



PARAGON Technologie GmbH, Systemprogrammierung

Heinrich-von-Stephan-Str. 5c ● 79100 Freiburg, Germany

Tel. +49 (0) 761 59018201 ● Fax +49 (0) 761 59018130

Internet www.paragon-software.com ● E-mail sales@paragon-software.com

CREATING WINPE 2.1 PXE BOOTABLE IMAGE

QUICK USER GUIDE

WHAT'S NEEDED TO CREATE A WINPE 2.1 PXE BOOTABLE IMAGE

In order to create a WinPE 2.1 based PXE bootable image the following things are required:

- ❑ Supplied by Paragon
 - Customization scripts;
 - A WinPE directory structure containing all the necessary binary files (by default, it's named **winpe_custom**).
- ❑ Not supplied by Paragon
 - All the necessary facilities to build WIM images based on WinPE 2.1 (imagex, peimg, dll libraries and the wimfltr.sys driver). You can find them all either in Windows Automated Installation Kit (WAIK) or OEM Preinstallation Kit (OPK), so you need to install one of these packages to successfully customize WinPE 2.1 images. To know more on the subject, please consult Microsoft documentation.
 - A raw WIM image. You can use the default **winpe.wim** image included both in OPK and WAIK. For WAIK you can find it in **C:\Program Files\Windows AIK\Tools\PETools\<platform>**, while for OPK - **C:\Program Files\Windows OPK\Tools\PETools\<platform>**, where <platform> is "x86" or "amd64".

HOW TO CREATE A WINPE 2.1 PXE BOOTABLE IMAGE

To obtain a bootable PXE image please use **build.cmd**. This script calls **build_image.cmd** and **makepxe.cmd** scripts, which already contain the default paths to OPKTools, a raw WIM image and PXE boot directory. The default paths are:

- For OPK: **C:\Program Files\Windows OPK**
- For WAIK: **C:\Program Files\Windows AIK**
- For the PXE boot directory: **C:\Program Files\Paragon Software\Network Module\PXEServer**

If your OPKTools (or WAIK) and Paragon Network Module are installed by their default paths, **build.cmd** will not require any modification. Otherwise, you need to modify paths to OPKTools and the PXE boot directory. Scripts to modify: **custom_init.cmd** (to set a path to OPK) and **build.cmd** (to set a path to the PXE directory).

The path to OPKTools is set by a **rootPath** variable of **custom_init.cmd**. In order to modify it, please do the following:

1. Open **custom_init.cmd** in a text editor;
2. Modify the path after **rootpath=**;
3. Save the file and close the text editor.

The path to the PXE directory is set as a parameter for the **makepxe.cmd** script which is called by **build.cmd**. In order to set a proper path, please do the following:

1. Open **build.cmd** in a text editor;
2. Enter a proper path to the PXE boot directory instead of "**C:\Program Files\Paragon Software\Network Module\PXEServer**";

3. Save the file and close the text editor.

To make a WinPE 2.1 PXE bootable image manually, please do the following:

1. Obtain a custom WIM image. For this purpose you can use the **build_image.cmd** script. If your OPKTools (or WAIK) and Paragon Network Module are installed by their default paths, this script will not require any modification. Otherwise, you need to modify it first:
 - Open this **.cmd** file with a text editor;
 - Find a long string starting from "**call custom.cmd**" and modify the following parameters: **wim-image name** (maybe with a path), **path to directory** with programs you want to add to the WIM image, **name** (maybe with a path) of the resulted WIM image after the "**wim**" parameter;
 - Save this **.cmd** file and then run it with the same parameters as making ISO.

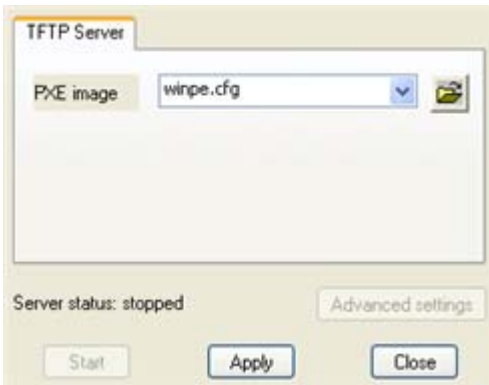
As a result you will get your custom WIM image. To know more on the subject, please consult the "Customizing WinPE 2.1 with Paragon Custom Scripts" document.

2. When you have your custom WIM image, run the **build_pxe.cmd** file with the following parameters: First, your custom WIM image, then a path to Paragon PXE Server.

Example for **fftpd32.exe**:

```
makepxe.cmd mywinpe.wim "C:\Program Files\Paragon Software\Network  
Module\PXEServer"
```

The script will also copy the resulted configuration into the "pxelinux.cfg" folder as **winpe.cfg**, so you will be able to select it in the Paragon PXE Server dialog:



If a destination path to Paragon PXE Server contains spaces, it must be set into inverted commas.

3. As a result you should have in your PXE Server directory the following files:

```
pxeboot.0
bootmgr.exe
Boot (folder)
    Fonts (folder with some font files, example below)
        chs_boot.ttf
        cht_boot.ttf
        jpn_boot.ttf
        kor_boot.ttf
bcd
BCD.LOG
boot.sdi
winpe.wim
```

4. Now, you're ready to boot a custom WinPE 2.1 image on client computers.
5. If you need to boot a Linux based image with PXE, just select it in the Paragon PXE Server dialog.