

Intel[®] SSD Firmware Update Tool

User Guide

March 2024

Revision 017US

Document Number: 322570-017US

Notice: This document contains information on products in the design phase of development. The information here is subject to change without notice. Do not finalize a design with this information.

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software, or service activation. Learn more at <u>intel.com</u>, or from the OEM or retailer.

No computer system can be absolutely secure. Intel does not assume any liability for lost or stolen data or systems or any damages resulting from such losses.

You may not use or facilitate the use of this document in connection with any infringement or other legal analysis concerning Intel products described herein. You agree to grant Intel a non-exclusive, royalty-free license to any patent claim thereafter drafted which includes subject matter disclosed herein.

No license (express or implied, by estoppel or otherwise) to any intellectual property rights is granted by this document. The products described may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

This document contains information on products, services and/or processes in development. All information provided here is subject to change without notice. Contact your Intel representative to obtain the latest Intel product specifications and roadmaps.

Intel disclaims all express and implied warranties, including without limitation, the implied warranties of merchantability, fitness for a particular purpose, and non-infringement, as well as any warranty arising from course of performance, course of dealing, or usage in trade.

Tests document performance of components on a particular test, in specific systems. Differences in hardware, software, or configuration will affect actual performance. Consult other sources of information to evaluate performance as you consider your purchase. For more complete information about performance and benchmark results, visit http://www.intel.com/performance.

Results have been estimated or simulated using internal Intel analysis or architecture simulation or modeling and provided to you for informational purposes. Any differences in your system hardware, software or configuration may affect your actual performance.

Intel does not control or audit third-party benchmark data or the web sites referenced in this document. You should visit the referenced web site and confirm whether referenced data are accurate.

Copies of documents which have an order number and are referenced in this document may be obtained by calling 1-800-548-4725 or by visiting <u>www.intel.com/design/literature.htm</u>.

Intel, the Intel logo and Intel Optane are trademarks of Intel Corporation or its subsidiaries.

*Other names and brands may be claimed as the property of others

Copyright © 2022, Intel Corporation. All Rights Reserved.



Contents

1	Overview5
	1.1System Requirements61.2Known Compatibility Issues61.2.1Run Compatibility Issue with Secure Boot Enabled61.2.2Boot Compatibility Issues8
2	Windows* 7, 8, 10, and 11 Instructions9
	2.1 Setup
	2.2 Option 1: Download the Intel [®] SSD Firmware Update Tool to a USB Flash Drive
	 2.3 Option 2: Download the Intel[®] SSD Firmware Update Tool to a Blank CD
	8, 10, 11
	2.4 Run the Intel [®] SSD Firmware Update Tool
3	Linux* Instructions16
	 3.1 Setup
	3.3 Starting the Firmware Update Process
4	Mac* Instructions21
	 4.1 Setup

Figures

Figure 2-1. Download the ISO*	Image	10
Figure 2-2. Universal USB Insta	ller	.11

intel. *Revision History*

Revision Number	Description	Date
017US	Release for software version 4.1.248	March 2024
016US	Release for software version 4.1.17	December 2022
015US	Updates to the document to reflect removals of NAND related material	September 2022
014US	Updated format and minor changes for creating USB key	April 2021
013US	 Removed Windows XP* and Windows Vista* related content Added instruction on creating the USB Key Update Mac* instructions Added Linux* Instructions 	March 2021
012US	Updated Notes in Overview Section	September 2019
011US	 Modified for release of version 3.0.0. Modified Intel[®] SSD Firmware Update Tool software to be Command-Line Interface (CLI) based only instead of GUI. 	February 2018
010US	 Modified for release of version 2.2.1 – for systems using Intel[®] Optane[™] Memory as a system accelerator 	May 2017
009US	Modified for release of version 2.2.0	April 2017
008US	Updates to Known Issues	October 2016
007US	 Added support for Intel[®] SSD Pro 2500 and 535 Series Added support for Intel[®] SSD 750 Series Added support for Intel[®] Optane[™] SSD S3710, Intel[®] Optane[™] SSD S3610, Intel[®] Optane[™] SSD S3510, Intel[®] Optane[™] SSD S3500 M.2 and Intel[®] Optane[™] SSD S3500 HD Series Tool support for Windows* 10 	October 2015
006US	 Added support for Intel[®] Optane[™] SSD S3700 Series Added support for Intel[®] SSD 335 Series Updated for version 2.0 of the Intel[®] SSD Firmware Update Tool software 	June 2013
005US	 Added support for Intel[®] SSD 320 Series Miscellaneous documentation changes 	August 2011
004US	Updated document to reflect new firmware release	January 2011
003US	 Modified graphics version information Modified instructions in the Run the Intel[®] SSD Firmware Update Tool section Modified instructions in the Verify New Firmware Update section 	November 2009
002US	 Deleted the Safari* content from Known Issues section. The Intel[®] SSD Firmware Update Tool now works with this website Modified various graphics to reflect the new 1.3 firmware release 	October 2009
001US	Initial release	August 2009

1 Overview

This document describes how to use the Intel[®] SSD Firmware Update Tool to update the firmware on Intel[®] Optane[™] Solid State Drives and Intel[®] Optane[™] Memory devices in all capacities.

Notes:

- Before initiating the Intel[®] SSD firmware update, read and follow the instructions included in the firmware update guidelines and release notes.
- The Firmware update process is done entirely at your own risk. Before attempting to update the firmware, it is your responsibility to back up or make copies of your files. If the firmware update process is interrupted, your Intel[®] SSD may not function properly.
- If you are a Windows* user, take advantage of the Intel[®] Memory and Storage Tool (Intel[®] MAS) to perform firmware updates, which is the preferred method for most Windows* users.
- If your system is accelerated with Intel[®] Optane[™] Memory, you will need to temporarily <u>disable system acceleration</u> to run the Intel[®] SSD Firmware Update Tool.
- If you purchased your Intel[®] SSD from an Original Equipment Manufacturer (OEM), your Firmware version may have different naming. Contact your local OEM representative for latest Firmware revisions.
- The Intel[®] SSD Firmware Update Tool requires that Legacy Boot is enabled in the BIOS.
- For a listing of the latest Firmware on all products, see the <u>Firmware listing</u> <u>page</u>. While the latest firmware might appear on the Firmware listing page, this tool may not yet be updated to provide the Firmware update. Check the release notes to confirm that the Firmware update is available in this tool.
- If you are a Mac* or Linux* user, you will continue to use the Intel[®] SSD Firmware Update Tool for firmware updates.
- The Firmware included in this package is intended to enable your Intel[®] SSD to deliver the best performance in your PC. Use this update tool or the Intel[®] MAS to get the latest production firmware.
- If you need any assistance with the firmware update or experience issues, contact <u>Intel Customer Support</u>.
- This download contains both Intel proprietary software and an open-source Linux* operating environment. The Intel proprietary software is licensed under the Intel's Software License Agreement only. The components of the open-source Linux* operating environment provided in this download are licensed under the GNU Lesser General Public License (LGPL) and other licenses as applicable. These licenses are included in the "licenses" folder in the download image. You can see the <u>source code for this open-source</u> <u>operating environment.</u>



For Microsoft Windows* and Linux* operating systems, follow the firmware update instructions in <u>Windows*</u>7, 8, 10, and 11 Instructions.

For Apple macOS* systems, follow the instructions in <u>Mac*</u> Instructions.

For Linux* OS systems, follow the instructions in Linux* Instructions.

The firmware update process involves three steps:

1. Perform the setup

Prior to updating the Intel[®] SSD firmware, perform such activities as backing up your data and closing all other applications.

2. Download the Intel[®] SSD Firmware Update Tool to a USB flash drive or blank CD

(CD-R or CD-RW)

The tool is a self-contained firmware update package formatted as an International Organization for Standardization (ISO) image, which must be downloaded and burned on a USB flash drive or blank CD-R.

3. Run the Intel[®] SSD Firmware Update Tool

When installed into a host system, the CD boots its own custom Linux* based environment and runs the necessary firmware update software to modify your Intel[®] SSD.

1.1 System Requirements

To use the Intel[®] SSD Firmware Update Tool, you need the following items:

- Supported Intel[®] SSD
- Host system with an available USB port or a Read/Writable (R/W) CD-ROM drive
- ISO* image burning software usually provided with the R/W CD-ROM drive, or freely available online
- Blank USB flash drive or blank CD (CD-R or CD-RW)
- A charged battery if the update occurs on a mobile system

For systems accelerated with Intel[®] Optane[™] Memory, system acceleration must be <u>disabled</u> temporarily to run the firmware update. System acceleration can be re-enabled after the firmware update has been completed.

1.2 Known Compatibility Issues

1.2.1 Run Compatibility Issue with Secure Boot Enabled

The Intel[®] SSD Firmware Update Tool has known run compatibility issues with, but not limited to:

- HP ENVY TouchSmart Ultrabook*
- Dell Inspiron 15z Ultrabook*



• Intel[®] NUC Kit NUC7i3DNHE

The following are examples for disabling the Secure Boot feature. Instructions may vary on other platforms.

1.2.1.1 HP ENVY TouchSmart Ultrabook*

To run the Intel[®] SSD Firmware Update Tool on an HP ENVY TouchSmart Ultrabook^{*}, first disable the Secure Boot feature using the following procedure:

- 1. Enter the **BIOS** by pressing the **F10** key while powering up the system.
- 2. Go to System Configuration.
- 3. Select Boot Options.
- 4. Legacy Support is disabled by default.
- 5. Enable Legacy Support.
- 6. Answer **YES** to the question.
- *Note:* Changing this setting may make the system unable to boot.
 - 7. To modify the Legacy boot order, set **USB disk on key/USB** as **First Boot** using the **F6** Key.
 - 8. Press F10 to save and exit the BIOS.

After you are finished with the $Intel^{\mbox{\tiny B}}$ SSD Firmware Update Tool, you can reset BIOS to the Default values.

1.2.1.2 Dell Inspiron 15z Ultrabook*

To run the Intel[®] SSD Firmware Update Tool on a Dell Inspiron 15z Ultrabook*, first disable the Secure Boot feature using the following procedure:

- 1. Enter the **BIOS** by pressing the **F2** key while powering up the system.
- 2. Go to the **Boot** menu.
- 3. Go to the **Secure Boot** option.
- 4. Select **Disabled**.
- 5. Exit with **Save Changes** and reset.
- 6. Answer Yes to Save configuration and reset question.
- 7. After using the Intel[®] SSD Firmware Update Tool, return to the BIOS.
- 8. Reset Secure Boot to Enabled.
- 9. Save and exit.

1.2.1.3 Intel[®] NUC Kit NUC7i3DNHE

To run the Intel[®] SSD Firmware Update Tool from Intel[®] NUC Kit NUC7i3DNHE, first disable the Secure Boot feature using the following procedure:

1. Enter the **BIOS** by pressing the **F2** key while powering up the system.



- 2. Click Advance drop-down, select boot
- 3. Move to Secure Boot tab
- 4. Add or remove check on Secure boot

1.2.2 Boot Compatibility Issues

The Intel $^{\ensuremath{\mathbb{R}}}$ SSD Firmware Update Tool has known boot compatibility issues with, but not limited to:

- AMD Turion* X2 system
- Samsung* NC20 VTA NANO U2250

There is no fix in the tool or known workaround at this time for these boot compatibility issues. We are continuously investigating solutions to these and other issues that relate to the tool's bootable Linux* environment.



2 Windows * 7, 8, 10, and 11 Instructions

2.1 Setup

Complete the following steps before starting the firmware update process on the PC containing the Intel $^{\mbox{\tiny B}}$ SSD.

1. Back Up the Intel[®] SSD

Perform a complete system backup on your Intel[®] SSD to ensure that no data is lost during the firmware update process. Intel is not responsible for any data loss that might occur during or after a firmware update on an Intel[®] SSD.

Following a successful firmware update, data restoration should not be required.

2. Plug in the Power

For mobile PCs, ensure that the computer battery is fully charged. For desktop PCs, ensure that the system is that the plugged into AC power during the update process. Do not remove power at any time during the firmware update process as this could produce incomplete results and may render your Intel[®] SSD unusable.

3. Turn Off Drive Password Protection

Some systems provide the ability to password-protect their drives. If your system has password protection enabled, the Intel[®] SSD may reject any requests from the host to update the firmware. You may need to turn off the drive password protection prior to begin the firmware update process. Although it varies from system to system, you can usually find the Drive Password Protection feature located in the BIOS. Consult your system documentation for the BIOS settings and passwords.

If you need help with disabling the drive password protection feature, contact Intel Customer Support: <u>http://www.intel.com/go/ssdsupport</u>

4. Check the Boot Order

This procedure requires booting from a USB flash or CD-ROM drive before the system drive. To determine the boot order for your system, reboot and enter BIOS Setup. Depending on the BIOS vendor, look for a parameter named **Boot Device Priority** or **Boot Load Order**. Ensure that the system boots the USB flash, or CD-ROM drive before the drive that contains the OS.

For more information on how to set the CD-ROM drive boot order, consult the system documentation for your PC.

If you still need additional assistance checking the boot order, contact Intel Customer Support: <u>http://www.intel.com/go/ssdsupport</u>

5. Close Applications

Before you start the firmware download process, close all applications except for your web browser.

2.2 Option 1: Download the Intel[®] SSD Firmware Update Tool to a USB Flash Drive

The Intel[®] SSD Firmware Update Tool is packaged as an ISO* image. Like an archive file or a disk image, an ISO* image is specifically designed for optical disks like CDs in a format specified by the ISO.

This means that you cannot simply copy an ISO* image to a blank USB flash drive because it will appear as a data file and will not work correctly. The ISO* image must be decoded with software and installed onto a blank USB flash drive to make it bootable with the Intel[®] SSD Firmware Update Tool.

Note: Along with the steps below, a video of this process can be found in the following link: <u>How to Update Firmware on Intel[®] SSDs with the Intel[®] Firmware Update Tool</u>

To illustrate, Intel is using a Universal USB installer software from <u>www.pendrivelinux.com</u>, but you may use any installer that you prefer.

- 1. Go to the Intel download website located at <u>www.intel.com/go/ssdfirmware</u>.
- 2. Review the "Read Me" file to better understand the firmware update process. The "Read Me" file contains high-level instructions for using the Intel[®] SSD Firmware Update Tool.
- 3. Review the *Intel[®] SSD Firmware Update Tool Release Notes* for a quick summary of the firmware changes for each product.
- Click **Download** to display the terms of the license agreement. See <u>Figure</u> <u>2-1</u> (**The "Read Me" file** also includes the license agreement information).
- 5. After reading the agreement, click **ACCEPT** to start the download. The browser prompts you to select **Open**, **Save**, **or Cancel**.

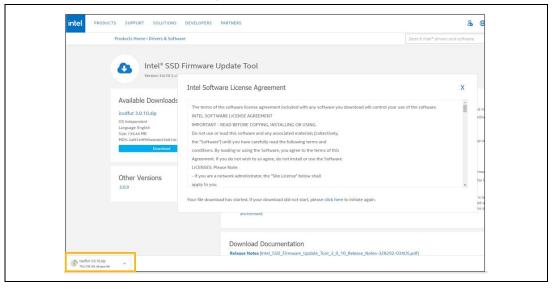


Figure 2-1. Download the ISO* Image



- 6. Go to <u>www.pendrivelinux.com</u> and download the freeware Universal USB Installer.
- 7. Install and run the Universal USB Installer (see Figure 2-2).
- 8. Select the Try Unlisted Linux* ISO*.
- 9. Browse to the location of the Intel[®] SSD Firmware Update Tool ISO* and select it.
- 10. Select the drive letter that corresponds to your blank USB flash drive.
- 11. Click Create.

Figure 2-2. Universal USB Installer

Setup your Sel Choose a Linux	ections Page Distro, ISO/ZIP file and, your USB Flash	h Drive.	Ö,
Step 1: Select a	Linux Distribution from the dropdown t	to put on your USB	
Try Unlisted Lin	nux ISO 👻		
Step 2 PENDING	S: Browse to your *.iso		
C: Downloads	vooxxxxxx .iso	Browse	
Step 3: Select y	our USB Flash Drive Letter Only	Show all Drives (USE WITH CAUTIC	N)
	sit the Universal USB Installer Page for	additional HELP	
Universal USB Insta	aller http://www.pendrivelinux.com —	Create Cano	el

Note: Your screen will display the name of the current Intel[®] SSD Firmware Update image file (xxxxxxx.iso).

2.3 Option 2: Download the Intel[®] SSD Firmware Update Tool to a Blank CD

The Intel[®] SSD Firmware Update Tool is packaged as an ISO^{*} image. Like an archive file or a disk image, an ISO^{*} image is specifically designed for optical disks like CDs in a format specified by the ISO^{*}.

You cannot simply copy an ISO* image to a blank CD because it will appear as a data file and will not work correctly. The ISO* image must be decoded with software and installed onto a blank CD (CD-R or CD-RW).



- 1. Go to the Intel download website located at <u>http://www.intel.com/go/ssdfirmware</u>.
- 2. Review the Intel[®] SSD Firmware Release Notes document for a quick summary of the firmware changes for each product.
- 3. Click **Download** to display the terms of the license agreement.
- 4. After reading the agreement, click **ACCEPT** to start the download.
- 5. The browser prompts you to select **Open**, **Save**, **or Cancel**.
- 6. Following are the steps to burn the ISO* image to a blank CD-R or CD-RW for your operating system.

2.3.1 Burning the ISO* Image to a Blank CD-R or CD-RW - Windows* 8, 10, 11

- 1. Insert a blank CD into your drive
- 2. Click Save to download the file
- 3. Specify a folder location when prompted (such as c:\temp)
- 4. Press the **Windows* key** on your keyboard to go to the desktop, then click the **File Explorer** icon on the taskbar
- 5. Navigate to the file folder that you specified in Step 3
- 6. Right-click the ISO* file and select Burn disc image
- 7. Click Burn. The ISO* image is burned to the CD
- 8. Click Close when finished

2.3.2 Burning the ISO* Image to a Blank CD-R or CD-RW - Windows* 7

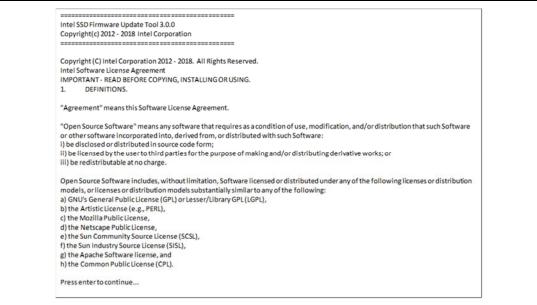
- 1. Insert a blank CD into your drive
- 2. Click Save to download the file
- 3. Specify a folder location when prompted (such as c:\temp)
- 4. Open the Windows **Start** menu **(29)**, open the **File Explorer (30)**, and go the file folder you specified in the previous step
- 5. Right-click the ISO* file and select **Open With**
- 6. Select Windows* Disk Image Burner
- 7. Click **Burn**. The ISO* image is burned to the CD
- 8. Click Close when finished



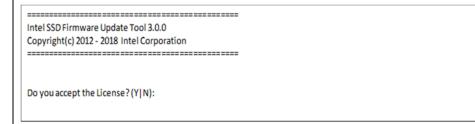
2.4 Run the Intel[®] SSD Firmware Update Tool

After creating the ISO* image bootable USB flash drive or CD, make sure that you have completed the setup procedures before running the Intel[®] SSD Firmware Update Tool:

- Back up the Intel[®] SSD
- Turn off Drive Password Protection
- Designate the USB flash drive or CD-ROM (as appropriate) to boot first or prior to the OS drive
- Fully charge the battery (for mobile computers)
- Plug in the power cable (for desktop computers)
- *Note:* If at any time during the firmware update process the program fails or your system displays a blank screen, power down and reboot your computer. Run the firmware update process again. If the second attempt fails, contact Intel Customer Support: <u>http://www.intel.com/go/ssdsupport</u>
 - 1. Intel[®] SSD Firmware Update Tool will boot and present the end-user software license. You will need to press "enter" to continue and read fully. Here is a sample text:



2. Once you click through and read the license, the Intel[®] SSD Firmware Update Tool will prompt the user:





a. If the user declines the license agreement, Intel[®] SSD Firmware Update Tool will show the shutdown prompt:

Intel SSD Firmware Update Tool 3.0.0	
Copyright(c) 2012 - 2018 Intel Corporation	
Do you accept the License? (Y N): n Eject the CD or unplug the USB flash drive conta Be sure to wait 10 seconds before starting your Press Enter to shutdown	ining the Intel(R) SSD Firmware Update Tool, then shutdown your computer. computer again.

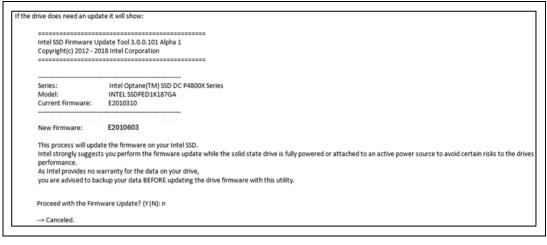
- b. If user says "y" (yes) to the license prompt, then Intel[®] SSD Firmware Update Tool will scan for Intel[®] SSDs.
 - 1) If the drive does not need a firmware update, it will display:



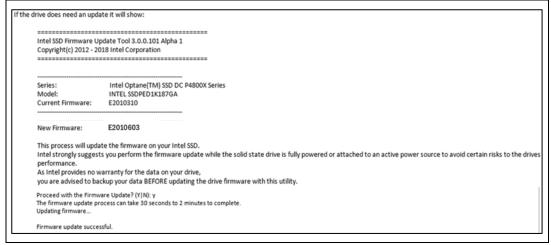
- *Note:* The message displayed previously could change depending on why the drive does not need an update. It could be because the drive is an invalid SKU or in a disabled logical state.
 - 2) If the drive does need an update, it will show the following:

If the drive does need an upda	ate it will show:
Intel SSD Firmware U Copyright(c) 2012 - 20	pdate Tool 3.0.0.101 Alpha 1 18 Intel Corporation
Series: Model: Current Firmware:	Intel Optane[TM] SSD DC P4800X Series INTEL SSDPED1K187GA E2010310
New Firmware:	E2010603
Intel strongly suggest performance. As Intel provides no v	te the firmware on your Intel SSD. is you perform the firmware update while the solid state drive is fully powered or attached to an active power source to avoid certain risks to the driv rarranty for the data on your drive, ckup your data BEFORE updating the drive firmware with this utility.
Proceed with the Firm	ware Update? (Y[N):

3. If the user says "n" (no) to the update, then Intel[®] SSD Firmware Update Tool will show:



4. If the user says "Y" yes, Intel® SSD Firmware Update Tool will show:



- *Note:* The last line "Firmware update successful" could be different depending on the status of the firmware update. This will change if the firmware update fails for some reason.
 - 5. Then, it will go to the next Intel[®] SSD drive and show what was displayed. For example, if no update is needed or if there is an update.
 - 6. Once Intel[®] SSD Firmware Update Tool has gone through all the drives, it will show the shutdown prompt.

intel. 3 Linux * Instructions

3.1 Setup

Complete the following steps before starting the firmware update process on the computer containing the Intel[®] SSD.

1. Back Up the Intel[®] SSD

Perform a complete system backup on your Intel[®] SSD to ensure that no data is lost during the firmware update process. Intel is not responsible for any data loss that might occur during or after a firmware update on an Intel[®] SSD.

Following a successful firmware update, data restoration must not be required.

2. Plug In the Power

For mobile computers, ensure that the computer battery is fully charged. For desktop computers, ensure that the system is plugged into AC power during the update process. Do not remove power at any time during the firmware update process as this could produce incomplete results and may render your Intel[®] SSD unusable.

3. Close Applications

Before you start the firmware download process, close all applications except for your web browser.

3.2 Downloading the Intel[®] SSD Firmware Update Tool to a USB Flash Drive

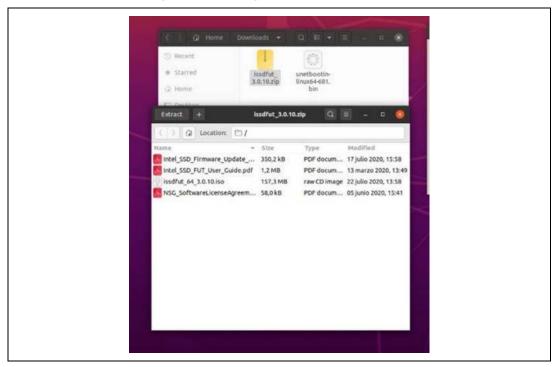
The Intel[®] SSD Firmware Update Tool is packaged as an ISO* image. Like an archive file or a disk image, an ISO* image is specifically designed for optical disks like CDs in a format specified by the ISO*.

You cannot simply copy an ISO* image to a USB flash drive because it will appear as a data file and will not work correctly. The ISO* image must be decoded with software and installed onto a USB flash drive.

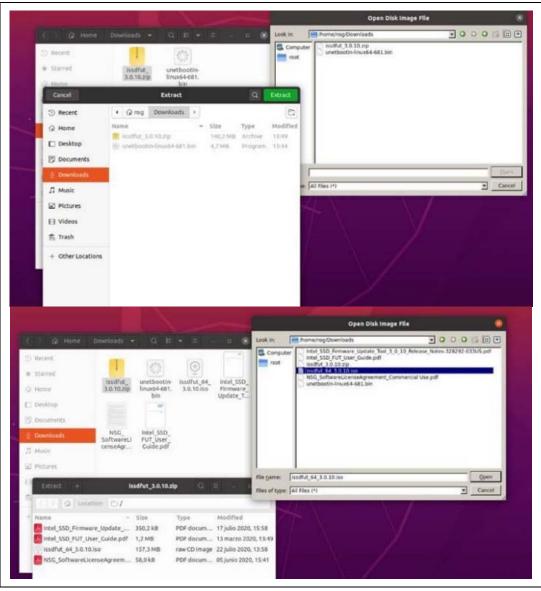
- *Note:* To illustrate, Intel is using the UNetbootin* installer software from <u>unetbootin.github.io</u>, but you may use any installer that you prefer.
 - 1. Go to the Intel download website located at <u>www.intel.com/go/ssdfirmware</u>.
 - a. Review the "Read Me" file to better understand the firmware update process. The "Read Me" file contains high-level instructions for using the Intel[®] SSD Firmware Update Tool.
 - b. Review the *Intel[®] SSD Firmware Update Tool Release Notes* for a quick summary of the firmware changes for each product.
 - c. Click **Download** to display the terms of the license agreement (The "Read Me" file also includes the license agreement information).



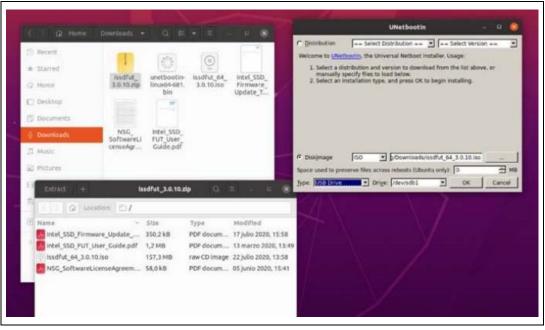
- d. After reading the agreement, click **ACCEPT** (at the bottom of the page) to download the firmware update package.
- Go to <u>https://unetbootin.github.io/</u> to download the UNetbootin* utility. This utility will be used to create a bootable USB flash drive with the Intel[®] SSD Firmware Update Tool ISO*.
- 3. Install process for UNetbootin*:
 - a. sudo add-apt-repository ppa:gezakovacs/ppa
 - b. sudo apt-get update
 - C. sudo apt-get install UNetbootin*
- 4. After Downloading, Both Packages Will Be Located Under Downloads.



5. Extract the ZIP files to the preferred location.



- 6. Open the UNetbootin* software. Make sure to have a blank USB flash drive attached to a USB port to install the ISO* on.
 - a. Select the **Disk Image** option and upload the Intel[®] SSD Firmware Update Tool ISO* image.
 - b. Under Type, select USB Drive.
 - c. Under **Drive**, select the bank USB flash drive.



d. Press OK to start burning the image.

	UNetbootin	- • © 📀
1. Downloading Files	(Done)	
2. Extracting and C	opying Files (Current)	
3. Installing Bootload	er	
4. Installation Comple	ete	
Extracting files, plea	ase wait	
Archive: /home/nsg	g/Downloads/issdfut_64_3.0.10.iso	
Source: licenses/au	doconf-archive-native/generic_GPL-3.0	with autoconflexceptic
Destination: /med	ia/nsg/FUT/licenses/autoconf-archive-n	ative/generic_GPL-3.0-s
Extracted: 36 of 96	66 files	
		3%

7. Restart the system and boot from the USB flash drive to load the Intel[®] SSD Firmware Update Tool.





3.3 Starting the Firmware Update Process

After creating the ISO* image USB flash drive, see <u>Burning the</u> ISO* Image to a Blank CD-R or CD-RW - Windows* 7 and follow the steps to update the firmware if one is available.

Note: To boot into the connected USB flash drive, hold down the proper key as defined by your system manufacturer during boot to change the Boot Order.

4.1 Setup

Complete the following steps before starting the firmware update process on the computer containing the Intel[®] SSD.

1. Back Up the Intel[®] SSD

Perform a complete system backup on your Intel[®] SSD to ensure that no data is lost during the firmware update process. Intel is not responsible for any data loss that might occur during or after a firmware update on an Intel[®] SSD.

Following a successful firmware update, data restoration must not be required.

2. Plug In the Power

For mobile computers, ensure that the computer battery is fully charged. For desktop computers, ensure that the system is plugged into AC power during the update process. Do not remove power at any time during the firmware update process as this could produce incomplete results and may render your Intel[®] SSD unusable.

3. Close Applications

Before you start the firmware download process, close all applications except for your web browser.

4.2 Downloading Intel[®] SSD Firmware Update Tool to a USB Flash Drive

The Intel[®] SSD Firmware Update Tool is packaged as an ISO* image. Like an archive file or a disk image, an ISO* image is specifically designed for optical disks like CDs in a format specified by the ISO*.

You cannot simply copy an ISO* image to a USB flash drive because it will appear as a data file and will not work correctly. The ISO* image must be decoded with software and installed onto a USB flash drive

To illustrate, Intel is using the UNetbootin* USB installer software from <u>unetbootin.github.io</u>, but you may use any installer that you prefer.

- Go to the Intel download website located at <u>http://www.intel.com/go/ssdfirmware</u> to download the ISO* for the Intel[®] SSD Firmware Update Tool
 - a. Review the "Read Me" file to better understand the firmware update process. The "Read Me" file contains high-level instructions for using the Intel[®] SSD Firmware Update Tool.
 - b. Review the Intel[®] SSD Firmware Update Tool Release Notes for a quick summary of the firmware changes for each product.



- c. Click **Download** to display the terms of the license agreement (The "Read Me" file also includes the license agreement information).
- d. After reading the agreement, click **ACCEPT** (at the bottom of the page) to download the firmware package.
- 2. Go to <u>unetbootin.github.io</u> to download the UNetbootin* utility. This utility will be used to create a bootable USB flash drive with the Intel[®] SSD Firmware Update Tool ISO*

Finder File	Edit View Go Window Help
Favorites (R) AirDrop Recents Applications Ownloads	Name I unetbootin-mac-681.dmg I diskdrill.dmg I issdfut_3 Support-LogMeinRescue

- 3. Install the UNetbootin* application.
- *Note:* Permission will need to be granted for the application to run; otherwise, the following prompt will appear:

readme.txt	ootin develope macOS can from make This item is mac-851 di today at 77	tin" cannot be opened beca r cannot be verified. not verify that this app is free re. on the disk image "meet booting of the disk image "meet booting" of the disk im
------------	---	---

a. Open the **Security and Privacy** tab to select (App Store* and identified developers), then click **Allow**.

	O O C	Q levels
"unetbootin" cannot be opened because the developer cannot be wrifted. mec05 cannot we'ly that this age is free	Central Flettaut Frend Princy	
For makers.	A login password has been set for this user Change Password	
This laws is un the state image Septimeter- met 40% days, Safer sometimeter the data mage	Require password (8 hours) 0 after sleep or scree	
Vola of UT Too global production relations and Selfler Standardown Lenn More to Tools Concel	Show a message when the screan is locked	
	Allow apps downloaded from:	
	App Store	
	App Store and identified developers	
	System software from developer "Justin Johnson" was blocked from loading.	Alas
	Click the lock to prevent further changes.	Internet 0
on which showcases the latest suffrage		

b. After providing access, restart UNetbootin*. The same message as seen in the previous figure appears, but now there is an additional tab to open the software. Click **Open**.

•	macOB cannot verify the developer of "unetbootin", Are you sure you want to open it? By develop the app, you will be overiding system security variance that may have you will be overiding system security variance that may have you will be of canociments give privacy. The bases on the data page, "webdotter and data and production-release asset 2467bs at anazonamic open production-release asset 2467bs at anazonamic open Move to Track Open Canoci	A login password has been	8 hours after sleep or sc en the screen is locked Set Loc	vord
		Allow apps downloaded from Allow App Store App Store and ident		
		Click the lock to prevent furthe	r changes.	Advanced (2)

- 4. Within the tool, do the following to create the bootable USB flash drive. Make sure that a blank USB flash drive is currently connected to the system
 - a. Select the **Disk Image** option and upload the Intel[®] SSD Firmware Update Tool ISO* image previously downloaded.

Distribution	Favor	issofut.3	 Intel_SSD_Fi033uS.pdf Intel_SSD_Fer_Guide.pdf 	
Welcome to UNetbootin, the Universal Netboot in		Applications 2 unetbootin-mec-681		
Select a distribution and version to downlo specify files to load below. Select an installation type, and press OK to	ad from the list above, or manually o begin installing.	Downloads form SSD - Data		
		UNetbootin ±		
Diskimage ISO		Music Photos		issdfut_64_3.0.10.iso
Space used to preserve files across reboots (Ubur	8	Movies		ISO Disk image - 162.3 MB
Type: USB Drive Drive:	OK Cancel	Files of type: A	d Files (*)	
		ptions	- Fies (*)	Cancel Open
		1000		Carte Open
		UNetbootin		
Distribution	== Select D	istribution ==	== Select Ve	rsion == 💿
Welcome to UN	etbootin, the Univer	sal Netboot Installe	er. Usage:	
1. Select a c specify fil	distribution and vers	sion to download fr	om the list above	, or manually
1. Select a c specify fil	distribution and vers	sion to download fr	om the list above	, or manually
1. Select a c specify fil	distribution and vers	sion to download fr	om the list above	, or manually
1. Select a c specify fil	distribution and vers	sion to download fr	om the list above	, or manually
1. Select a c specify fil	distribution and vers	sion to download fr	om the list above	, or manually
1. Select a c specify fil	distribution and vers	sion to download fr	om the list above	, or manually
1. Select a c specify fil	distribution and vers	sion to download fr nd press OK to be	om the list above	
 Select a d specify fil Select an Diskimage 	distribution and vers es to load below. installation type, au	sion to download fr nd press OK to be sissdfut_3/i	om the list above gin installing.	.iso
 Select a d specify fil Select an Diskimage 	distribution and vers es to load below. installation type, a	sion to download fr nd press OK to be sissdfut_3/i	om the list above gin installing.	iso
 Select a d specify fil Select an Diskimage 	ISO Isserve files across	sion to download fr nd press OK to be sissdfut_3/i	om the list above gin installing.	.iso
 Select a c specify fil Select an Diskimage Space used to pr 	distribution and vers es to load below. installation type, au ISO reserve files across	sion to download fr nd press OK to be sissdfut_3/i	om the list above gin installing. ssdfut_64_3.0.10 nly): 0	.iso C MB

- b. Under Type, select USB Drive
- c. Under Drive, select the Blank USB flash drive

d. Press **OK** to start burning the image

1. Downloading Files	(Done)	
2. Extracting and Co	pying Files (Current)	
3. Installing Bootloade	ər	
4. Installation Comple	te	
Extracting files, plea	ase wait	
Archive: /Users/ns	gintel/Downloads/issdfut_3/issdfut_64_3.0.10.iso	
Source: EFI/BOOT	/bootx64.efi (599 KB)	
Destination: Nolun	nes/UBUNTU 18_0/EFI/BOOT/bootx64.efi	
Extracted: 1 of 966	files	

e. Once the process is complete, the system will require to be restarted.

4.3 Starting the Firmware Update Process

After creating the ISO* image USB flash drive, see <u>Burning the</u> ISO* Image to a Blank CD-R or CD-RW - Windows* 7 and follow the steps to update the firmware if one is available.

Note: To boot into the connected USB flash drive, hold down the "**Option**" key to force your system to boot from the USB flash drive.