

## PE Builder Help Index

### Introduction:

- [What is PE Builder?](#)
- [What is Windows PE?](#)
- [Support](#)
- [License/Copyright](#)
- [Release Notes](#)

### Dialog:

- [Source Dialog](#)
- [Network Dialog](#)
- [Options Dialog](#)
- [Plugin Dialog](#)
- [Output Dialog](#)
- [Build Dialog](#)

## **What is PE Builder?**

Bart's PE Builder helps you build a bootable CD-Rom similar to microsoft's Bart's PE Builder helps you build a "BartPE" (Bart Preinstalled Environment) bootable Windows CD-Rom or DVD from Windows XP or Windows Server 2003 very suitable for PC maintenance tasks.

It will give you a complete Win32 environment with network support, a graphical user interface (800x600) and FAT/NTFS/CDFS filesystem support. Very handy for burn-in testing systems with no OS, rescuing files to a network share, virus scan and so on.

This will replace any Dos bootdisk in no time!

PE Builder is not a Microsoft product and does not create Microsoft Windows Pre-installation Environment ("WinPE"). Using PE Builder does not grant you a license to Microsoft WinPE or to use the Windows XP or Server 2003 binaries in a manner other than stated in the End-User License Agreement include in your version of Microsoft Windows XP or Windows Server 2003. Microsoft has not reviewed or tested PE Builder and does not endorse its use.

**Please do not contact Microsoft for support on the pre-installation environment that has been created by PE Builder! Microsoft does not provide support for PE Builder or for the pre-installation environment created by PE Builder.**

The PE Builder program (pebuilder.exe) runs on Windows 2000/XP/2003. It does **not** run on Windows NT4/ME/9x.

To avoid any confusion, the bootable media's generated by PE Builder should be called by it's nickname "BartPE"!

## **A word from the author**

Hi, my name is Bart Lagerweij. I've been creating boot disks and bootable CD-Roms from Dos 3.x (not sure what year) until 2002. I have created the: Corporate Modboot, Network bootdisk, CD-Rom bootdisk, a hardware independent Dos CD-Rom driver eltorito.sys and lots of other tools needed to boot a PC the way I want it to.

As you can read above I've stopped doing that in 2002 (last year). Why? I saw a Windows PE (WinPE) bootable CD-Rom (from Microsoft) in action and I got very, very curious. I knew then as I know now, that in time WinPE will be every PC technicians best friend.

Goodbye to all the good and bad dos-based NTFS utilities! Now we can boot from a CD-Rom and have **full read/write access to NTFS volumes!**

Here are a few things that are possible with WinPE and are **not** possible with any type of dos-based boot disk, even when using network support and ntfsdos:

- Accessing very large (>2TB) NTFS volumes or accessing volumes that are not seen by the BIOS, like some fibre channel disks.
- Very reliable scanning and cleaning of viruses using a "clean boot".
- Active Directory support.
- Have remote control over other machines, using vnc or remote desktop.

While I was already thinking about what great things this could do, I noticed the end-user license agreement for Microsoft software that is included with Windows Preinstallation Environment (Windows PE) 1.2 (eula.txt). In section "1. ELIGIBILITY." it states the following:

*... "You may only install and use the SOFTWARE PRODUCT if you are an active Microsoft Software Assurance Member ("SAM") for the systems product pool or servers product pool, if you currently have license coverage for Microsoft Windows operating system (OS) Upgrades via a Campus Agreement or School Agreement, or if you are a current or former participant in the Windows XP Joint Development Program, Windows XP Rapid Adoption Program, Windows .NET Server Joint Development Program, or Windows .NET Server Rapid Adoption Program. If you do not meet one or more of the requirements listed above, you may not install or use this SOFTWARE PRODUCT and you must terminate the installation of this SOFTWARE PRODUCT immediately"...*

Oops, that does not include me. As a matter a fact that does not include most of us! This was very disapointing. But then I started thinking, how difficult can it be to build a Windows PE bootable CD-Rom from a Windows XP installation CD-Rom. A quick file compare looked like most of the needed files are on the Windows XP CD-Rom. Only because I though building WinPE was easy I started coding my own builder program.

This first version (v1.0.0) of PE Builder was released in April 28, 2003. Yes, version 1 was a very simple, very static, very bad and copyright violating program. And the (very friendly) people at Microsoft had every right to kick my butt. But I learned from it and in May 2003 I started on a second version. In July (three months later) v2 was ready.

Version 2 did not have the problems that version 1 had. The version 2 build engine had its own registry hive builder which was not easy to program and took about 50% of my research and coding time. It also was dynamic enough that it could build from windows XP and Server 2003. In v2.0.1 I added a small but very powerful menu program called nu2menu, which is written by my buddy Henk de Jong. The latest 2 version (v2.0.2b) even used a new ISO filesystem called "ISO-9660:1999 (version 2)" instead of the Joliet extensions. Some non-english versions of Windows XP had filenames longer than the maximum allowed length for Joliet filenames (103 chars). I had to patch the ISO building program (mkisofs.exe) so that the Windows NT bootstrap and setup loader would boot properly. The file and directory names can now be up to 207 characters. But again this version had something bad. When comparing some INF files they looked too much like the WinPE builder from Microsoft.

I had to changed the entire INF file layout to use its own format. And on Sep 1, 2003 (almost 6 months after starting) version 3 was ready. After adding plugin support, PE Builder got very popular. People from all over the world are writing there own plugins to add the program they like and use.

### ***What is Windows PE?***

Microsoft Windows Preinstallation Environment (WinPE) is a minimal operating system based on the Windows XP kernel. It will give you a complete Win32 environment with network support, a graphical user interface (800x600) and FAT/NTFS/CDFS filesystem support. Very handy for burnin testing systems with no OS, rescuing files to a network share, virus scan and so on.

Windows PE will replace any Dos bootdisk (even masterpieces like modboot and Bart's Network Bootdisk) in no time!

## **Support**

You can run PE Builder in “verbose” mode by starting pebuilder.exe with the “-v” parameter or enable the “verbose” checkbox in the output dialog.

If you have any problems or questions about PE Builder here is where you can get more information:

- Make sure you have the latest version, goto <http://www.nu2.nu/pebuilder/> and check.
- Read this manual (helpfile) carefully, the answer to your problem maybe in it.
- Read the PE Builder webpage, <http://www.nu2.nu/pebuilder>.  
Take special notice of the FAQ section, <http://www.nu2.nu/pebuilder#faq>
- Enter the CD forum, <http://www.nu2.nu/forum/>. Read/search the “Windows PE” and “PE Builder” forum and if you problem is not listed, become a “member” so you can post a question in the “Windows PE” forum.
- If your problem/question is still not solved/answered you can contact the author  
Please keep in mind, that the PE Builder program is put together in my “spare” time.  
That time is very limited as I also work 40 hours a week.  
If you have build problem, please include a “verbose” logfile.  
Please zip it before sending.  
To contact the author, read here: <http://www.nu2.nu/contact/bart/>

**Please do not contact Microsoft for support on the Windows PE that has been “build” by Bart’s PE Builder!**

## **Software License/Copyright**

PE Builder

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## **Release Notes**

Release notes and known limitations:

Diskpart.exe does not work in (Window PE) when build from Server 2003. It returns error “the disk management services could not complete the operation” There is no solution yet...

The language and keyboard support is somewhat limited. The only keyboard layout currently supported is US keyboard layout.

PE Builder has been tested and known to work using the installation files from the following versions of Windows:

- Windows XP Home Edition (Service Pack 1) - English
- Windows XP Professional (Service Pack 1) - English
- Windows Server 2003, Standard Edition - English
- Windows XP Professional (Service Pack 1) - Dutch
- Windows Server 2003, Standard Edition - Dutch



## **Source Dialog**

### **Path to Windows installation files:**

Drive letter to CD or local/remote path containing one of the following versions of Windows.

- Windows XP Home Edition (Service Pack 1)
- Windows XP Professional (Service Pack 1)
- Windows Server 2003, Web Edition
- Windows Server 2003, Standard Edition
- Windows Server 2003, Enterprise Edition

For example, if you use MSDN Windows server 2003 English CD-Rom, you must enter “<cdrom>:\English\Win2003\Standard” as the path to your Windows files...

(where “<cdrom>” is the driveletter of your CD-Rom drive)

### **Add files/folders this (custom) directory:**

Select a local or remote path containing any folders and files you want to add/include.

### ***Network Dialog***

This dialog is removed, please use the “network” plugin.

### ***Options Dialog***

This dialog is removed, please use the “bootfix” plugin.

### ***Output Dialog***

#### **Output directory:**

Select a local or remote path to where you want to “store” the files PE Builder copies for you. This location must have enough free space to hold these files.

#### **Create ISO Image:**

When enabled PE Builder will create the ISO image for you. **Unless you are a bootable CD expert I would advice you to enable this option!** Or if you want to burn it yourself, your burning application must have ISO-9660:1999 (version 2) filesystem support and also store all filenames in uppercase.

Just below the checkbox you enter the location you want the ISO image file saved.

### ***Build Dialog***

This window shows all messages generated by the builder. Building can take a few minutes, depending on how fast your system is.

The messages are also saved (at the end) to pebuilder.log

When you are tracing errors, you can search the pebuilder.log file for “error:” to find them.

## ***Plugin***

In this dialog you can enable and disable all available plugins.  
Just select the plugin and hit the “Enable/Disable” button.

For help about a plugin hit the “PluginHelp” button...

