

H3C G7 服务器 Linux 系统下升级 LSI-9540&9560 系列阵列卡固件

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一. 适用范围与注意事项

- 本文档旨在说明 H3C G7 系列服务器通过阵列卡工具在系统下更新阵列卡固件的方法，并以 R4900 G7 服务器安装的 Rocky Linux 9.3 为例进行更新步骤说明。
- 本文所述安装过程如涉及挂载文件/文件夹（高级版），需要购买 HDM License，如想要使用此功能请联系经销商购买并在激活后使用。
HDM License 的注册安装方法请参考：<https://zhiliao.h3c.com/Theme/details/232557>
- 如文中方法不适用或阵列卡型号不匹配，可以通过下面导航链接查找适用文档：
<https://zhiliao.h3c.com/Theme/details/208125>
- 提示：
 - 本文档中的信息（包括产品，软件版本和设置参数）仅作参考示例，具体操作与目标需求设置请以实际为准。
 - 固件更新有风险，请注意提前备份数据。
 - 本文档不定期更新维护，请以发布的最新版本为准。

二. 升级准备

1. 阵列卡工具与固件获取

阵列卡工具 Storcli 获取：<https://zhiliao.h3c.com/Theme/details/229626>
固件获取：<https://zhiliao.h3c.com/theme/details/214642>

2. 连接 HDM 与启用远程控制台

具体方法请参考：<https://zhiliao.h3c.com/theme/details/232282>

三. 升级步骤

1. 访问系统

1.1 通过 HDM 启用 KVM/H5 KVM 访问系统

The screenshot shows the H3C HDM web interface. At the top, there's a navigation bar with links like '首页', '系统管理', 'HDM设置', etc. Below the header, it says '你好, admin'. The main area has several sections: '系统状态' (System Status) showing '系统健康存在风险' (System health exists risk) with 0 critical and 2 severe alerts; '设备信息' (Device Information) listing PUID, host name, product serial number, UUID, HDM固件版本, BIOS固件版本, and 芯片型号; '专用网口' (Private Network Port) and '共享网口' (Shared Network Port) with their respective IP and MAC addresses; '设备健康' (Device Health) monitoring various components like Processor, Memory, Cooling, Power, Storage, PCIe devices, and Sensors. On the right side, there's a '快捷访问' (Quick Access) sidebar with icons for network settings, firmware updates, one-click collection, and configuration management. A large '远程控制台' (Remote Console) window is open at the bottom right, with '启动 H5 KVM' and '启动 KVM' buttons highlighted.

1.2 通过第三方 SSH 工具访问系统

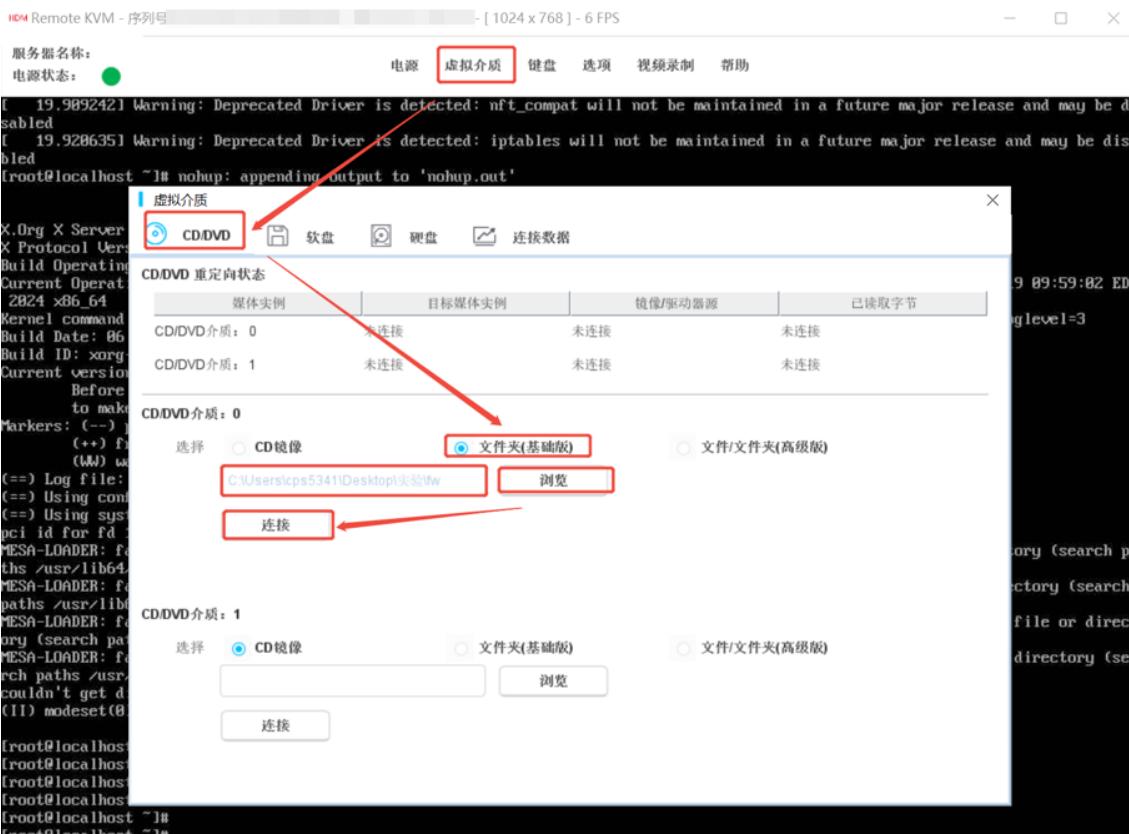
The screenshot shows the Guake terminal application running on a Linux desktop. The menu bar includes 'Terminal', 'Sessions', 'View', 'X server', 'Tools', 'Games', 'Settings', 'Macros', 'Help', and various icons for session management, tools, and help. In the center, a terminal window is open with a root shell session. The prompt shows 'root@10.12.***.***:~#'. To the left of the terminal, a sidebar labeled 'Sessions' lists a single session entry with a yellow star icon.

2. 将阵列卡工具与固件包保存到系统下

LSI 阵列卡工具为 storcli-xxx.noarch.rpm，固件包为 xxx.rom。

2.1 通过 HDM 启用 KVM 将文件挂载到系统下

远程控制台“连接”后，在系统下通过 mount 命令挂载。



2.2 通过 U 盘将文件挂载到系统下

U 盘接入服务器后，在系统下通过 mount 命令挂载。

2.3 通过第三方 SSH 工具将文件保存到系统下

参考第三方工具使用说明。

3. 安装阵列卡工具

执行 rpm -ivh 命令安装 Storcli 工具，默认安装路径为 /opt/MegaRAID/storcli。

```
[root@localhost tmp]# rpm -ivh storcli-007.3205.0000.0000-1.noarch.rpm
warning: storcli-007.3205.0000.0000-1.noarch.rpm: Header V3 RSA/SHA256 Signature, key ID 871c1697: NOKEY
Verifying...                                              #####
Preparing...                                               #####
Updating / installing...
 1:storcli-007.3205.0000.0000-1                         #####
[root@localhost tmp]# ll /opt/MegaRAID/storcli/
total 8360
-rw-r--r-- 1 root root      0 Sep 23 04:07 install.log
-rwxr-xr-x 1 root root 8557120 Oct 10 2024 storcli64
```

注：请将 xxx.rom 固件包保存到 /opt/MegaRAID/storcli 路径下。

4. 通过命令确认待升级阵列卡的 ID，以及更新前固件版本

4.1 查看 Controller ID

执行 /opt/MegaRAID/storcli/storcli64 show 命令，本例回显 Controller ID 为 0。

注：任意目录下执行如上绝对路径命令，或 cd 到 /opt/MegaRAID/storcli 后执行 ./storcli64 show 命令。

```
[root@localhost ~]# /opt/MegaRAID/storcli/storcli64 show
CLI Version = 007.1316.0000.0000 Mar 12, 2020
Operating system = Linux 5.14.0-362.8.1.e19_3.x86_64
Status Code = 0
Status = Success
Description = None

Number of Controllers = 1
Host Name = localhost.localdomain
Operating System = Linux 5.14.0-362.8.1.e19_3.x86_64

System Overview :
=====

Ctl Model          Ports PDs DGs DNOpt VDs VNOpt BBU sPR DS   EHS ASOs Hlth
=====

[0] MegaRAID9560-8i4GB    8   5   2     0   2      0 Opt On  1&2 Y      4 Opt

Ctl=Controller Index|DGs=Drive groups|VDs=Virtual drives|F1d=Failed
PDs=Physical drives|DNOpt=Array NotOptimal|VNOpt=LD NotOptimal|Opt=Optimal
Msng=Missing|Dgd=Degraded|NdAtn=Need Attention|Unkwn=Unknown
sPR=Scheduled Patrol Read|DS=DimmerSwitch|EHS=Emergency Spare Drive
Y=Yes|N=No|ASOs=Advanced Software Options|BBU=Battery backup unit/CV
Hlth=Health|Safe=Safe-mode boot
```

4.2 查看固件版本

执行/opt/MegaRAID/storcli/storcli64 /c<Controller ID> show all | grep Firmware 命令，<Controller ID>键入阵列卡编号，本例 Controller ID 为 0。

本例回显固件版本为 4.680.00-8527。

注：任意目录下执行如上绝对路径命令，或 cd 到/opt/MegaRAID/storcli 后执行./storcli64 /c<Controller ID> show all | grep Firmware 命令。

```
[root@localhost ~]# /opt/MegaRAID/storcli/storcli64 /c0 show all | grep Firmware
Firmware Package Build = 52.22.0-4544
Firmware Version = 5.220.02-3691
PD Firmware Download in progress = No
Support PD Firmware Download = No
```

此外，也可在 HDM Web 查看阵列卡固件版本。

The screenshot shows the HDM Web interface with the '系统管理' (System Management) tab selected. Under '存储管理' (Storage Management), the 'RAID卡信息' (RAID Card Information) panel is displayed. It shows details for a RAID card: Device Name: RAID-LSI-9560-LP-8i-4GB (SLOT 3), Firmware Version: 5.220.02-3691, Vendor: Broadcom, Flash Card: 正常 (Normal), Package Version: 52.22.0-4544, Configuration Version: 5.2200.00-0562, Serial Number: [redacted], WWN: [redacted], and Interface Speed: 12 Gbps.

5. 通过命令执行固件更新

执行/opt/MegaRAID/storcli/storcli64 /c<Controller ID> download file=<Filepath>命令，

<Controller ID>键入阵列卡编号，本例 Controller ID 为 0，<Filepath>键入固件包路径及名称，本例 Filepath 为/storcli/MR_4MB.rom。

注：任意目录下执行如上绝对路径命令，或 cd 到 /opt/MegaRAID/storcli 后执行 ./storcli64 /c<Controller ID> download file=<Filepath>命令。

```
[root@localhost storcli]# ./opt/MegaRAID/storcli/storcli64 /c0 download file=/opt/MegaRAID/storcli/52.32.0-6178_9560-8i-4G_NOPAD.rom
Download Completed.
Flashing image to adapter...
CLI Version = 007.1316.0000.0000 Mar 12, 2020
Operating system = Linux 5.14.0-362.8.1.e19_3.x86_64
Controller = 0
Status = Success
Description = F/W Flash Completed. Please reboot the system for the changes to take effect
Current FW version = 5.220.02-3691
New FW version = 5.320.02-4172
```

注：固件更新后需重启服务器才能生效。

6. 通过命令确认更新后固件版本

- /opt/MegaRAID/storcli/storcli64 /c<Controller ID> show all | grep Firmware

此外，也可在 HDM Web 查看阵列卡固件版本。

