Fiery Clone Tool For Embedded Servers User Guide

Fiery Clone Tool allows you to clone image files to a folder on a USB flash drive connected to the Fiery server. You can restore the image file to the Fiery server in order to restore the system to a previous configuration, and you can transfer the image file to an identical Fiery server.

When to use Fiery Clone Tool

Use the Fiery Clone Tool to back up the system:

- Immediately after Fiery server system setup.

- After new patches and updates are installed.

- Immediately after Fiery server features are installed or updated.

Use the Fiery Clone Tool to restore the system:

- Restore a Fiery server with a specific Setup configuration (for example, after hard disk drive replacement).

- Remedy a system failure (such as software corruption or hard disk drive failure).

Specifications

Requirements for	Specifications
Fiery server	Supports System 8R2 and later.
	Linux operating system support only.
	If you try to use the Fiery Clone Tool on an unsupported Fiery server, an error will be displayed.
USB 2.0 flash drive (storage device destination on which to store the clone image, and to boot from the device)	• USB drive formatted by the USB Prep Tool version 1.3.4 or later • Minimum USB drive size: 4 GB If the clone image file is larger than 4 GB, the Fiery Clone Tool divides the image file.
Replacement hard disk drive(s)	Must have the same or larger capacity as the hard disk drive it is replacing.

NOTE: Fiery Clone Tool cannot restore a clone image to a smaller capacity replacement hard disk drive.

Preparing the USB flash drive for image file storage

Before using Fiery Clone Tool, use the USB Prep tool on a Windows client computer to format and prepare a bootable USB flash drive for backing up and restoring from image files.

Verify that the client computer has the following system requirements for the USB Prep tool:

- Operating system: Windows XP SP3 or later

- Support for USB 2.0

- 256MB of available memory

⚠ WARNING

NOTE: When you prepare a bootable USB flash drive, the USB Prep tool erases all of the data that is stored on the drive. Make sure to back up any contents of the USB flash drive before you prepare it to be bootable.

TO INSTALL THE USB PREP TOOL APPLICATION

1 **Download the USB Prep tool from http://w3.efi.com/Fiery/Products/.**

2 **Navigate to the location of the downloaded file and double-click Setup.exe (the file type is Application) to start the Installer.**

3 **At the Welcome screen, click Next.**

4 **Accept the terms of the license agreement, and then click Next.**

Wait while the Installer verifies the installation requirements.

NOTE: If .Net framework is not installed on the Windows computer, click Accept to accept the terms of the license agreement. Wait up to 10 minutes as the .Net framework files are installed.

5 **At the next screen, accept or change the destination location, and then click Next.**

6 **When prompted, click Install to begin the installation.**

Wait while the application is installed on the Windows computer.

7 **At the InstallShield Wizard Complete screen, make sure that the "Launch the USB Prep Tool Application" check box is selected, and then click Finish.**

TO PREPARE THE USB DRIVE

1 **Download the Fiery Clone Tool software (file name: FCTe.iso) from http://w3.efi.com/Fiery/Products/.**

2 **If it is not already running, start the USB Prep Tool application by clicking Start > All Programs > EFI > USB Prep Tool.**

3 **Insert the USB flash drive into a USB port of the Windows computer.**

All data on the USB flash drive is lost when the drive is reformatted during the preparation procedure. Make sure that no valuable data resides on the USB flash drive.

4 **Follow the on-screen prompts.**

- **Start screen**—Specify the location from which to copy the Fiery Clone Tool software (the drive letter of the media drive). Specify the drive to copy to (the drive letter of the USB flash drive). Click Proceed when the Proceed button is available. Click OK to begin formatting the USB flash drive.

- **Prepare screen**—The progress bar shows that the contents of the software are being copied. Do not cancel. After all of the contents have been copied, click the Proceed button when it appears to continue.

- **Finish screen**—Confirm that the contents of the software were copied successfully to the USB flash drive. Click Finish to exit USB Prep Tool.

5 Remove the USB flash drive from the Windows computer.

IMPORTANT

Do not leave the prepared USB flash drive attached to the Windows computer. If the drive is still attached when the Windows computer starts up or reboots, system corruption may result.
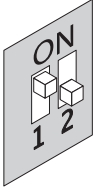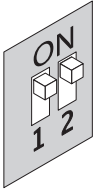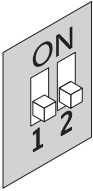
6 Label the prepared USB flash drive with identifying information.

For example, copy onto a label tag "Fiery Clone Tool." The USB flash drive is now prepared and can be used to enable the option.

About using Fiery Clone Tool

Fiery Clone Tool incorporates the service switches and the LED on the front or back of the Fiery server to communicate a status, error, progress and action required. The service switches are used to apply an action. The LED flashes messages in one second intervals for prompting an action to be done, for progress and completion statuses, and in half-second intervals for errors.

Service switch configuration	LED status code	Description
Boot	AA, 00	Set service switch 1 up (ON) and service switch 2 down (OFF) to boot the Fiery server from the USB flash drive. The LED flashes "AA" then "00" and repeats to indicate boot status.
		NOTE: You must perform this step before you start using the Fiery Clone Tool.
Backup	b0, 00	Set both services switches up (ON) to back up the Fiery server by creating an image file.
		When you start the backup process, the LED flashes "b1, b2, b3" in one second intervals, and repeats the cycle to indicate backup is in progress.
		When the backup process is complete, the LED cycles "bC, 00" in one second intervals and repeats to indicate completion status. Remove the USB flash drive at backup completion.
Restore	C0, 00	Set both services switches down (OFF) to restore the Fiery server with the image file.
		When you start the restore process, the LED flashes "C1, C2, C3" in that order and repeats the cycle to indicate restore is in progress.
		When the restore process is complete, the LED cycles "CC, 00" in one second intervals and repeats to indicate completion status. Remove the USB flash drive at restore completion.

Creating a clone image

The Create clone image function copies everything on the Fiery server hard disk drive, except the contents of the jobs sitting on the queues.

The Fiery Clone Tool writes the image file to a bootable USB flash drive prepared by the USB Prep tool, when the USB flash drive is connected to the Fiery server

After creating a cloned image file, you can transfer the image file to a safe location, such as a network location (requires a DVD burning application, not included) or a network location.

TO CREATE A CLONE IMAGE

1 **Attach a bootable USB flash drive prepared by USB Prep Tool to an available USB port on the Fiery server.**

2 **Set service switch 1 up, and service switch 2 down (see "About using Fiery Clone Tool").**

Service switch binary configuration: [1, 0].

3 **Reboot the Fiery server.**

4 **Allow the Fiery server to reboot from the USB flash drive to start Fiery Clone Tool.**

5 **Wait until the LED flashes "AA" then "00" repeatedly to indicate ready status.**

6 **Set both service switches 1 and 2 up (ON).**

Service switch binary configuration: [1, 1].

The LED flashes "b0" to indicate that the Fiery server is ready to be backed up.

IMPORTANT

After setting the service switch positions, you have 10 seconds to revert back to ready status (service switch back to 1, 0) before Fiery Clone Tool begins creating a image file.

Fiery Clone Tool creates the image file. The LED circulates "b1, b2, b3" to indicate the backup is in progress.

When the backup process is complete, the LED flashes "bC", then "00" in one second intervals and repeats to indicate completion status.

If an error occurs during the backup process, the LED flashes "EE", then the error code in half-second intervals. To troubleshoot the error, see "LED error codes".

7 **Set both service switches 1 and 2 down (OFF).**

Service switch binary configuration: [0, 0].

8 **Remove the USB flash drive.**

9 **Reboot the Fiery server.**

Restoring a clone image

The restored clone image file has the identical setup configuration as the source hard disk drive from which it was originally created.

NOTE: If you are replacing hardware components in the Fiery server in addition to using the Fiery Clone Tool, it is best to complete service procedures before using the Fiery Clone Tool. Only an authorized service technician should replace Fiery server hardware.

Before restoring a clone image

| IMPORTANT |

If you are restoring a clone image to a replacement hard disk drive, the replacement hard disk drive must have the same or larger capacity as the original hard disk drive. The Fiery Clone Tool cannot restore an image to a smaller capacity replacement hard disk drive.

TO RESTORE A CLONE IMAGE

1 **On a Windows computer, verify that the USB flash drive has the correct cloned image file for the Fiery server.**

   • Insert the USB flash drive into a USB port on the Windows computer.

   • In Windows Explorer, open the USB flash drive to check the files.

2 **Attach the USB drive to an available USB port on the Fiery server.**

3 **Set service switch 1 up (ON), and service switch 2 down (OFF) (see "About using Fiery Clone Tool").**

   Service switch binary configuration: [1, 0].

4 **Reboot the Fiery server.**

5 **Allow the Fiery server to reboot from the USB flash drive to start Fiery Clone Tool.**

6 **Wait until the LED flashes "AA" then "00" repeatedly to indicate ready status.**

7 **Set both service switches down (OFF).**

   Service switch binary configuration: [0, 0].

   The LED displays "C0" to indicate that the Fiery server is ready to be restored.

| IMPORTANT |

After setting the service switch positions, you have 10 seconds to revert back to ready status (service switch back to 1, 0) before Fiery Clone Tool begins restoring from the image file.

Fiery Clone Tool restores the image file. The LED circulates "C1, C2, C3" to indicate the restore procedure is in progress.

When the restore process is complete, the LED flashes "CC", then "00" in one second intervals and repeats to indicate completion status.

If an error occurs during the restore process, the LED flashes "EE", then the error code in half-second intervals. To troubleshoot the error, see "LED error codes".

8   **Remove the USB flash drive.**

9   **Reboot the Fiery server.**

Managing cloned image files

You can manage the cloned image from the USB flash drive. When managing clone image files, use the following guidelines.

- Fiery Clone Tool creates the following file structure:

  \...\[*OEM*]_[*Product Name*]_[*Platform*]_[*Date*]

  You can rename and move folders anywhere on the USB drive, or on any other storage location. When you rename the cloned image file, enter the date, product name, version, and any additional descriptions. Record the date and product name for future reference.

- Use a descriptive and consistent approach when renaming image files.

- Do not "zip" files or folders within the file location of the clone image files. The Fiery Clone Tool restore function cannot recognize clone images that have been zipped.

- Never remove the *.fci file extension from a clone image file name. The Fiery Clone Tool restore function cannot locate a clone image file name that does not include the *.fci file extension.

- Multiple backup clone image files of the same Fiery server product can be saved on the same USB flash drive. Every cloned image file will have different date and time stamp information indicating when it was created.

  When you restore the Fiery server with a USB flash drive that has multiple cloned image files, Fiery Clone Tool uses the most recent version created. If you want to restore with an older cloned image file, you must transfer the most recent version out of the USB flash drive and to another location.

- During the restore process, Fiery Clone Tool reads the Fiery hardware to search for the product information, and checks the USB flash drive for a cloned image file that matches the product information. Fiery Clone Tool checks only the information in the cloned image file to match the product. You can store a mix of cloned images of different products, as well as multiple clone images of the same product with different dates, on the same USB flash drive.

NOTE: If Fiery Clone Tool does not find a cloned image file associated with the Fiery server product, the cloned image file name might be wrong. Fiery Clone Tool reads the image file to verify the correct product ID and match it for the target product.

LED error codes

LED error codes flash "EE", then the error code and repeats when an error occurs when using the Fiery Clone Tool.

LED error code	Operation type	Description	Suggested action
11		Failed to retrieve product information.	• It is not a Fiery server. • If the Fiery server is found, the hardware might not have initialized properly to retrieve the product name.
02		Unsupported Fiery server	Product information is found, but Fiery Clone Tool does not support this product.
05	Backup	Insufficient USB flash disk space	Make sure that the USB flash drive has enough space for the cloned image when you back up the Fiery server.
08	Backup	File operation error. I/O error when writing to the USB.	1. **Run Windows Disk Error Check on the USB flash drive.** 2. **Prepare the USB flash drive again using the USB Prep tool.**
09		Missing hard disk drive	Check the Fiery server to verify hard disk drive installation.
0F	Backup	Failed to write to USB flash drive, or error reading from hard drive.	1. **Run Windows Disk Error Check on the USB drive.** 2. **Re-prepare the USB drive using the USB Prep tool.** 3. **Check the hard disk drive if USB flash drive is working properly, then try again.**
10		Failed to read service switch position	Check if the service switch cable is connected properly to the motherboard.
20	Backup	Encountered an unsupported file system on the Fiery server	The Fiery server is not properly installed. Reinstall the Fiery server. **NOTE:** If Fiery Clone Tool cannot read the hard disk drive partition, then the backup procedure cannot be performed.
21	Backup and restore	Failed to mount hard disk drive partition	The Fiery server is not properly installed. Reinstall the Fiery server. If Fiery Clone Tool cannot mount the hard disk drive partition, then the backup procedure cannot be performed.
30	Backup	Some Fiery files are missing (corrupt installation).	The Fiery server might not be running properly. Reinstall the Fiery server.
31	Backup	Detected multiple USB drives (only allow one USB flash drive to be inserted).	Remove all USB flash drives that are connected to the Fiery server, and insert only the bootable USB flash drive for the backup or restore process.
40	Restore	No valid image(s) to restore	Check the USB flash drive to verify that you have the correct cloned image file for the Fiery server.
41	Restore	Cloned image file is for the correct product, but feature set does not match.	Check the USB flash drive to verify that you have the correct cloned image file that match the same feature set for the Fiery server.
42	Restore	Clone image file is for correct product, but hard disk drive is too small.	Make sure to install the hard disk drive that has the default factory size for storage (meets the minimum hard disk drive space requirement for Fiery Clone Tool), or greater.
43	Restore	Failed to format hard disk drive	Replace the hard disk drive.

44	Restore	The USB flash drive may have a corrupted cloned image file, or your had disk drive cannot be accessed.	1. Run Windows Disk Error Check on the USB flash drive.
			2. Prepare the USB flash drive again using the USB Prep tool.
			3. Use another computer with an external connection to format the hard disk drive, if Fiery Clone Tool cannot write to the hard disk drive.
			4. If the above actions do not work, replace the hard disk drive.
45		Failed to install bootloader	1. Use another computer with an external connection to format the hard disk drive, if Fiery Clone Tool cannot write to the hard disk drive.
			2. If the above actions do not work, replace the hard disk drive.