

Create a Bootable Windows PE RAM Disk on CD (Microsoft Corporation)

This walkthrough describes how you can create a bootable Windows PE RAM disk on CD-ROM by using the Copype.cmd script. Windows PE RAM enables you to start a computer for the purposes of deployment and recovery. Windows PE RAM boots directly into memory, enabling you to remove the Windows PE media after the computer boots.

NOTE: This method enables you to boot directly into memory and assigns the drive letter X, which does not correspond to the media (USB flash drive or CD-ROM) from which you booted. Ensure that you have sufficient memory to support the size of your Windows PE image plus any additional memory requirements, for example, if you plan on running any customized applications that need additional working memory.

Prerequisites

To complete this walkthrough, you need the following:

- A technician computer, which provides all the tools and the source files. For more information, see Building a Technician Computer.
- CD-ROM burning software. The Windows OPK, Windows AIK, and Windows PE Kit do not include CD-ROM or DVD-ROM burning software. However, you can obtain burning software from the Windows 2003 Resource Kit (cdburn and dvdburn) or use any third-party software.
- A blank CD-ROM.

Step 1: Set up a Windows PE build environment

In this step, you create a required directory structure that supports building a Windows PE image.

1. On your technician computer, click Start, point to All Programs, point to Windows OPK or Windows AIK, and then click Windows PE Tools Command Prompt. The menu shortcut opens a Command Prompt window and automatically sets environment variables to point to all the necessary tools. By default, all tools are installed at C:\Program Files\\Tools, where <version> can be Windows OPK or Windows AIK.
2. At the command prompt, run the Copype.cmd script.

The script requires two arguments: hardware architecture and destination location. For example:

```
copype.cmd <architecture> <destination>
```

where <architecture> can be x86, amd64, or ia64 and <destination> is a path to a local directory.

For example:

```
copype.cmd x86 c:\winpe_x86
```

The script creates the following directory structure and copies all the necessary files for that architecture. For example:

```
\winpe_x86
\winpe_x86\ISO
\winpe_x86\mount
```

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Step 2: (Optional) Add additional customizations

This step is optional, but recommended. You can add applications and scripts to your Windows PE image that you might need while working in Windows PE. The following is a list of common tools to include in your Windows PE image.

- **ImageX** - A tool for capturing and applying images during deployment scenarios. For example, at a command prompt, type:

```
copy "c:\program files\<>version>\Tools\x86\imagex.exe" c:\winpe_x86\iso\
```

- **Package Manager (Pkgmgr.exe)** - A tool for servicing Windows images (.wim files) offline. You must copy the entire \Servicing folder. Offline servicing requires ImageX. For example, xcopy "c:\program files\<>version>\Tools\<>architecture>\Servicing" c:\winpe_x86\iso\Servicing /s copy %windir%\system32\msxml6*.dll c:\winpe_x86\iso\Servicing

where <version> can be Windows OPK or Windows AIK and <architecture> can be x86, amd64, or ia64. In both of the previous examples, the tools are not loaded into memory during a Windows PE RAM boot. The media must be available to access the tools.

Step 3: (Optional) Create an exclusion list

This step is optional, but recommended if you include ImageX as part of your Windows PE image. During an ImageX capture operation, some files might be locked, which will cause ImageX to fail. You can exclude specific files from being captured by creating a configuration file called Wimscript.ini. A configuration file is a text file. The following is a sample configuration file that includes common files that you must exclude during a capture operation.

1. Create a configuration file called Wimscript.ini by using any text editor (for example, Notepad).

```
[ExclusionList]
ntfs.log
hiberfil.sys
pagefile.sys
"System Volume Information"
RECYCLER
Windows\CSC

[CompressionExclusionList]
*.mp3
*.zip
*.cab
\WINDOWS\inf\*.pnf
```

You can add additional files or directories that you intend to exclude during a capture operation. For more information about configuration files, see [Create an ImageX Configuration File](#).

2. Save the configuration file to the same location as ImageX as specified in Step 2. For example,

```
c:\winpe_x86\iso\
```

ImageX will automatically detect wimscript.ini only if it is saved to the same location.

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Step 4: Create a bootable CD-ROM

This step describes how to put a Windows PE RAM disk onto a CD-ROM. This option requires that you create an .iso file by using the Oscdimg tool.

1. On your technician computer, create an .iso file with Oscdimg. At a command prompt, type:

```
oscdimg -n -bc:\winpe_x86\etfsboot.com c:\winpe_x86\ISO c:\winpe_x86\winpe_x86.  
iso
```

For IA-64 architecture, replace Etfboot.com with Efi.sys.bin.

2. Burn the image (Winpe_x86.iso) onto a CD-ROM.