Image-based Installations with Windows Imaging Format

Image-based deployments of Windows 7 and prior desktop operating systems like XP Profession and Windows Vista are done to streamline the roll out process and to better allow small to large businesses as well as OEM manufactures the ability to quickly build and deploy their systems in an assembly line fashion.

After installing an operating system on reference system and setting it up with specific settings and configuring other applications they would leverage an imaging solution to capture an image based on a sector-by-sector copy of the reference computer.

Sector-by-sector copying can be effective in only so many scenarios and has a number of limitations.

Imaging systems with tools available in Windows Server 2008 and Windows 7 that leverage image-based installations allow for easier initial setup, overall system deployment, and an improvement to image storage and management.

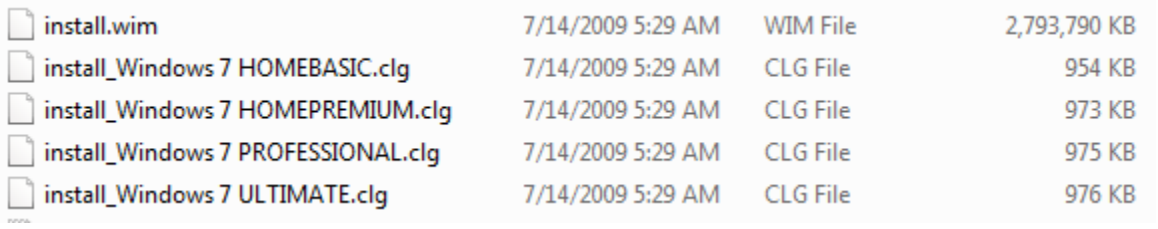
WIM Overview

Windows Imaging format, referred to as WIM, is a file-based disk image first introduced around the release of Windows Vista. Windows 7 installations use this image file as well.

[NOTES FROM THE FIELD] – ***Imaging systems has been around a long time and for many iterations of Windows operating systems; Windows Vista was the first desktop operating system to leverage the WIM format.***

When installing Windows 7 right off of the DVD you are booting the system from a boot image (boot.wim) which is the bootable version of Windows PE (Windows Preinstallation Environment) and this is the installation environment in which the installation routine runs for the operating system install.

You are no longer doing file based installations as you did with Windows XP and prior operating systems; when you are running the Windows 7 installation you are applying an image to the hard disk from the DVD - install.wim.



One of the benefits of using the WIM image is that it allows for compression and single instancing which is where multiple images share a single copy of files that are common between the instances.

As you can see in the image above - there is one install image file; that is effectively Windows 7 Ultimate. If you have the correct product key that allows for the deployment of everything (which is effectively what Ultimate Edition is) then the entire image is deployed.

All of the other editions of Windows 7 are a subset of that image in that they install parts but not ALL of the parts of Windows Ultimate Edition.

When the installation routine runs it will deploy against the complete image of Windows Ultimate and lay down the selected version of Windows (as an example Windows 7 Home Premium) and only install those supported parts of that edition of Windows from the total image file.

That single image allows for all the installation options on one DVD.