InfoSafe eSATA/USB 2.0 Dual 2.5” SATA Drive Enclosure w/ RAID

SAT2520U2ER

INFOSAFE

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Making hard-to-find easy!

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Introduction

Thank you for purchasing a StarTech.com SAT2520U2ER InfoSafe eSATA/USB 2.0 Dual 2.5" SATA Drive Enclosure w/RAID. Offering a complete, hardware-based solution for external RAID storage, this rugged enclosure can be connected to a host computer through either USB or eSATA, and can power both 2.5" hard drives without requiring an external power adapter.*

Features

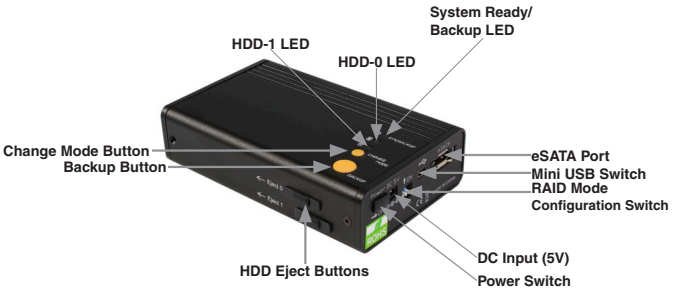
- Easy to use GUI software offers simple RAID configurations
- Simple plug and play installation
- Maximum data transfer rates of up 480Mbps (USB2.0) and 3.0Gbps (eSATA)
- One button backup feature
- Can draw power from a second USB port*
- Supports dual (two) SATA I/II 2.5" HDD
- Supports eSATA port multiplier with PM compatible eSATA card

Package Contents

- 1 X Carrying Pouch
- 1 X Driver/Software CD
- 1 X Enclosure
- 1 X eSATA Cable
- 1 X Instruction Manual
- 1 X Power Adapter
- 1 X USB + USB to DC5V Cable

* Some larger/faster hard drives may require an external power adapter.

SAT2520U2ER



HDD-1 Access & Failure LED

Green: HDD-1 working. Red: HDD-1 failed.

Green/Red twin lights blinking means that RAID(1) is being built, or rebuilt.

HDD-0 Access & Failure LED

Green: HDD-0 working. Red: HDD-0 failed.

Green/Red twin lights blinking means RAID(1) is being built, or rebuilt.

System Ready/Backup LED

Green: System ready. If there is no indication, the system or hard drive health may have a problem.

Red : Red blinking means data backup is in operation. (optional function)

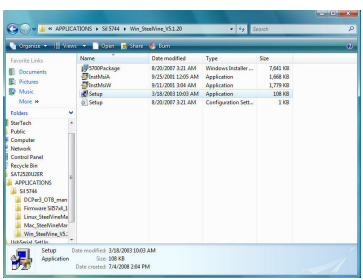
Software Installation

The following section will outline the necessary steps to install the software included with the SAT2520U2ER. Once the hard drives have been inserted into the SAT2520U2ER, you may wish to open the Device Manager to properly format the drives.

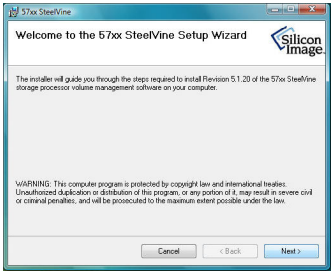
Silicon Image SteelVine Manager

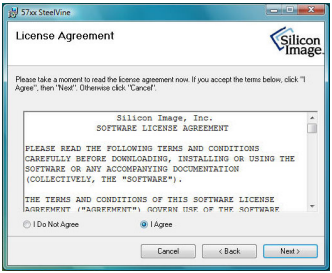
Installation

1. To install the necessary driver files and Graphical User Interface (GUI), browse to x:\Sil 5744\Win_SteelVine_V5.1.20, where x denotes the drive letter assigned to the CD/DVD-ROM drive, and double-click on the Setup application file.

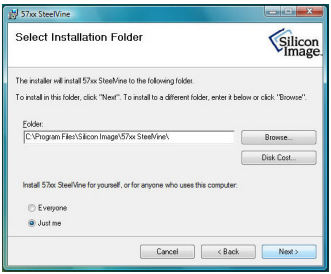


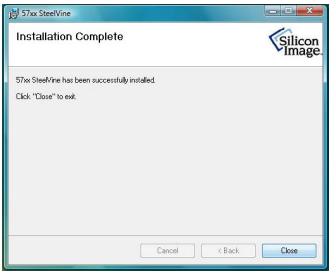
2. Click **Next** to continue with the installation. When prompted to accept the License Agreement, select **"I Agree"** and click **Next**.



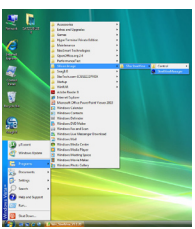


3. Select the destination for the Steelvine application, then click **Next** to start the installation process. When the installation is complete, click **Close** to shut down the Setup program.



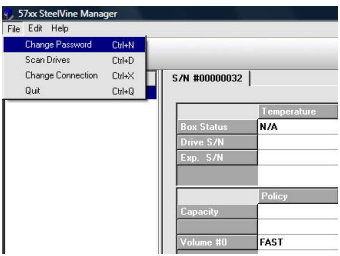


4. To verify the installation, click **Start > Programs > Silicon Image > 57xxSteelVine > SteelVine Manager** to run the program.

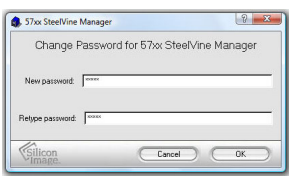


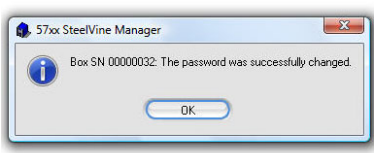
Changing the Password

1. Open the SteelVine Application.
2. Click file and select “Change Password.” A window should appear prompting you to enter the former (default) password. **By default the password is “admin.”**



3. The program will ask you to enter a new password twice. Once you have done so, click **OK**. The application should notify you that the password was successfully changed.



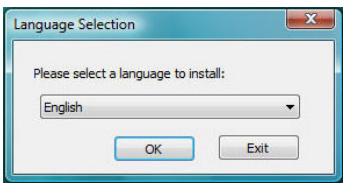


For more detailed instructions pertaining to the operation of Silicon Image’s SteelVine Manager, refer to the user’s manual included on the SAT2520U2ER installation CD.

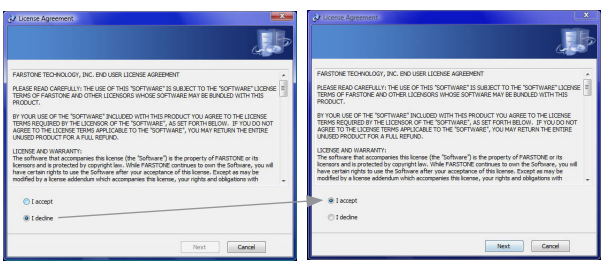
DriveClone

Installation

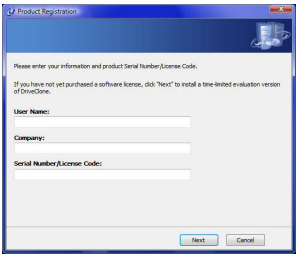
1. To install the DriveClone™ software, browse to **x:\SiI5744\ DriveClone(TM)** 3 Personal, where x denotes the drive letter assigned to the CD/DVD-ROM drive, and double-click on the **DCPer3_OTB_ Multi** application.
2. Select your language preference and click **Next** when the installation screen appears.



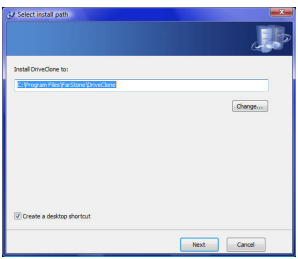
3. Carefully read the software license agreement. If you accept the terms of the software license agreement, select **I accept** to continue.



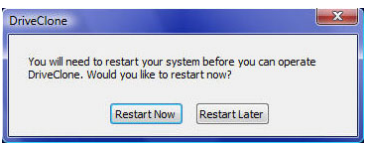
4. Enter your personal information and serial number. The serial number is located on the back of the Driver and Software CD sleeve.



5. DriveClone will be installed in the path displayed. You will have the option to select another location to install DriveClone.
6. Click **Next** and DriveClone will be installed in the destination folder.



7. Select **Restart Now** to complete the installation. DriveClone will restart the computer. **Note:** You cannot launch DriveClone until your computer has restarted.



Configuring the One-Touch Backup Button

1. Start the DriveClone Program. Select **Back Up** then click **Files Backup**.
2. You can create a new full file backup or select Incremental File Backup box to select a former job and create incremental file backup.
3. If you have selected Incremental File Backup, you can choose to examine the details of all created backup jobs, modify the time and date to run scheduled Incremental File Backup, click **Back Up Now** to run Incremental File Backup immediately, or delete jobs that are no longer required.
4. Enter a name for your new job.
5. Select the file(s) you want to back up. You can also click **Add Files/ Folders or Add File Types** to add file type, folder or individual file to back up according to your needs.
6. Click **Next** to continue. You can set the maximum number of backup versions you want to back up in this step. DriveClone will always store a fixed number of the most recent backup versions you set.

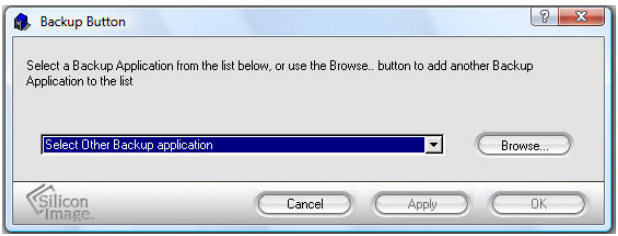
   Add Files/Folders: Click this to select the files or folders you want to add from Windows® Explorer.

   Add File Types: Click this to enter Select File Types interface, shown as below.
7. Select a location on a hard drive, or USB storage medium to store the backup file. Click **Next** to continue.

   Calculate Space: Click Calculate Space to calculate the space required to store the backup file in the destination location.
8. You can now review the information and settings specified. After re viewing your selections, click **Start Backup** to start backing up the file(s).You can also click **Previous** to modify your selections. Some files may not be able to be copied if they are in use by other applications. It is recommended that you close all applications and files you want to back up prior to start the backup job.

9. To configure the one Button Backup function, open the SteelVine Manager. Click the **Edit** menu and select **Backup Button**.

10. Click browse to locate **x:\Program Files\FarStone\DriveClone\CBP\EFBTasks.exe.**



11. The DriveClone Main Console window will prompt you to select which File Backup Schedule you would like to use with the Backup Button. Select your desired File Backup Schedule (created above) to complete the Backup Button configuration process.

For more detailed instructions on how to configure DriveClone, refer to the user's manual included on the SAT2520U2ER installation CD.

How to Setup RAID functions

Installation

1. Use a screw driver to loosen the two screws and slide in the 2.5” HDDs.

   Note: If you want to build RAID functions, you must install two hard drives at the same time.

2. Set the RAID mode on the DIP SW

Display	RAID Status	RAID Configuration		
		4	2	1
0	BIG (span)	OFF	OFF	OFF
1	JBOD (single)	OFF	OFF	ON
2	FAST (strip)	OFF	ON	OFF
3	SAFE (mirror)	OFF	ON	ON
4	SAFE33	ON	OFF	OFF
5	SAFE50	ON	OFF	ON
6	RESERVED	ON	ON	OFF
7	GUI ONLY	ON	ON	ON

a) To set the operating mode according to the above table:

   i) Connect the USB or eSATA data and power cable to your system, then, turn on the power from the RAID box rear panel. Wait until both hard drives are powered on.

   ii) Press the **RAID Change Mode** SW once to finish setting the RAID mode. [***Note:** If you want to use the default model setting (or re place HDDs), you still must press the RAID Model Change SW once].

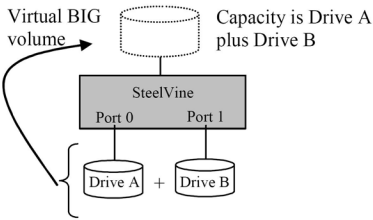
3. Once the selected RAID mode is ready, you may partition/format the RAID-built HDDs. After the HDDs have been formatted, they are ready to use.

RAID Mode DIP Switch Setting

1. BIG(Span) Mode

DIP SW-1: OFF, **SW-2:** OFF, **SW-4:** OFF

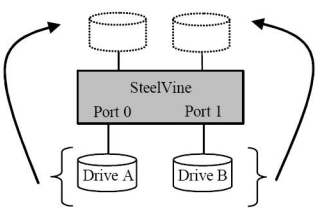
Installed drives are configured to offer maximum storage space (con catenated), but no additional performance or data redundancy.



2. JBOD(Single) Mode (default)

DIP SW-1: ON, **SW-2:** OFF, **SW-4:** OFF

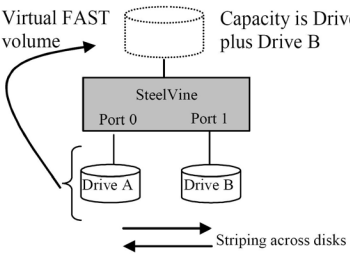
The installed drives will be configured as JBOD (Single)(Just a Bunch Of Disks). The number of available drives is equal to the number of physical drives.



3. FAST(Striped) Mode

DIP SW-1: OFF, **SW-2:** ON, **SW-4:** OFF

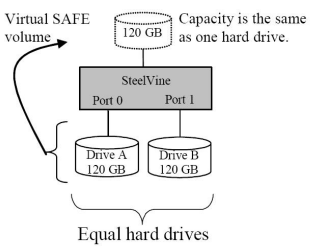
A storage policy configuration in which I/O processing is balanced evenly to all disks in a method known as striping, equivalent to RAID 0. Fast offers the best performance in terms of speed, but no data redundancy.

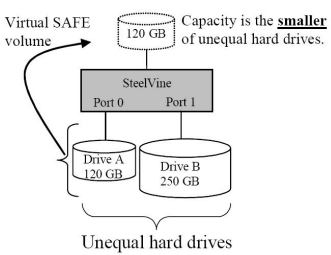


4. SAFE(Mirror) Mode

DIP SW-1: ON, **SW-2:** ON, **SW-4:** OFF

A storage policy configuration in which all data written to the hard drive is duplicated (mirrored) onto the second physical disk to protect against data loss due to disk failure. Equivalent to RAID 1. Safe mode provides the highest level of data protection, but reduces the amount of storage space by half since all data must be stored twice.

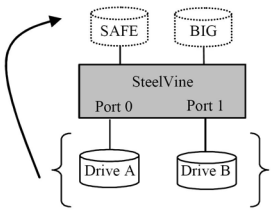




5. SAFE33 Mode

DIP SW-1: OFF, **SW-2:** OFF, **SW-4:** ON

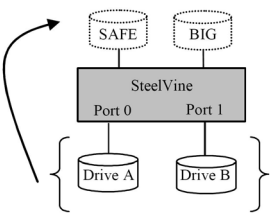
The RAID Mode is SAFE33, wherein 30% of each HDD is used to build a SAFE(mirror) RAID and also use the rest of the capacity to build a second BIG(Span) HDD. In this mode, two physical drives will be recognized, one is SAFE(mirror) and the other is BIG(Span).



6. SAFE50 Mode

DIP SW-1: ON, **SW-2:** OFF, **SW-4:** ON,

This configuration takes 50% of both drives to build a SAFE(mirror) RAID; the remaining drive capacity is used to build a BIG(span) RAID. In this mode, the system recognizes two physical drives - one SAFE(mirror) and the other, BIG(span).



7. Reserved Mode

DIP SW-1: OFF, **SW-2:** ON, **SW-4:** ON

No RAID function set.

8. GUI ONLY Mode

DIP SW-1: ON, **SW-2:** ON, **SW-4:** ON

This mode offers configuration through the GUI(Graphic Utility Interface). Using this mode, you can allow different RAID combinations. This mode It is reccomended for professional & advanced users.

For more detailed information regarding the use of these Storage Policies, refer to the Silicon Image SteelVine Manager user's manual.

Connection notes:

After you set or change the RAID Mode, press the "Change Mode Button" once. It is also necessary to press the "Change Mode Button" once, even if you use the default RAID Mode.

Once the enclosure has been connected to the host computer, it will be visible from the Device Manager (Windows). The device will not be visible from 'my computer' until after the drive has been formatted and partitioned.

USB: To ensure a sufficient amount of power is provided for the enclosure, both the USB and USB to DC5V connectors on the included 1 X USB + USB to DC5V Cable must be connected to available USB ports on the rear panel of the computer.

eSATA: In order for SAT2520U2ER to function without using the external power adapter, a USB connection to the host computer is required. As such, please connect the (included) USB and USB to DC5 cable to two available USB ports on the rear panel of the computer.

File System Expansion for Windows

Overview

This appendix describes the procedure to expand file systems that have been created on volumes that have increased in size, using Microsoft Windows while preserving your existing data. After you have added more hard disk drives to increase the storage capacity of a BIG volume, you must use the supplemental procedures to allow the expanded capacity to be recognized by the Windows file System.

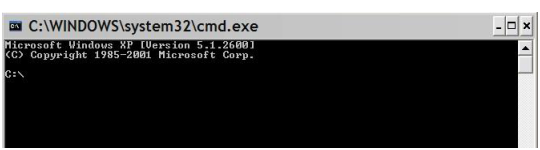
A command-line utility named “Diskpart.exe” (“Disk Partition”) enables you to manage hard disk partitions and volumes. This utility is included as part of Windows XP Professional Edition, Windows 2003 Server and Windows Vista™. For Windows 2000 or Windows XP Home Edition, you must download the “diskpart” utility from Microsoft’s website.

Additional third-party products (such as Acronis Disk Director Suite 10.0) are available to perform similar volume management activities, but those products are very sophisticated and are not included in this manual.

Procedure

Before you can use DiskPart.exe commands on a hard drive disk partition/volume, you must first list and then select the partition/volume to extend their capacity to match the virtual hard drives created using the DIP switches.

1. Open a command prompt window by clicking Start > Run, then type in “cmd”.



2. At a command prompt, type **diskpart**.

```
C:\>diskpart

Microsoft DiskPart version 5.1.3565

Copyright (C) 1999-2003 Microsoft Corporation.
On computer: CYPRESSGC

DISKPART> _
```

3. Type **list** volume to display the existing volumes on the computer.

```
DISKPART> list volume

  Volume ###  Ltr  Label        Fs     Type        Size     Status     Info
  ----------  ---  -----------  -----  ----------  -------  ---------  --------
  Volume 0     D                       DVD-ROM         0 B
  Volume 1     C                NTFS   Partition     37 GB  Healthy    System
  Volume 2     E   My BIG Disk  NTFS   Partition    153 GB  Healthy
```

4. Type **select volume <volume_number>** where **"<volume_number>"** is number of the volume that you want to extend. In this case that will be "2":

```
DISKPART> select volume 2

Volume 2 is the selected volume.
```

5. Type **extend**

```
DISKPART> extend

DiskPart successfully extended the volume.
```

6. Type **exit** to quit Diskpart.exe

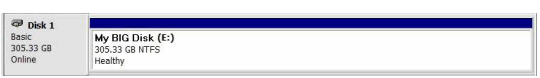
```
DISKPART> exit

Leaving DiskPart...
```

The volume size will be updated to reflect the expanded physical storage capacity while maintaining all of the existing data that is stored on the volume. The result of extending the hard disk partition/volume is illustrated below.

Before extend:

After extend:



Note: Before the hard drive partition/volume has been extended the "152.67GB Unallocated" was not accessible for data usage. After using the diskpart utility to extend the hard drive partition/volume capacity, the Windows host side matches the virtual hard drive partition/volume using the DIP switches.

For more information about the diskpart utility, please see the documentation on Microsoft's website at: http://www.microsoft.com/resources/documentation/windows/xp/all/proddocs/en-us/diskpart.mspx?mfr=true

File System Expansion for Macintosh

Overview

This appendix describes the procedures needed with Apple Mac OS X for expanding file systems that have been created on volumes that have increased in size, while preserving all of your existing data. After you have added more hard disk drives to increase the storage capacity of a BIG volume, you must use the supplemental procedure described below to allow the expanded capacity to be recognized by Mac OS X.

The following example illustrates a hard disk growing from a JBOD to a BIG Storage Policy.

A software tool named VolumeWorks from SubrosaSoft (available from http://www.subrosasoft.com/OSXSoftware/index.php?main_page=product_info&products_id=6) can be used to grow the partition that was created in JBOD Storage Policy to a BIG Storage Policy disk.

SubrosaSoft VolumeWorks easily organizes your hard drive by creating, resizing, copying your partitions on a Mac OS X (10.3 or higher) system.

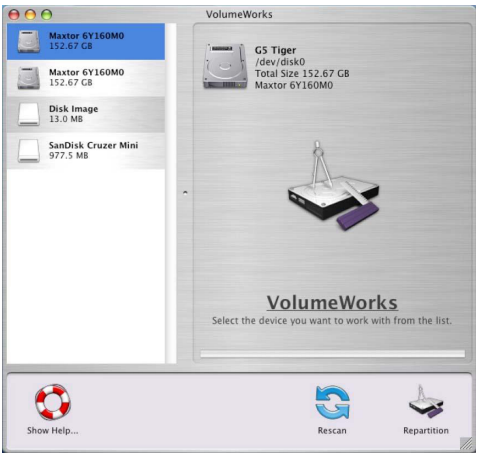
There are other third-party products are available to perform similar volume management activities, but those products are very sophisticated and are not described in this manual.

Procedure

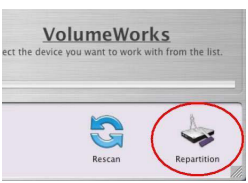
To grow the partition/volume using VolumeWorks:

Please note: VolumeWorks can only resize HFS+ partitions. The second drive, when growing from JBOD to BIG must not have any partition information on it. It must be a raw disk with no data of any kind.

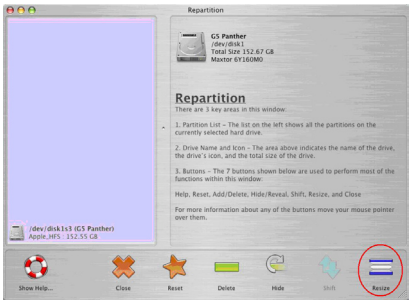
1. Start VolumeWorks



2. Click on the volume that you want to extend, then click on the Repartition button on the bottom.



3. Now, click on the **Resize** button on the bottom



4. Now, move the slider all the way to the right within the **Resize** dialog box. (Maximum resize)

Once you click on **Start**, it will execute the volume resize request.

The new storage capacity will be added to the existing drive while maintaining the data on the volume.

File System Expansion for Linux

Overview

The following describes how to expand file systems (Linux) that have been created on volumes that have increased in size, while preserving all of your existing data. After you have added more hard disk drives to increase the storage capacity of a BIG volume, you must use the supplemental procedure described below to allow the expanded capacity to be recognized by Linux.

The following example illustrates a hard disk growing from a JBOD to a BIG Storage Policy.

A software tool named **GNU Parted** (available from http://www.gnu.org/software/parted/parted.html) can be used to grow the partition that was created in a JBOD Storage Policy to a BIG Storage Policy disk.

GNU Parted easily organizes your hard drive by creating, resizing, copying your partitions on a Linux system.

Procedure

Growing partition/volume with GNU Parted:

To extend a volume, follow these steps:

1. Start parted by typing parted /dev/hdc. (where /dev/hdc is the device path of the hard disk for the system) This will bring up the parted console indicated by the parted prompt.

parted / dev / hdc

(parted)

2. Type print within the parted console to bring up the volume and disk information.

(parted) print

Disk geometry for /dev/hdc: 0.000-800000.000 megabytes

Disk label type: msdos

Minor

Start

End

Type

Filesystem

Flags

1

0.063

400000.000

primary

ext2

3. Use the resize command extend the size of volume 1 listed above.

(parted) resize 1 0.063 400000

4. Type print to verify the resize of volume 1.

(parted) print

Disk geometry for /dev/hdc: 0.000-800000.000 megabytes

Disk label type: msdos

Minor

Start

End

Type

Filesystem

Flags

1

0.063

800000.000

primary

ext2

The new space should be added to the existing drive while maintaining the data on the volume. Before resize:

(parted) print

Disk geometry for /dev/hdc: 0.000-800000.000 megabytes

Disk label type: msdos

Minor

Start

End

Type

Filesystem

Flags

1

0.063

400000.000

primary

ext2

After resize:

(parted) print

Disk geometry for /dev/hdc: 0.000-800000.000 megabytes

Disk label type: msdos

Minor

Start

End

Type

Filesystem

Flags

1

0.063

800000.000

primary

ext2

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