

# HPE Gen10 Plus 服务器 SR100i 阵列卡 Windows 系统 下 SSACLI 配置阵列

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## 一. 适用范围与注意事项

- 本文档旨在说明 HPE Gen10 Plus 服务器 SR100i 阵列卡 Windows 系统下使用 Smart Storage Administrator (SSA) CLI 工具配置阵列的方法，并以 DL380 Gen10 Plus 服务器为例进行配置步骤说明。
- 实际情况是否适用本文档，请通过下面导航链接进行确认：

<https://zhiliao.h3c.com/Theme/details/218271>

➤ 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。

本文档不定期更新维护，请以发布的最新版本为准。

## 二. 配置准备

### 1. 下载 Smart Storage Administrator (SSA) CLI 工具

➤ Windows 下载链接：[Smart Storage Administrator \(SSA\) CLI for Windows 64-bit for Gen9/Gen10 Plus/Gen10 Plus Plus Controllers | HPE Support](https://www.hpe.com/us/en/support/hardware/servers/storage/ssa.html)

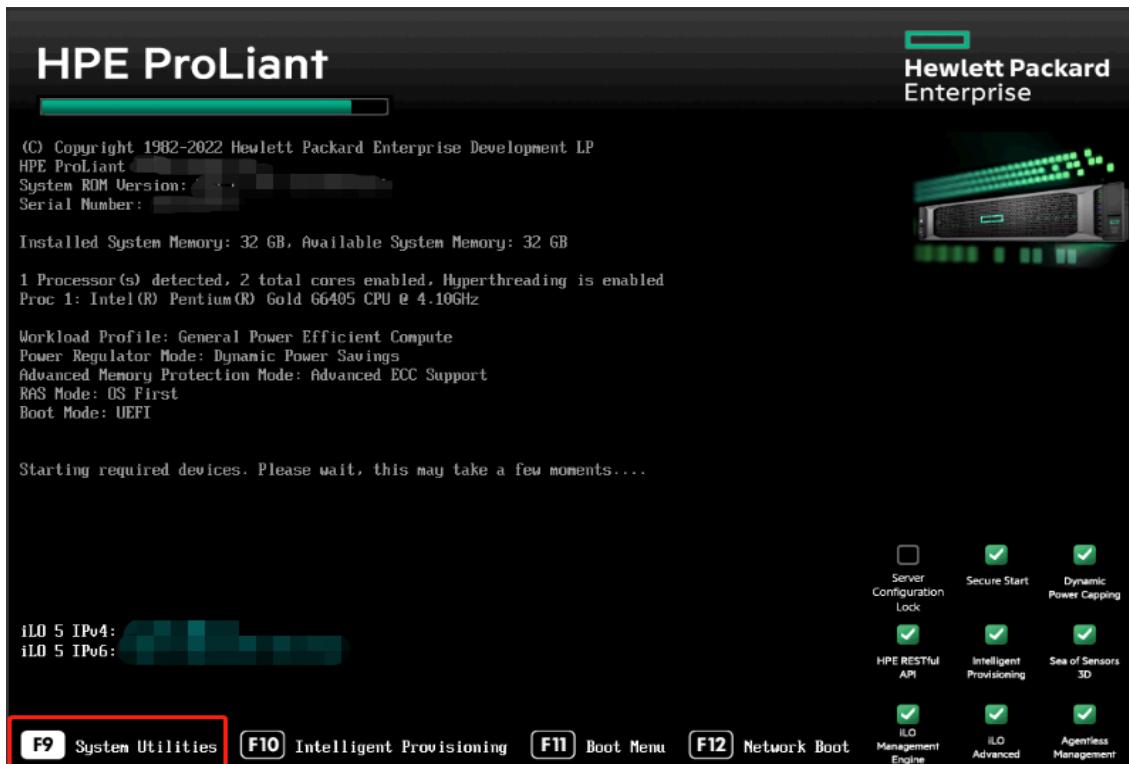
### 2. 连接 iLO 与启用远程控制台

具体方法请参考：<https://zhiliao.h3c.com/Theme/details/216337>

## 三. 配置步骤

### 1. 进入 BIOS 开启阵列卡 RAID 功能

1) 重启服务器，自检界面按 F9 进入 BIOS。



2) 确认当前引导模式。

选择 System Configuration -> BIOS/Platform Configuration(RBSU) -> Boot Options，确认当前启动模式为 UEFI，若不是请修改成 UEFI 模式。

注：此阵列卡 RAID 功能仅支持 UEFI 模式。

The screenshot shows the HPE System Utilities interface for a Gen10 system. The main menu includes options like System Configuration, One-Time Boot Menu, Embedded Applications, System Information, and System Health. The System Configuration option is highlighted with a red box. Below the menu, there are sections for Exit and resume system boot, Reboot the System, Select Language (set to English), and Setup Browser Selection (set to Auto). A QR code is present at the bottom left. At the bottom, there are buttons for Exit, Changes Pending, Reboot Required, F7: Load Defaults, F10: Save, and F12: Save and Exit.

**System Configuration**

- One-Time Boot Menu
- Embedded Applications
- System Information
- System Health

Exit and resume system boot  
Reboot the System

Select Language: English

Setup Browser Selection: Auto

http://www.hpe.com/qref/ProLiantGen10UEFI-Help

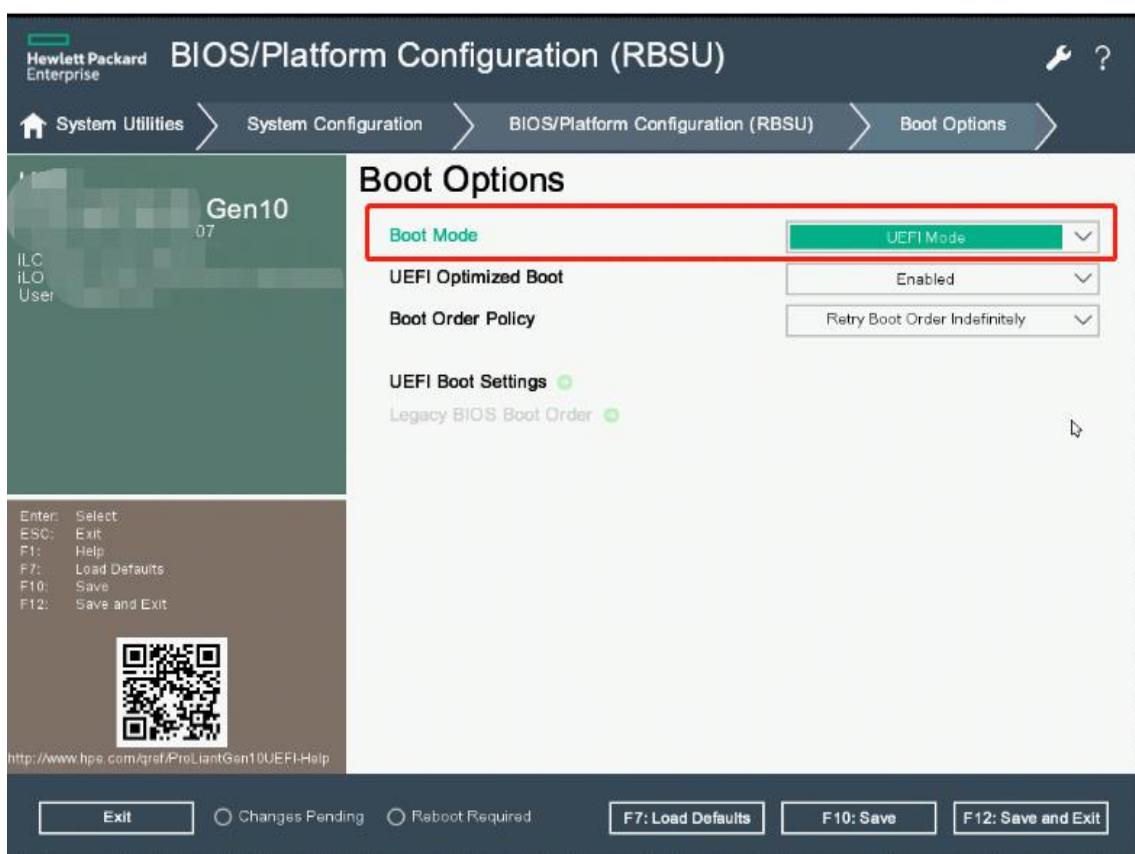
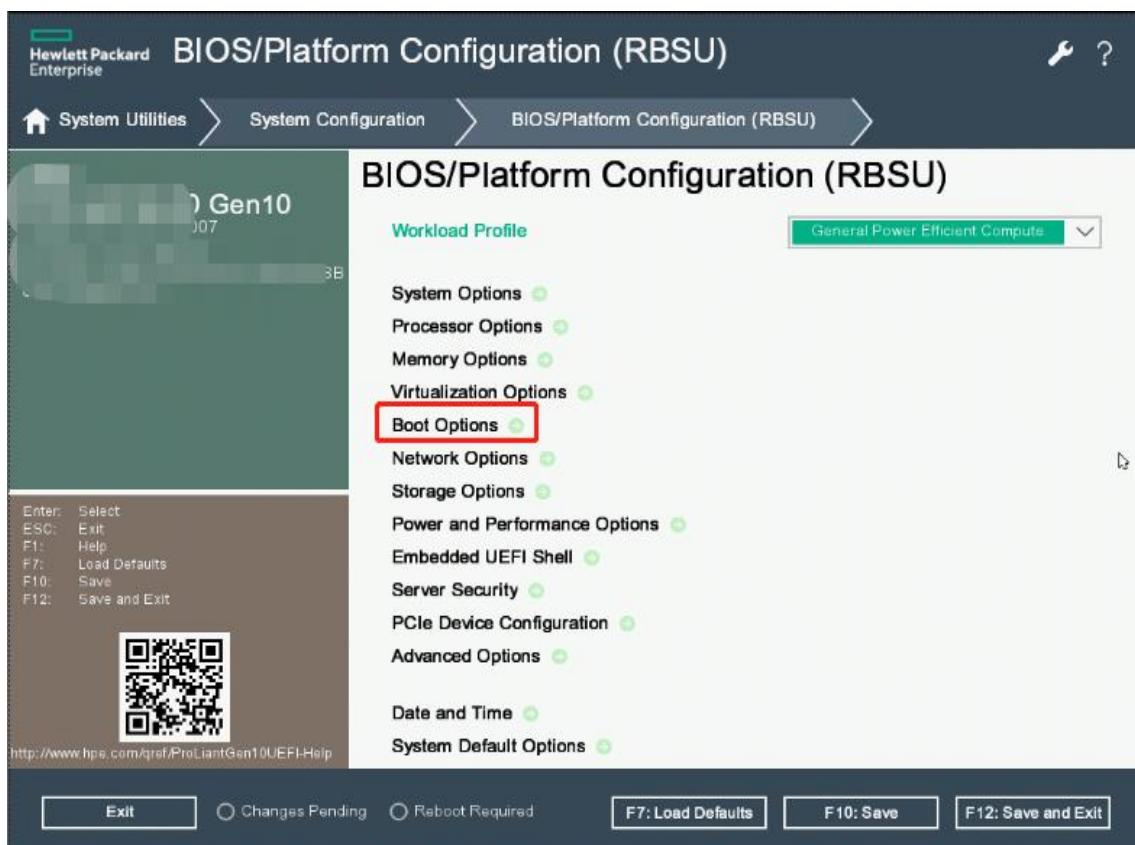
Enter: Select  
ESC: Exit  
F1: Help  
F7: Load Defaults  
F10: Save  
F12: Save and Exit

**System Configuration**

**BIOS/Platform Configuration (RBSU)**

- ILO 5 Configuration Utility
- Embedded Storage : Smart Array Controller
- Embedded LOM 1 Port 1 : HPE Ethernet 1Gb 2-port 332i Adapter - NIC
- Embedded LOM 1 Port 2 : HPE Ethernet 1Gb 2-port 332i Adapter - NIC

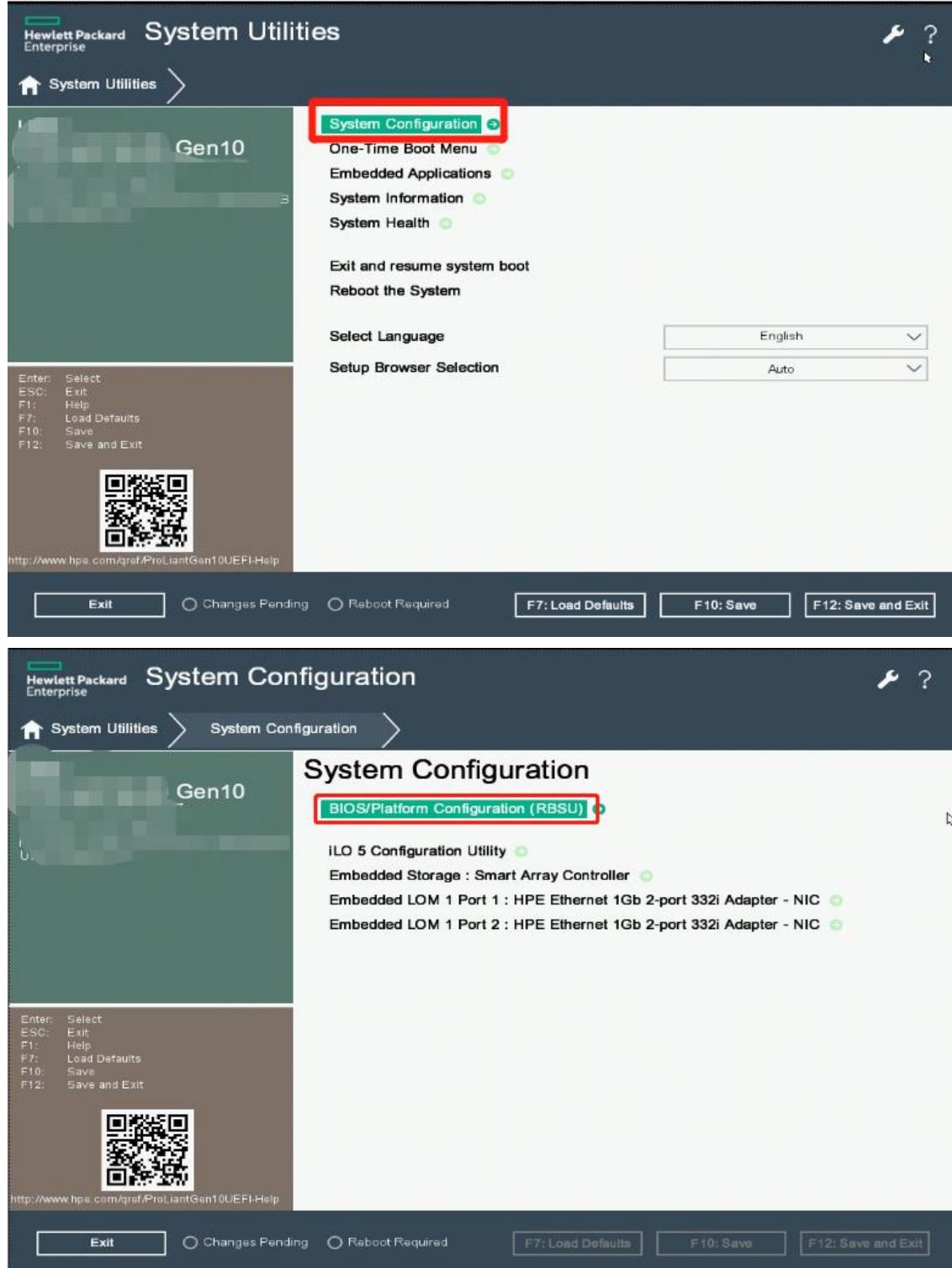
Enter: Select  
ESC: Exit  
F1: Help  
F7: Load Defaults  
F10: Save  
F12: Save and Exit



3) 开启 SR100i 的阵列功能。

将板载 SATA 控制器的模式修改成 SmartRAID SW RAID Support, 然后按 F12 保存并退出。

System Configuration -> BIOS/Platform Configuration (RBSU) -> Storage Option  
-> SATA Controller Options -> Embedded SATA Configuration



The image displays two screenshots of the BIOS/Platform Configuration (RBSU) interface from Hewlett Packard Enterprise.

**Screenshot 1: Main Configuration Screen**

The title bar reads "BIOS/Platform Configuration (RBSU)". The navigation path is "System Utilities > System Configuration > BIOS/Platform Configuration (RBSU)". The main content area is titled "BIOS/Platform Configuration (RBSU)" and contains a "Workload Profile" dropdown set to "General Power Efficient Compute". A list of options includes:

- System Options
- Processor Options
- Memory Options
- Virtualization Options
- Boot Options
- Network Options
- Storage Options** (highlighted with a red box)
- Power and Performance Options
- Embedded UEFI Shell
- Server Security
- PCIe Device Configuration
- Advanced Options
- Date and Time
- System Default Options

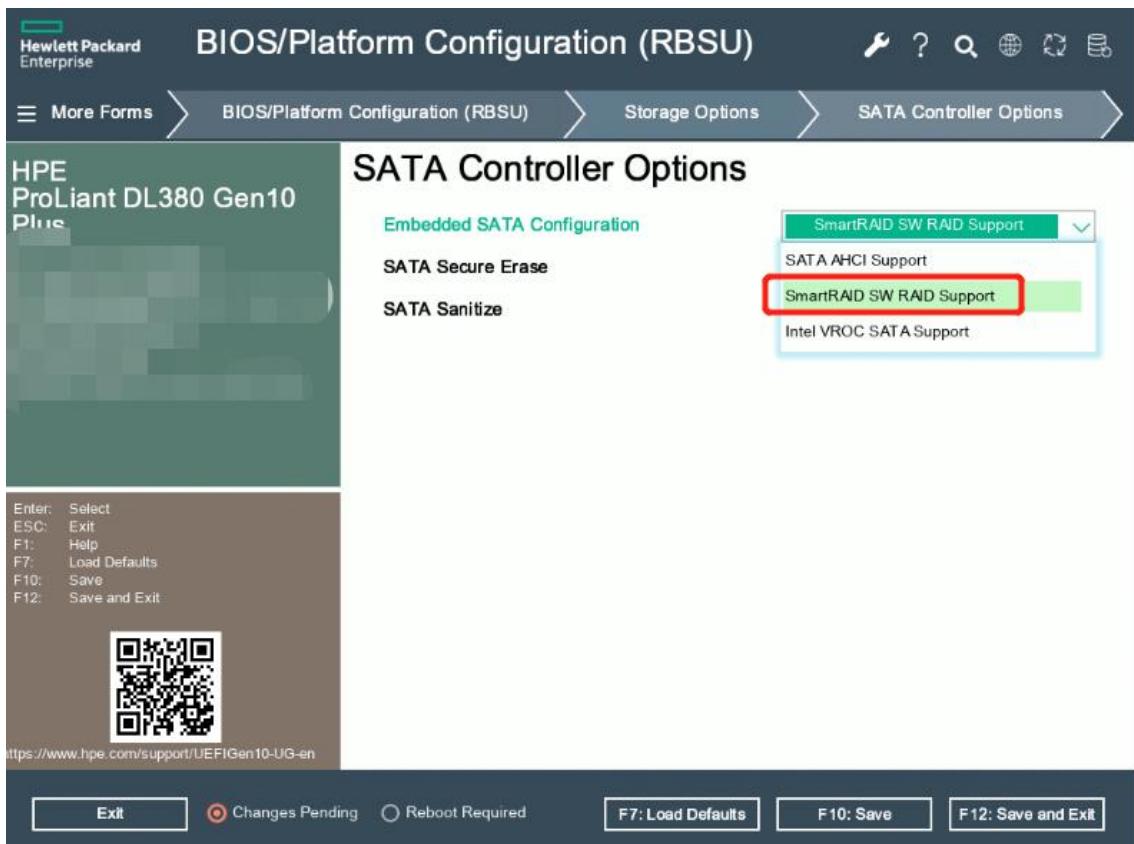
At the bottom, there are buttons for "Exit", "Changes Pending", "Reboot Required", "F7: Load Defaults", "F10: Save", and "F12: Save and Exit".

**Screenshot 2: Storage Options Sub-Menu**

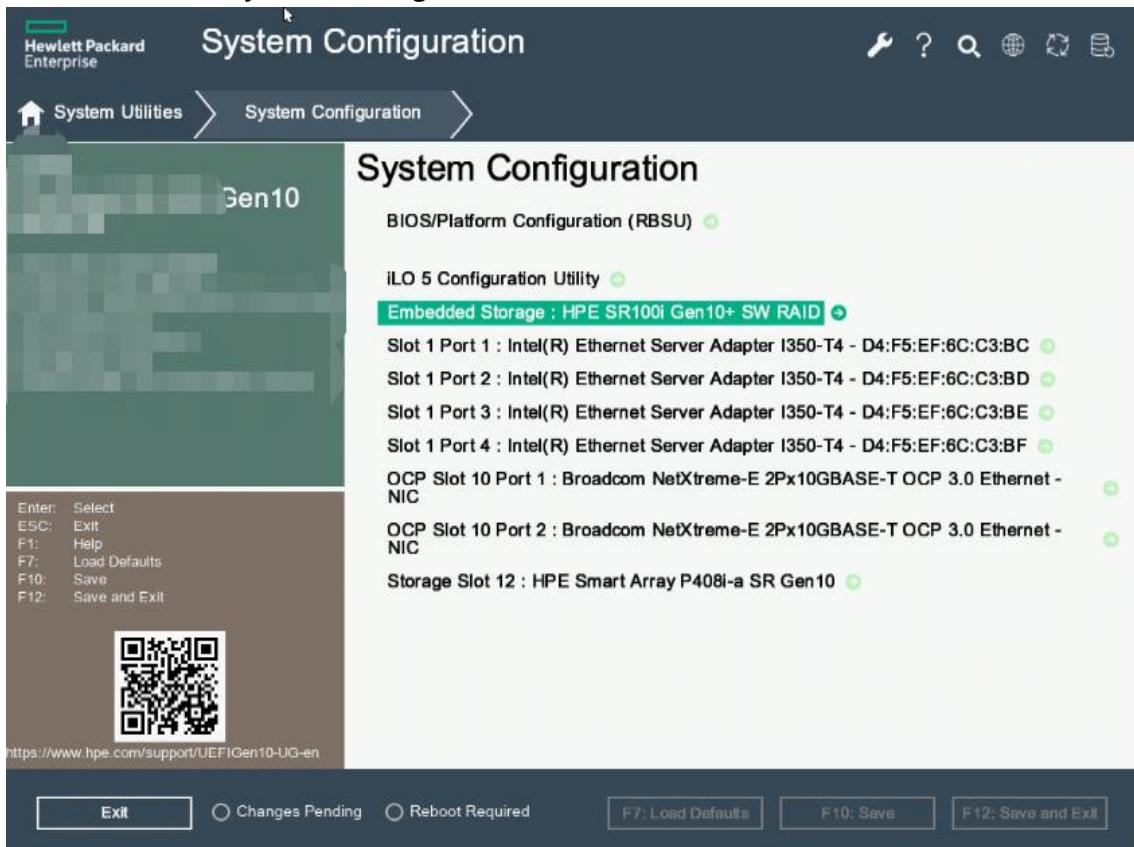
The title bar reads "BIOS/Platform Configuration (RBSU)". The navigation path is "System Utilities > System Configuration > BIOS/Platform Configuration (RBSU) > Storage Options". The main content area is titled "Storage Options" and contains a "SATA Controller Options" link (highlighted with a red box). Other options include:

- Slot Storage Boot Policy
- Fibre Channel/FCoE Scan Policy
- NVM Express Options

A dropdown menu for "Scan Configured Targets Only" is visible. At the bottom, there are buttons for "Exit", "Changes Pending", "Reboot Required", "F7: Load Defaults", "F10: Save", and "F12: Save and Exit".



- 4) 再次进入 BIOS, System Configuration 下显示出阵列卡。



## 2. 访问系统

### 2.1 通过 iLO 启用远程控制台访问系统

iLO 5 页面 Information -> Overview 的 Remote Console 选项，或页面左下方 Remote Console 选区可直接启用远程控制台；也可在 Remote Console & Media - iLO Integrated Remote Console 页面进行选择。本文以.NET 远程控制台为例。

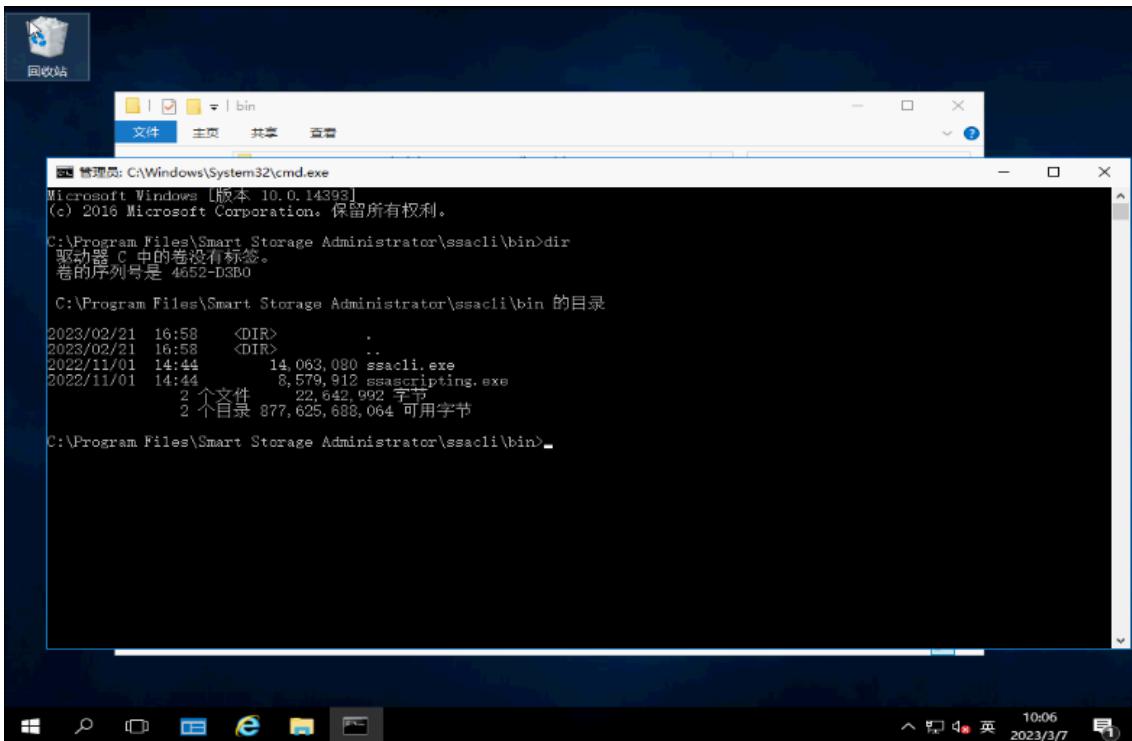
The screenshot shows the iLO 5 Management interface. On the left, the navigation menu includes 'Information', 'Firmware & OS Software', 'iLO Federation', 'Remote Console & Media' (which is selected and highlighted with a red box), 'Power & Thermal', 'Performance', 'iLO Dedicated Network Port', 'iLO Shared Network Port', 'Remote Support', 'Administration', 'Security', 'Management', and 'Lifecycle Management'. The main content area is titled 'Information - iLO Overview' and contains three sections: 'Server', 'iLO', and 'Status'. Under 'Server', there are fields for Product Name, Server Name, System ROM, System ROM Date, Redundant System ROM, Server Serial Number, Product ID, and UUID. Under 'iLO', there are fields for IP Address, Link-Local IPv6 Address, ILO Hostname, ILO Dedicated Network Port, ILO Shared Network Port, ILO Virtual NIC, License Type, ILO Firmware Version, and ILO Date/Time. Under 'Status', there are various health indicators with status icons and descriptions. At the bottom of the main content area, there is a 'Remote Console' section with 'HTML5' and '.NET' options, both of which are highlighted with a red box.

### 2.2 通过远程桌面或第三方 RDP 工具访问系统 (Windows Server)

The screenshot shows a Windows Server desktop session viewed through a third-party RDP tool. The desktop background is the standard Windows 10 blue gradient. The taskbar at the bottom includes the Start button, Task View, File Explorer, Edge browser, and other system icons. On the left, there is a vertical toolbar with icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunnelling, Packages, Settings, and Help. The main window title is 'Quick connect...' and it has various connection options like Detach tab, Toggle scaling, Fullscreen, Fit to window size, Set connection password, Hide bar, and Disconnect.

## 3. 将 Smart Storage Administrator (SSA) CLI 工具保存到系统下

### 3.1 通过 iLO 远程控制台将工具挂载到系统下

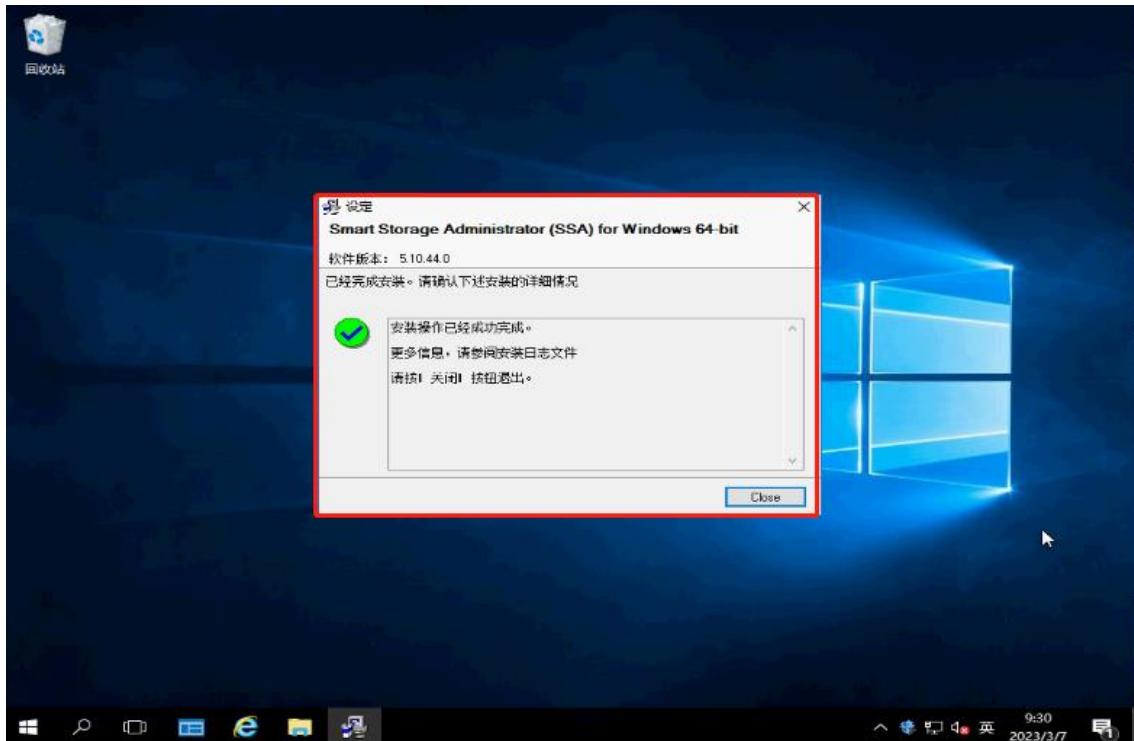


### 3.2 通过 U 盘将工具挂载到系统下

U 盘接入服务器后，在系统下直接访问挂载点。

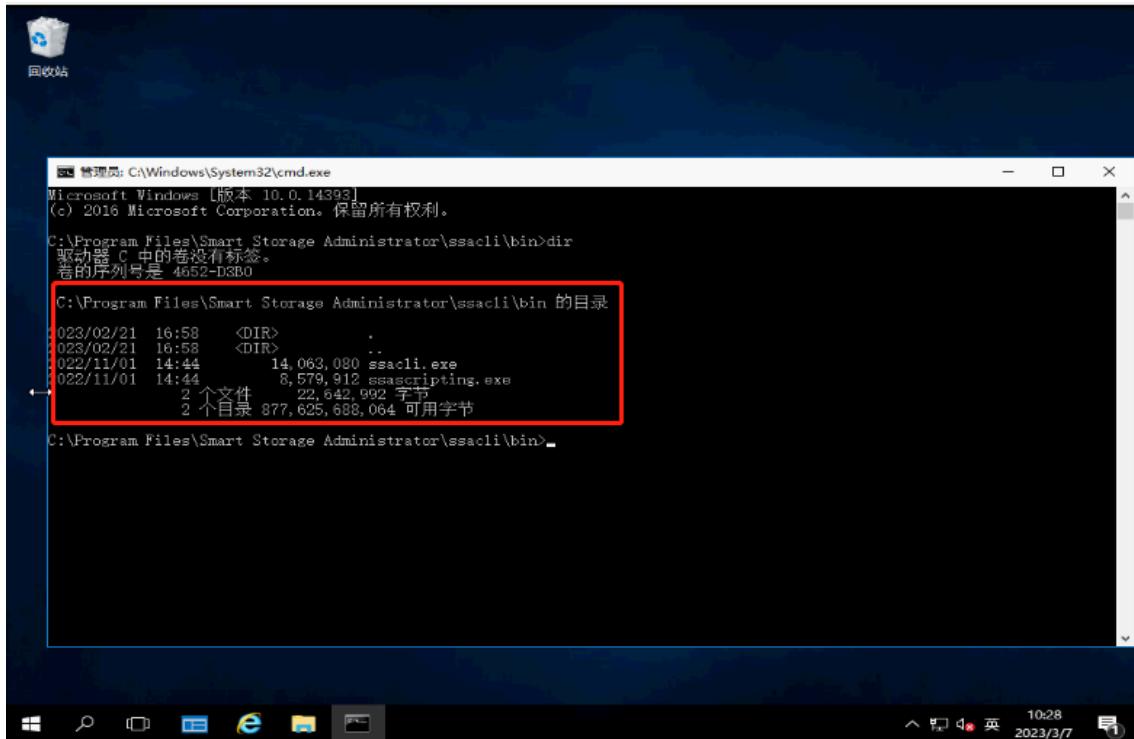
## 4. 安装 Smart Storage Administrator (SSA) CLI

- 1) 双击打开 Smart Storage Administrator 安装包。



- 2) 进入到默认安装路径，打开 Smart Storage Administrator CLI 工具。

C:\Program Files\Smart Storage Administrator\ssaclibin

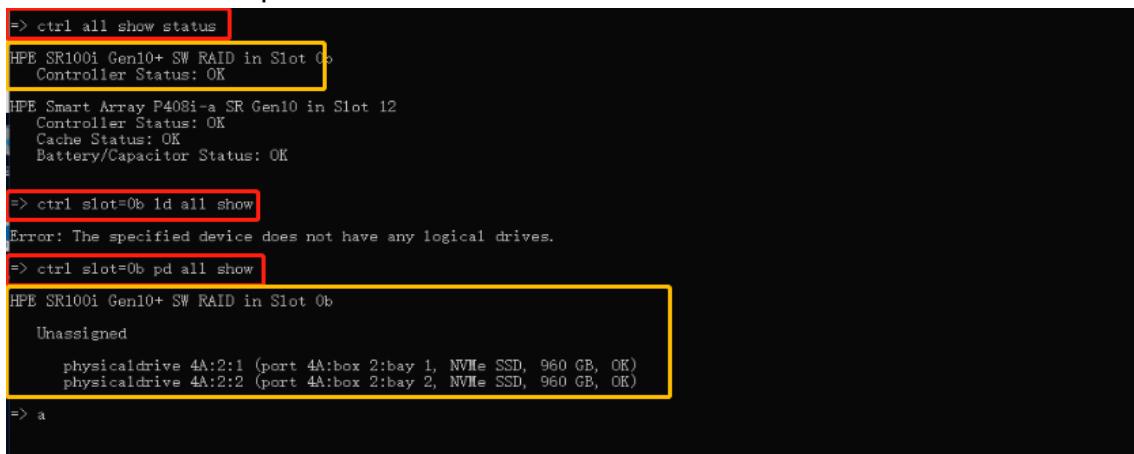


## 5. 获取阵列卡编号、逻辑盘编号和物理盘编号（命令通用）

./ssaclib ctrl all show status 查看服务器阵列卡信息

./ssaclib ctrl slot=0 ld all show 查看服务器逻辑盘信息

./ssaclib ctrl slot=0 pd all show 查看服务器物理驱动器的信息



## 6. 创建与删除阵列

### 6.1 创建阵列

1) 例如用 4A:2:1 硬盘创建 raid0。

./ssaclib ctrl slot=0b create type=ld drives=4A:2:1 raid=0

```
=> ctrl slot=0b create type=ld drives=4A:2:1 raid=0
=> ctrl slot=0b pd all show
HPE SR100i Gen10+ SW RAID in Slot 0b
Array A
physicaldrive 4A:2:1 (port 4A:box 2:bay 1, NVMe SSD, 960 GB, OK)
Unassigned
physicaldrive 4A:2:2 (port 4A:box 2:bay 2, NVMe SSD, 960 GB, OK)
=>
```

## 2) 创建 raid1 阵列

```
=> ctrl slot=0b create type=ld drives=4A:2:1,4A:2:2 raid=1
=> ctrl slot=0b pd all show
HPE SR100i Gen10+ SW RAID in Slot 0b
Array A
physicaldrive 4A:2:1 (port 4A:box 2:bay 1, NVMe SSD, 960 GB, OK)
physicaldrive 4A:2:2 (port 4A:box 2:bay 2, NVMe SSD, 960 GB, OK)
=>
```

## 6.2 删 除阵列

./ssacli ctrl slot=0b array B delete forced 命令删除阵列 A。

```
=> ctrl slot=0b array a delete forced
=> ctrl slot=0b pd all show
HPE SR100i Gen10+ SW RAID in Slot 0b
Unassigned
physicaldrive 4A:2:1 (port 4A:box 2:bay 1, NVMe SSD, 960 GB, OK)
physicaldrive 4A:2:2 (port 4A:box 2:bay 2, NVMe SSD, 960 GB, OK)
```

## 7. 创建与删除热备

- **Dedicated(专用)**: 当硬盘损坏时, 必须使用备用驱动器上的数据进行重建。在专用模式下, 一个备用驱动器可以专用于多个阵列。
- **Auto-Replace Drives(自动更换驱动器)**: 发生故障的数据驱动器的备用驱动器自动变为更换数据驱动器。当更换备用驱动器时, 数据驱动器不需要重建, 在自动更换模式下, 备用驱动器无法在阵列之间共享。

**注意:** 给 RAID0 逻辑卷创建热备盘时, 需要使用./ssacli ctrl slot=0 modify spareactivationmode=predictive 命令调整热备盘替换的模式为“硬盘预损坏即替换”。

## 7.1 创建热备

### 7.1.1 创建专属热备

./ssacli ctrl slot=0B Array A add spares=4A:2:2 sparetype=dedicated

```
=> ctrl slot=0b array A add spares=4A:2:2 sparetype=dedicated
=> ctrl slot=0b pd all show
HPE SR100i Gen10+ SW RAID in Slot 0b
Array A
physicaldrive 4A:2:1 (port 4A:box 2:bay 1, NVMe SSD, 960 GB, OK)
physicaldrive 4A:2:2 (port 4A:box 2:bay 2, NVMe SSD, 960 GB, OK, spare)
=>
```

### 7.1.2 创建自动替换热备

```
./ssacli ctrl slot=0b Array A add spares=4A:2:2 sparetype= autoreplace
```

```
=> ctrl slot=0b array A add spares=4A:2:2 sparetype=autoreplace
```

```
Warning: Any existing spare drives of a different spare type will be removed.  
Continue? (y/n)y
```

```
=> ctrl slot=0b pd all show
```

```
HPE SR100i Gen10+ SW RAID in Slot 0b
```

```
Array A
```

```
physicaldrive 4A:2:1 (port 4A:box 2:bay 1, NVMe SSD, 960 GB, OK)  
physicaldrive 4A:2:2 (port 4A:box 2:bay 2, NVMe SSD, 960 GB, OK, auto replace spare)
```

```
=>
```

## 7.2 删除热备

```
./ssacli ctrl slot=0b Array A remove spares=4A:2:2 命令删除热备。
```

```
=> ctrl slot=0b array A remove spares=4A:2:2  
=> ctrl slot=0b pd all show
```

```
HPE SR100i Gen10+ SW RAID in Slot 0b
```

```
Array A
```

```
physicaldrive 4A:2:1 (port 4A:box 2:bay 1, NVMe SSD, 960 GB, OK)
```

```
Unassigned
```

```
physicaldrive 4A:2:2 (port 4A:box 2:bay 2, NVMe SSD, 960 GB, OK)
```