Image Submission Guide

v3.5

Revision History

Version	Date	Description
1.0	8/8/2014	First Revision
2.0	3/19/2015	Added image submission approval and sign off to step 6. Added reference to master image list in step 7.
3.0	8/2/2017	Changed image upload option from ImageX to DISM in step 1.
3.1	11/28/2017	Removed legacy image submission information. Added details on new digital submission and upload process.
3.2	8/29/2018	Added note on Windows and Linux only creation. Added notes on USB hub requirements for tablet image creation.
3.3	7/1/2019	Added best practices section. Added CPU and platform guide. Added table of contents.
3.4	9/12/2019	Added additional steps and clarification to the upload process. Noted an uploaded Win 10 Pro image must be build 1809 or higher.
3.5	9/21/2020	Removed requirement to split image files above 15GB in size. Added instructions on using new capture utility. Added guidance on mapping drives using Powershell. Updated instructions for latest version of Rufus. Expanded instructions and updated structure of guide. Add information on new Windows 10 update service. Update CPU and Platforms chart.

Contents

Submission Methods

Upload (Windows and Linux)

1) Modify installation (Software, settings, additional drivers, etc.) on master system. For Windows 10 Pro, version must be 1909 or higher.

2) For Windows, create a text file on the root of the C: to identify the image. The text file should have the following format when named.
   - *CompanyName_OS_ImageName_RevisionDate.txt*
     - *Example:*  TouchDynamic_Win10Pro_Kiosk1_7202020.txt

3) Prepare master system for image creation. Run out of box experience tools such as sysprep or shutdown the system.

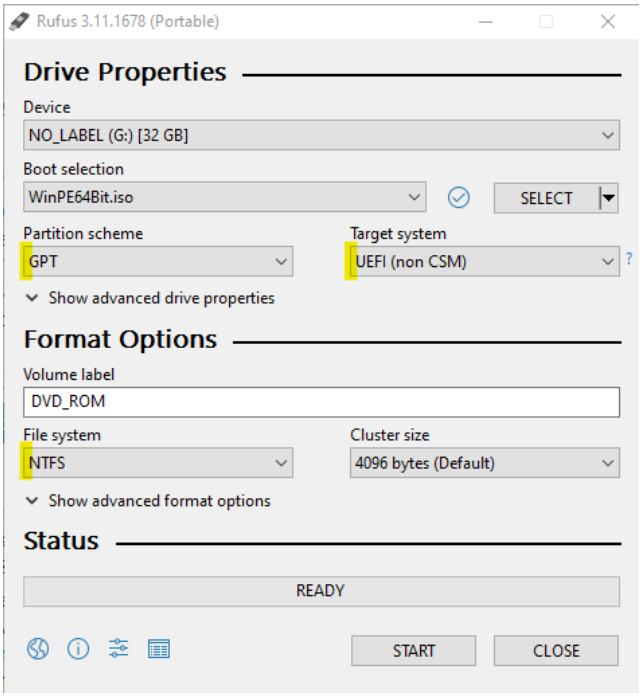
4) Complete the online Image submission form and include any revision or identifying information. Select model, OS, type (New/Update), update service option for Windows (**See Page 9 on Windows Update Service**), note second partition information if applicable and select **Upload** for the method. Submit form and a confirmation e-mail will be generated to confirm receipt.
   - *https://www.touchdynamic.com/support/imagesubmission/*

5) Image creation team will provide an upload link for the image file. Download provided Clonezilla or WinPE bootable ISO and Rufus tool from same link to a tech workstation.

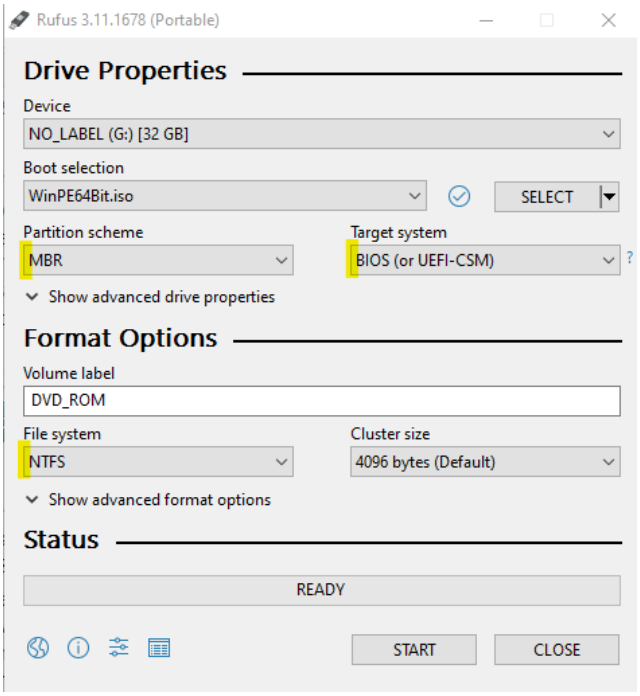
6) Connect flash drive to tech workstation and start Rufus. Flash drive should be 16Gb or larger if to be used as destination location. **Quest tablets will require a premium dock or USB hub**.

7) Click on SELECT in Rufus and browse to downloaded ISO. Select it and change options to the following depending on model of master system.

For **EFI** systems (Quest, Breeze Ultra, Pulse Ultra, Pulse/Acrobat/Atlas J1900, Razor, Pavilion)



For **BIOS** (Breeze Performance and older)



8) Click on START to create bootable flash drive. Safely remove the flash drive when complete and boot it up on the master system using boot menu (Del, F7 or F11). A USB hub or premium dock are required for tablets.

9) The ISO will boot into Clonezilla or WinPE depending on selected OS (Linux or Windows). Use below online instructions for creating a Linux image using Clonezilla. For Windows, continue to step 10.
   - *https://clonezilla.org/show-live-doc-content.php?topic=clonezilla-live/doc/01_Save_disk_image*

10) WinPE will boot into Powershell. If a 16GB or larger USB drive is not available, use the following command to map a volume to a shared drive on a server or tech workstation.
    - *New-PSDrive -Persist -Scope "Global" -name "W" -PSProvider "filesystem" -Root \\PathToShare*

```
PS X:\windows\system32> New-PSDrive -Persist -Scope "Global" -name "W" -PSProvider "filesystem" -Ro
ot \\PathToShare
```

11) Type in the following command and press Enter to start creation utility.
    - *./Capture-Image.ps1*

```
PS X:\windows\system32> ./Capture-Image.ps1
```

12) Utility will display all volumes to capture. Type in volume letter corresponding to the Windows partition and press Enter. It will usually be C and volume with most size remaining.

```
DriveLetter FriendlyName FileSystemType DriveType HealthStatus OperationalStatus SizeRemaining
----------- ------------ -------------- --------- ------------ ----------------- -------------
            Recovery     NTFS           Fixed     Healthy      OK                  683.52 MB
C                        NTFS           Fixed     Healthy      OK                  61.18 GB
D           USB          NTFS           Fixed     Healthy      OK                  31.93 GB
            SYSTEM       FAT32          Fixed     Healthy      OK                    256 MB


Enter source volume to capture from above list and press ENTER.
C
Selected source volume is:  C
Confirm and press ENTER to continue
```

13) Utility will display all volumes again for entering capture destination. Type in letter corresponding to the volume the image file will be saved to and press Enter. This will usually be D or E.

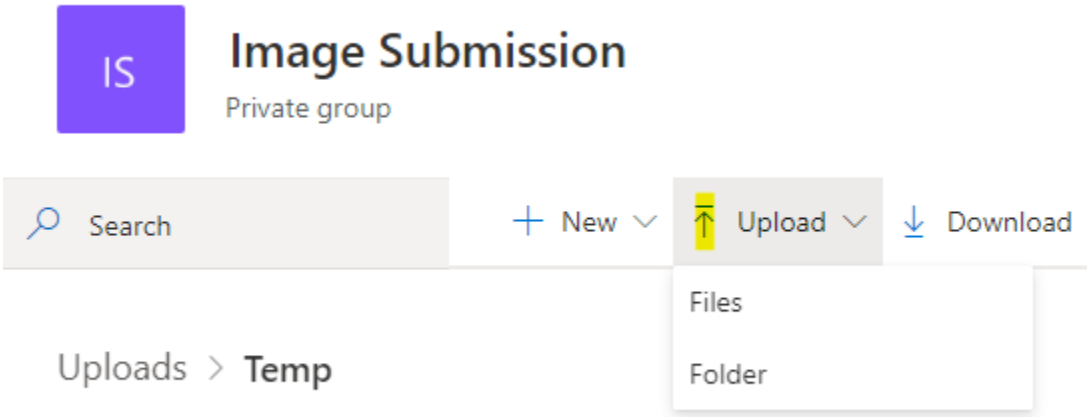
```
DriveLetter FriendlyName FileSystemType DriveType HealthStatus OperationalStatus SizeRemaining
----------- ------------ -------------- --------- ------------ ----------------- -------------
            Recovery     NTFS           Fixed     Healthy      OK                  683.52 MB
C                        NTFS           Fixed     Healthy      OK                  61.18 GB
D           USB          NTFS           Fixed     Healthy      OK                  31.93 GB
            SYSTEM       FAT32          Fixed     Healthy      OK                    256 MB


Enter destination volume from above list and press ENTER.
D
Selected destination volume is:  D
Confirm and press ENTER to continue
```

14) Image creation process will start, and a progress bar shown. Process can take up to thirty minutes depending on system specifications and capabilities of destination device.

15) A successful message will display if no errors were encountered during creation process. Type **Y** to shut down the system in five seconds, or **N** to exit to Powershell for re-running the capture utility for another volume.

16) Access the destination device the image files were saved to on a tech workstation and upload them to original link. Request a new link from image creation team if passed two weeks.



17) Image creation team will download image and test on production system. Completed submission form will be updated with image name and pictures from test deployment if no issues are found. It will be sent to e-mail address noted on form for sign off and once complete, the image will be released to production and sales team. Follow-up with Touch Dynamic sales rep for obtaining new ordering part numbers if applicable.

Remote Creation (Windows Only)

1) Complete the online Image submission form and include any revision or identifying information. Select model, OS, type (New/Update), update service option for Windows (**See Page 9 on Windows Update Service**) and select **Remote Creation** for the method. If already available, include information for the remote access app to be used. Submit form and a confirmation e-mail will be generated to confirm receipt.
   - *https://www.touchdynamic.com/support/imagesubmission/*

2) Image creation team will prep selected system for remote access at our facility. Once complete, the team will request preferred remote application to be used. Teamviewer will be used if one is not specified.

3) Modify installation (Software, settings, additional drivers, etc.) on master system.

4) Create a text file on the root of the C: to identify the image. The text file should have the following format when named.
   - *CompanyName_OS_ImageName_RevisionDate.txt*
     - *Example:*  TouchDynamic_Win10Pro_Kiosk1_7202020.txt

5) Prepare master system for image creation. Run out of box experience tools such as sysprep or shutdown the system. Inform image creation team the system is ready for processing.

6) An image will be created from system and tested on production system. Completed submission form will be updated with image name and pictures from test deployment if no issues are found. It will be sent to e-mail address noted on form for sign off and once complete, the image will be released to production and sales team. Follow-up with Touch Dynamic sales rep for obtaining new ordering part numbers if applicable.

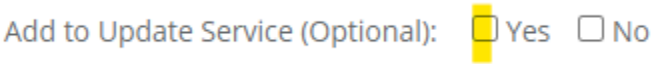
Windows Update Service

Submitted Windows 10 images can be added to our monthly update service for cumulative updates. Once added, the selected image will be updated the last week of every month.

The below builds of Windows 10 can be added to the update service. This list is updated regularly as older builds are discontinued by Microsoft. The build can be checked by running the **winver** command from powershell, or by checking **Settings>System>About**.

- Windows 10 Pro 20H2 or Higher
- Windows 10 IOT Enterprise LTSC 2019/2021
- Windows 11 21H2 or Higher

To opt into the update service. Check **Yes** to the **Add to Update Service** option on the image submission form.



If the image should no longer be updated, please send an e-mail to imagesubmission@touchdynamic.com and note the company name, model and name of the image on file to be removed. This information can be found on the image submission document that is provided for review via Adobe Sign.

CPU and Platforms

Images are submitted and processed for the targeted platform (Skylake, Haswell, etc.). The following chart matches CPU to the platforms referenced in the submission form.

KabyLake (Breeze Ultra, Orion Ultra, Pulse Ultra)	•Intel Celeron G3930TE •Intel Core i3-7101TE •Intel Core i5-7500T •Intel Core i7-7700T	J3455 (Pulse Ultra)	•Intel Celeron J3455
SkyLake (Acrobat, Breeze, Breeze 185, Pulse Ultra, Saturn PC)	•Intel Celeron 3955U •Intel Core i3-6100U •Intel Core i5-6100u	J1900 (Pulse, Atlas, Acrobat)	•Intel Celeron J1900
ElkhartLake (Razor/Pavilion /QK22)	•Intel Celeron J6412	Quest v3 (CherryTrail)	•Intel Atom Z7-8750
WhiskyLake (Razor/Pavilion/ QK22/Edge)	•Intel Celeron 4305U •Intel Core i3-8145U •Intel Core i5-8265U/E	Quest VIII (CherryTrail)	•Intel Atom Z7-8750
TigerLake (QK22/Edge/Di givue)	•Intel Core i3-1115G4 •Intel Core i5-1145G7 •Intel Celeron 6305	Fusion (ElkhartLake)	•Intel Celeron J6412

Best Practices and General Guidelines

Images should be light and free of applications that must be updated frequently. The following are best practices to help with the creation process.

- Include applications and changes that do not require frequent updating. This can include Windows settings, group policies and application dependencies such as .Net and OPOS drivers.

- Bootstrap applications during staging. Applications that are updated frequently should not be included in the image. Provision them via scripting or other method post deployment.

- Manage Windows updates and upgrades with group policies. Updates can be time consuming and disruptive to the customer. Utilize group policies to manage and schedule them during off or slow business hours. For sites with slow or unreliable internet access, the latest cumulative updates for Windows 10 can be download from the Microsoft update catalog and installed during the staging process.
  - *https://docs.microsoft.com/en-us/windows-server/administration/windows-server-update-services/deploy/4-configure-group-policy-settings-for-automatic-updates*

  - *https://docs.microsoft.com/en-us/windows/deployment/update/waas-manage-updates-wufb*

- For Windows 10 IOT Enterprise, utilize embedded security features such as UWF, Shell launcher, and Applocker to greatly enhance the security of devices deployed to customers.
  - *https://docs.microsoft.com/en-us/windows-hardware/customize/enterprise/unified-write-filter*

  - *https://docs.microsoft.com/en-us/windows/configuration/kiosk-shelllauncher*

  - *https://docs.microsoft.com/en-us/windows/security/threat-protection/windows-defender-application-control/applocker/applocker-overview*

- Use Sysprep to finalize image. After all changes are made, Sysprep should be ran using OOBE and generalized for the customer. Utilize answer files to automate the out of box experience.
  - *https://docs.microsoft.com/en-us/windows-hardware/manufacture/desktop/sysprep--generalize--a-windows-installation*
  - *https://docs.microsoft.com/en-us/windows-hardware/manufacture/desktop/use-answer-files-with-sysprep*