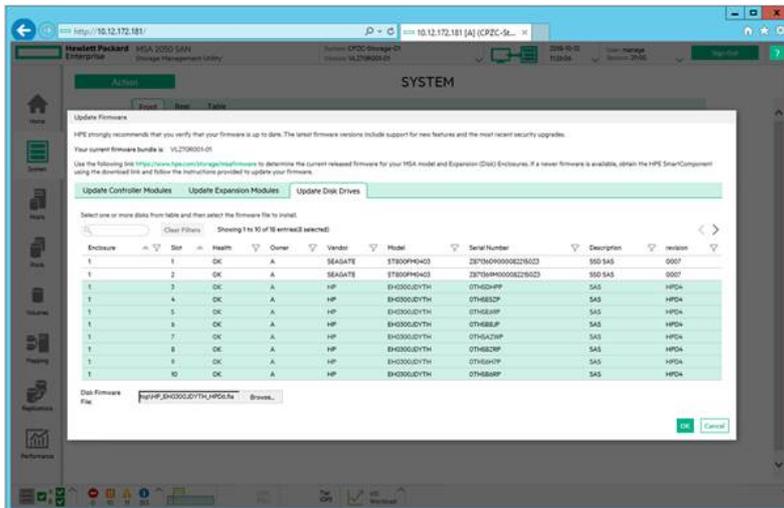
下载 .fla格式固件HPD6备用。



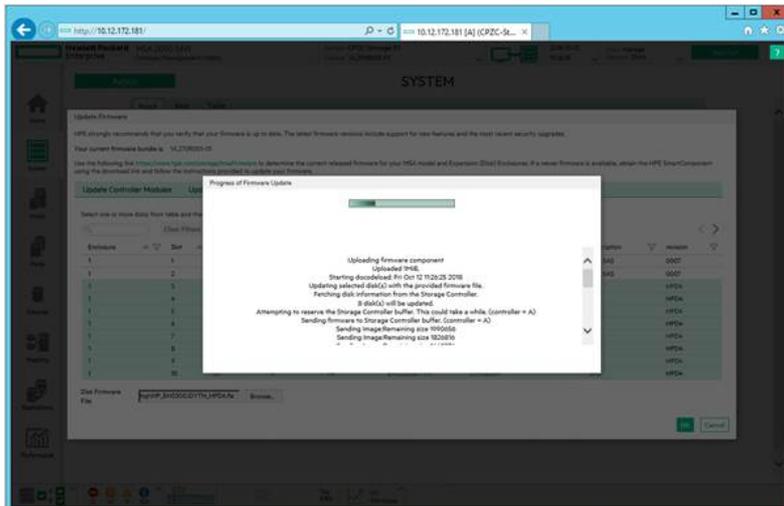
SMU界面中，System > Action > Update Firmware。



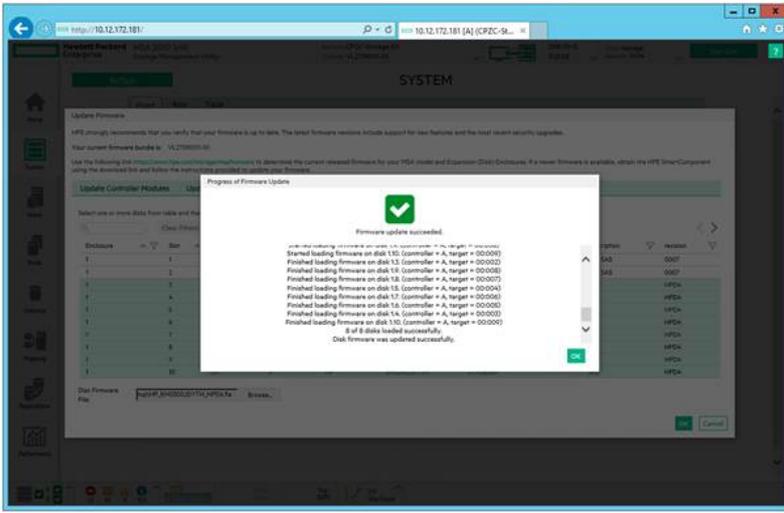
在Update Disk Drives选项卡中选择需要升级固件的硬盘，可按住Ctrl键后同时选择多块硬盘，以浏览方式选择.fla固件。



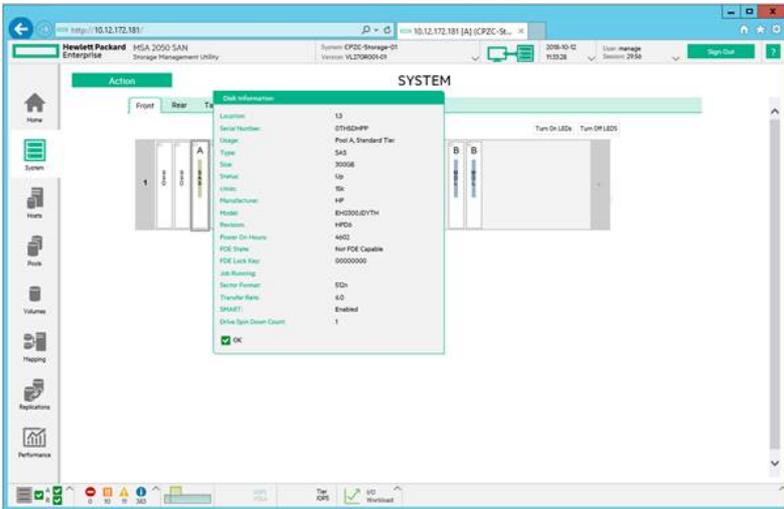
开始升级固件，正在上载固件。



固件更新完成。

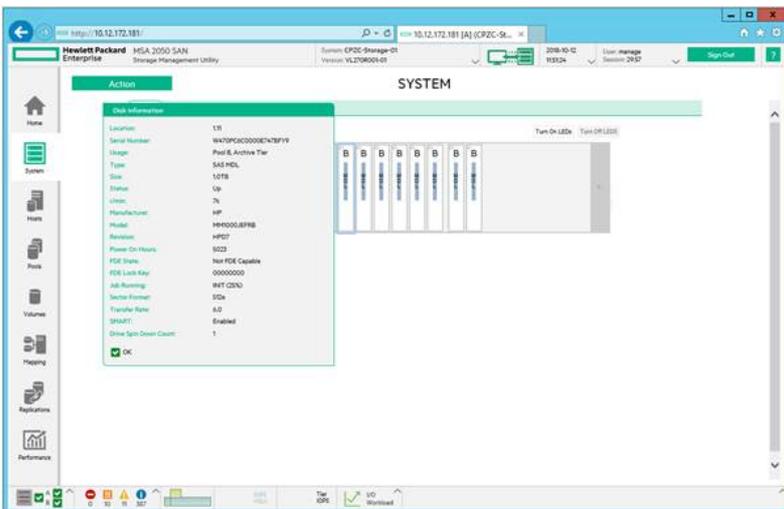


可见固件已升级至HPD6。



3) 通过运行scexe程序进行固件升级

MSA2050存储系统配有8块MDL SAS硬盘，1TB 12G SAS 7K rpm SFF Drive Models (MM1000JEFRB)，固件版本HPD7。



RHEL主机与MSA2050存储控制器管理端口通信正常。

通过WinSCP工具将固件HPD8的.SCEXE程序上传至RHEL主机。

进入.SCEXE程序所在目录。

chmod +x, 为.SCEXE程序设置可执行权限。

```
[root@sunqinglei-rhel7 ~]#
[root@sunqinglei-rhel7 ~]# cat /etc/redhat-release
Red Hat Enterprise Linux Server release 7.4 (Maipo)
[root@sunqinglei-rhel7 ~]#
[root@sunqinglei-rhel7 ~]# ping 10.12.172.181
PING 10.12.172.181 (10.12.172.181) 56(84) bytes of data:
64 bytes from 10.12.172.181: icmp_seq=1 ttl=64 time=0.319 ms
64 bytes from 10.12.172.181: icmp_seq=2 ttl=64 time=0.284 ms
64 bytes from 10.12.172.181: icmp_seq=3 ttl=64 time=0.315 ms
^C
--- 10.12.172.181 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 1099ms
rtt min/avg/max/mdev = 0.284/0.306/0.319/0.015 ms
[root@sunqinglei-rhel7 ~]#
[root@sunqinglei-rhel7 ~]# ls /tmp
CP035993.scexe
system-private-05f865b8ad8e45fe6416eeb724cabb9-chronydn.service-1TURD0
system-private-05f865b8ad8e45fe6416eeb724cabb9-cups.service-efm9g
[root@sunqinglei-rhel7 ~]#
[root@sunqinglei-rhel7 ~]# cd /tmp
[root@sunqinglei-rhel7 tmp]#
[root@sunqinglei-rhel7 tmp]# chmod 777 CP035993.scexe
[root@sunqinglei-rhel7 tmp]#
```

执行./CP035993.scexe --target A控制端口IP --user 登录用户名 --passwd 密码，开始固件更新。
注* 如用户名或密码包含特殊字符，请将字符串用单引号括起来，或在特殊字符前输入反斜杠。
将对11号~18号槽位的硬盘逐个更新固件。

```
[root@sunqinglei-rhel7 tmp]# ./CP035993.scexe --target 10.12.172.181 --user manage --passwd \manage
Firmware Flash Component for Linux - HPE MSA 1040/2040/1050/2050 1TB and 2TB 12G SAS 7.2K rpm SFF Drive Models (MM1000JEFRB and MM2000JEFRC)
(c) Copyright 2018 Hewlett Packard Enterprise Development LP
VERSION: HPD8

Important Notes:
WARNING! Do not power cycle or restart devices during a firmware update. If the update is interrupted or there is a power failure, the module could become inoperative. If this occurs, contact technical support. The module may need to be returned to the factory for reprogramming. IMPORTANT: Ensure that no other user is performing administrative functions on the HPE MSA 1040/2040/1050/2050 Storage Array. NOTE: Disk drive upgrades on the HPE MSA 1040/2040/1050/2050 is an offline process. All host and array I/O must be stopped prior to the upgrade. For more information, see the HPE Modular Storage Array Reference Guides. All firmware flash progress messages are logged to /var/cp/MSA2000_IP_Log_and_Flash_summary.is logged to /var/cp/Component_Log. IMPORTANT: Please refer to the best practices document for special considerations regarding the pre-install conditions for flashing hard drives in HPE MSA 1040/2040/1050/2050 Storage Array. IMPORTANT: HTTPS or Telnet service must be enabled on the arrays being updated and the corresponding connection must not be blocked by any firewall on the host system where the smart component is being executed. The Smart Component will manage the SFTP/FTP settings and PDU settings (enabled or disabled) in the arrays during flashing.

Warning - Please go through the above important notes section before continuing!
Do you want to continue(yes/no):
yes
MSA HDD Firmware Flash
Flash Engine Version 1.0.1.5
(c) Copyright 2018 Hewlett Packard Enterprise Development LP
Controller IP : 10.12.172.181

Targets: *MM1000JEFRB* *MM2000JEFRC*
Device inventory in progress
Controller A Found - 10.12.172.181 FW Ver: VL270R001-01
Controller A Status - Operational
Controller B Found - 10.12.172.182 FW Ver: VL270R001-01
Controller B Status - Operational
Found SAS MDL disk: MM1000JEFRB : 1:18 :HPD7
Found SAS MDL disk: MM1000JEFRB : 1:17 :HPD7
Found SAS MDL disk: MM1000JEFRB : 1:16 :HPD7
Found SAS MDL disk: MM1000JEFRB : 1:15 :HPD7
Found SAS MDL disk: MM1000JEFRB : 1:14 :HPD7
Found SAS MDL disk: MM1000JEFRB : 1:13 :HPD7
Found SAS MDL disk: MM1000JEFRB : 1:12 :HPD7
Found SAS MDL disk: MM1000JEFRB : 1:11 :HPD7
```

```
Login to controller using SFTP was successful
Flashing Drive 1:18 to firmware version : HPD8
Starting Drive Flash: might take a few mins. - target : disk:1:18
Please Wait...
Uploaded 0 MB
Uploaded 1 MB
Starting decodeload: Fri Oct 12 13:25:19 2018
Updating selected disk(s) with the provided firmware file.
Fetching disk information from the Storage Controller.
1 disk(s) will be updated.
Attempting to reserve the Storage Controller buffer. This could take a while. (controller = A)
Sending firmware to Storage Controller buffer. (controller = A)
Sending Image:Remaining size 1994752
Sending Image:Remaining size 1830912
Sending Image:Remaining size 1667072
Sending Image:Remaining size 1503232
Sending Image:Remaining size 1339392
Sending Image:Remaining size 1175552
Sending Image:Remaining size 1011712
Sending Image:Remaining size 847872
Sending Image:Remaining size 684032
Sending Image:Remaining size 520192
Sending Image:Remaining size 356352
Sending Image:Remaining size 192512
Sending Image:Remaining size 28672
Sending Image:Remaining size 0
Loading firmware on 1 disk(s).
Started loading firmware on disk 1:18. (controller = A, target = 00:017)
Finished loading firmware on disk 1:18. (controller = A, target = 00:017)
1 of 1 disks loaded successfully.
Disk firmware was updated successfully.
RETURN_CODE: 0
Code load completed successfully.
STATUS: Code load completed successfully.
RETURN_CODE: 0
Finished applying firmware..
```

```
Login to controller using SFTP was successful
Flashing Drive 1:11 to firmware version : HPD8
Starting Drive Flash: might take a few mins. - target : disk:1:11
Please Wait...
Uploaded 0 MB
Uploaded 1 MB
Starting decodeload: Fri Oct 12 13:37:13 2018
Updating selected disk(s) with the provided firmware file.
Fetching disk information from the Storage Controller.
1 disk(s) will be updated.
Attempting to reserve the Storage Controller buffer. This could take a while. (controller = A)
Sending firmware to Storage Controller buffer. (controller = A)
Sending Image:Remaining size 1994752
Sending Image:Remaining size 1830912
Sending Image:Remaining size 1667072
Sending Image:Remaining size 1503232
Sending Image:Remaining size 1339392
Sending Image:Remaining size 1175552
Sending Image:Remaining size 1011712
Sending Image:Remaining size 847872
Sending Image:Remaining size 684032
Sending Image:Remaining size 520192
Sending Image:Remaining size 356352
Sending Image:Remaining size 192512
Sending Image:Remaining size 28672
Sending Image:Remaining size 0
Loading firmware on 1 disk(s).
Started loading firmware on disk 1:11. (controller = A, target = 00:010)
Finished loading firmware on disk 1:11. (controller = A, target = 00:010)
1 of 1 disks loaded successfully.
Disk firmware was updated successfully.
RETURN_CODE: 0
Code load completed successfully.
STATUS: Code load completed successfully.
RETURN_CODE: 0
Finished applying firmware..
Device Flash Successful - MM1000JEFRB : disk:1:18
Device Flash Successful - MM1000JEFRB : disk:1:17
Device Flash Successful - MM1000JEFRB : disk:1:16
Device Flash Successful - MM1000JEFRB : disk:1:15
Device Flash Successful - MM1000JEFRB : disk:1:14
Device Flash Successful - MM1000JEFRB : disk:1:13
Device Flash Successful - MM1000JEFRB : disk:1:12
Device Flash Successful - MM1000JEFRB : disk:1:11
Flashing succeeded for disk(s): 1:18, 1:17, 1:16, 1:15, 1:14, 1:13, 1:12, 1:11.
[root@sunqinglei-rhel7 tmp]#
```

固件更新后，再次查看硬盘固件版本，已升级至HPD8。

Browser: http://10.12.172.181/ | System: CP2C-Storage-01 | Version: V1.070820-01 | User: manage | Session: 2957 | Sign Out

SYSTEM

Disk Information

Location:	L18
Serial Number:	W470PC2C
Usage:	Pool B, Active Tier
Type:	SAS HCL
Size:	10TB
Status:	Up
Vendor:	7k
Manufacturer:	HP
Model:	441003LFFR8
Revision:	HP04
Power On Hours:	825
FFS Drive:	Not FFS Capable
FFS Lock Key:	00000000
Self-Healing:	NOT HARD
Sector Format:	512e
Transfer Rate:	8.0
Writeback:	Enabled
Drive Spin Down Count:	1

OK

Turn On LEDs | Turn Off LEDs

22:44:00 Finished loading configuration data