

# CASPER SECURE™ TECH EDITION 5.0

# USER GUIDE



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Casper Secure<sup>™</sup> Tech Edition is a disk cloning and imaging solution engineered specifically for computer technicians, system integrators, and IT departments needing to upgrade, replace, back up, restore and re-image drives and hardware RAID arrays that have been encrypted with Windows® BitLocker® Drive Encryption or Symantec (PGP®) Encryption Desktop technology<sup>1</sup>.

Casper Secure Tech Edition offers these unique benefits:

- Only Drive Imaging and Backup Solution Designed Specifically for Whole Disk Encrypted Systems completely eliminates the security and compliance risks associated with other drive imaging and backup and recovery products by ensuring all data always remains in its <u>original</u> encrypted state. Data is never left exposed when backed up or restored, preserving 100% compliance with data security directives.
- Complete Drive Cloning and Imaging for Whole Disk Encrypted Systems creates a completely encrypted copy of an encrypted drive in one step, eliminating hours of unproductive downtime. Unlike other drive cloning and drive imaging solutions that can produce only an unencrypted copy of a whole disk encrypted drive, Casper Secure Tech Edition creates a copy that retains all of the encrypted data in its <u>original</u> encrypted state.
- Fast Encrypted Drive Upgrades and Replacements quickly duplicates a whole disk encrypted drive to another drive without requiring a laborious and time consuming backup, restore, and reencryption process. Since all data is maintained in its original encrypted state, Casper Secure Tech Edition makes it extraordinarily easy to quickly upgrade a whole disk encrypted system to a larger hard disk or faster solid state drive.
- Complete Encrypted Disk Image Backups provides complete support for creating, maintaining, and restoring disk image file backups for whole disk encrypted drives in their original encrypted state that can be stored safely just about anywhere, including network attached storage devices and on drives containing other data. In addition, exclusive SmartClone<sup>™</sup> technology safely eliminates the redundant transfer of data during the imaging process, saving valuable time by dramatically reducing the time required to update a backup, restore, or re-image a Windows system using whole disk encryption technology.
- **Rapid Recovery, Re-imaging, and Deployment** eliminates the arduous data restoration and lengthy re-encryption process required by other disk imaging and backup solutions. A backup created by Casper Secure Tech Edition can be used as an immediate and permanent replacement for a failed hard disk or restored to a new disk in its original encrypted state in a single step.

**NOTE:** This User Guide is intended to provide you with an overview of the basic operations of Casper Secure Tech Edition. For additional assistance, please refer to the detailed help files included within the program.

<sup>&</sup>lt;sup>1</sup> Casper Secure Tech Edition currently supports only software-based drive encryption.

While Casper Secure Tech Edition is designed to run on virtually all Windows 2000 and later systems, installation and creation of the Casper Secure Tech Edition Startup Disk must be performed on a system running Windows XP (SP3) or later.

## **Installation Requirements**

- Windows 10, Windows 8.x, Windows 7, Windows Vista, Windows XP (SP3), Windows Server 2012 R2, Windows Server 2012, Windows Server 2008 R2, Windows Server 2008, Windows Server 2003 R2, or Windows Server 2003
- 10 GB available disk space
- 1 GB RAM (2 GB or more recommended)
- Windows 10 Assessment and Deployment Kit (ADK), Windows 8 Assessment and Deployment Kit or Windows 7 Automated Installation Kit (AIK)

## **Run-time Requirements**

- Windows 10, Windows 8.x, Windows 7, Windows Vista, Windows XP, Windows Server 2012 R2, Windows Server 2012, Windows Server 2008 R2, Windows Server 2008, Windows Server 2003 R2, Windows Server 2003, Windows 2000 Workstation, Windows ME, Windows 98, or Windows 95<sup>2</sup>
- Windows BitLocker Drive Encryption<sup>3</sup>, Symantec Encryption Desktop version 10.x, or PGP Desktop version 9.6x or later<sup>4</sup>
- 500 MB available disk space
- 2 GB RAM (4 GB or more recommended)
- Periodic Internet connection for license activation and verification purposes

# **Getting Help**

The Casper Secure Tech Edition online help includes troubleshooting information. To access online help when running Casper Secure Tech Edition, select **Contents** from the **Help** menu, or press **F1**.

<sup>&</sup>lt;sup>2</sup> Casper Secure Tech Edition is not designed for use with Windows NT, Windows 2000 Server, and Windows 2000 Advanced Server. Background copying not supported on Windows 2000. Windows ME, 98, and 95 systems may be imaged only when booting and running from Casper Secure Tech Edition Startup Disk. Virtual disk image file backups are supported only when running on Windows 7 and later or when booting and running from the Casper Secure Tech Edition Startup Disk. The VHDX image file format is supported only when running on Windows 8 and later or when booting and running from a Casper Secure Tech Edition Startup Disk created with the Windows 8 ADK.
<sup>3</sup> Windows BitLocker Drive Encryption is currently supported only for drives using software encryption that have been formatted

<sup>&</sup>lt;sup>3</sup> Windows BitLocker Drive Encryption is currently supported only for drives using software encryption that have been formatted with the NTFS file system. BitLocker hardware encrypted drives and BitLocker encrypted drives that are formatted with the FAT file system can be copied only in their unencrypted state.

<sup>&</sup>lt;sup>4</sup> Encrypted cloning and imaging is currently supported only for drives encrypted with software-based drive encryption. Selfencrypting drives (SED), including Opal compliant and Windows BitLocker eDrive compliant drives, may be copied in their encrypted state only when software encrypted.

Additional support for Casper Secure Tech Edition is available on the Future Systems Solutions Web site at <u>http://support.fssdev.com</u>.

The Casper Secure Tech Edition Setup program will install the Startup Disk Creator wizard, which is used to create and configure a startup disk from which Casper Secure Tech Edition can be run.

## Installing Casper Secure Tech Edition

- 1. Start the Casper Secure Tech Edition Setup program.
- 2. Read the License terms and conditions and then check I agree to the License Terms and conditions.
- 3. Click Install.
- 4. Click **Finish** to close the Casper Secure Tech Edition Setup program.

## **Installing the Windows Preinstallation Environment**

The Microsoft Windows Preinstallation Environment (WinPE) must be installed prior to creating a Casper Secure Tech Edition Startup Disk. The Startup Disk Creator is compatible with WinPE  $3.x^5$ , WinPE 4.0, WinPE 5.x, and WinPE 10. If a compatible version of WinPE is not available, the Startup Disk Creator will automatically download and install a copy for you.

<sup>&</sup>lt;sup>5</sup> Casper Secure Tech Edition does not support the VHDX image file format when running within WinPE 3.x (Windows 7 AIK).

A Startup Disk allows you to use Casper Secure Tech Edition on a computer without having to separately install Casper Secure Tech Edition on the computer. It also can be used to boot a computer and run Casper Secure Tech Edition within a self-contained Windows environment (WinPE).

## **Creating a Casper Secure Tech Edition Startup Disk**

- 1. Open **Startup Disk Creator**. (Start -> All Apps -> Casper Secure Tech Edition -> Startup Disk Creator)
- 2. A Casper Secure Tech Edition Product Key is required to activate the Casper Secure Tech Edition software. There are three options:

#### Assign product key later:

	_		$\times$
~	🎽 Casper Secure Tech Edition - Startup Disk Creator		
	Product Activation Required		
	A product key is required for license activation.		
	Assign product key later		
	○ Assign product key now		
	O Create and assign a new product key automatically (Requires Enterprise Subscription License	)	
	Next	Cano	:el

If you choose to assign a product key later, you will be prompted to provide the product key when the Startup Disk is first used. This option is useful if you are creating a Startup Disk for another user or if you need to create a Startup Disk that will be separately replicated and distributed to a group of users.

**NOTE:** Internet access is required to complete product activation. If you choose an option to assign or activate a product key later, Internet access will be required to complete the activation process on the computer on which the Startup Disk is first used.

#### Assign product key now:

	- 🗆 X
÷	🏂 Casper Secure Tech Edition - Startup Disk Creator
	Product Activation Required
	A product key is required for license activation.
	○ Assign product key later
	Assign product key now
	O Create and assign a new product key automatically (Requires Enterprise Subscription License)
	Product Key
	The product key looks like this: XXXXX-XXXXX-XXXXX
	Product Key:
	Activate immediately after startup disk created
	Next Cancel

If you choose to assign a product key now, enter your product key and then choose when to complete the software activation process. You may activate the software immediately after the Startup Disk has been created or wait until you first use the Startup Disk.

#### Create and assign a new product key automatically:

		_		×
$\leftarrow$	🏂 Casper Secure Tech Edition - Startup Disk Creator			
	Product Activation Required			
	A product key is required for license activation.			
	○ Assign product key later			
	○ Assign product key now			
	Create and assign a new product key automatically (Requires Enterprise Subscription 2)	otion Licens	e)	
	Product Key Options			
	Group Name:			
	Key Name: Runtime Password:			
	User Name: Verify Password:			
	Activate immediately after startup disk created			
		Next	Car	ncel

If you are the license administrator for an enterprise subscription license, you may choose to have a new product key created and assigned automatically. This is the quickest and most efficient option when you need to create and distribute a large number of Startup Disks throughout an organization.

When you first select *Create and assign a new product key automatically*, you will be prompted to enter the enterprise subscription number and your fssdev.com account credentials.

Automatically Assign Produ	ct Keys	Х				
You must be an approved licensing administrator for the Enterprise Subscription License to proceed. Enter the Enterprise Subscription Number and your fssdev.com account credentials.						
Subscription number:	<u></u>					
Email address:						
Password:						
	OK Cance	el				

Once the subscription number and account credentials have been provided, and thereafter, you may optionally assign new keys to an organizational group or give each new key an unique identity to assist with tracking and usage.

To restrict usage a runtime authorization password may also be provided. The Startup Disk will prompt for the runtime password before permitting use of the software.

All of the *Product Key Options* are optional and may be left blank.

3. Choose the type of Startup Disk to create.



There are three options:

- **Create a bootable USB flash drive.** This option will prepare a USB flash drive to boot and run Casper Secure Tech Edition.
- **Create a bootable CD or DVD.** This option will prepare a CD or DVD disc to boot and run Casper Secure Tech Edition.
- Create a bootable ISO disc image file. This option will create an ISO disc image file, which can be used to create a CD or DVD disc later or used to emulate a bootable Casper Secure Tech Edition CD within a virtual environment.

**NOTE:** This step will be omitted if your license requires the use of a USB flash drive for the Startup Disk.

**NOTE:** Internet access is required to use a bootable CD, DVD, or ISO disc image file. Other restrictions may also apply depending on the type of license acquired. For example, your license may not permit the creation of a CD, DVD, or ISO image file or it may permit only the creation of a temporary CD, DVD, or ISO disc image file that will cease to operate after 48 hours. For complete details, please consult the license agreement accompanying this software or contact your licensing administrator.

4. Choose the Windows PE version and architecture to use for the Startup Disk. The default selection is recommended.

				_		Х
←	🏂 Casper Secure Tech Editior	n - Startup Disk Creator				
	Select Windows PE Vers	sion and Architecture				
	The Microsoft Windows Preins the Startup Disk.	tallation Environment (Windows PE) provides	the runtime	enviror	ment for	
	While using the latest available for the broadest range of comp suited for older systems that re	version of Windows PE will generally provide outer configurations, you may find an older ve quire drivers that are no longer supported by l	the best ou rsion of Wi later version	ut-of-bo ndows P ns of Wii	x support 'E better ndows.	t
	PE Version:	10.0 (Recommended) V				
	PE Architecture:	64-bit $\checkmark$				
	Windows PE 10.0 is base	d on Windows 10, which includes native supp	ort for USE	3.1 por	ts.	
			N	lext	Cano	:el

 Specify additional drivers to add to the runtime environment. Additional drivers may be required to provide access to storage devices and network resources not supported by the drivers included within the Windows AIK or Windows ADK.

		—		$\times$
÷	🎾 Casper Secure Tech Edition - Startup Disk Creator			
	Would you like to include any additional drivers?			
	Additional drivers may be added to the runtime environment to access storage controlle adapters not supported by the default drivers.	rs and i	network	
	☑ Include additional storage drivers			
	Include additional network drivers			
	Additional custom drivers:			
			Add	
		1	Add folde	r
			Remove	
	N	ext	Cano	el:

Check **Include additional storage drivers** to add a collection of popular third-party storage controller drivers. Check **Include additional network drivers** to add a collection of popular third-party network drivers. Both options provide out-of-the-box support for a broad range of hardware.

Click **Add** and select the Setup Information File (INF) to include a specific driver. To add more than one driver at time, click **Add folder** and select the folder containing the drivers. All drivers within the selected folder and within any subfolders will be added to the runtime environment. Incompatible drivers will be ignored.

**NOTE:** The **Include additional storage drivers** and **Include additional network drivers** options are available only when using WinPE 3.0. These options will not appear when using a later version of WinPE to create the Startup Disk.

**NOTE:** Adding a large number of custom drivers with **Add** or **Add folder** can significantly increase the amount of time required to create the Startup Disk.

6. Define the network configuration for the runtime environment. You can configure a specific network configuration for each adapter discovered within the runtime environment.

				—	□ ×
←	🍒 Casper Secure Tec	h Edition - Startup Disk Creat	pr		
	Define Network S	Settings			
	Network adapter:				
	Obtain an IP addr           Use the following	ess automatically IP address:			
	IP address:		Default gateway:		
	Subnet mask:				
	Obtain DNS serve	r address automatically DNS server addresses:			
	Preferred DNS:		Alternate DNS:		
				Next	Cancel

7. Choose whether to have a network drive mapped automatically at startup.

			_		×
←	🏂 Casper Secure	Tech Edition - Startup Disk Creator			
	Would you lik	e to map a network drive automatically at startup?			
	Map the follow	ing network drive at startup:			
	Drive	Z: ~			
	Folder:	~		Browse	
		Example: \\server\share			
		Connect using the following credentials:			
		User:			
		Password:			
			Vext	Can	cel

The **User** and **Password** fields are optional and may be left blank. You will be prompted to provide the missing credentials if necessary at startup.

8. If creating a bootable USB flash drive, insert and select the USB flash drive, then click **Create Startup Disk**. Existing data on the flash drive will be erased.

			_		×
←	🏂 Casper Secure Tech Edition - Startup Disk Creator				
	Select USB flash drive				
	To create the Startup Disk, insert and select the USB flash drive, then sel on the selected flash drive will be erased.	ect Create Startu	ıp Disk. A	ll data	
		1			
	Emovable Disk (N:)				
		-			
	C	Create Startup	Disk	Canc	el



WARNING: All data on the selected flash drive will be erased!

If creating a bootable CD or DVD, select a disc recorder and insert a blank disc, then click **Create Startup Disk**.

					_		×
~	🏂 Casper Secure	Tech Edition - Startup Disk Creator					
	Select disc red	corder					
	To create the Start Burning the disc a media quality and	up Disk, choose a disc recorder and insert a t a slow speed will help to eliminate boot f drive performance.	a blank ailures	c disc, then select that can result fro	Create Star om variatio	rtup Disk Ins in	
	Disc recorder:	D:\ [HL-DT-ST BD-RE BH12LS35 1.00]	~				
	Write speed:	48x (7200 KiB/s)	~				
	Volume label:	Casper Secure Tech Edition					
				Create Start	up Disk	Can	cel

If creating a bootable ISO disc image file, type a name for the file and click **Create ISO File**.

		_		$\times$
÷	Disk Creator Secure Tech Edition - Startup Disk Creator			
	Choose a name for the ISO disc image file			
	The Casper Startup Disk image will be saved to the file as an optical disc image. Spec volume label will make a disc created from the image file easier to identify.	ifying a de	scriptive	
	Filename:			
	D:\Images\ISO Images\CASPERSTE.ISO			
	Volume label:			
	Casper Secure Tech Edition			
	Create	ISO File	Cano	cel

## Using the Casper Secure Tech Edition Startup Disk

You can run Casper Secure Tech Edition either by executing the program from the Startup Disk within a supported Windows environment or by booting a computer from the Startup Disk. When the Startup Disk is used to boot a computer, Casper Secure Tech Edition will start automatically.

## **Running Casper Secure Tech Edition within Windows**

- 1. Insert the Casper Secure TE Startup Disk and browse to the CASPERSTE folder.
- 2. Double-click on **CASPERSTE.EXE** to open Casper Secure Tech Edition.

## Booting and Running Casper Secure Tech Edition from the Startup Disk

The Casper Secure TE Startup Disk may be used to boot a computer and run Casper Secure Tech Edition. When booting a computer from the Startup Disk, Casper Secure Tech Edition will start automatically.

Booting a computer from the Startup Disk may take several minutes. Once it has completed the boot process, the Casper Secure Tech Edition console will display.



## Loading specific drivers after booting from the Startup Disk

The Startup Disk boots and runs Casper Secure Tech Edition within a self-contained Windows Preinstallation (WinPE) environment. If you need to load a driver that was not included when the Startup Disk was created, you can load the driver after booting the computer from the Startup Disk.

Follow this procedure:

- 1. Click Explore to open Casper Explorer
- 2. From the Tools menu, click Load driver
- 3. Browse to the Setup Information File (.INF) of the driver package that contains the hardware driver to load and click **Open**.

**NOTE:** The driver must have the same architecture as the Casper Secure TE Startup Disk. For example, if the Startup Disk was created using a 32-bit version of Windows PE, the driver must be 32-bit. If the Startup Disk was created using a 64-bit version of Windows PE, the driver must be 64-bit.

### Automatically loading additional drivers when booting from the Startup Disk

When using a USB flash drive for the Startup Disk, additional drivers may be added by copying the driver files to the **Drivers** folder located in the root directory of the Startup Disk (e.g., "E:\Drivers"). Each time the Startup Disk is used to boot a computer the **Drivers** folder is recursively searched and all compatible drivers are loaded.

The **Drivers** folder makes it possible to reconfigure the drivers for a Startup Disk after the disk has been created.

The following screenshot shows the contents of a **Drivers** folder, which has been customized with a Dell Driver Pack (CAB).



# **Upgrading a Hard Disk**

Casper Secure Tech Edition makes short work of upgrading and replacing a hard disk, including one encrypted with BitLocker drive encryption or PGP whole disk encryption. Automatic partition resizing and alignment optimization ensure effortless migration to both larger and smaller drives alike, including solid state (SSD) and Advanced Format (AFD) drives.

When cloning a BitLocker encrypted or PGP whole disk encrypted hard disk, Casper Secure Tech Edition will retain all of the encrypted data in its original encrypted state. This results in a hard disk that can be used as an immediate and complete replacement for the original hard disk without requiring an unencrypted copy or separate time-consuming re-encryption step.

The procedure for upgrading a hard disk is basically the same whether you are upgrading a hard disk in a desktop or a notebook. For a desktop system, the new hard disk is temporarily installed as a secondary hard disk in the computer or attached as an external hard disk using an external USB, Firewire, or eSATA hard disk enclosure or bridge adapter. For a notebook computer, a secondary media bay or external USB, Firewire, eSATA, or PCMCIA hard disk enclosure or bridge adapter is required to connect the new hard disk to the notebook.

## Example 1: Upgrading a Hard Disk

Assuming the new hard disk is currently installed or attached to the system, the following procedure illustrates how Casper may be used to clone the original hard disk to the new hard disk and complete the upgrade.

- 1. Start Casper Secure Tech Edition
- 2. Select Copy Drive



3. Select the hard disk to be upgraded as the source and click **Next**.

Casper Secure Tech Editi	on - Copy Drive	
Select the source		
Select a disk to copy the disk layout and content of all partitions defined on the disk. Select an individual partition or volume to copy only the selected partition or volume.		
Name	Description	Size
🗉 📊 Disk 1	Hitachi HTS545025B9A300	232.88 GB
Disk 2	EXT USB 2.0 ST950042 0AS	465.76 GB
		Next Canc

4. Select the new hard disk as the destination and click **Next**.

🌀 耳 Casper Secure Tech E	dition - Copy Drive	
Select the destinatio Casper will copy Disk 1 [H hard disk will be lost, incl	on hard disk litachi HTS54502589A300] to the hard disk. Any existing u uding the layout and content of any partitions defined o	data on the destination n the hard disk.
Name	Description	Size
Disk 2	EXT USB 2.0 ST950042 0AS	465.76 GB
		Next Cancel

5. If the source hard disk is encrypted using BitLocker drive encryption or PGP whole disk encryption, Casper will offer the option of creating an unencrypted copy unless prohibited by BitLocker or PGP administrative policy settings. Click **Create an encrypted copy**.

_		
G	X Casper Secure Tech Edition - Copy Drive	
	Would you like to create an encrypted copy? Disk1 [Hitachi HTS545025B9A300] is encrypted using whole disk encryption technology.	
	Create an encrypted copy (recommended) Encrypted data from Disk 1 will be stored in its encrypted state on Disk 2.	
	Create an unencrypted copy Encrypted data from Disk 1 will be stored unencrypted on Disk 2.	
		Cancel

6. When prompted to specify how the space on the new hard disk is to be used, click **Next** to accept the default. If upgrading to a larger capacity hard disk, the default option will be *Give all of the space to the partition*, or *Proportionally distribute the space to all partitions* when there is more than one partition defined on the source disk.

G 🎾 Casper Secure Tech Edition	- Copy Drive		
How would you like to u When copying the partitions fre space to the partitions. This will files and folders. Proportionally distribute the Leave the additional space u Let me specify how the addit	use the additional space om Disk 1 [Hitachi HTSS45025 increase the amount of free s space to all partitions (recom nallocated tional space is to be allocated	e on Disk 2? B9A300], Casper can give the a space available on the partition mended)	dditional is for new
Partition	Disk 2 usage	Disk 2	465.76 GB
System Reserved	100.00 MB 465.66 GB		
		Unallocated space:	0.00 bytes
		Next	Cancel

If the capacity of the new hard disk is equal to or less than the capacity of the source hard disk, Casper will offer the option to reconfigure the available space.

G	🎉 Casper Secure Tech E	dition - Copy Drive		
	Specify how you w Select and specify the siz	ould like to use the space o e for each partition on Disk 2 [EXT U	n Disk 2 JSB 2.0 ST950042 0AS].	
	Partition		Original size	Size of copy
	Disk 1, Partition 1 [Sy	/stem Reserved]	100.00 MB	100.00 MB
	Docal Disk (C:)		182.39 GB	465.66 GB
	Disk 1, Partition 1 [Syste Minimum size: Maximum size:	m Reserved] 100.00 MB 100.00 MB	Disk 2:	465.76 GB
	New size:	100 × MB ×	Unallocated space	e: 0.00 bytes
			N	lext Cancel

For additional help with making a selection, press F1.

7. Click **Begin now** to start the cloning process.

G 🎗 Casper Secure Tech Edition - Co	py Drive		
Casper is ready to copy the	hard disk 54502589A3001 to	Disk 2 [EXT_USB 2.0 ST950042 0AS].	
Votify me when completed:		Always	•
Additional notification options	5		
Send a SmartAlert		•	New
Description:	BEAKER System	Disk Backup	
Turn off computer when finis	shed:	Stand by 💌	
		Begin r	now Cancel

8. When Casper has completed the cloning process, click **Close**.

Casper Secure Tech Edition - Copy Drive	
The copy completed successfully	
Disk 1 [Hitachi HTS545025B9A300] was copied to Disk 2 [EXT USB 2.0 ST950042 0AS].	
Overall transfer rate: 3286 MB per minute Elapsed time: 58 minute(s)	
An activity report providing additional details has been saved to the Casper History. <u>View</u> now.	<u>/ this report</u>
Save the settings for this copy as:	
Copy Disk 1 to Disk 2	
	Close
	Close

- 9. Shutdown and power-off the computer.
- 10. Reconfigure the computer to replace the original hard disk with the new hard disk.

If the new hard disk is installed in a secondary media bay of a notebook, or installed in an external USB, Firewire, eSATA, or PCMCIA enclosure, simply remove the hard disk from its enclosure and exchange it with the original hard disk.

For a new hard disk that has been temporarily mounted as a secondary internal hard disk, change the cable connection as required to make the new hard disk the master on the primary SATA controller.

## **Creating and Restoring Disk Image Backups**

A disk image backup stores a complete image of a disk in a file, which can be stored virtually anywhere, including on a drive containing other files or remotely on a network attached storage device.

When creating a disk image backup for a drive encrypted with BitLocker Drive Encryption or PGP Whole Disk Encryption technology, Casper Secure Tech Edition retains all of the data in its original encrypted state.

## Example 2: Creating a Disk Image Backup

- 1. Start Casper Secure Tech Edition
- 2. Select Create Image

	5		0 (	>	× ?
	<u>^</u>	<u> </u>			
Copy Drive Copy an entire disk, specific partition, or logical volume to another.	Create Image Save an image of an entire disk, specific partition, or logical volume to a file.	Restore Image Restore an image of an entire disk, specific partition, or logical volume from a file.			
0	8	Q			
Create Drive Create and format a new partition.	Remove Drive Delete a partition.	Explore Explore disks and perform other advanced disk management tasks.			

3. Select the hard disk to copy and click **Next**.

Casper Secure Tech Edition - Cr	eate Image	
Select the source Select a disk to copy the disk layout partition or volume to copy only th	t and content of all partitions defined on the di e selected partition or volume.	isk. Select an individual
Name	Description	Size
🗉 📊 Disk 1	Hitachi HTS545025B9A300	232.88 GB
– 📄 System Reserved	Primary Partition (Boot)	100.00 MB
Local Disk (C:)	Primary Partition (Encrypted, System, Paaina)	182.39 GB
		Next Cancel

4. Select the destination image file and click **Next**. The image file can be stored virtually anywhere, including on a network attached storage device.

🚱 耳 Casper Sec	ure Tech Edition - Create Image	
Select the o	destination image file i HTS54502589A300] will be copied to the image file.	
Name:	Dell Latitude E6540 Master Image	•
Location:	P:\Image Masters\East Building	▼
		ext Cancel

5. If the source hard disk is encrypted using BitLocker drive encryption or PGP whole disk encryption, Casper will offer the option of creating an unencrypted copy unless prohibited by BitLocker or PGP administrative policy settings. Click **Create an encrypted copy**.

0	🎾 Casper Secure Tech Edition - Create Image
	Would you like to create an encrypted copy? Disk1 [Hitachi HTS54502589A300] is encrypted using whole disk encryption technology.
	Create an encrypted copy (recommended) Encrypted data from Disk 1 will be stored in its encrypted state in Dell Latitude E6540 Master Image.
	Create an unencrypted copy Encrypted data from Disk 1 will be stored unencrypted in Dell Latitude E6540 Master Image.
	Cancel

6. Click **Begin now** to create the image file.

~	
G 🎾 Casper Secure Tech Edition - Cre	eate Image
Casper is ready to create the Casper will copy Disk 1 [Hitachi HTS	ne image S545025B9A300] to Dell Latitude E6540 Master Image.
Votify me when completed:	Always 🔹
Additional notification options	15
Send a SmartAlert	
Email address:	Vew New
Description:	Dell Latitude E6540 Master Image
Turn off computer when finis	ished: Stand by 💌
	Begin now Cancel

## Example 3: Restoring a Disk Image Backup

- 1. Start Casper Secure Tech Edition
- 2. Select Restore Image



3. Select the image source and click Next.

Select the ima	ige source	dividual partition or volume from the re-	ested image file
P:\Casper Backup	os\Dell Precision M4	600 Master Image [2012-05-10].cib	Select image file
Choose the disk in partition to restore	nage to restore the o an individual partit	disk layout and content of all partitions to ion to another partition or volume.	to another disk. Choose a
Name		Description	Size
Name	ecision M4600 Mast	Description er Casper Image Backup	Size 465.76 GB
Name	ecision M4600 Mast on 1 [OSDisk]	Description er Casper Image Backup Primary Partition (Encrypted)	Size 465.76 GB 451.79 GB
Name Dell Pro –  Partitio –  Partitio	ecision M4600 Mast on 1 [OSDisk] on 2	Description er Casper Image Backup Primary Partition (Encrypted) Primary Partition	Size 465.76 GB 451.79 GB 300.00 MB
Name Dell Pro Partitio Partitio Partitio	ecision M4600 Mast on 1 [OSDisk] on 2 on 3 [Recovery]	Description er Casper Image Backup Primary Partition (Encrypted) Primary Partition Primary Partition	Size 465.76 GB 451.79 GB 300.00 MB 13.67 GB
Name Dell Pro Partition Partit	ecision M4600 Mast on 1 [OSDisk] on 2 on 3 [Recovery]	Description er Casper Image Backup Primary Partition (Encrypted) Primary Partition Primary Partition	Size 465.76 GB 451.79 GB 300.00 ME 13.67 GB

4. Select the destination and click **Next**.

🚱 🎾 Casper Secure Tec	h Edition - Restore Image				
Select the destina	ation hard disk				
Casper will restore the Any existing data on tl partitions defined on t	Casper will restore the disk image from Dell Precision M4600 Master Image [2012-05-10] to the hard disk. Any existing data on the destination hard disk will be lost, including the layout and content of any partitions defined on the hard disk.				
Name	Description	Size			
Disk 1	ST950042 0AS	465.76 GB			
		Next Cancel			

5. If the selected destination hard disk defines a partition or contains data, Casper will warn you that the contents will be overwritten. Confirm you have selected the correct hard disk to receive the backup, and click **Next**.



6. If the source image is encrypted using BitLocker drive encryption or PGP whole disk encryption, Casper will offer the option of creating an unencrypted copy unless prohibited by BitLocker or PGP administrative policy settings. Click **Restore an encrypted copy**.

		J
0	🎾 Casper Secure Tech Edition - Restore Image	
	Would you like to restore an encrypted copy? Dell Precision M4600 Master Image [2012-05-10] is encrypted using whole disk encryption technology.	
	Restore an encrypted copy (recommended) Encrypted data from Dell Precision M4600 Master Image [2012-05-10] will be restored in its encrypted state on Disk 1.	
	Restore an unencrypted copy Encrypted data from Dell Precision M4600 Master Image [2012-05-10] will be restored unencrypted on Disk 1.	
	Cancel	

7. When prompted to specify how the space on the destination hard disk is to be used, click **Next** to accept the default. If the size of the original image equals or exceeds the capacity of the destination hard disk, Casper will offer the option to reconfigure the available space.

		0.00	
Partition		Original size	Size of cop
Dell Precision M4600	Master Image, Partition 1 [OSDisk]	451.79 GB	451.79 G
Dell Precision M4600	Master Image, Partition 2	300.00 MB	300.00 M
Partition 1 [OSDisk]		Disk 1:	465.76
Minimum size:	19.42 GB		
Maximum size:	451.79 GB		
New size:	462638 🔺 MB 🔻		

If the original image size is smaller than the destination hard disk, Casper will offer the option of giving all of the additional space to the restored image, or proportionally distributing the additional space when there is more than one partition defined in the image.

8. Click **Begin now** to restore the image.

Casper Secure Tech Edition - Re	store Image			
Casper is ready to restore t	he image			
Casper will restore the disk image from Dell Precision M4600 Master Image to Disk 1 [ST950042 0AS].				
		-		
Notify me when completed:		Always	-	
Additional notification option	s			
Send a SmartAlert				
Email address:		▼	New	
Description:	Dell Precision M	4600 Master Image		
Turn off computer when fini	shed:	Stand by 👻		
		Begin	now Cancel	