

H3C G5 服务器 LSI-9440/9540 系列阵列卡图形化 BIOS

UEFI 启动模式下配置 RAID

目录

一. 适用范围与注意事项	1
二. 配置准备	1
1. 连接 HDM 与启用远程控制台	1
2. 确认或修改 BIOS 启动模式	2
三. 配置步骤	2
1. 访问 HDM 并启用 KVM/H5 KVM	2
2. 创建与删除阵列	3
2.1 创建阵列	3
2.2 删除阵列	15
3. 创建与删除热备	17
3.1 创建热备	17
3.2 删除热备	23
4. 设置与取消直通盘	24

一. 适用范围与注意事项

- 本文档旨在说明 H3C G5 系列服务器 LSI-9440/9540 系列存储控制卡在 UEFI BIOS 下配置阵列的方法，并以 R4900 G5 服务器为例进行配置步骤说明。
- 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/208527>
- 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配置请以实际为准。
本文档不定期更新维护，请以发布的最新版本为准。

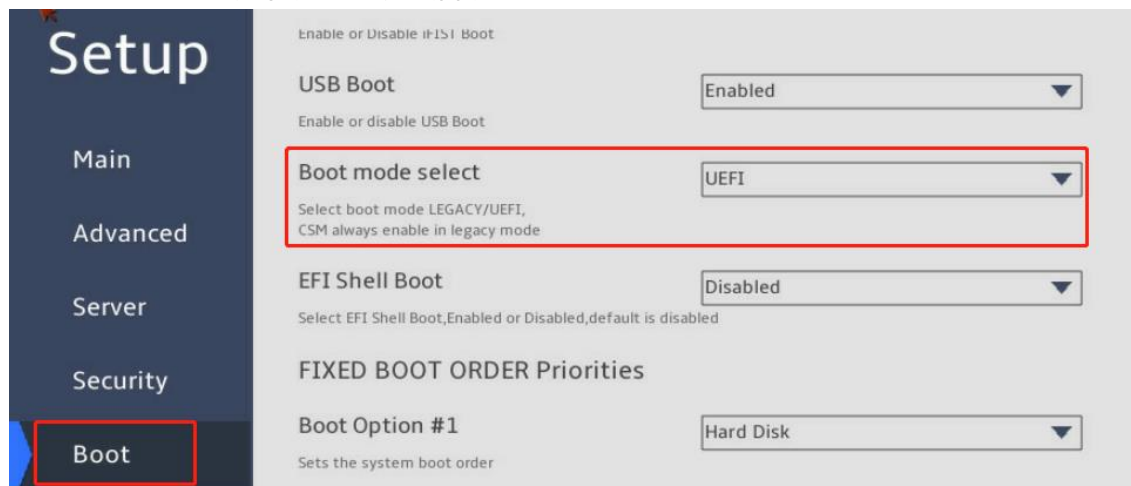
二. 配置准备

1. 连接 HDM 与启用远程控制台

具体方法请参考：<https://zhiliao.h3c.com/Theme/details/210144>

2. 确认或修改 BIOS 启动模式

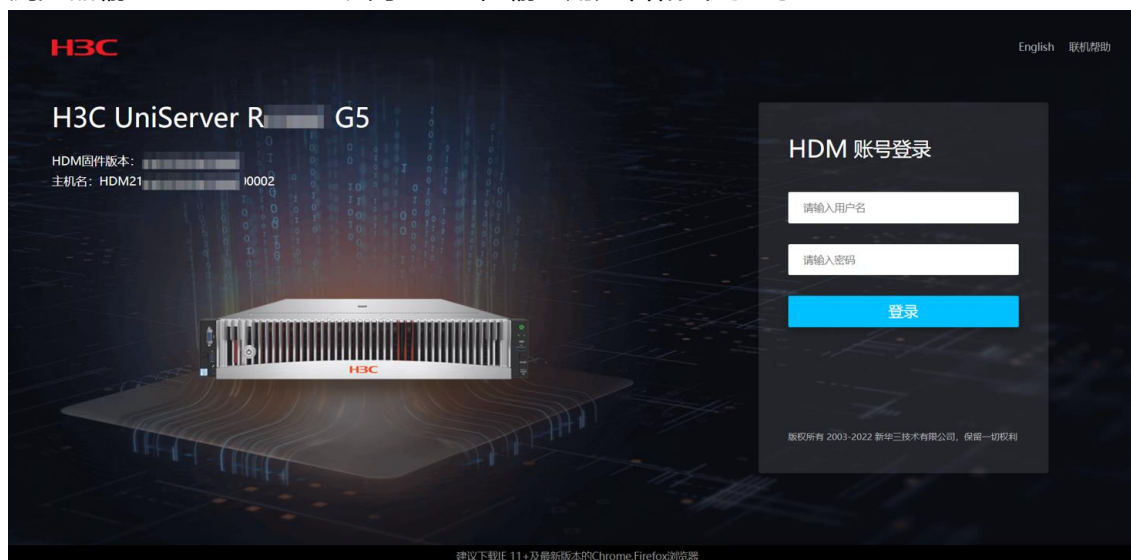
在 BIOS Boot 选项中确认与修改启动模式。



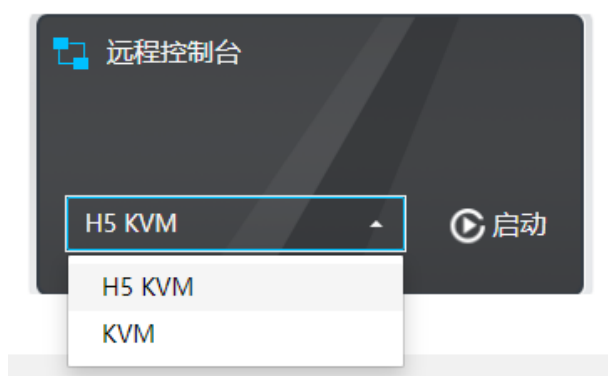
三. 配置步骤

1. 访问 HDM 并启用 KVM/H5 KVM

1) 浏览器输入 HDM IP 地址访问 HDM，输入用户名和密码登录。



2) 选择 **H5 KVM** 或 **KVM** 启用控制台。



注：现场同样可使用显示器、鼠标和键盘等外设与服务器进行交互。

2. 创建与删除阵列

2.1 创建阵列

注：LSI-9440 支持 RAID 0,RAID 1,RAID 10,RAID 5,RAID 50

LSI-9540 支持 RAID 0,RAID 1,RAID 10

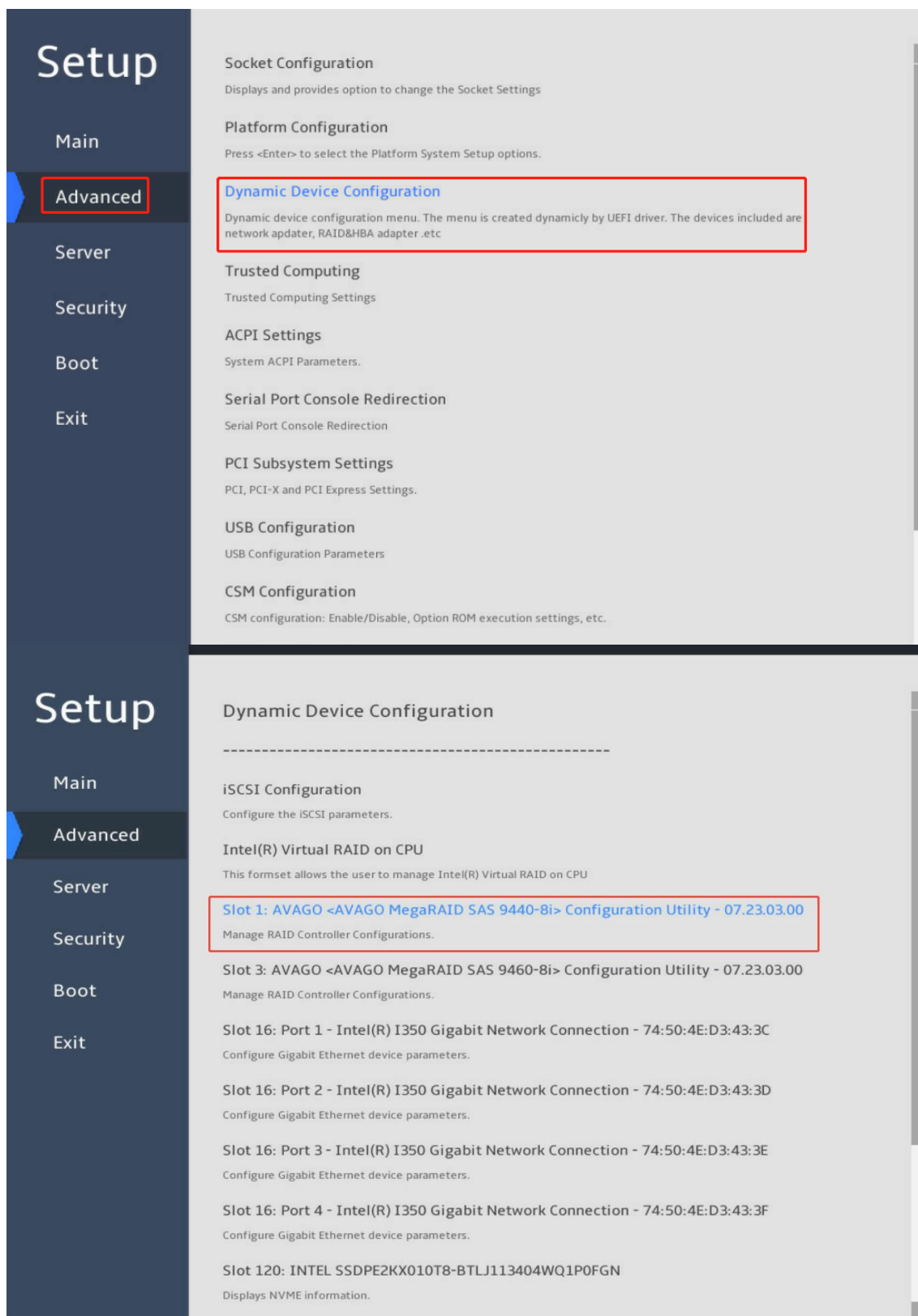
2.1.1 创建 RAID 0

- 1) UEFI BIOS 在开机自检界面按下 **ESC**，进入 BIOS 菜单。



- 2) 在 Advanced 页签下找到并进入阵列卡菜单

注：在 G5 intel 平台服务器中，如 BIOS 版本更新到 5.71 及以上版本，需要在 **Advanced->Dynamic Device Configuration** 下找到**阵列卡**选项。



- 3) 依次选择 **Main Menu>Configuration Management>Create Virtual Drive**, 按 **Enter** 进入后开始创建。

Main Menu

Shows menu options such as Configuration Management, Controller Management, Virtual Drive Management, Drive Management and Hardware Components.

Help

Shows context sensitive help message.

PROPERTIES:

Status

Status of the controller.

Optimal

Configuration Management

Displays configuration options. Some options appear only if the controller supports them. Options are: Create Profile Based Virtual Drive, Create Virtual Drive, Make JBOD, Make Unconfigured Good, Clear configuration, Manage Foreign Configuration, View Drive Group Properties and View Global Hot Spare Drives.

Controller Management

Displays the controller status and basic properties of the controller such as product name, serial number, PCI ID, firmware version and NVDATA Version. You can also use the Advanced link to view additional properties and perform additional tasks such as changing the security key, saving the TTY log.

Virtual Drive Management

Manages the virtual drive properties and enables you to view the basic virtual drive properties and perform operations such as background initialization, consistency check. You can also view additional properties using the Advanced link.

Drive Management

Displays the basic drive properties and performs operations such as assign/unassign a hot spare drive, locate drives, Place Drive offline/online, and rebuild drive. You can also view additional properties using the Advanced link.

Hardware Components

Displays the battery and enclosure status if applicable. You can also view additional properties and perform additional operations using the Advanced link. Some options will appear only if the controller supports them.

Create Virtual Drive

Creates a virtual drive by selecting the RAID level, drives, and virtual drive parameters.

Create Profile Based Virtual Drive

Creates a virtual drive by using a wizard. The wizard makes intelligent choices based on the profile selected by the user. The profile based virtual drive creation method has special requirements. Refer MegaRAID Software User Guide for details.

View Drive Group Properties

Displays information about the available drive groups, associated virtual drives, the capacity allocation, and the assigned dedicated hot spare drives if any.

Make JBOD

Allows changing the state of the drive from unconfigured good to JBOD.

Make Unconfigured Good

Allows changing the state of the drive from JBOD to unconfigured good. The drive containing an OS image cannot be changed to unconfigured good.

Clear Configuration

Deletes all existing configurations on the RAID controller and discards the pinned cache on missing configuration.

- 4) 设置 RAID Level 为 RAID 0; 在 **Select Drives** 中选择成员盘, **对号**表明已选中成员盘, 点击 **Apply Changes** 保存选项。

Save Configuration

Submits the changes made to the entire form and creates a virtual drive with the specified parameters.

Select RAID Level

RAID0

Selects the desired RAID level. The RAID levels that can be configured, if supported, are 0, 1, 5, 6, 00, 10, 50, and 60.

RAID 0 -- uses drive striping to provide high data throughput, especially for large files in an environment that requires no data redundancy.

RAID 1 -- uses drive mirroring on one pair of drives and striped mirroring on more than one pair of drives so that data written to one drive is simultaneously written to another drive. RAID 1 configuration works well for small databases or other applications that require small capacity and complete data redundancy.

RAID 5 -- uses drive striping and parity data across all drives (distributed parity) to provide high data throughput and data redundancy, especially for small random access.

RAID 6 -- is an extension of RAID 5 and uses an additional parity block. RAID 6 uses block-level striping with two parity blocks distributed across all member drives. RAID 6 provides protection against double drive failures, and failures while a single drive is rebuilding. If there is only one array, deploying RAID 6 is more effective than deploying a hot spare drive.

RAID 00 -- A RAID 00 drive group is a spanned drive group that creates a striped set from a series of RAID 0 drive groups. A RAID 00 drive group does not provide any data redundancy, but, along with the RAID 0 drive group, does offer the best performance of any RAID level. RAID 00 requires at least two drives.

RAID 10 -- is a combination of RAID 0 and RAID 1, uses drive striping across mirrored drives. It provides high data throughput and complete data redundancy. RAID 10 can support up to eight spans, and up to 32 drives per span.

RAID 50 -- is a combination of RAID 0 and RAID 5 where a RAID 0 array is striped across RAID 5 elements. RAID 50 requires at least six drives.

RAID 60 -- is a combination of RAID 0 and RAID 6 where a RAID 0 array is striped across RAID 6 elements. RAID 60 requires at least six drives (for some products RAID 60 would require at least eight drives).

Unmap Capability

Disabled

Allows the user to select the unmap capability for the virtual drive. The possible settings are Enable, Disable, and NA.

Select Drives From

Unconfigured Capacity

Enables the drive selection option; Free Capacity utilizes unused (free) drive capacity that is already part of a virtual drive and Unconfigured Capacity creates a virtual drive on unconfigured drives.

Select Drives

Apply Changes

Submits the changes made to the entire form.

Select Media Type

Both

Displays the possible media types, such as HDD and SSD.

Select Interface Type

Both

Displays the technology of the drive, such as SAS or SATA or NVMe.

Logical Sector Size

Both

The logical sector size of this drive. The possible options are 4 KB, 512 B, and both.

CHOOSE UNCONFIGURED DRIVES:

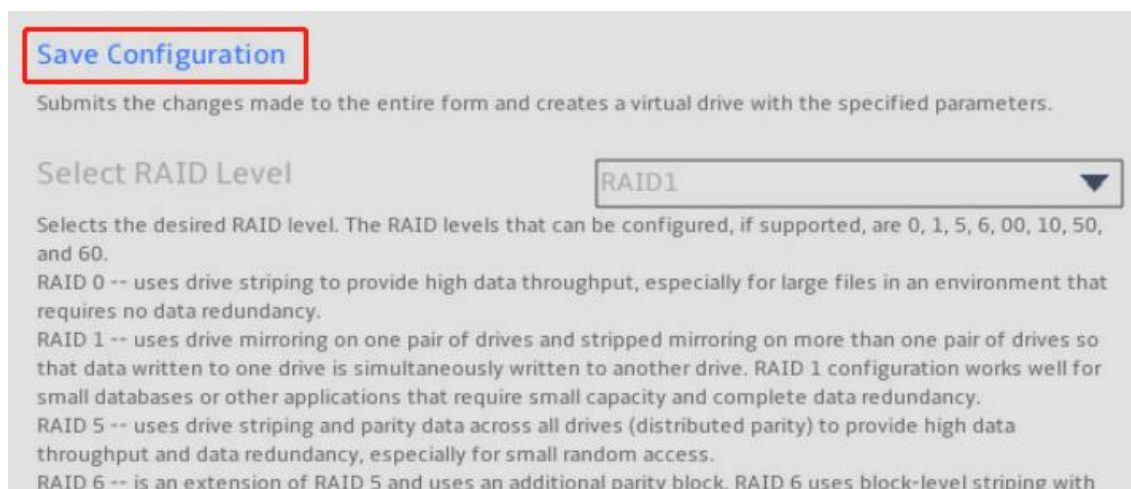
Drive C0 :01:00: SSD, SATA, 893.750GB, Unconfigured Good, (512B)

☒

Drive C0 :01:01: SSD, SATA, 893.750GB, Unconfigured Good, (512B)

☒

5) RAID 级别与成员盘设置完成后，选择 **Save Configuration** 保存阵列选项。



Save Configuration

Submits the changes made to the entire form and creates a virtual drive with the specified parameters.

Select RAID Level RAID1

Selects the desired RAID level. The RAID levels that can be configured, if supported, are 0, 1, 5, 6, 00, 10, 50, and 60.

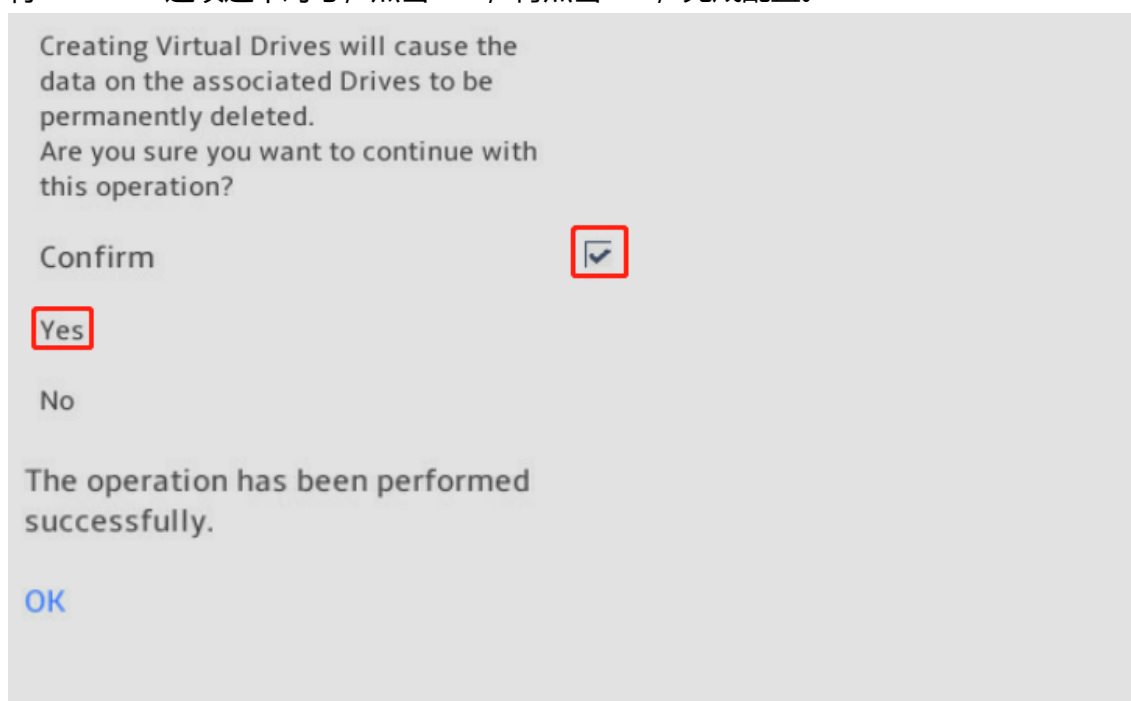
RAID 0 -- uses drive striping to provide high data throughput, especially for large files in an environment that requires no data redundancy.

RAID 1 -- uses drive mirroring on one pair of drives and striped mirroring on more than one pair of drives so that data written to one drive is simultaneously written to another drive. RAID 1 configuration works well for small databases or other applications that require small capacity and complete data redundancy.

RAID 5 -- uses drive striping and parity data across all drives (distributed parity) to provide high data throughput and data redundancy, especially for small random access.

RAID 6 -- is an extension of RAID 5 and uses an additional parity block. RAID 6 uses block-level striping with

6) 将 Confirm 选项选中对号，点击 **Yes**，再点击 **OK**，完成配置。



Creating Virtual Drives will cause the data on the associated Drives to be permanently deleted.
Are you sure you want to continue with this operation?

Confirm ☒

Yes

No

The operation has been performed successfully.

OK

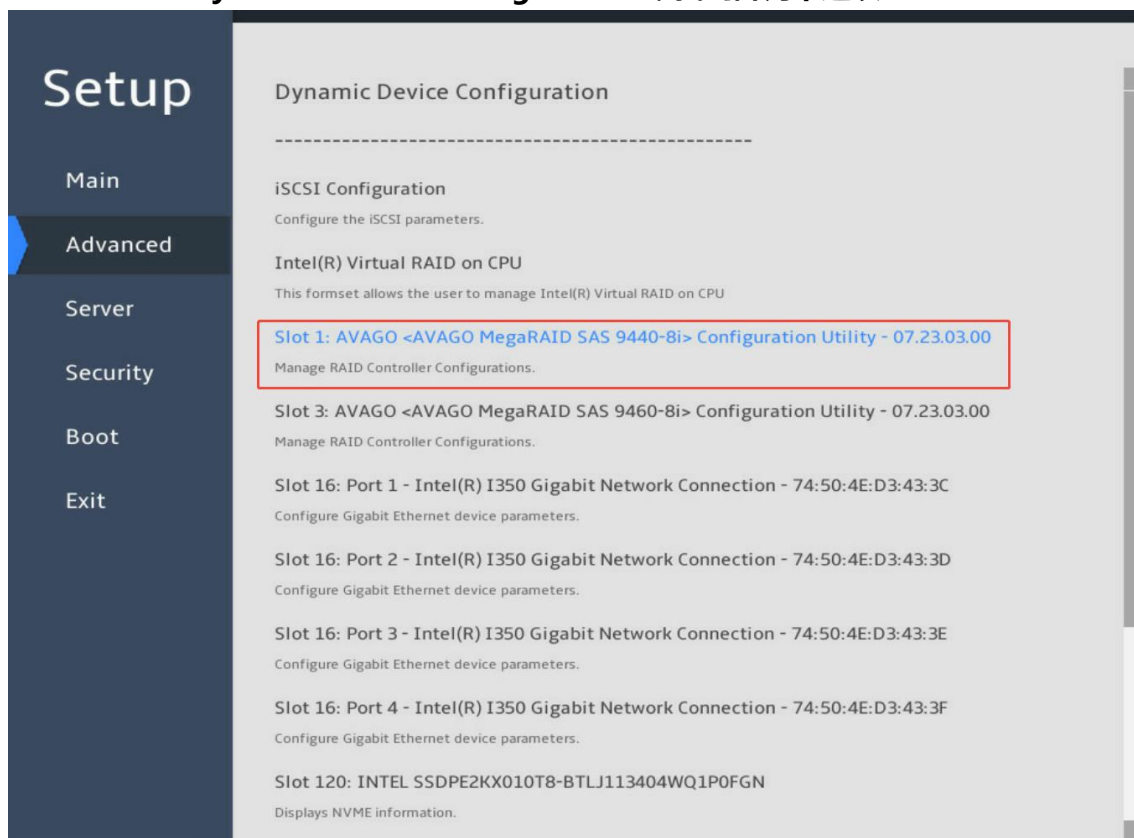
2.1.2 创建 RAID 10

1) UEFI BIOS 在开机自检界面按下 **ESC**，进入 BIOS 菜单。



2) 在 Advanced 页签下找到并进入阵列卡菜单

注：在 G5 intel 平台服务器中，如 BIOS 版本更新到 5.71 及以上版本，需要在 **Advanced->Dynamic Device Configuration** 下找到阵列卡选项。



- 3) 依次选择 **Main Menu>Configuration Management>Create Virtual Drive**, 按 **Enter** 进入后开始创建。

Main Menu

Shows menu options such as Configuration Management, Controller Management, Virtual Drive Management, Drive Management and Hardware Components.

Help

Shows context sensitive help message.

PROPERTIES:

Status

Optimal

Status of the controller.

Configuration Management

Displays configuration options. Some options appear only if the controller supports them. Options are: Create Profile Based Virtual Drive, Create Virtual Drive, Make JBOD, Make Unconfigured Good, Clear configuration, Manage Foreign Configuration, View Drive Group Properties and View Global Hot Spare Drives.

Controller Management

Displays the controller status and basic properties of the controller such as product name, serial number, PCI ID, firmware version and NVDATA Version. You can also use the Advanced link to view additional properties and perform additional tasks such as changing the security key, saving the TTY log.

Virtual Drive Management

Manages the virtual drive properties and enables you to view the basic virtual drive properties and perform operations such as background initialization, consistency check. You can also view additional properties using the Advanced link.

Drive Management

Displays the basic drive properties and performs operations such as assign/unassign a hot spare drive, locate drives, Place Drive offline/online, and rebuild drive. You can also view additional properties using the Advanced link.

Hardware Components

Displays the battery and enclosure status if applicable. You can also view additional properties and perform additional operations using the Advanced link. Some options will appear only if the controller supports them.

Auto Configure RAID 0

Configures a Unconfigured Good drive to single drive RAID 0. After performing this operation, if you insert any new configurable drive, that drive will remain as a Unconfigured Good drive.

Create Virtual Drive

Creates a virtual drive by selecting the RAID level, drives, and virtual drive parameters.

Create Profile Based Virtual Drive

Creates a virtual drive by using a wizard. The wizard makes intelligent choices based on the profile selected by the user. The profile based virtual drive creation method has special requirements. Refer MegaRAID Software User Guide for details.

Make JBOD

Allows changing the state of the drive from unconfigured good to JBOD.

Clear Configuration

Deletes all existing configurations on the RAID controller and discards the pinned cache on missing configuration.

4) 设置 RAID Level 为 RAID 10。

Select RAID Level

Selects the desired RAID level. The RAID levels that can be configured are RAID 0, RAID 1, RAID 5, RAID 6, RAID 00, RAID 10, RAID 50, and RAID 60.

RAID 0 -- uses drive striping to provide high data throughput and no data redundancy. RAID 0 requires no data redundancy.

RAID 1 -- uses drive mirroring on one pair of drives and stripes data across the pair. RAID 1 ensures that data written to one drive is simultaneously written to the other drive. RAID 1 is suitable for small databases or other applications that require small random access.

RAID 5 -- uses drive striping and parity data across all drives in the array. RAID 5 provides high throughput and data redundancy, especially for small random access.

RAID 6 -- is an extension of RAID 5 and uses an additional parity block. RAID 6 uses block-level striping with two parity blocks distributed across all member drives. RAID 6 provides protection against double drive failures, and failures while a single drive is rebuilding. If there is only one array, deploying RAID 6 is more effective than deploying a hot spare drive.

RAID 00 -- A RAID 00 drive group is a spanned drive group that creates a striped set from a series of RAID 0 drive groups. A RAID 00 drive group does not provide any data redundancy, but, along with the RAID 0 drive group, does offer the best performance of any RAID level. RAID 00 requires at least two drives.

RAID 10 -- is a combination of RAID 0 and RAID 1, uses drive striping across mirrored drives. It provides high data throughput and complete data redundancy. RAID 10 can support up to eight spans, and up to 32 drives per span.

RAID 50 -- is a combination of RAID 0 and RAID 5 where a RAID 0 array is striped across RAID 5 elements. RAID 50 requires at least six drives.

RAID 60 -- is a combination of RAID 0 and RAID 6 where a RAID 0 array is striped across RAID 6 elements. RAID 60 requires at least six drives (for some products RAID 60 would require at least eight drives).

RAID10

RAID0

RAID1

RAID5

RAID6

RAID00

RAID10

Unmap Capability

Disabled

Allows the user to select the unmap capability for the virtual drive. The possible settings are Enable, Disable, and NA.

Select Drives From

Unconfigured Capacity

Enables the drive selection option; Free Capacity utilizes unused (free) drive capacity that is already part of a virtual drive and Unconfigured Capacity creates a virtual drive on unconfigured drives.

SELECT SPAN(S):

- 5) 在 **Select Drives** 中选择成员盘，在 **Select Drives** 中选择第一个 Span 的成员盘；**Enabled** 表明已选中成员盘，点击 **Apply Changes** 保存选项。

Select RAID Level

RAID10

Selects the desired RAID level. The RAID levels that can be configured, if supported, are 0, 1, 5, 6, 00, 10, 50, and 60.

RAID 0 -- uses drive striping to provide high data throughput, especially for large files in an environment that requires no data redundancy.

RAID 1 -- uses drive mirroring on one pair of drives and striped mirroring on more than one pair of drives so that data written to one drive is simultaneously written to another drive. RAID 1 configuration works well for small databases or other applications that require small capacity and complete data redundancy.

RAID 5 -- uses drive striping and parity data across all drives (distributed parity) to provide high data throughput and data redundancy, especially for small random access.

RAID 6 -- is an extension of RAID 5 and uses an additional parity block. RAID 6 uses block-level striping with two parity blocks distributed across all member drives. RAID 6 provides protection against double drive failures, and failures while a single drive is rebuilding. If there is only one array, deploying RAID 6 is more effective than deploying a hot spare drive.

RAID 00 -- A RAID 00 drive group is a spanned drive group that creates a striped set from a series of RAID 0 drive groups. A RAID 00 drive group does not provide any data redundancy, but, along with the RAID 0 drive group, does offer the best performance of any RAID level. RAID 00 requires at least two drives.

RAID 10 -- is a combination of RAID 0 and RAID 1, uses drive striping across mirrored drives. It provides high data throughput and complete data redundancy. RAID 10 can support up to eight spans, and up to 32 drives per span.

RAID 50 -- is a combination of RAID 0 and RAID 5 where a RAID 0 array is striped across RAID 5 elements. RAID 50 requires at least six drives.

RAID 60 -- is a combination of RAID 0 and RAID 6 where a RAID 0 array is striped across RAID 6 elements. RAID 60 requires at least six drives (for some products RAID 60 would require at least eight drives).

Unmap Capability

Disabled

Allows the user to select the unmap capability for the virtual drive. The possible settings are Enable, Disable, and NA.

Select Drives From

Unconfigured Capacity

Enables the drive selection option; Free Capacity utilizes unused (free) drive capacity that is already part of a virtual drive and Unconfigured Capacity creates a virtual drive on unconfigured drives.

SELECT SPAN(S):

Span 0:

Select Drives

- 6) 在生成第一个 Span 后，选择 **Add More Spans** 添加第二个 Span 的成员盘，方法同上。

RAID 1 -- uses drive mirroring on one pair of drives and striped mirroring on more than one pair of drives so that data written to one drive is simultaneously written to another drive. RAID 1 configuration works well for small databases or other applications that require small capacity and complete data redundancy.

RAID 5 -- uses drive striping and parity data across all drives (distributed parity) to provide high data throughput and data redundancy, especially for small random access.

RAID 6 -- is an extension of RAID 5 and uses an additional parity block. RAID 6 uses block-level striping with two parity blocks distributed across all member drives. RAID 6 provides protection against double drive failures, and failures while a single drive is rebuilding. If there is only one array, deploying RAID 6 is more effective than deploying a hot spare drive.

RAID 00 -- A RAID 00 drive group is a spanned drive group that creates a striped set from a series of RAID 0 drive groups. A RAID 00 drive group does not provide any data redundancy, but, along with the RAID 0 drive group, does offer the best performance of any RAID level. RAID 00 requires at least two drives.

RAID 10 -- is a combination of RAID 0 and RAID 1, uses drive striping across mirrored drives. It provides high data throughput and complete data redundancy. RAID 10 can support up to eight spans, and up to 32 drives per span.

RAID 50 -- is a combination of RAID 0 and RAID 5 where a RAID 0 array is striped across RAID 5 elements. RAID 50 requires at least six drives.

RAID 60 -- is a combination of RAID 0 and RAID 6 where a RAID 0 array is striped across RAID 6 elements. RAID 60 requires at least six drives (for some products RAID 60 would require at least eight drives).

Unmap Capability

Disabled

Allows the user to select the unmap capability for the virtual drive. The possible settings are Enable, Disable, and NA.

Select Drives From

Unconfigured Capacity

Enables the drive selection option; Free Capacity utilizes unused (free) drive capacity that is already part of a virtual drive and Unconfigured Capacity creates a virtual drive on unconfigured drives.

SELECT SPAN(S):

Span 0:

(Drive C0 :01:00 SATA)(Drive C0 :01:01 SATA)

Select Drives

Allows you to select drives for creating virtual drive.

Add More Spans

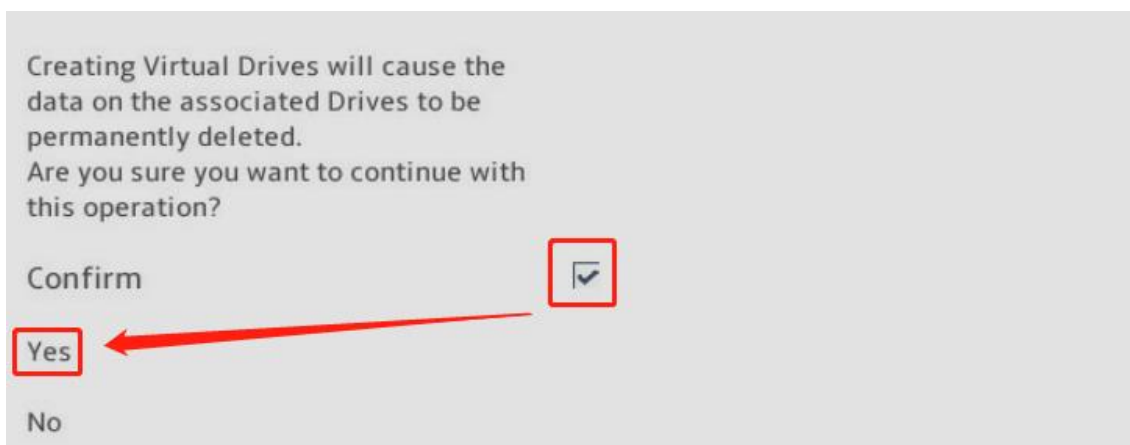
7) 所有 Span 设置完成后, 选择 **Save Configuration** 完成配置, 生成阵列。

Save Configuration

Submits the changes made to the entire form and creates a virtual drive with the specified parameters.

Select RAID Level

RAID10

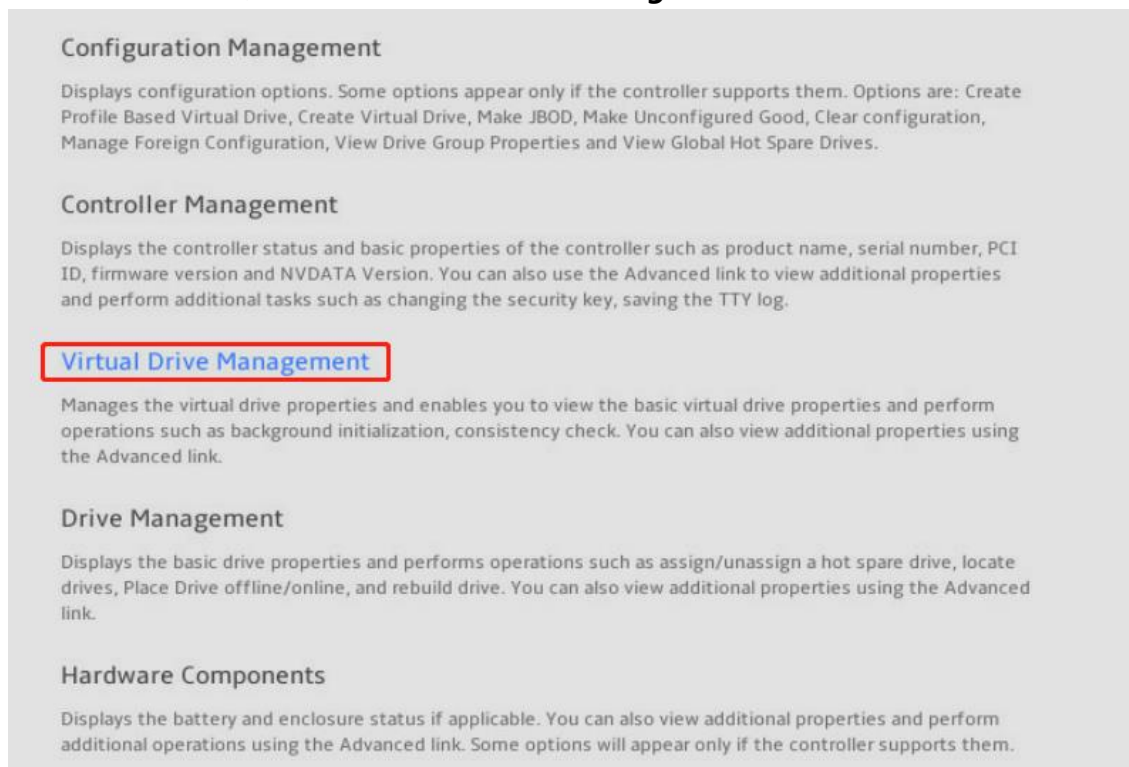


注：配置 RAID 50 时也需要先配置 Span，配置方法与 RAID 10 相同，下面为设置 Span 的说明：

- RAID 10 支持 2~8 个 Span，每个 Span 至少需要 2 个磁盘且数量必须为偶数，且各个 Span 的硬盘数量必须保持一致。
- RAID 50 支持 2~8 个 Span，每个 Span 至少需要 3 个磁盘，且各个 Span 的硬盘数量必须保持一致。

2.2 删除阵列

1) 在存储控制卡配置界面选择 **Virtual Drive Management**，按 **Enter**。



2) 选择待删除的逻辑磁盘，按 **Enter**。

Virtual Drive 0: RAID0, 893.750GB, Optimal

Displays the properties of a specific virtual drive. You can perform operations (such as Start Locate, Stop Locate, Consistency Check), view basic properties and click Advanced for viewing additional properties.

- 3) 选中 **Operation**, 按 **Enter**, 然后在弹出的对话框中选择 **Delete Virtual Drive**, 按 **Enter**。

The screenshot shows the 'Operation' section of the Virtual Drive management interface. A red box highlights the 'Go' button. To the right, a dropdown menu is open, showing a list of operations. A red box highlights 'Delete Virtual Drive' in this list. Below the 'Operation' section, the 'BASIC PROPERTIES:' section is visible, showing fields for 'Name', 'RAID Level' (set to RAID0), and 'Status' (set to Optimal).

- 4) 选择 **Go**, 确认操作; 选择 **Confirm**, 使其 **Enabled**, 选择 **Yes**, 按 **Enter**。

The screenshot shows a confirmation dialog box. The text reads: 'Deleting a Virtual Drive deletes all of the data on it. Are you sure you want to delete the selected virtual drive?'. Below this, there is a 'Confirm' section with a checkbox that is checked (indicated by a red box). At the bottom, there are 'Yes' and 'No' buttons. A red arrow points from the checked checkbox to the 'Yes' button.

The screenshot shows a success message: 'The operation has been performed successfully.' Below the message is an 'OK' button.

3. 创建与删除热备

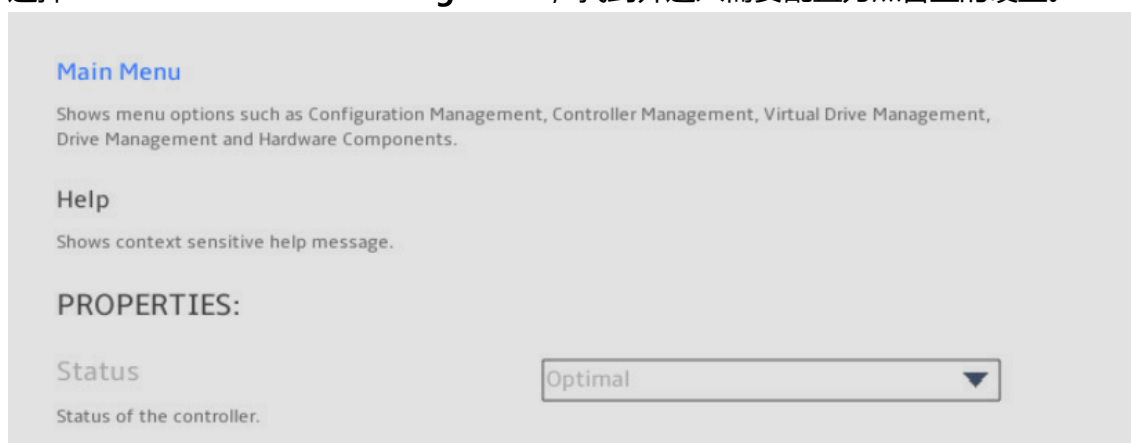
热备盘类型：

- **Global Spare**：即全局热备盘，为存储控制卡上存在的全部具有冗余功能的 RAID 提供热备，可将一块或多块磁盘配置为全局热备盘。全局热备盘可自动替换任意 RAID 中出现的故障盘，当使用新盘替换故障盘后，根据存储控制卡是否支持回拷功能，新盘及原热备盘的处理方式有如下几种：
 - 存储控制卡支持回拷功能：原热备盘中数据将回拷至新盘，新盘替代原热备盘成为 RAID 成员盘，原热备盘恢复为 Global Spare 状态。
 - 存储控制卡不支持回拷功能：原热备盘仍作为 RAID 成员盘，新盘为空闲盘，如需将新盘作为新热备盘使用，需要重新在 RAID 卡的管理界面或命令行工具中进行配置。
- **Dedicated Spare**：即专属热备盘，为存储控制卡上某个指定具有冗余功能的 RAID 提供热备，每个 RAID 都可配置一个或多个专属热备盘。专属热备盘可自动替换指定 RAID 内出现的故障盘，当使用新盘替换故障盘后，根据存储控制卡是否支持回拷功能，新盘及原热备盘的处理方式有如下几种：
 - 存储控制卡支持回拷功能：原热备盘中数据将回拷至新盘，新盘替代原热备盘成为 RAID 成员盘，原热备盘恢复为 Dedicated Spare 状态。
 - 存储控制卡不支持回拷功能：原热备盘仍作为 RAID 成员盘，新盘为空闲盘，如需将新盘作为新热备盘使用，需要重新在 RAID 卡的管理界面或命令行工具中进行配置。

3.1 创建热备

3.1.1 创建全局热备

- 1) 选择 **Main Menu>Drive Management**，找到并进入需要配置为热备盘的硬盘。



Configuration Management

Displays configuration options. Some options appear only if the controller supports them. Options are: Create Profile Based Virtual Drive, Create Virtual Drive, Make JBOD, Make Unconfigured Good, Clear configuration, Manage Foreign Configuration, View Drive Group Properties and View Global Hot Spare Drives.

Controller Management

Displays the controller status and basic properties of the controller such as product name, serial number, PCI ID, firmware version and NVDATA Version. You can also use the Advanced link to view additional properties and perform additional tasks such as changing the security key, saving the TTY log.

Virtual Drive Management

Manages the virtual drive properties and enables you to view the basic virtual drive properties and perform operations such as background initialization, consistency check. You can also view additional properties using the Advanced link.

Drive Management

Displays the basic drive properties and performs operations such as assign/unassign a hot spare drive, locate drives, Place Drive offline/online, and rebuild drive. You can also view additional properties using the Advanced link.

Hardware Components

Displays the battery and enclosure status if applicable. You can also view additional properties and perform additional operations using the Advanced link. Some options will appear only if the controller supports them.

Drive C0 :01:00: SSD, SATA, 893.750GB, Online, (512B)

Displays the properties of a specific drive. For a physical drive, you can perform several operations (such as Rebuild, Initialize drive), view basic properties of the drive and also click Advanced to view additional properties.

Drive C0 :01:01: SSD, SATA, 893.750GB, Online, (512B)

Displays the properties of a specific drive. For a physical drive, you can perform several operations (such as Rebuild, Initialize drive), view basic properties of the drive and also click Advanced to view additional properties.

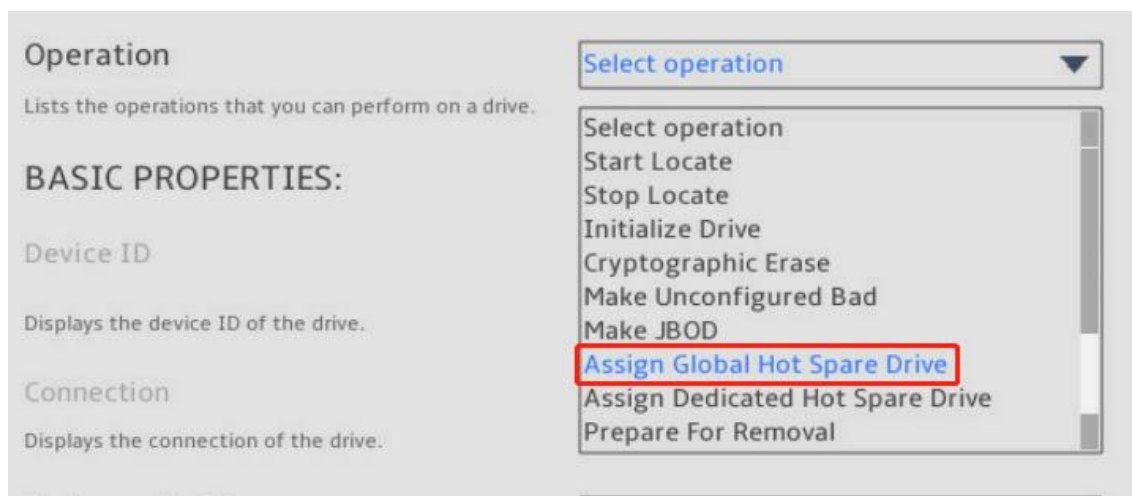
Drive C0 :01:02: SSD, SATA, 893.750GB, Unconfigured Good, (512B)

Displays the properties of a specific drive. For a physical drive, you can perform several operations (such as Rebuild, Initialize drive), view basic properties of the drive and also click Advanced to view additional properties.

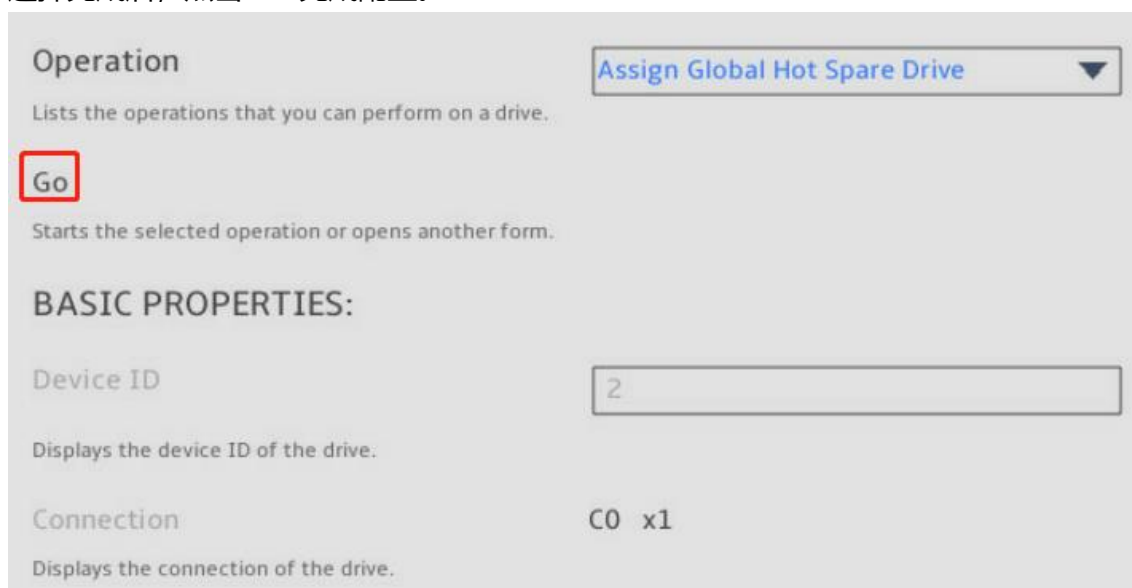
Drive C0 :01:03: SSD, SATA, 893.750GB, Unconfigured Good, (512B)

Displays the properties of a specific drive. For a physical drive, you can perform several operations (such as Rebuild, Initialize drive), view basic properties of the drive and also click Advanced to view additional properties.

- 2) 选中 **Operation**, 按 **Enter**, 然后再选择 **Assign Global Hot Spare Drive**, 按 **Enter**。



3) 选择完成后，点击 **Go** 完成配置。



4) 配置完成的硬盘状态将显示为 Hot Spare。

Operation

Lists the operations that you can perform on a drive.

Select operation

BASIC PROPERTIES:

Device ID

2

Displays the device ID of the drive.

Connection

C0 x1

Displays the connection of the drive.

Enclosure Position

1

Displays the position of the enclosure within the chain.

Slot Number

2

Displays the slot position of the drive.

Status

Hot Spare

3.1.2 创建专用热备

- 1) 选择 **Main Menu>Drive Management**，找到并进入需要配置为热备盘的硬盘。

Main Menu

Shows menu options such as Configuration Management, Controller Management, Virtual Drive Management, Drive Management and Hardware Components.

Help

Shows context sensitive help message.

PROPERTIES:

Status

Optimal

Status of the controller.

Backplane

1

Number of backplanes connected to this controller.

Configuration Management

Displays configuration options. Some options appear only if the controller supports them. Options are: Create Profile Based Virtual Drive, Create Virtual Drive, Make JBOD, Make Unconfigured Good, Clear configuration, Manage Foreign Configuration, View Drive Group Properties and View Global Hot Spare Drives.

Controller Management

Displays the controller status and basic properties of the controller such as product name, serial number, PCI ID, firmware version and NVDATA Version. You can also use the Advanced link to view additional properties and perform additional tasks such as changing the security key, saving the TTY log.

Virtual Drive Management

Manages the virtual drive properties and enables you to view the basic virtual drive properties and perform operations such as background initialization, consistency check. You can also view additional properties using the Advanced link.

Drive Management

Displays the basic drive properties and performs operations such as assign/unassign a hot spare drive, locate drives, Place Drive offline/online, and rebuild drive. You can also view additional properties using the Advanced link.

Hardware Components

Displays the battery and enclosure status if applicable. You can also view additional properties and perform additional operations using the Advanced link. Some options will appear only if the controller supports them.

Drive C0 :01:00: SSD, SATA, 893.750GB, Online, (512B)

Displays the properties of a specific drive. For a physical drive, you can perform several operations (such as Rebuild, Initialize drive), view basic properties of the drive and also click Advanced to view additional properties.

Drive C0 :01:01: SSD, SATA, 893.750GB, Online, (512B)

Displays the properties of a specific drive. For a physical drive, you can perform several operations (such as Rebuild, Initialize drive), view basic properties of the drive and also click Advanced to view additional properties.

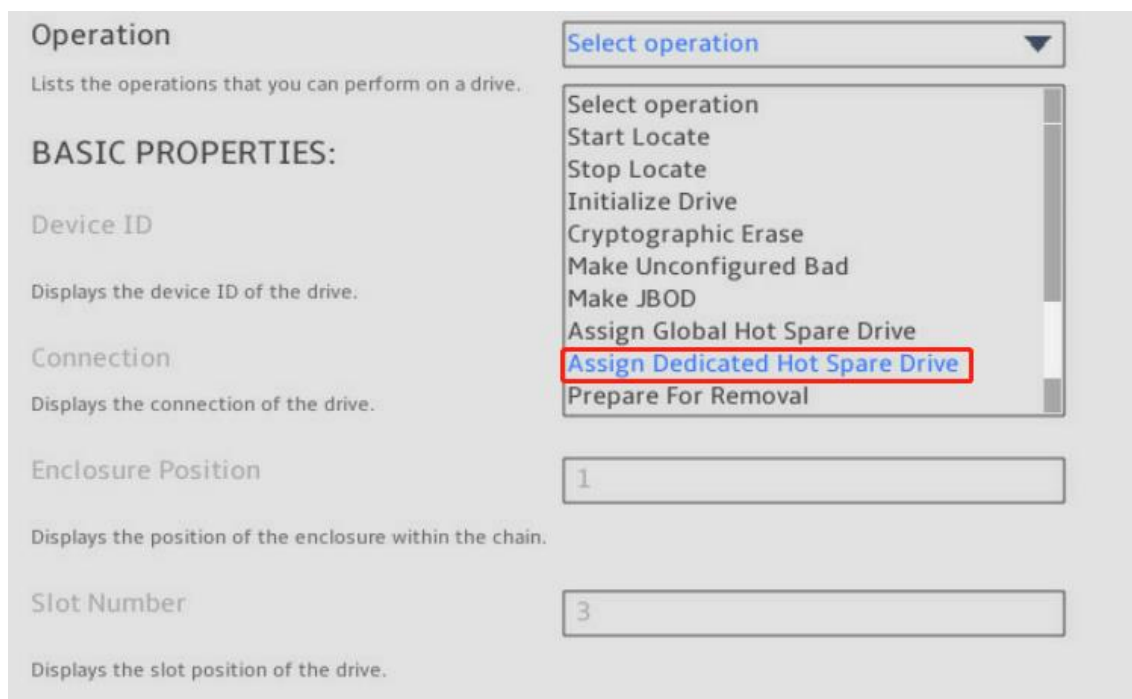
Drive C0 :01:02: SSD, SATA, 893.750GB, Hot Spare, (512B)

Displays the properties of a specific drive. For a physical drive, you can perform several operations (such as Rebuild, Initialize drive), view basic properties of the drive and also click Advanced to view additional properties.

Drive C0 :01:03: SSD, SATA, 893.750GB, Unconfigured Good, (512B)

Displays the properties of a specific drive. For a physical drive, you can perform several operations (such as Rebuild, Initialize drive), view basic properties of the drive and also click Advanced to view additional properties.

- 2) 选中 **Operation**，按 **Enter**，然后再选择 **Assign Dedicated Hot Spare Drive**，按 **Enter**。



Operation
Lists the operations that you can perform on a drive.

BASIC PROPERTIES:

Device ID
Displays the device ID of the drive.

Connection
Displays the connection of the drive.

Enclosure Position
Displays the position of the enclosure within the chain.

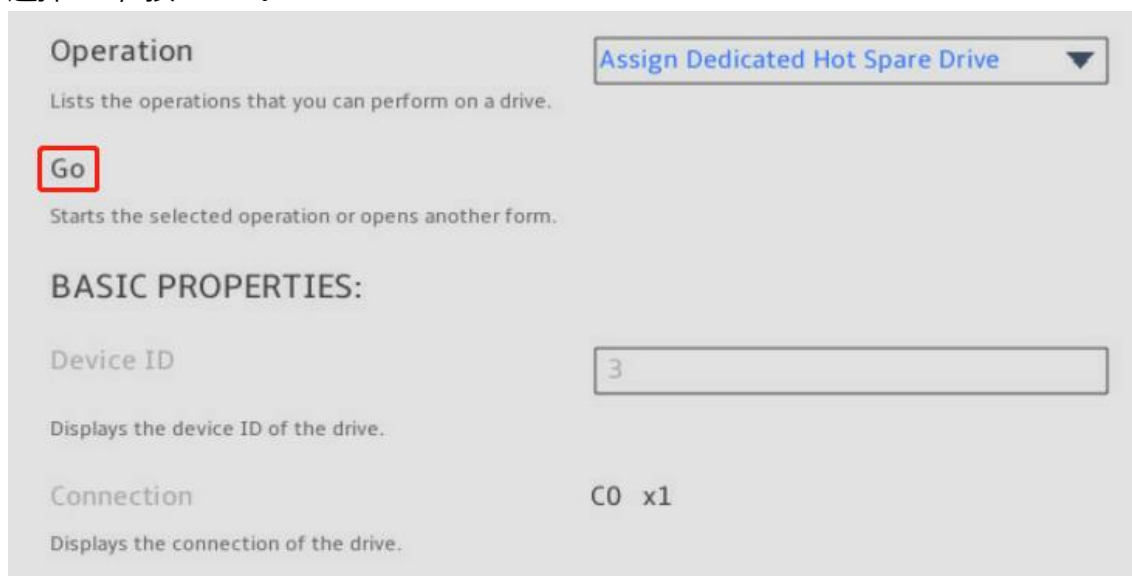
Slot Number
Displays the slot position of the drive.

Select operation
Start Locate
Stop Locate
Initialize Drive
Cryptographic Erase
Make Unconfigured Bad
Make JBOD
Assign Global Hot Spare Drive
Assign Dedicated Hot Spare Drive
Prepare For Removal

1

3

3) 选择 **Go**，按 **Enter**。



Operation
Lists the operations that you can perform on a drive.

Go
Starts the selected operation or opens another form.

BASIC PROPERTIES:

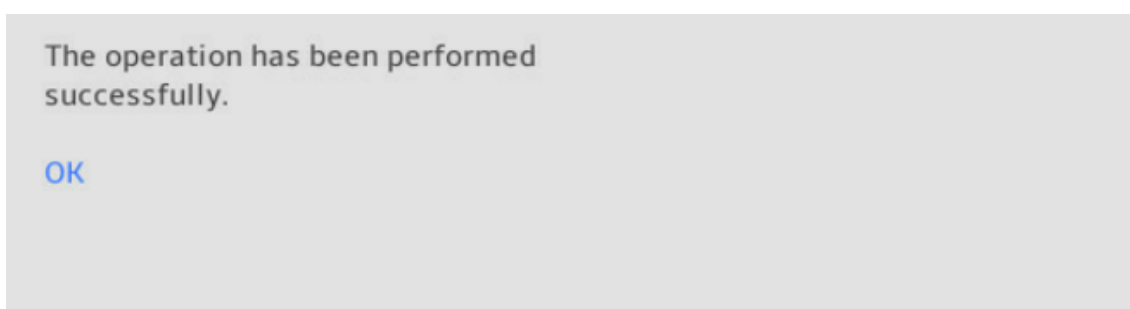
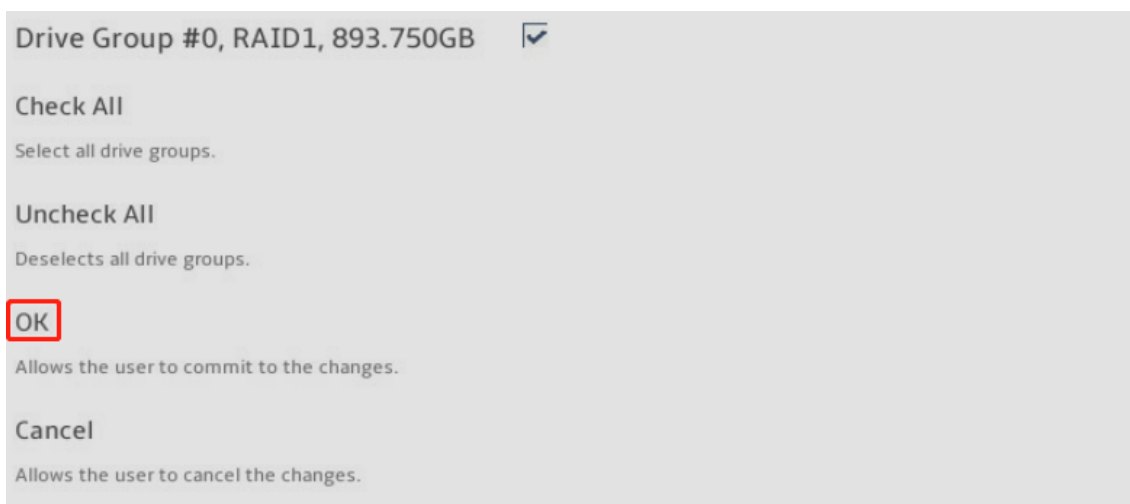
Device ID
Displays the device ID of the drive.

Connection
Displays the connection of the drive.

3

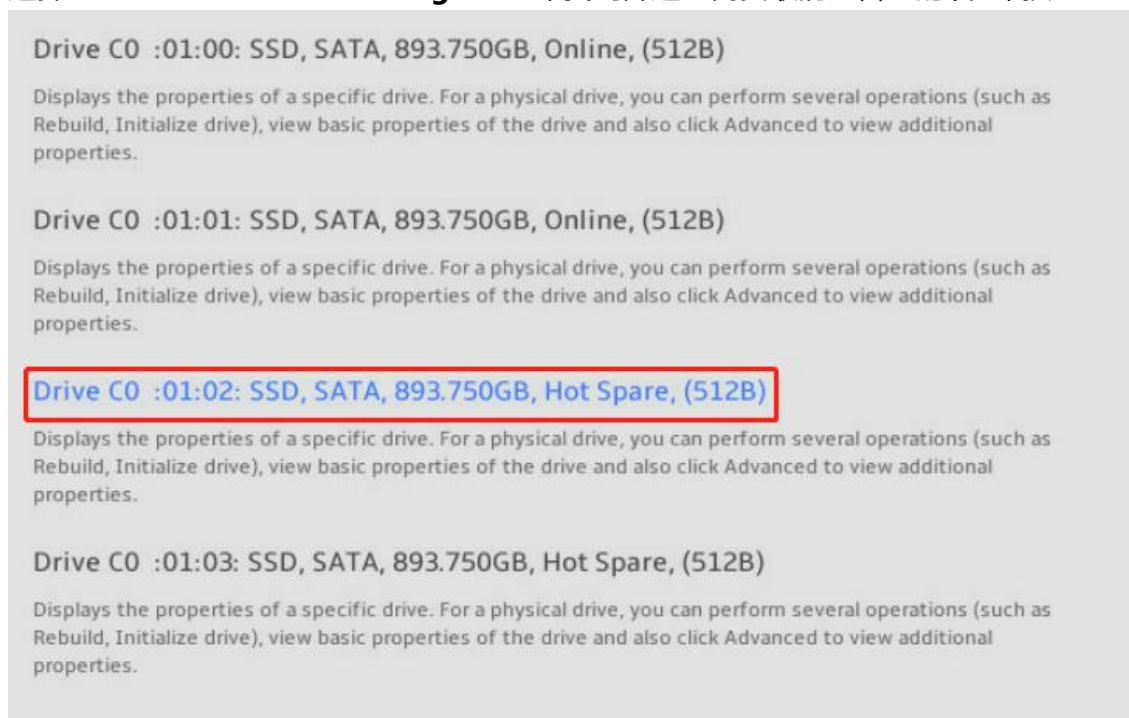
C0 x1

4) 选择需要配置专用热备盘的逻辑磁盘，使其**对号选中**，选择 **OK**，按 **Enter**，完成配置专用热备盘。

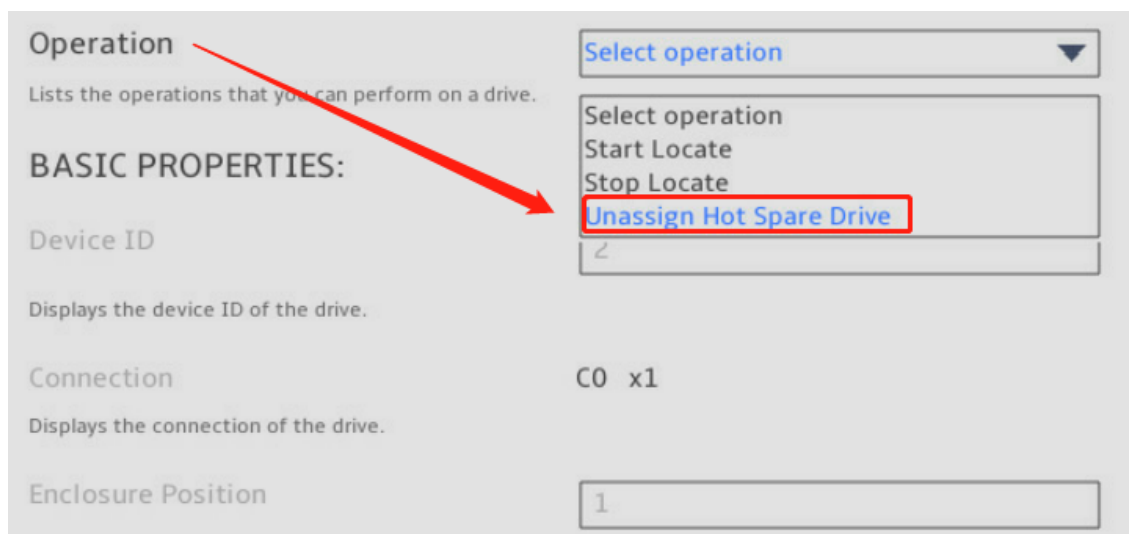


3.2 删除热备

- 1) 选择 **Main Menu > Drive Management**, 找到并进入需要取消热备盘的硬盘, 按 **Enter**。



- 2) 选择 **Operation** 按 **Enter**, 选择 **Unassign Hot spare drive**, 按 **Enter**。



Operation
Lists the operations that you can perform on a drive.

BASIC PROPERTIES:

Device ID
Displays the device ID of the drive.

Connection
Displays the connection of the drive.

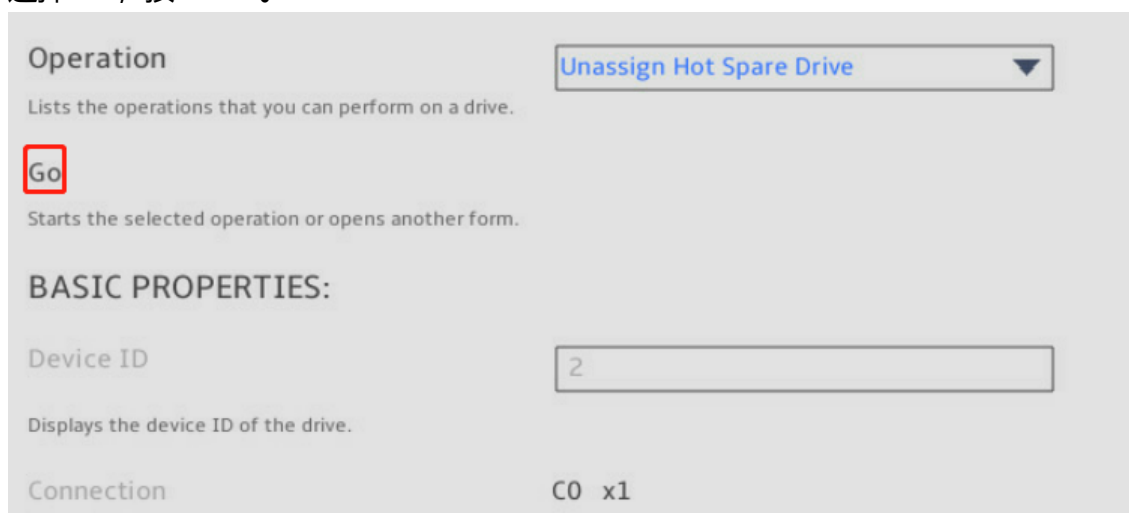
Enclosure Position

Select operation
Start Locate
Stop Locate
Unassign Hot Spare Drive

C0 x1

1

3) 选择 **Go**, 按 **Enter**。



Operation
Lists the operations that you can perform on a drive.

Go
Starts the selected operation or opens another form.

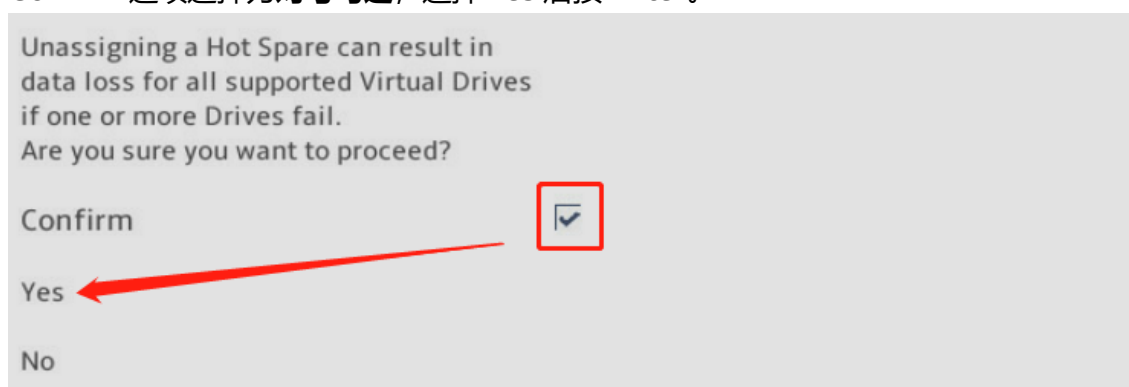
BASIC PROPERTIES:

Device ID
Displays the device ID of the drive.

Connection
C0 x1

2

4) Confirm 选项选择为**对号勾选**, 选择 **Yes** 后按 **Enter**。



Unassigning a Hot Spare can result in data loss for all supported Virtual Drives if one or more Drives fail.
Are you sure you want to proceed?

Confirm ☒

Yes

No

4. 设置与取消直通盘

4.1 设置硬盘直通

1) 依次进入 **Controller Management>Advanced Controller Properties**, 设置 JBOD Mode 为 **Enabled** 并保存。

Configuration Management

Displays configuration options. Some options appear only if the controller supports them. Options are: Create Profile Based Virtual Drive, Create Virtual Drive, Make JBOD, Make Unconfigured Good, Clear configuration, Manage Foreign Configuration, View Drive Group Properties and View Global Hot Spare Drives.

Controller Management

Displays the controller status and basic properties of the controller such as product name, serial number, PCI ID, firmware version and NVDATA Version. You can also use the Advanced link to view additional properties and perform additional tasks such as changing the security key, saving the TTY log.

Virtual Drive Management

Manages the virtual drive properties and enables you to view the basic virtual drive properties and perform operations such as background initialization, consistency check. You can also view additional properties using the Advanced link.

Drive Management

Displays the basic drive properties and performs operations such as assign/unassign a hot spare drive, locate drives, Place Drive offline/online, and rebuild drive. You can also view additional properties using the Advanced link.

Hardware Components

Displays the battery and enclosure status if applicable. You can also view additional properties and perform additional operations using the Advanced link. Some options will appear only if the controller supports them.

Supported Device Interfaces

SAS,SATA

Displays drive interface(s) supported by the controller.

Drive Count

4

Indicates the number of drives currently attached to this controller.

Virtual Drive Count

1

Indicates the number of virtual drives present on this controller.

Advanced Controller Management

Provides a link to various controller management activities such as, clear and save controller events, schedule a consistency check, set factory defaults, and so on.

Advanced Controller Properties

Displays and allows modifications of advanced controller properties.

Enables you to track the bad physical drives.

SMART Polling

Determines how frequently the controller polls for drives reporting a Predictive Drive Failure. The default is 300 seconds.

Stop Consistency Check on Error

Enables or disables the option to stop the consistency check operation on a redundant virtual drive if there is an inconsistency found in the data.

JBOD Mode

Enables or disables the JBOD mode. When enabled the drive will come up as JBOD else as Unconfigured Good.

Write Verify

Enables or disables the write verify during cache flush.

Large IO Support

Indicates whether the controller firmware supports large I/O.

Unmap Capability

Allows the user to select the unmap capability for the controller. The possible settings are Enable and Disable.

Firmware Device Order

Allows you to select the firmware device order for the controller. The possible settings are Enable and Disable.

Preboot Trace Buffer

Allows you to enable or disable the collection of the preboot debug data (preboot trace buffer) for the controller.

Apply Changes

注：设置 JBOD Mode 为 Enabled 后，Unconfigured Good 状态的硬盘会自动切换为 JBOD，如没有自动切换，或 JBOD Mode 已为 Enabled 状态，需单独调整 Unconfigured Good 状态的硬盘为 JBOD，再执行步骤 2）。

- 2) 然后在 **Configuration Management>Make JBOD** 中选择 Unconfigured Good 硬盘进行配置即可。

Configuration Management

Displays configuration options. Some options appear only if the controller supports them. Options are: Create Profile Based Virtual Drive, Create Virtual Drive, Make JBOD, Make Unconfigured Good, Clear configuration, Manage Foreign Configuration, View Drive Group Properties and View Global Hot Spare Drives.

Controller Management

Displays the controller status and basic properties of the controller such as product name, serial number, PCI ID, firmware version and NVDATA Version. You can also use the Advanced link to view additional properties and perform additional tasks such as changing the security key, saving the TTY log.

Virtual Drive Management

Manages the virtual drive properties and enables you to view the basic virtual drive properties and perform operations such as background initialization, consistency check. You can also view additional properties using the Advanced link.

Drive Management

Displays the basic drive properties and performs operations such as assign/unassign a hot spare drive, locate drives, Place Drive offline/online, and rebuild drive. You can also view additional properties using the Advanced link.

Hardware Components

Displays the battery and enclosure status if applicable. You can also view additional properties and perform additional operations using the Advanced link. Some options will appear only if the controller supports them.

Auto Configure RAID 0

Configures a Unconfigured Good drive to single drive RAID 0. After performing this operation, if you insert any new configurable drive, that drive will remain as a Unconfigured Good drive.

Create Virtual Drive

Creates a virtual drive by selecting the RAID level, drives, and virtual drive parameters.

Create Profile Based Virtual Drive

Creates a virtual drive by using a wizard. The wizard makes intelligent choices based on the profile selected by the user. The profile based virtual drive creation method has special requirements. Refer MegaRAID Software User Guide for details.

View Drive Group Properties

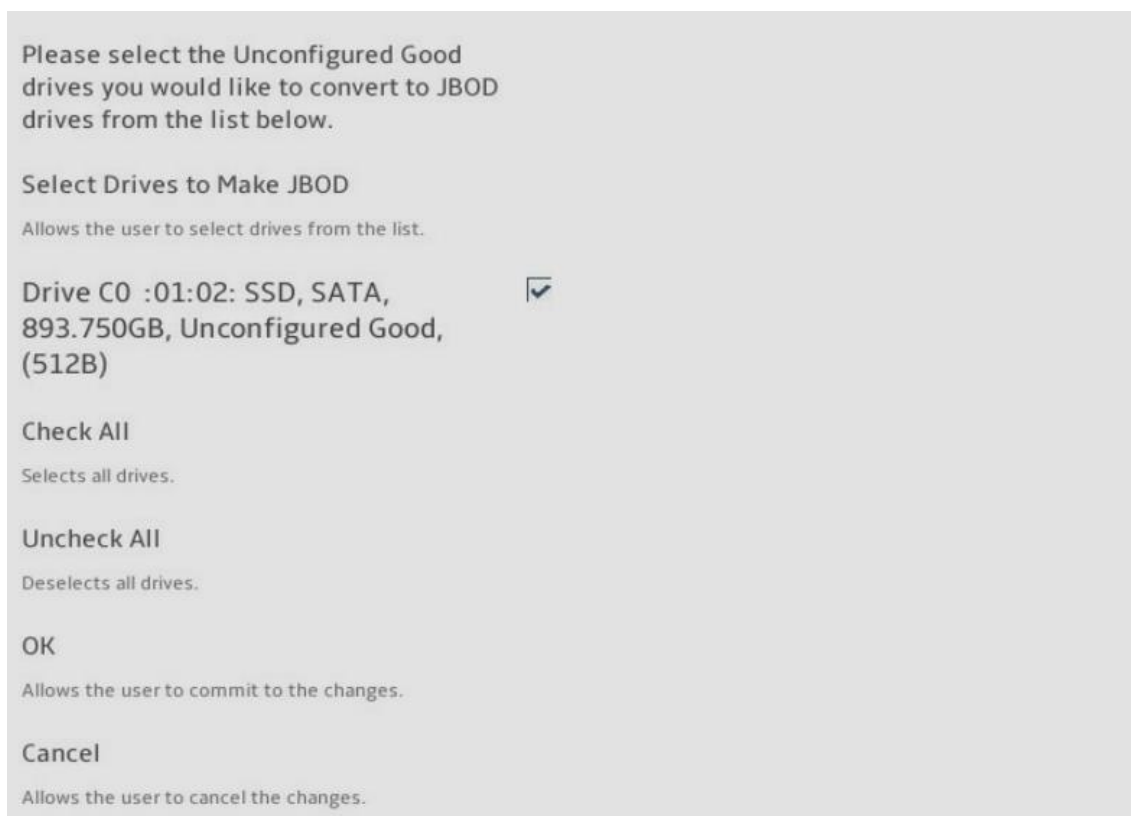
Displays information about the available drive groups, associated virtual drives, the capacity allocation, and the assigned dedicated hot spare drives if any.

Make JBOD

Allows changing the state of the drive from unconfigured good to JBOD.

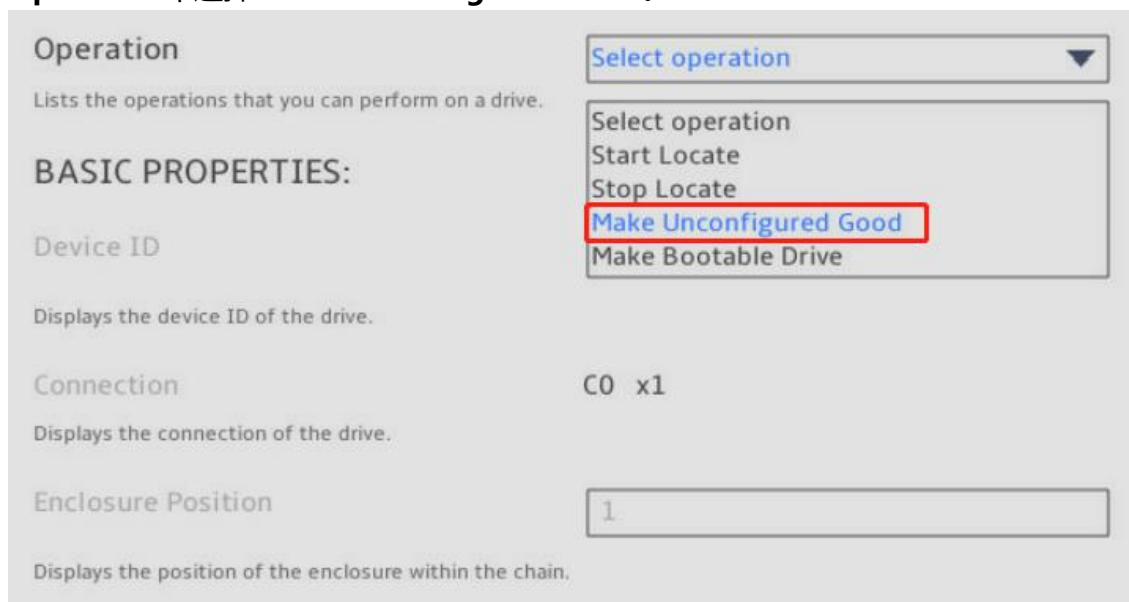
Clear Configuration

Deletes all existing configurations on the RAID controller and discards the pinned cache on missing configuration.



4.2 取消硬盘直通

- 1) 依次进入 **Main Menu>Drive Management**，选中需要取消 JBOD 状态的硬盘，在 **Operation** 中选择 **Make Unconfigured Good**。



- 2) 选择 **Go**，按 **Enter** 保存。

Operation

Lists the operations that you can perform on a drive.

Make Unconfigured Good

Go

Starts the selected operation or opens another form.

BASIC PROPERTIES:

Device ID

2

Displays the device ID of the drive.

Connection

C0 x1