

Users Guide

Wyse® USB Firmware Tool 1.11

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Summary of Revisions

Wyse Technology Inc. 883919-01 Rev. G

The following changes were made to this document since revision F

Reference	Description
Lenovo L412-based mobile thin client	"Supported Devices" updated to include support for Lenovo L412-based mobile thin client.
Windows Server 2008 R2 and Windows 7 Enterprise 32-bit	"Hardware and Software Requirements" updated to include support for Windows Server 2008 R2 and Windows 7 Enterprise 32-bit.

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Wyse USB Firmware Tool

Introduction

The Wyse® USB Firmware Tool™ provides a simple USB imaging solution to help IT and Customer Service staff quickly and easily image supported devices.

Using the tool's flexible windows utility, users can easily:

- Configure a USB key to *copy/pull* firmware from a source device (to later *push* to other target devices)
- Configure a USB key to *update/push* firmware (that you include on the USB key) to target devices (to update firmware)
- Create *replicate/duplicate* USB keys (containing the original contents) for simultaneous usage on target devices (by users in several locations at the same time)

About this Guide

This guide is intended for IT and Customer Service staff that troubleshoot and manage Wyse thin clients, mobile clients, and appliances. It provides the necessary information for using the Wyse USB Firmware Tool to quickly and easily image devices.

Finding the Information You Need in this Guide

You can use either the Search window or Find toolbar to locate a word, series of words, or partial word in an active PDF document. For detailed information on using these features, refer to the Help in your PDF reader.

Wyse Technical Support

To access Wyse technical resources, visit <http://www.wyse.com/support>. If you still have questions, you can submit your questions using the [Wyse Self-Service Center](#) (on the Wyse.com home page, go to **Support > Knowledge Base > Home** tab) or call Customer Support at 1-800-800-WYSE (toll free in U.S. and Canada). Hours of operation are from 6:00 A.M. to 5:00 P.M. Pacific Time, Monday through Friday.

To access international support, visit <http://www.wyse.com/global>.

Related Documentation and Services

Fact Sheets containing the features of hardware models are available on the Wyse Web site. Go to <http://www.wyse.com/products>, click the *Thin Computing Hardware* link, click the link for your hardware model, and then click the link for the Fact Sheet.

Administrator and other documentation for your thin client model are available at: <http://www.wyse.com/manuals>.

Wyse Online Community

Wyse maintains an online community where users of our products can seek and exchange information on user forums. Visit the Wyse Online Community forums at:

<http://community.wyse.com/forum>.

Supported Devices

The following thin clients, mobile clients, and appliances are supported by the Wyse USB Firmware Tool:

 **Note**

For your convenience some End-of-Life products are included; however, Technical Support for these devices is not available.

- Wyse products running Windows CE (v5.x or v6.x) including: C30LE, S30, V30, V30L, and V30LE.

 **Note**

Currently for devices running CE, only the *Copy* option (to pull a firmware image from a source device and then push that image to a target device) and the *Replicate* option (to duplicate an already configured USB key containing the contents you want from a source device) are supported (the *Update* option is not supported).

- Wyse products running Windows XP Embedded including: C90LE, G90, R90L, R90LE, S90, V90, V90L, V90LE, X90L, and X90Le.
- Wyse products running Windows Embedded Standard 2009 including: C90LEW, R90LW, R90LEW, V90LW, V90LEW, X90cw, X90LW, and X90LeW.
- Wyse products running Windows Embedded Standard 7 including: C90LE7, R90L7, R90LE7, and X90c7.
- Wyse products running Wyse Linux Embedded (v6.x) including: S50, V50L, and V50LE.
- Wyse products running Wyse Enhanced SUSE Linux Enterprise including: C50LE, R50L, R50LE, X50cw, and X50L.
- Wyse Viance Appliance
- Wyse Xenith

 **Note**

Lenovo L412-, R400- and X200s-based mobile thin client devices running Windows Embedded Standard 2009, Windows Embedded Standard 7, or Wyse Enhanced SUSE Linux Enterprise are supported for OS Image pull or push only (BIOS, CMOS, and security key pull or push is not supported).

Hardware and Software Requirements

- Windows XP Professional SP3, Windows 2003 Server, Windows Server 2008 R2, or Windows 7 Enterprise 32-bit
- USB key size should be greater than the OS partition for any operation (up to 16 GB tested—see "USB Keys - Troubleshooting Boot Issues")
- When a Non-PXE image is used to image, the IDE Flash size should be greater than Wisard Image size (for example, if a Wisard 512 MB image is converted to a Non-PXE Image, then the IDE flash size should be 1 GB to accommodate the boot agent)
- Windows CE v5.x or v6.x on the device
- Windows XP Embedded build 587 or later on the device
- Windows Embedded Standard 2009 build 641 or later on the device
- Wyse Linux version 6.4 or later on the device

Overview - Quick Start Instructions

This section contains quick-start instructions to configure a USB key to *Copy* or *Update*. For detailed procedures, refer to "Detailed Usage Procedures." For information on replicating USB keys, refer to "Replicating a Configured USB Key."

The purpose of the Wyse USB Firmware Tool is to configure a bootable USB key for device firmware:

- *Copy* - This configured USB key allows you to boot from it on a pre-configured *source* device for a one-time firmware copy/pull; and later boot from it on other same model and flash size devices to push the contents of the USB key onto the *target* device.
- *Update* - This configured USB key contains firmware contents that you include on the USB key during configuration and allows you to boot from it on appropriate model and flash size devices to push the contents of the USB key onto the *target* device.



Note

If you are planning to configure the USB key to update a firmware image, you must obtain and ready the firmware you want to use for updating *before* you start the *Wyse USB Firmware Tool* wizard. Wyse provides firmware for most devices from its *Software Downloads* Web site at:

<http://www.wyse.com/serviceandsupport/support/downloads.asp>.

CE v6.x firmware, must be downloaded from: <http://commerce.wyse.com>.

Firmware files are normally made available in .exe or .zip format and must be extracted to a folder that is available to the *Wyse USB Firmware Tool* wizard.

STEP 1: Install the Wyse USB Firmware Tool

Obtain the *Wyse USB Firmware Tool v1.11_GA.exe*, execute the file, and the extract all files (click **Unzip** in the *WinZip Self-Extractor* dialog box) to a folder in your local hard drive **C:**. The default directory for the extracted files is **Wyse USB Firmware Tool**. Create a shortcut on the desktop for the *Wyse USB Firmware Tool.exe* file.

STEP 2: Use Wyse USB Firmware Tool to Configure a Single USB Key to Copy or Update

Double-click the shortcut to run the tool and open the *Wyse USB Firmware Tool* wizard. (for the Windows 7 Enterprise 32-bit operating system, be sure to right-click on **Wyse USB Firmware Tool.exe**, select **Properties**, and enable the *Run this program as an administrator* option on the *Compatibility* tab).

Follow the wizard using the following guidelines:

- **If you are configuring to Copy:**
 - Supported devices include those listed in "Supported Devices" (devices running CE *must* use the *Copy* option).
 - *Support for Non-PXE images* - In the case of a copy configuration, the USB key is configured to support PXE as well as Non-PXE images.
 - You can select as many of the contents options (OS Image, BIOS, and CMOS) that you want (it is recommended that you use both BIOS and CMOS together, unless you are sure of the BIOS version and want to only use CMOS).
- **If you are configuring to Update:**
 - Supported devices include those listed in "Supported Devices" *except* for devices running CE (devices running CE *cannot* use the *Update* option).
 - *Support for Non-PXE images* - In the case of an update configuration, the USB key is configured to support PXE as well as Non-PXE images.
 - You can select the .rsp file of I2D image or .i2d file directly or the Merlin image during configuration. If the I2D image is selected, it will be converted to the Merlin format automatically and the converted files copied to the USB key. If you already have a Merlin image, it can be selected directly by selecting the .rsp of the Merlin image. *Note:* Merlin is a new image format that is available with WDM 4.7.0 or later.
 - You can select as many of the contents options (OS Image, BIOS, and CMOS) that you want (it is recommended that you use both BIOS and CMOS together, unless you are sure of the BIOS version and want to only use CMOS).
 - Depending on whether or not you want to preserve any existing data partition, select or clear the **Preserve data partition** check box.

STEP 3: Configure a Device to Boot from the USB Key

Before using any configured USB key on a source device (to *copy/pull* firmware) and/or target device (to *push* firmware), you must configure the device to boot from the configured USB key.



Note

For Copy Cases Only (pull usage) - You must boot from the configured USB key on the *source* device *before* using it on *target* devices. When booting a source device from the configured USB key (*to pull the contents from the source device onto the USB key*), you will be prompted to continue with the *pull* process (to continue, type **y** and press **Enter**). Once the *pull* process is complete, you will be prompted to remove the key (to remove the key, press **Enter** and remove the USB key). The configured USB key is now ready for *push* usage on *target* devices.



Note

For Copy and Update Cases (push usage) - When booting a *target* device from the configured USB key (*containing the contents to be pushed to a target device*), you will be prompted to continue with the *push* process (to continue, type **y** and press **Enter**). Once the *push* process is complete, you will be prompted to reboot (to reboot, press **Enter** and remove the USB key).

Use the following guidelines:



Note

Four USB key options exist (*USB*, *USB HDD*, *USB HDD0*, and *USB Key*). Be sure to use the correct option for your BIOS version as noted in this section.



Caution

It is highly recommended that you use the one-time boot menu (if available for use), as it will not modify your default BIOS configurations.

- **For C30LE, C50LE, C90LE, C90LEW, C90LE7 thin clients, and Xenith zero client:**
 - To enter and use the one-time boot menu: Attach the configured USB key to the thin client (be sure it is shut down). During boot, press and hold the **P** key. Select the **USB HDD** option (displaying your USB key vendor name) and press **Enter**. Follow the process prompts.
 - To enter and change the BIOS Setup Utility: Attach the configured USB key to the thin client (be sure it is shut down). During boot, press and hold the **Delete** key. Enter the password **Fireport** (this is case sensitive) and press **Enter**. Select the **Hard Disk Boot Priority** option and press **Enter**. Select the **USB HDD** option (displaying your USB key vendor name) and move it to the 1 position by using the + key. Save the BIOS settings and reboot. Follow the process prompts.
- **For R50L,R50LE, R90L, R90LW, R90L7, R90LE, R90LEW, and R90LE7 thin clients:**
 - To enter and use the one-time boot menu: Attach the configured USB key to the thin client (be sure it is shut down). During boot, press and hold the **P** key. Select the **USB HDD** option (displaying your USB key vendor name) and press **Enter**. Follow the process prompts.
 - To enter and change the BIOS Setup Utility: Attach the configured USB key to the thin client (be sure it is shut down). During boot, press and hold the **Delete** key. Enter the password **Fireport** (this is case sensitive) and press **Enter**. Select the **Hard Disk Boot Priority** option and press **Enter**. Select the **USB HDD** option (displaying your USB key vendor name) and move it to the 1 position by using the + key. Save the BIOS settings and reboot. Follow the process prompts.
- **For S30, S50, and S90 thin clients (no one-time boot menu):**
 - To enter and change the BIOS Setup Utility: Attach the configured USB key to the thin client (be sure it is shut down). During boot, press and hold the **P** key. Enter the password **Fireport** (this is case sensitive) and press **Enter**. Select the **Hard Disk Boot Priority** option and press **Enter**. Select the **USB** option (displaying your USB key vendor name) and move it to the 1 position by using the + key. Save the BIOS settings and reboot. Follow the process prompts.
- **For V30, V30L, V30LE, V50L, V50LE, V90, V90L, and V90LE thin clients and Wyse Viance Appliance:**
 - To enter and use the one-time boot menu: Attach the configured USB key to the thin client/appliance (be sure it is shut down). During boot, press and hold the **P** key. Select the **USB HDD0** option and press **Enter**. Follow the process prompts.
 - To enter and change the BIOS Setup Utility: Attach the configured USB key to the thin client/appliance (be sure it is shut down). During boot, press and hold the **Delete** key. Enter the password **Fireport** (this is case sensitive) and press **Enter**. Select the **Advanced BIOS Features** option and press **Enter**. Select the **Hard Disk Boot Priority** option and press **Enter**. Select the **USB HDD0** option (displaying your USB key vendor name) and move it to the 1 position by using the + key. Save the BIOS settings and reboot. Follow the process prompts.

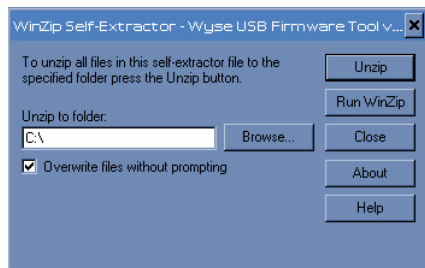
- **For X50c, X90cw, and X90c7 mobile thin clients (no one-time boot menu):**
 - To enter and change the BIOS Setup Utility: Attach the configured USB key to the mobile client (be sure it is shut down). During boot, press and hold the **F2** key. Enter the password **Fireport** (this is case sensitive) and press **Enter**. Select the **Boot** option and press **Enter**. Select the **Legacy** option and press **Enter**. Select the **Normal Boot Menu** option and press **Enter**. Select the option displaying your USB key vendor name and move it to the 1 position by using the + key. Save the BIOS settings and reboot. Follow the process prompts.
- **For X50L, X90L, X90LW, X90Le, X90LeW, and mobile thin clients (no one-time boot menu):**
 - To enter and change the BIOS Setup Utility: Attach the configured USB key to the mobile client (be sure it is shut down). During boot, press and hold the **F2** key. Enter the password **Fireport** (this is case sensitive) and press **Enter**. Select the **Boot** option and press **Enter**. Select the **USB HDD** option and move it to the 1 position by using the + key. Save the BIOS settings and reboot. Follow the process prompts.

Detailed Usage Procedures

To use the Wyse USB Firmware Tool:

1. Obtain the *Wyse USB Firmware Tool v1.11_GA.exe* and double-click it to execute the file and open the *WinZip Self-Extractor* dialog box.

Figure 1 Extract file to your hard drive



2. Enter the destination folder you want (for example, **C:\USBFT**) in the **Unzip to folder** box, and then click **Unzip** to extract all files from the *Wyse USB Firmware Tool v1.11_GA.exe* file into the folder. The default directory for the extracted files is **Wyse USB Firmware Tool**.

 **Caution**

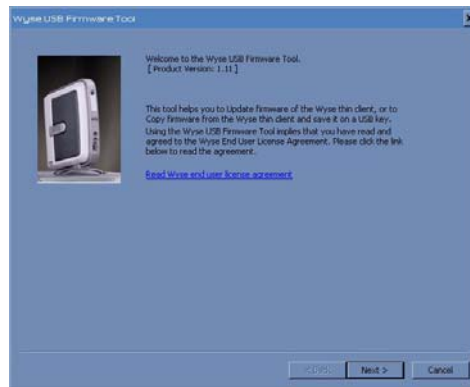
It is not recommended to use your desktop for the destination folder as there are several files that will be extracted from the .exe file.

3. Create a shortcut on the desktop for the *Wyse USB Firmware Tool.exe* file.
4. Double-click the shortcut to run the tool and open the *Wyse USB Firmware Tool* wizard (the welcome page provides the product version and description, and a link to view the Wyse end user license agreement).

 **Caution**

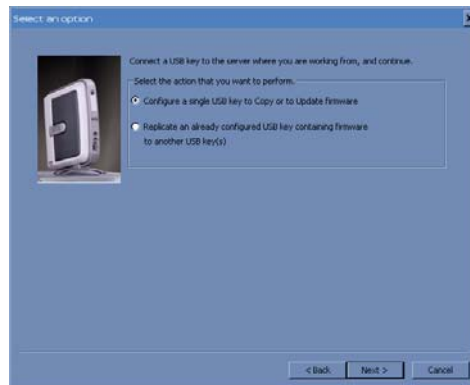
For the Windows 7 Enterprise 32-bit operating system, be sure to right-click on **Wyse USB Firmware Tool.exe**, select **Properties**, and enable the *Run this program as an administrator* option on the *Compatibility* tab.

Figure 2 Wyse USB Firmware Tool wizard



5. Click **Next** to open the **Select an Option** dialog box.

Figure 3 Configuration options - Copy or Update example



6. Depending on what you want to do, complete one of the following:
 - **Copy** - Select the **Configure a single USB key to Copy or Update firmware** option, click **Next**, and then complete the procedures in "Configuring to Copy/Pull a Firmware Image."
 - **Update** - Select the **Configure a single USB key to Copy or Update firmware** option, click **Next**, and then complete the procedures in "Configuring to Update a Firmware Image."
 - **Replicate** - Select the **Replicate an already configured USB key containing firmware to another USB key(s)** option, click **Next**, and then complete the procedures in "Replicating a Configured USB Key."

Configuring to Copy/Pull a Firmware Image

After completing the steps in "Detailed Usage Procedures," complete the following to configure the USB key to copy/pull contents (OS Image, BIOS, and/or CMOS) from the supported source device you want (for later use to push to other same model and flash size target devices):

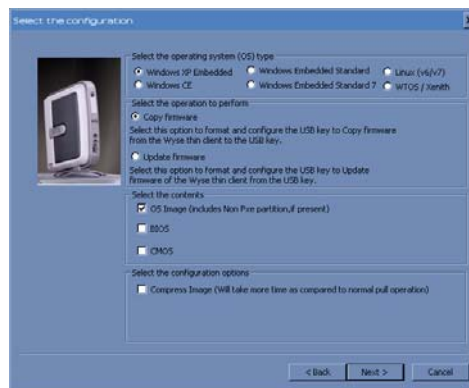


Note

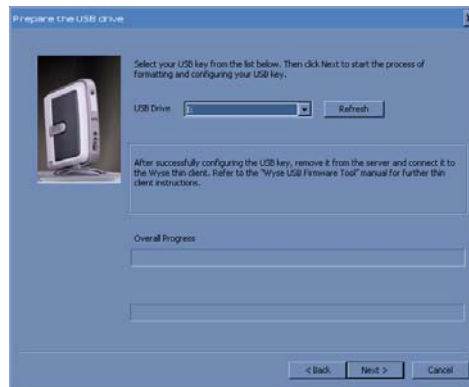
Supported devices include those listed in "Supported Devices" (devices running CE *must* use the *Copy* option).

Support for Non-PXE images - In the case of a copy configuration, the USB key is configured to support PXE as well as Non-PXE images.

Figure 4 Copy firmware options



1. Select the OS option you want and select **Copy Firmware**.
2. Select as many of the following contents options that you want (it is recommended that you use both BIOS and CMOS together, unless you are sure of the BIOS version and want to only use CMOS):
 - **OS Image** - Configures the USB key to copy only the OS image
 - **BIOS** - Configures the USB key to copy only the BIOS image
 - **CMOS** - Configures the USB key to copy only the CMOS image
3. Select the **Compress Image** option to reduce a larger image size to fit on the USB key. The compressed image will auto expand when pushed to the device.
4. Click **Next** to open the **Browse** dialog box.
5. Click **Next** to open the **Prepare the USB** dialog box.

Figure 5 Prepare USB drive for copy

6. Select the USB key onto which you want the configurations (you can use **Refresh** as needed to recognize an inserted USB key), and then click **Next**. The progress bars show the overall progress and task progress.
7. After configuration, click **Finish** to close the wizard and then remove the configured USB key for use (you will use the configured USB key on the *source* device *before* using it on a *target* device).

**Caution**

Before using a configured USB key on a supported device (source *and* target), you must configure the device to boot from the USB key as described in "STEP 3: Configure a Device to Boot from the USB Key."

Configuring to Update a Firmware Image

After completing the steps in "Detailed Usage Procedures," complete the following to configure the USB key to update firmware to a supported Wyse device:

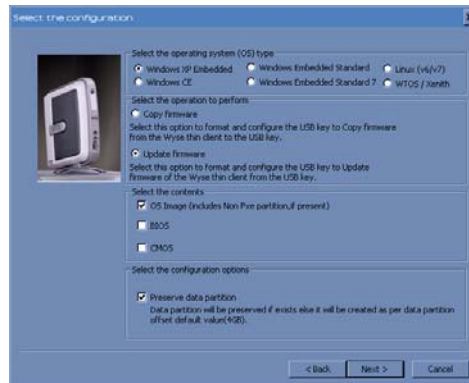


Note

Supported devices include those listed in "Supported Devices" *except* for devices running CE (devices running CE *cannot* use the *Update* option).

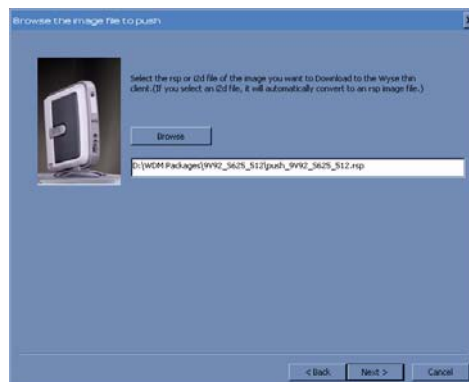
Support for Non-PXE images - In the case of an update configuration, the USB key is configured to support PXE as well as Non-PXE images.

Figure 6 Update firmware options



1. Select the OS option you want and select **Update Firmware**.
2. Select as many of the following contents options that you want (it is recommended that you use both BIOS and CMOS together, unless you are sure of the BIOS version and want to only use CMOS):
 - **OS Image** - Configures the USB key to update only the OS image
 - **BIOS** - Configures the USB key to update only the BIOS image
 - **CMOS** - Configures the USB key to update only the CMOS image
3. Depending on whether or not you want to preserve any existing data partition, select or clear the **Preserve data partition** check box.
4. Click **Next** to open the browse dialog box.

Figure 7 Browse for update file



5. Use **Browse** to locate and select the file you want to use for updating.

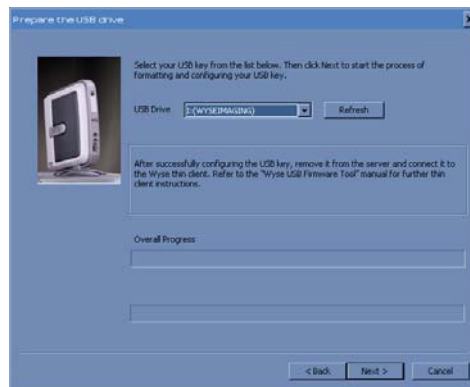


Note

You can select the .rsp file of I2D image or .i2d file directly or the Merlin image during configuration. If the I2D image is selected, it will be converted to the Merlin format automatically and the converted files copied to the USB key. If you already have a Merlin image, it can be selected directly by selecting the .rsp of the Merlin image. Merlin is a new image format that is available with WDM 4.7.0 or later.

6. In the browse dialog box, click **Next** to open the **Prepare the USB** dialog box.

Figure 8 Prepare USB drive for update



7. Select the USB key onto which you want the configurations (you can use **Refresh** as needed to recognize an inserted USB key), and then click **Next**. The progress bars show the overall progress and task progress. If you selected the .rsp file of the I2D image format or .i2d file itself, it will convert and copy the converted files to the USB key, configure the USB key for updating images, and makes the USB key bootable.
8. After configuration, click **Finish** to close the wizard and then remove the configured USB key for use (you will use the configured USB key on *target* devices).



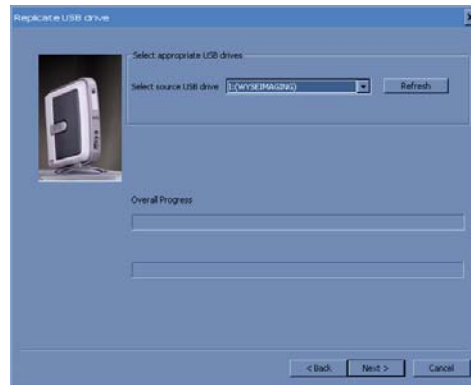
Caution

Before using a configured USB key on a supported device, you must configure the device to boot from the USB key as described in "STEP 3: Configure a Device to Boot from the USB Key."

Replicating a Configured USB Key

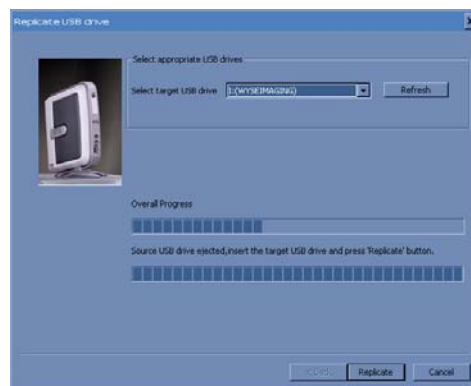
After completing the steps in "Detailed Usage Procedures," complete the following to replicate an already configured USB key containing the contents (OS Image, BIOS, and/or CMOS) you want to copy to other USB keys:

Figure 9 Select Source USB key



1. In the **Select source USB drive** dialog box, select the source USB key (containing the contents you want to copy to other USB keys) that you want to replicate (you can use **Refresh** as needed to recognize an inserted USB key), and then click **Next**. The progress bars show the overall progress and task progress.
2. After the copy process is complete, the source USB key is ejected and the **Select target USB drive** dialog box opens.

Figure 10 Select target USB key



3. Remove any USB key, insert the target USB key (to which you want the source USB key contents copied), select the target USB key (you can use **Refresh** as needed to recognize an inserted USB key), and then click **Replicate**. The progress bars show the overall progress and task progress.
4. After replication, you can repeat step 3 to create as many configured USB keys as required, or click **Finish** to close the wizard. You can then use the configured USB keys as needed (you will use the configured USB keys on *target* devices).



Caution

Before using a configured USB key on a supported device, you must configure the device to boot from the USB key as described in "STEP 3: Configure a Device to Boot from the USB Key."

Troubleshooting

This section contains general troubleshooting information.

USB Keys - Troubleshooting Boot Issues

Due to different manufacturing processes on USB keys (and the variety of them), not all brands have been tested with the Wyse USB Firmware Tool. If you experience problems booting from a configured USB key, it is recommended that you try a different brand of USB key. The following list of USB keys have been successfully tested with the Wyse USB Firmware Tool:

- Kingston Data Traveler 4 GB
- Kingston Data Traveler 8 GB
- SanDisk Cruzer micro 2 GB
- SanDisk Cruzer micro 4 GB
- SanDisk Cruzer micro 8 GB
- SanDisk Cruzer micro 16 GB
- Transcendent 4GB

SanDisk Cruiser Flash Drives - Troubleshooting Partition Issues

Problem: How can I properly use a SanDisk Cruiser flash drive to image supported devices using the Wyse USB Firmware Tool? (KB17735)

Solution: SanDisk flash drives come with support for U3 (for details on U3, see <http://www.u3.com>). When you initially use these drives, you are prompted to select the use for the drive: *Apps and Storage* or only *Storage*. If you select the *Apps and Storage* option, the drive will create two partitions, one of which is identified as a CD and is a read only partition. This partition sometimes prevents the Wyse USB Firmware Tool to properly prepare the USB key for imaging a device. To resolve this problem you can do one of the following:

- Go to <http://www.sandisk.com>, search in the SanDisk Knowledge Base for document **2550**, and then follow the instructions in the documentation.
- Go to <http://www.sandisk.com/DriverDownload/driverList.asp>, select **USB Flash Drives** from the *Select Product Type* list, click **Find Driver**, select **U3 LaunchPad Remover**, click **Continue**, and then download and use the *U3 Launchpad Remover* according to the instructions.

Users Guide

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