



Sun StorEdge™ 5210/5310 NAS Appliance 和 Gateway System 发行说明

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Sun StorEdge 5210/5310 NAS Appliance 和 Gateway System 发行说明

本发行说明包含 Sun StorEdge™ 5210/5310 NAS Appliance 和 Gateway System 软件 4.11 版以及本发行版后续限制条件的信息。本软件与 Sun StorEdge 5210 和 5310 NAS Appliance 软件以前的版本向下兼容。

在安装 Sun StorEdge 5310 Cluster 时，请使用本发行说明以及《Sun StorEdge 5310 NAS Appliance 和 Gateway System 入门指南》（文件号码为 819-5227-10）。

本发行说明包括下列章节：

- 第 2 页的“系统要求”
- 第 3 页的“软件更新”
- 第 3 页的“新增功能”
- 第 6 页的“已解决的问题”
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- 第 13 页的“文档附录”
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- 第 21 页的“服务联系信息”
- 第 22 页的“第三方许可协议”

重要 – Web Administrator 一次只支持一个人登录。因此，最好的做法是一次只让一个人管理系统，以免发生命令冲突。在配置群集时，必须分别登录每台服务器以对其进行管理。

系统要求

Sun StorEdge 5210 和 5310 NAS Appliance 系统在提供时已安装了 Web Administrator 软件。您无需安装任何软件即可管理 Sun StorEdge 5210 和 5310 NAS Appliance。

要访问 Web Administrator 管理界面，必须有一个联网的电脑，并且运行下列浏览器之一。必须使用支持 Java™ 技术的浏览器，并安装 Java 插件 1.3.1 版本或更高版本。

- Internet Explorer
- Mozilla™
- Netscape Navigator™

注 – 要下载最新的 Java 插件，请访问 <http://java.com>。

▼ 确定 NAS OS 软件版本及其内部版本

请执行下列过程之一。

- 访问 Web Administrator 导航面板并选择 "System Operations" → "Update Software"。
- 例如，在命令行界面 (command-line interface, CLI) 上键入 `version`，将显示 build 18:

```
4.11 M0 (build 18)
```

▼ 确定固件修订版级别

使用 `raidctl profile` 命令确定和记录每个 RAID 控制器单元、扩展单元、控制器 NVSRAM 和驱动器当前的固件修订版级别。

有关详细信息，请参见《Sun StorEdge 5310 NAS Appliance 和 Gateway System 管理指南》。

软件更新

请从 <http://sunsolve.sun.com> 下载最新版本的 NAS 软件来升级系统。选择 Patchfinder 链接，然后输入适合您的系统的修补程序编号。

- 118216 适用于 Sun StorEdge 5210 Appliance
- 119351 适用于 Sun StorEdge 5310 Appliance

注 – 如果要将在 Sun StorEdge 5210 NAS Appliance 软件从低于 4.05 的发行版升级到 4.11 版，则需要 FCO 257。在升级软件之前，请与 Sun 服务人员联系以应用 FCO 257。4.05 或更高版本的 Sun StorEdge 5210 NAS Appliance 软件不需要应用 FCO。

软件降级

如果您需要将 NAS 降级到以前的版本，请在尝试执行降级之前与 SunSM 服务人员联系，以获取相关建议。

新增功能

4.11 发行版提供了下列新的增强功能：

- 现在，审计跟踪功能提供一组可审计的文件操作，用来在启用法规遵从性的卷上处理“一次写入、多次读取” (write-once, read-many, WORM) 的文件。
- 实时防病毒扫描功能允许将 Sun StorEdge 5000 系列 NAS 产品配置为运行于 Windows 上的 Symantec Antivirus Scan Engine 的客户机。
- Compliance Archiving Software 以严格（被称作“强制执行”）和不太严格（被称作“建议执行”）两种格式提供。具有建议执行功能的 Compliance Archiving Software 是作为解决方案为某些客户提供的，这些客户对于法规遵从性的要求没有法规遵从性定义本身那样严格。它还提供临时解决方案，以便在保持撤消操作、删除文件和删除卷等能力的同时测试法规遵从性功能。在不能将 Gateway 系统升级到具有强制执行功能的 Compliance Archiving Software 的 Gateway 系统这一限制下，Gateway 系统也支持具有建议执行功能的 Compliance Archiving Software。
- 目前，Sun StorEdge 5310 Appliance 和 Gateway 系统上的 iSCSI 目标支持用于 Microsoft Exchange 客户机的 iSCSI 启动器，所有其他 iSCSI 启动器均不受支持。

- 经过 CIFS 验证的 IPC 功能向 Sun StorEdge 5000 系列的 NAS 产品提供如下功能：将经过验证的进程间通信 (inter process communication, IPC) 用于 Microsoft Windows 兼容的域控制器 (domain controller, DC)。这是作为一个安全选项提供给现有的匿名 IPC 支持的。
- Sun StorEdge 5310 NAS Gateway 系统为下列系统提供网络文件系统 (Network File System, NFS) 和通用 Internet 文件系统 (Common Internet File System, CIFS) 文件服务：
 - Sun StorEdge 9970、9980、9985 和 9990 系统
 - Sun StorEdge 6920 系统 2.0.5 版
 - Sun StorEdge 6130 阵列。有关安装说明，请参见第 15 页的“将 Gateway 系统连接到 Sun StorEdge 6130 阵列”。
- Sun StorEdge 5310 NAS Gateway 系统可以使用下列光纤通道 (Fibre Channel, FC) 交换机：
 - Brocade SilkWorm 3250、3850、3900、4100、200E、24000 和 48000
 - Sun StorEdge 2 Gb 8、16 和 64 端口
 - McData Intrepid 6064、6164 和 Sphereon 4500
 - Qlogic 5200 和 5602
- 在连接到 Sun StorEdge 5310 NAS 服务器上未使用的 FC 端口时，Sun StorEdge 5310 NAS Appliance 和 Gateway System 可以使用下列 FC 磁带库。磁盘和磁带库不能连接到同一个 FC 端口。
 - Sun StorEdge L180/500/700
 - Sun StorEdge L25/100
 - Sun StorEdge LTO 3 驱动器
 - Sun StorEdge LTO 2 驱动器
 - Sun StorEdge SDLT 320 驱动器
 - StorageTek 9940B 和 9840C 驱动器

如果所有的 FC 端口都用于磁盘存储器，则可以向配置中添加一个 FC 交换机，以便将磁盘连接合并到两个 FC 端口。这将释放其余 FC 端口，供 FC 磁带专用。

磁带单元既可以在群集配置又可以在网关配置下工作，但是仅对于它们所连接到的 NAS 服务器可用。对于磁带单元不提供群集支持。磁带单元总是像连接到一台 NAS 服务器那样工作。

- Sun StorEdge 5310 NAS Appliance 可以使用混合扩展单元。表 1 列出了每个组件所需的固件修订版级别。

表 1 所需的阵列固件级别

组件	文件名
RAID 控制器	SNAP_288X_06120910.dlp
RAID 控制器 NVSRAM	N2882-612843-503.dlp
光纤通道扩展单元 (expansion unit, EU)	esm9631.s3r
SATA 扩展单元 (expansion unit, EU)	esm9722.dl

有关如何将控制器单元、扩展单元和驱动器升级到最新的固件修订版级别的信息，请参见《Sun StorEdge 5310 NAS Appliance 和 Gateway System 管理指南》。

现在，支持混合串行高级技术附件 (Serial Advanced Technology Attachment, SATA) 和光纤通道扩展单元 (expansion unit, EU) 配置，但是具有下列限制：

- 完整的 EU 必须全部由光纤通道驱动器或全部由 SATA 驱动器组成。不支持在一个 EU 内部混合使用不同类型的驱动器。
- 即使 EU 中包含 SATA 驱动器，控制器托盘中也可以包含光纤通道驱动器。控制器托盘中不能包含 SATA 驱动器。
- SATA 和光纤通道都必须有唯一的热备用，其容量必须与阵列中使用的容量相同。
- LUN 不能同时包括 SATA 驱动器和光纤通道驱动器。
- 连接到 RAID 控制器的扩展托盘必须与控制器位于同一个固件级别。例如，如果您将固件级别为 1.2 的 SATA 驱动器的扩展托盘添加到某个 NAS 服务器，而且该服务器中包含固件级别为 1.0 的 RAID 控制器，则必须将整个系统升级到修订版级别 1.2。
- Sun StorEdge 5310 NAS Appliance 可以使用 300 GB 光纤通道 (Fibre Channel, FC) 驱动器。300 GB FC 驱动器最低的驱动器固件级别是 055A。如果要将这些驱动器添加到现有的控制器单元，则将需要更新阵列控制器上的固件。（请参见《Sun StorEdge 5310 NAS Appliance 和 Gateway System 管理指南》。）

已解决的问题

下列问题已在此发行版中得以解决。

- 从群集磁头创建的新 LUN 将拥有者显示为“非拥有”。(6287381)
解决方法：使用 Web Administrator GUI 或 Telnet/CLI 指定 LUN 拥有权。
- 已对 LDAP 搜索功能进行修改，以便在使用 NAS 自动主目录功能 (autohome feature) 时，Microsoft Windows Active Directory Server (ADS) 中的用户信息不会被删除。(6310891)
- 在 NDMP 恢复操作期间，也会恢复中间目录的时间戳。(6259093)

在以前的发行版中解决的问题

- 现在，在将 Sun StorEdge 6920 系统用作 Sun StorEdge 5310 Gateway 系统的存储器时，LUN 和卷信息将正确地显示在 Web Administrator 中。(6318244)
- 现在，应当可以正确地备份和恢复硬链接的目录。在以前，文件系统在某些情况下会变成只读的。(6324643)
- 在启动从群集系统中的一个磁头到另一个磁头的 LUN 故障转移之后，LUN 有时将无法正确地进行故障恢复，从而导致磁头拥有权出错并导致 I/O 失败。现在，所有的 LUN 都将故障恢复到相应磁头的拥有权。(6327065)
- 系统现在可以处理分离的 LUN。在以前的发行版中，当处理分离的 LUN 时，系统将进入应急状态。(6328165)
- 系统现在允许您创建多个 LUN。在以前的发行版中，服务器会在您尝试创建多个 LUN 时崩溃。(6305831)
- 包含扩展（8 位）ASCII 字符的 ISO8859 代码页现在可以正确显示。(6299983)
- 现在，可以在根级别正确地挂载 /vol*.chkpnt 卷。如果使用以下命令挂载检查点卷，将不再导致 pwd 命令失效：(5100110)

```
mount -F nfs se5k:/vol01.chkpnt /z/vlcp
```

- 现在，可以正确地设置简单网络管理协议 (Simple Network Management Protocol, SNMP) 属性 system.sysDescr.0。(5062965)
- 所有检查点现已列出了 "Backup" 选项。(5079000)
- 现在，可以正确地安装和监视 Sun StorEdge 5210 NAS Appliance 扩展单元中的环境监测装置 (Environmental Monitoring Unit, EMU) 板。(5092547)

- 任何情况下，网络连接存储器 (network attached storage, NAS) 磁头都不再误发送电池错误消息。(5101253)
- 现在，NAS 操作系统的文件传输协议 (File Transfer Protocol, FTP) 模块在系统启动时会自动装入，但是默认情况下保持禁用状态。(5106379)
- 现在，图形用户界面 (graphical user interface, GUI) 对于它将显示的外部扩展单元的数量没有任何限制。(6184256)
- 即使创建的文件卷多于 50 个，控制台现在也可以将其全部显示出来。(6180031)
- 原来创建和删除绑定（端口集）时偶尔会导致系统停止响应，此问题现在已经解决。(5108956/5109029)
- 大型网络数据管理协议 (Network Data Management Protocol, NDMP) 备份将不用 NDMP 作业文件填充 /dvol。(6252667)
- SNMP 属性 se5210RaidBBUstatus 设置为 "normal"。(5064730)
- 在通用存储模块 (Common Storage Module, CSM) 独立磁盘冗余阵列 (redundant array of independent disk, RAID) 控制器硬件出现故障时，拔下具有活动 I/O 的控制器将不再导致卷变成只读卷。(6215728)
- 在运行 I/O 时，如果偶尔出现磁盘错误或光纤通道错误，不会再将一些卷标记为只读。(6213003/6214237)
- 在使用现有的热备用设备时，RAID 卷现在会在 Expansion Unit Fibre 扩展单元上自动开始重建。(6221965)
- NDMP 直接访问还原 (Direct Access Restore, DAR) 恢复功能将处理设置为 "tar" 的备份类型。(6259024)
- 如果 LUN 出现故障，Web Administrator 将标示只读卷。(6222888)
- 从 Telnet Menu/CLI 设置的时区和从 Web Administrator 设置的时区之间将不再存在不一致现象。(6234042)
- 现在，自 4.11 发行版起将支持带内 RAID 管理。因此，帮助主题现在有效。(6215325)
- 若没有关联卷，应当不再出现以前导出的卷。(6197943)
- 当群集处于故障转移模式时，如果某个卷是通过逻辑单元号 (logical unit number, LUN) 上的“单机”磁头创建的，而此 LUN 最初属于“静默”磁头，则在群集的恢复过程中，访问该卷的应用程序应当不再发生 EACCESS 错误。(6236671)
- 如果添加新托盘，可以通过 Web Administrator 对未拥有的 LUN 指定拥有权。(6227823)
- 现在，当使用 Web Administrator 提升镜像卷时，会在 GUI 上显示状态消息。(6233969)
- 当群集过载时，群集应当不会变慢，而且不会失去同步。(6235662)

已知问题

到目前为止，下列问题尚未得到解决。

- 如果 Web Administrator 界面保持打开并处于空闲状态 15 分钟以上，该界面将会变为空白。如果下列任一屏幕保持空闲状态，也将出现这种情况：
 - 文件卷
 - 复制
 - iSCSI

您随后访问的任何其他屏幕也将变为空白。(6356459)

解决方法：关闭 Web Administrator 和浏览器。在重新启动 Web Administrator 之后，应当会恢复正常运行。

- 如果用 Sun Enterprise Backup Software 7.2 执行 NDMP 三向式恢复，则在所有的数据都成功恢复到 NAS 之后，恢复过程可能会挂起。如果 "EBADF Bad file descriptor" 消息已发布到 `ndmp.log` 文件，则表示恢复已完成，但是 Sun Enterprise Backup Software 恢复过程被挂起。(6348765)

解决方法：从 Sun Enterprise Backup Software 取消恢复可继续操作。

- 在写入直接连接的 SCSI LTO3 磁带机的过程中可能出现 SCSI 错误。

解决方法：使用机器人上的板上光纤通道/SCSI 网桥，连接到网络连接存储器 (network attached storage, NAS) 上的光纤通道端口。(6347059)

- Compliance Lite 卷上保留的文件可以由非管理员的 Windows 域用户删除。(6361605)
- 如果系统中同时安装了 Symantec Anti-Virus Scan Engine (SAVSE) 和 Symantec Anti-Virus Corporate Edition (SAVESE)，或者将 SAVSE 与任何其他捕获文件系统中病毒感染情况的防病毒产品一起安装，则文件系统级别的防护功能可能会妨碍 SAVSE 产品的正常运行，并导致 SAVESE 产品发出内部错误消息。(6351326)

解决方法：要么禁用文件系统的实时防护功能，要么使 SAVSE 所使用的任何临时文件免受文件系统级别的防护。

- 在新购买的系统上，或者当您添加新控制器或扩展单元时，某些 LUN 可能会脱机。(6337658)

解决方法：这可能是由 EU 上的重复 SSID 导致的。要使 LUN 联机，请执行下列操作：

1. 关闭所有的存储器阵列。
2. 打开控制器阵列。
3. 等待阵列完成加电过程。
4. 打开每个驱动器模块的电源，在一个模块的加电过程完成之后再打开下一个模块的电源。

- 如果需要几分钟时间来完成 LUN 的创建，Web Administrator 可能会提供不明确的信息。(6273163/6273171/6276198)

解决方法：关闭 Web Administrator 和浏览器。在重新启动 Web Administrator 之后，所提供的信息应当正确无误。
- 目前，Web Administrator 不提供在 "RAID" → "Manage RAID" 屏幕上将显示为脱机的卷置于联机的方法。(6331263)

解决方法：请致电 Sun 服务人员。
- 对于在拔下光纤通道电缆之后设置其主路径的 LUN，在恢复之后，替代路径将不可用。(6309701)

解决方法：在对后端配置进行物理更改之后，用户需要启动重新扫描功能。使用 Web Administrator，转至 "Volume Operations" → "Create File Volumes"，然后单击 "Scan for New Disks"。
- 在使用带内 RAID 管理 (In-Band RAID Management, IBRM) 升级 CRM 固件时，可能会导致将 Sun StorEdge 6130 阵列上所有 LUN 的故障转移到单个 RAID 控制器。(6283300)

解决方法：通过使用 Web Administrator 将 "LUNS" 重新置于 "主" 路径中。
- 如果 Sun StorEdge 5210 或 5310 NAS Appliance 是用 Web Administrator 以外的方法关闭的，或者如果 Web Administrator 与 Sun StorEdge 5310 NAS Appliance 失去联系，则浏览器可能会停止工作。(6209231)

解决方法：关闭 Web Administrator 和 Web 浏览器的所有实例。系统重新引导后，重新打开 Web 浏览器和 Java 浏览器界面。
- "Notification Email URL" 字段显示主机名 URL。您可能无法通过单击此 URL 连接到 Web Administrator。(6217684)

解决方法：如果域名系统 (Domain Naming System, DNS) 无法解析这个主机名，请使用 IP 地址连接到 Sun StorEdge 5210 或 5310 NAS Appliance。请确保在 Sun StorEdge 5210 或 5310 NAS Appliance 中定义的主机名已在名称服务器（例如，DNS 或网络信息系统 (Network Information System, NIS)）中注册。
- 删除绑定后，高可用性和端口聚集绑定 IP 地址可能不会正确地恢复。(6212483)

解决方法：对该绑定选择一个不同的 IP 地址。
- RX/TX 光信号强度弱时可能会导致性能下降。(6207069)

解决方法：如果没有其他严重的硬件故障，但性能明显下降，则这种性能下降可能与光纤通道链路错误有关。请联系 Sun 服务人员以获得帮助。（请参见第 21 页的“服务联系信息”。）
- 当您选择 "Configure NFS" → "Setup Hosts" → "Add user" 时，窗口内容不刷新，系统似乎停止工作（因为 NIS/NIS+ 映射中有很多条目）。(5054655)

请等待系统完成处理并刷新屏幕。请勿重新引导系统。
- 当您尝试通过 Web Administrator 的 "Manage Raid" 选项创建一个包含六个以上 SATA 驱动器的 LUN 时，"Apply" 按钮变得不可用。(6277449)

解决方法：在使用 Web Administration 工具重新配置 SATA 驱动器时，请确保不超过 RAID 控制器的最大 LUN 大小限制 (2.0 TB)。

- 尝试使用 Web Administrator 登录具有脱机 LUN 的系统会导致出现 "Login rejected" 错误。尝试从脱机 LUN 删除卷会导致服务器不响应。(6282749)

解决方法： 在因双误而导致出现脱机 LUN，而后又从该 LUN 中删除文件系统时，可能会出现这种情况。需要重新引导。

特定于群集的问题（仅适用于 Sun StorEdge 5310 Cluster）

到目前为止，下列特定于群集的问题尚未得到解决。

- 当“静默”磁头处于“静默”状态时，“单机”磁头可能会被卡在过渡状态。(6240366)

解决方法： 从“单机”磁头执行另一个恢复过程，确保在执行任何升级之前群集处于正常模式。

- 在使用带内 RAID 管理 (In-Band RAID Management, IBRM) 的群集系统中，一定要按照相同的顺序，将磁头 2 和磁头 1 上的 HBA 端口连接到同一个 RAID 控制器。必须以相同的方式配置该连接过程。

例如，如果磁头 1 上的 HBA 端口 2 连接到控制器 A，则必须将磁头 2 上的 HBA 端口 2 连接到同一个阵列控制器上的控制器 A。有关示例，请参见图 1。

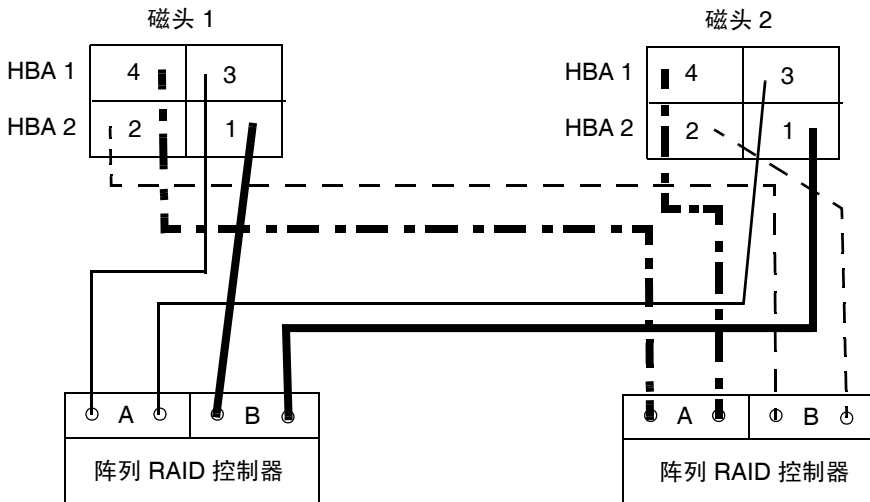


图 1 HBA 端口与 RAID 控制器的关系

- 在磁头之间手动移动 LUN 会导致容量读数显示为零。这类问题会在初始安装群集或添加新托盘时发生。(6239025)

解决方法：从 Web Administrator 或 Telnet Menu/CLI 运行手动磁盘扫描，磁头将刷新 LUN 的容量。

- 在配置群集时，如果“静默”磁头在恢复时遇到系统错误，某些卷可能会无法挂载到“单机”磁头上。(6214772)

解决方法：使用 Telnet Menu/CLI，键入以下命令：

```
mount -f /volume-name
```

- 在配置群集时，请在进行恢复之前，使用 LCD 来检查伙伴磁头，以查看其是否处于“静默”模式。然后，通过“单机”磁头的 Web Administrator 或者 Telnet Menu 来进行恢复。(6229943)

如果无法对系统进行物理访问，则应当远程登录 (Telnet) 到群集系统。您将登录到“单机”磁头。在那里，您可以检查日志以确保“静默”磁头已完成引导，或者 ping “静默”磁头的心跳。默认情况下，磁头 1 的心跳 IP 是 10.10.10.1，磁头 2 的是 10.10.10.2。

- 在配置群集时，磁头只应当修改由该磁头拥有的文件系统的文件权限，而不应当修改由伙伴磁头拥有的文件系统的文件权限。(6262339, 6222886)
- 尝试登录 Web Administrator 时失败，出现长时间的延迟并显示 "Login rejected" 消息。(6278471)

解决方法：关闭所有的浏览器实例，然后重新启动 Web Administrator。这似乎会针对 Web 浏览器的 Mozilla 变体（而非 Internet Explorer）发生。

特定于文件复制器的问题

到目前为止，下列特定于复制器的问题尚未得到解决。

- 如果您尚未获得有效的镜像许可证，则在尝试镜像时可能会导致出现无效消息。(6332950)
- 在创建新镜像时，如果“目标/镜像”系统没有足够的磁盘空间和分区，则“源/主”系统会不停地重试，直到具有足够的磁盘空间和分区为止。(6197388)

解决方法：可以中断镜像，然后在目标系统上有足够的空间和分区之后重新创建镜像。

- 如果在启动更改角色过程的十秒钟内发生系统错误（例如出现电源故障），则两个系统都将设置成 TARGET，而没有 MASTER，于是导致镜像丢失。(6198655)

解决方法：请与 Sun 技术支持人员联系，获取重建镜像方面的帮助。

- 当主卷进行繁忙 I/O 活动时，若进行更改角色操作，则主卷可能超时，并可能丢失对该卷的 CIFS 访问权限。(6248243)

解决方法：在 CLI 上手动重新挂载文件卷。例如，如果卷名为 `volx`，请键入以下命令：

```
nas-5310> umount /volx
nas-5310> mount /volx
```

- RESYNC 选项在 Web Administrator 中不可用。
解决方法：此选项可通过 Telnet 菜单来访问。(6198789)
- 当在繁忙 I/O 活动中进行镜像时，或使用群集系统镜像时，在目标/镜像服务器的日志文件中会记录以下消息：(6176236)

```
nmir: deseq_recv: The mirror log appears to be full
```

解决方法：该消息用于提供信息，镜像仍会继续正常进行。可以安全地忽略该消息。

特定于网关的问题（仅适用于 StorEdge 5310 Gateway System）

到目前为止，下列特定于网关的问题尚未得到解决。

- 在 Sun StorEdge 6130 后端将固件升级到网关群集可能导致控制器阵列重新引导并进入静默状态。(6339825)
解决方法：执行恢复操作。
- Gateway 系统不支持将异构系统连接到磁头。每个 Sun StorEdge 5310 Gateway 系统配置只支持一个单磁头或群集存储系统。不能连接多个存储系统。(6315936)
- 在 Gateway 群集系统中，每个磁头必须有两个光纤通道连接到一个 SAN 存储部件。要使高可用性功能正确工作，一个光纤通道连接是不够的。
- 在将 LUN 从其他 SAN 主机重映射到 NAS Gateway 系统之后，LUN 有可能看上去不可访问。(6272080)

解决方法：运行 CLI `disk disk-name` 命令。如果 LUN 的拥有者作为 "noDPMGR" 列出，则磁盘上会有剩余数据。

运行下面的 CLI 命令以清除数据并使 LUN 可用。

```
disk disk_name ,partition-number zap
```



注意 - `zap` 命令会重新格式化 LUN。磁盘表将被删除。

文档附录

本节包含该文档的一些补充信息，或者会覆盖文档中的一些信息。本节包含下列主题：

- 第 13 页的 “iSCSI LUN 性能”
- 第 13 页的 “群集的加电过程”
- 第 14 页的 “挂载文件系统”
- 第 14 页的 “管理 GUI 的容错与高可用性”
- 第 14 页的 “文件系统的驱动器盘符指定情况”
- 第 14 页的 “向 Sun StorEdge 5210 和 5310 NAS Appliance 添加驱动器”
- 第 14 页的 “法规遵从性功能”
- 第 15 页的 “升级到 4.10 或更高版本需要重置时区”
- 第 15 页的 “将 Gateway 系统连接到 Sun StorEdge 6130 阵列”
- 第 18 页的 “使 Sun StorEdge 6130 阵列的 SAN 存储器可用”
- 第 19 页的 “再次引入 LUN 需要重新引导”
- 第 20 页的 “无法删除脱机 LUN”
- 第 20 页的 “不要手动挂载 /CVOL”
- 第 20 页的 “使用群集复制文件”
- 第 20 页的 “导出文件卷”
- 第 20 页的 “MIB 文件”
- 第 20 页的 “NAS 系统日志消息”

iSCSI LUN 性能

如果 iSCSI LUN 所驻留的卷供 iSCSI LUN 专用，则 iSCSI LUN 可提供最佳性能。如果这些卷还包含通用 Internet 文件系统 (Common Internet File System, CIFS) 共享或网络文件系统 (Network File System, NFS) 挂载，则 iSCSI LUN 的性能可能不是最佳的（具体情况取决于每种协议的 I/O 流量）。

群集的加电过程

《Sun StorEdge 5310 NAS Appliance 和 Gateway System 入门指南》中群集的加电过程指导您首先打开服务器 H1 的电源。要确定 H1 服务器，请在 NAS 服务器后挡板上粘贴的标签上查找本软件的序列号（以 -H1 结尾）。如果 NAS 服务器的背面没有标签，请检查该服务器左侧的金属片。

挂载文件系统

在连续多次重新引导之后，一个或多个文件系统可能会被卸载。要挂载文件系统，请使用以下命令：(6306480)

```
mount -f volume-name
```

管理 GUI 的容错与高可用性

Sun StorEdge 5310 NAS Appliance 4.5 版文档集未反映 Web Administrator GUI 从容错功能到高可用性功能的变化。因此，当某个步骤指导您选择 "Fault Tolerance" 时，请选择 "High Availability"。例如，要从故障转移启动恢复功能，请选择 "High Availability" → "Recover"。(6301656)

文件系统的驱动器盘符指定情况

在创建文件系统的过程中，NAS 将自动为可通过 SMB/CIFS 访问的文件系统指定驱动器盘符。驱动器盘符有可能会用完。(6315946)

此消息仅用于提供信息。文件系统将被创建，但是，为了向其指定驱动器盘符，必须重新指定一个当前由另一个文件系统使用的驱动器盘符。

向 Sun StorEdge 5210 和 5310 NAS Appliance 添加驱动器

Sun StorEdge NAS Appliance 支持对驱动器进行热插拔。但是，要添加或拆除扩展单元，必须关闭系统。

法规遵从性功能

下面的信息适用于 Sun StorEdge 5310 Appliance 和 Cluster 配置。

- 通过 Microsoft Windows 软件被转换为 WORM 状态的文件，默认情况下其法规遵从性功能将被关闭。(6227484)

要打开 Windows 触发器，请使用以下 CLI 命令：

```
fsctl compliance wte on
```

- 当法规遵从性许可证已过期或者已被删除时，系统将维护法规遵从性规则，但是不能创建新的法规遵从性卷。(6229562)

升级到 4.10 或更高版本需要重置时区

当从低于 4.10 的发行版升级到 4.10 或更高版本时，系统将要求您重新输入时区信息，即使以前输入了时区信息也是如此。这是由于更改后的实现会提供附加时区位置。

将 Gateway 系统连接到 Sun StorEdge 6130 阵列

本节提供一些说明，指导您如何将 Sun StorEdge 5310 NAS Gateway 系统连接到 Sun StorEdge 6130 阵列以及如何配置该系统。该过程假定您已经完成了下列操作：

- 按照《Sun StorEdge 5310 NAS Appliance 和 Gateway System 入门指南》中的说明安装和配置了网系统。
- 按照《Sun StorEdge 6130 阵列入门指南》（文件号码为 819-2493-*nn*）中的说明安装和配置了阵列。

将 Gateway 系统通过电缆连接到 Sun StorEdge 6130 阵列

可以将 Gateway 系统直接连接到 Sun StorEdge 6130 阵列，也可以通过一个或两个光纤通道交换机进行连接。NAS 服务器和 6130 阵列上必须至少有一个可用端口。

- 有关 NAS 服务器端口和常规安装说明的信息，请参阅《Sun StorEdge 5310 NAS Appliance 和 Gateway System 入门指南》。
- 有关阵列端口和常规安装说明的信息，请参阅《Sun StorEdge 6130 阵列入门指南》。

必需的软件和固件

Sun StorEdge 5310 NAS Gateway 系统必须装有 4.10 版软件（最低版本）才能支持网关。

Sun StorEdge 6130 阵列需要安装表 2 中列出的下列软件和固件。

表 2 Sun StorEdge 6130 阵列必需的软件和固件

软件	版本（最低版本）	修补程序 ID
Sun StorEdge 6130 阵列管理软件	1.3	118164-06
控制器 CRM-F 固件	06.12.09.10	117856-18
阵列固件安装程序		118185-14

升级 Sun StorEdge 5310 NAS Gateway System

1. 如果 Gateway 系统上没有 4.10 版（最低版本）软件，请从 <http://sunsolve.sun.com> 下载最新的版本。
2. 按照随修补程序提供的 `install.txt` 文件中的说明安装更新程序。

升级 Sun StorEdge 6130 阵列管理软件

如果 Sun StorEdge 6130 阵列的当前版本是 1.2，请在安装修补程序之前将管理软件升级到 1.3 版。

如果 Sun StorEdge 6130 阵列的当前版本是 1.3，请按照第 17 页的“升级 Sun StorEdge 6130 阵列固件”中的说明安装修补程序。

要升级管理软件，请执行下列操作：

1. 从 Sun StorEdge 6130 阵列管理界面，登录到 Sun Storage Automated Diagnostic Environment 并清除现有的所有报警。
2. 以 root 身份登录管理主机。
3. 访问 <http://sunsolve.sun.com>，并将最新的用于 Solaris 的 Sun StorEdge 6130 主机软件包下载到管理主机的任一工作目录中。
4. 解压缩分发文件并将其打开。
5. 输入以下命令：

```
./upgrade -n
```

`-n` 选项用来指定非交互式升级。当系统询问您是否要升级软件或固件之后，脚本将完成升级，而不会停下来询问任何问题。

安装完成时，会显示一条确认信息，后面显示有升级完成的日期和时间。

现在，可以按照下一节中的说明来安装修补程序了。

升级 Sun StorEdge 6130 阵列固件

必须针对 Sun StorEdge 6130 阵列管理软件安装 1.3 版固件，才能安装所需的修补程序。

要升级用于 Sun StorEdge 6130 阵列的固件，请执行下列操作：

1. 从 <http://sunsolve.sun.com/> 下载所需的修补程序（请参见表 2）。
2. 停止磁盘驱动器的所有 I/O。
3. 以 root 身份登录管理主机。
4. 转到已下载软件所在的目录。
5. 按照修补程序 README 文件中的说明来安装每个修补程序。
6. 验证是否已安装最新的修补程序：
 - a. 打开支持的浏览器。
 - b. 按以下格式输入管理主机的 IP 地址：
https://host-IP:6789
 - c. 登录管理软件。
 - d. 单击 "Sun StorEdge 6130 Configuration Service"。
此时将显示 "Array Summary" 页。
 - e. 验证 "Firmware Version" 列是否显示 06.12.09.10（或更高版本）。

验证阵列

要验证 Sun StorEdge 6130 主机软件是否能够看到阵列，请使用自动搜索或手动注册功能。

▼ 自动验证阵列

如果阵列与管理主机在同一个子网上，则可以自动验证阵列。

1. 打开支持的浏览器。
2. 按以下格式输入管理主机的 IP 地址：
https://host-IP:6789
3. 登录管理软件。
4. 单击 "Sun StorEdge 6130 Configuration Service"。
此时将显示 "Array Summary" 页。
5. 单击 "Auto Discover" 以显示与管理主机在同一个子网上的阵列。

注 – 该软件搜索每个阵列大约需要花费 2 分钟时间。

6. 验证阵列是否列在 "Array Summary" 页上。

▼ 手动注册阵列

如果阵列与管理主机不在同一个子网上，则必须手动注册阵列。

1. 打开支持的浏览器。
2. 按以下格式输入管理主机的 IP 地址：
https://host-IP:6789
3. 登录管理软件。
4. 单击 **"Sun StorEdge 6130 Configuration Service"**。
此时将显示 **"Array Summary"** 页。
5. 单击 **"Register Array"**。
此时将显示 **"Array Registration"** 页。
6. 输入控制器的 IP 地址并单击 **"OK"**。
7. 验证阵列是否列在 **"Array Summary"** 页上。

使 Sun StorEdge 6130 阵列的 SAN 存储器可用

要使 Sun StorEdge 6130 SAN 存储器对于 NAS Gateway 系统可用，请执行下列操作：

1. 在 Sun StorEdge 6130 阵列上创建一个启动器。
2. 在 Sun StorEdge 6130 阵列上定义一个新卷。
3. 在 NAS 服务器上定义一个 NAS 卷。

▼ 创建启动器

1. 登录 **Sun StorEdge 6130 Configuration Service** 软件，然后单击 **"Physical Storage" → "Initiators"**。
此时将显示 **"Initiator Summary"** 页。
2. 单击 **"New"**。
此时将显示 **"New Initiator Summary"** 页。
3. 输入新启动器的名称（最多包含 30 个字符）。
4. 选择现有全球名称 (**World Wide Name, WWN**) 或输入新名称。
5. 为新启动器选择主机。
6. 选择启动器的主机类型。
7. 单击 **"OK"**。

"Initiator Summary" 页显示新启动器的启动器名称、主机名、主机类型和 WWN。

▼ 定义 Sun StorEdge 6130 卷

1. 在 "Sun StorEdge 6130 Configuration Service" 界面中, 单击 "Logical Storage" > "Volumes"。
此时将显示 "Volume Summary" 页。
2. 单击 "New"。
此时将显示 "New Volume" 向导。
3. 输入该卷的名称和容量。
4. 选择要用于此卷的虚拟磁盘。
5. 将该卷映射到 Sun StorEdge 5310 NAS Gateway 主机。
此时新卷将显示在 "Volume Summary" 页上。

▼ 定义 NAS 5310 卷

1. 从 NAS 服务器的客户机登录 Web Administrator。
2. 在 Sun StorEdge 6130 卷上创建一个 NAS 卷并对其进行格式化:
 - a. 打开 "File Volume Operations" 菜单。
 - b. 选择 "Create File Volumes"。
 - c. 单击 "Scan New Disks"。
此时新创建的 6130 LUN 将显示在中央窗格的左侧。
 - d. 对该卷进行命名, 输入必需的参数, 然后单击 "Apply"。
有关所需参数的信息, 请参见《Sun StorEdge 5310 NAS Appliance 和 Gateway System 管理指南》。

再次引入 LUN 需要重新引导

如果在删除 LUN 之后, 使用带内 RAID 管理以外的方法将其再次引入 NAS, 则需要重新引导 (6281673)。

对于网关系统, 不必重新引导服务器。可以按照《Sun StorEdge 5310 NAS Appliance 和 Gateway System 管理指南》中的说明取消映射和重映射 LUN。

无法删除脱机 LUN

无法删除处于脱机状态的 LUN 或卷。必须将 LUN 置于联机状态，才能将它或它的卷删除 (6282821)。

不要手动挂载 /CVOL

不能手动共享或挂载 /cvol 文件系统。不要使用 Web Administrator 或 Telnet/CLI 以外的任何方法来修改 /cvol。 (6280955)

注 – Sun 支持工程师有权执行手动挂载。

使用群集复制文件

当群集处于降级状态时，不要执行诸如 "Change Role" 之类的镜像操作。有关最佳做法的信息，请参阅《Sun StorEdge 5310 NAS Appliance 和 Gateway System 管理指南》（文件号码为 819-5232-10）（6291398、6218561、6233839 和 6234948）。

导出文件卷

可以只将文件卷导出到一组具有超级用户权限的主机中（如 Sun Solaris 或 UNIX），方法是使用 "Set Up Hosts" 窗口将这些主机添加到 "trusted group" 中。另外一种方法是，将这一组主机添加到一个主机组中，然后使用 "with Map Root User set to Root User" 选项向该组导出所需的文件卷 (6222556)。

MIB 文件

管理信息库 (Management Information Base, MIB) 文件随映像一起安装到 boot-directory/www/data/mib 目录中，例如，/cvol/nf1/www/data/mib。MIB 文件可通过 Web Admin 在 mib 子目录（例如，<http://hostname/mib>，其中 *hostname* 是相应的系统主机名或 IP 地址）中找到。

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NAS 系统日志消息

如果系统日志中包含声明 "Unowned SFS2" 卷的错误消息，请致电技术支持人员以获得帮助。 (6186842)

发行文档

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标题	文件号码
Sun StorEdge 5310 NAS Gateway System 海报	819-5260-10
《Sun StorEdge 5310 NAS Appliance 和 Gateway System 入门指南》	819-5227-10
《Sun StorEdge 5310 NAS Appliance 和 Gateway System 管理指南》	819-5232-10
《Sun StorEdge 5310 NAS Appliance 安全和法规遵从性指南》	819-3090-10
《Sun StorEdge 5300 RAID 扩展装置和 Sun StorEdge 5300 扩展装置的安全和法规遵从性指南》	819-3091-10

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Inspiration and ideas about this driver are from Erik Moe's Linux driver (qllogicisp.c) and Dave Miller's SBus version of same (qllogicisp.c). Some ideas dredged from the Solaris driver.

ISP2300 Initiator/Target Firmware
with Fabric (Public Loop), Point-point, and
expanded LUN addressing for FCTAPE

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Documentation and source code may be found at
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26 Open source http client library

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27 Open source XML parsing library

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