

NAME

wimlib-imagex – Create, modify, extract, mount, or unmount a WIM (Windows Imaging Format) archive

SYNOPSIS

wimlib-imagex **append** *arguments...*
wimlib-imagex **apply** *arguments...*
wimlib-imagex **capture** *arguments...*
wimlib-imagex **delete** *arguments...*
wimlib-imagex **dir** *arguments...*
wimlib-imagex **export** *arguments...*
wimlib-imagex **extract** *arguments...*
wimlib-imagex **info** *arguments...*
wimlib-imagex **join** *arguments...*
wimlib-imagex **mount** *arguments...*
wimlib-imagex **mountrw** *arguments...*
wimlib-imagex **optimize** *arguments...*
wimlib-imagex **split** *arguments...*
wimlib-imagex **unmount** *arguments...*
wimlib-imagex **update** *arguments...*

DESCRIPTION

wimlib-imagex deals with archives in the Windows Imaging Format (.wim files). Its interface is meant to be similar to Microsoft's "imagex.exe" program, but it also provide many useful extensions.

To do its work, **wimlib-imagex** uses **wimlib**, a C library which provides interfaces for manipulating WIM archives. You can wimlib in your own programs if desired, although **wimlib-imagex** already provides access to most of wimlib's functionality. In some cases, however, there are general interfaces which are only used by **wimlib-imagex** in a specific way, so it may be worth taking a look if you're looking to do something beyond what **wimlib-imagex** directly supports.

COMMANDS

wimlib-imagex accepts one of a number of commands (listed above in **SYNOPSIS**), and additional arguments depending on the specific command. Although **wimlib-imagex** will print usage information with **--help** or if you invoke it incorrectly, the full documentation for each **wimlib-imagex** command can be found in the appropriate manual page.

Note: to save typing, if appropriate hard links or batch files have been installed, a command **wimlib-imagex** *COMMAND* can also be accessed as simply **wim***COMMAND*; for example, **wimapply** for **wimlib-imagex apply**.

SUPPORTED FEATURES

The following are some of the main features currently supported by **wimlib-imagex**, and pointers to the relevant commands:

- Create a standalone WIM from a directory or NTFS volume (**wimlib-imagex capture**)
- Capture a WIM image directly to standard output in a special pipable format (**wimlib-imagex capture**)
- Append a directory or NTFS volume onto a standalone WIM as a new image (**wimlib-imagex append**)
- Apply an image from a standalone or split WIM to a directory or NTFS volume (**wimlib-imagex apply**)
- Apply an image from a special pipable WIM format sent over standard input (**wimlib-imagex apply**)
- Mount an image from a standalone or split WIM read-only (**wimlib-imagex mount**) (not available on Windows)
- Mount an image from a standalone WIM read-write (**wimlib-imagex mountrw**) (not available on Windows)

- Extract individual files or directories from a WIM without mounting it (**wimlib-imagex extract**)
- Make changes to a WIM image without mounting it (**wimlib-imagex update**)
- Delete image(s) from a standalone WIM (**wimlib-imagex delete**)
- Export image(s) from a standalone or split WIM (**wimlib-imagex export**)
- Display information about a WIM file (**wimlib-imagex info**, **wimlib-imagex dir**)
- Change the name or description of an image in the WIM (**wimlib-imagex info**)
- Change which image in a WIM is bootable (**wimlib-imagex info**)
- Combine split WIMs into one standalone WIM (**wimlib-imagex join**)
- Split a standalone WIM into multiple parts (**wimlib-imagex split**)
- Easily remove wasted space in a WIM file and optionally recompress it (**wimlib-imagex optimize**)
- Support for all WIM compression types, both compression and decompression (LZX, XPRESS, and none)
- WIM integrity table is supported (**--check** option to many commands)

DIFFERENCES FROM MICROSOFT IMAGEX

Although **wimlib-imagex** shares some similarities with Microsoft's implementation of ImageX, this section lists some of the many noteworthy differences between the two programs:

- **wimlib-imagex** is supported on both UNIX-like systems and Windows; thus, some functionality was designed around this.
- The command-line syntax of the two programs is similar but not exactly the same.
- Because Microsoft designed the WIM file format to accomodate Windows-specific and NTFS-specific features, on UNIX-like systems wimlib must have two separate image capture and application modes (although the **wimlib-imagex** commands for the modes are the same): one for image capture and application from/to a directory, and one for the capture or application of an image specifically from/to an NTFS volume.

Note: the above applies to builds of **wimlib-imagex** for UNIX-like systems. On the Windows build, there is only one image capture and application mode, similar to Microsoft's ImageX.

- wimlib supports multithreaded compression, which can make it much faster to create compressed WIM files.
- **wimlib-imagex** offers the extra commands **wimlib-imagex extract** and **wimlib-imagex update**, which let you quickly extract files from or make changes to a WIM image without mounting it.
- **wimlib-imagex** offers the extra command **wimlib-imagex optimize**, which lets you easily remove wasted space in a WIM (which can arise after a WIM image is appended or mounted read-write). It also makes it easy to recompress a WIM file at the highest compression level.
- **wimlib-imagex** also offers the command **wimlib-imagex join**, which lets you easily join the parts of a split WIM.
- For convenience, **wimlib-imagex** automatically preserves the integrity table in WIMs that have one, even when **--check** is not specified.
- wimlib supports a special "pipable" WIM format (not compatible with Microsoft's software). This allows capturing and applying images directly to standard output or from standard input, respectively; this can be used to pipe images to or from a server over the network to implement fast filesystem imaging and restore.
- **wimlib-imagex capture** and **wimlib-imagex append** support options to optimize incremental backups and to create "delta" WIM files.
- wimlib (and **wimlib-imagex** via **wimlib-imagex capture**) supports combining multiple separate directories and files together in a configurable way to create a WIM image.

- Microsoft's ImageX has some weird limitations, like it won't let you extract a WIM on a shared folder, and it requires some commands to be run only from Windows PE and not from regular Windows. **wimlib-imagex** does not have these unusual limitations.
- There are bugs in Microsoft's WIM library and I obviously have not included the same bugs in wimlib, although in some cases I have had to work around bugs for compatibility purposes.
- wimlib (and **wimlib-imagex** via **wimlib-imagex mount**) support mounting an image from a split WIM, but Microsoft's software does not. (Note: this functionality is not available in Windows builds of wimlib and **wimlib-imagex**.)

LOCALES AND CHARACTER ENCODINGS

WIM files themselves store file and stream names using UTF-16LE. On Windows, wimlib works in UTF-16LE, so conversions are usually not necessary and there should be no problems with character encodings.

On UNIX-like systems, wimlib works primarily in the locale-dependent multibyte encoding, which you are strongly recommended to set to UTF-8 to avoid any problems. You can alternatively set the environmental variable **WIMLIB_IMAGEX_USE_UTF8** to force **wimlib-imagex** to use UTF-8 character encoding internally, even if the current locale is not UTF-8 compatible.

CASE SENSITIVITY

By default, the case sensitivity of **wimlib-imagex** differs somewhat between UNIX-like systems and Windows. WIM images may (but usually do not) have multiple files with the same case-insensitive name. Internally, wimlib stores filenames as case-sensitive, but on Windows paths actually provided by the user for use in a WIM image (e.g. for extracting, adding, renaming, or deleting files) will by default be treated as case-insensitive in order to get the "expected" behavior. This differs from the default behavior on UNIX-like systems, where such paths will be treated as case-sensitive. Note that with case insensitivity, a path component may in general be ambiguous due to multiple files or directories having the same case-insensitive name. In such cases, if there is a file or directory with an exactly matching name, it is chosen; otherwise, one of the case-insensitively matching file or directories is chosen arbitrarily.

The default behavior can be overridden by explicitly setting the environmental variable **WIMLIB_IMAGEX_IGNORE_CASE** to 1, in which case such paths will be treated case insensitively, or 0, in which such paths will be treated case sensitively.

Regardless of these settings, options and non-path arguments must be specified in lower case.

LICENSE

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REPORTING BUGS

Report bugs to ebiggers3@gmail.com.

SEE ALSO

wimlib-imagex-append(1), **wimlib-imagex-apply(1)**, **wimlib-imagex-capture(1)**, **wimlib-imagex-delete(1)**, **wimlib-imagex-dir(1)**, **wimlib-imagex-export(1)**, **wimlib-imagex-extract(1)**, **wimlib-imagex-info(1)**, **wimlib-imagex-join(1)**, **wimlib-imagex-mount(1)**, **wimlib-imagex-mountrw(1)**, **wimlib-imagex-optimize(1)**, **wimlib-imagex-split(1)**, **wimlib-imagex-unmount(1)**, **wimlib-imagex-update(1)**,