Pnmtopng User Manual

pnmtopng

Updated: June 2002
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NAME

pnmtopng - convert a PNM image to PNG

SYNOPSIS

pnmtopng [**-verbose**] [**-downscale**] [**-interlace**] [**-alpha=***file*] [**-transparent=**[=]*color*] [**-background=***color*] [**-palette=***palettefile*] [**-gamma=***value*] [**-hist**] [**-text=***file*] [**-ztxt=***file*]
[**-rgb="***wx wy rx ry gx gy bx by***"**] [**-size="***x y unit***"**] [**-modtime="**[*yy*]*yy***-***mm***-***dd hh***:***mm***:***ss***"**] [**-nofilter**] [**-sub**] [**-up**] [**-avg**] [**-paeth**] [**-compression=***n*] [**-comp_mem_level=***n*]
[**-comp_strategy=**{**huffman_only**|**filtered**}] [**-comp_method=deflated**] [**-comp_window_bits=***n*] [**-comp_buffer_size=***n*] [**-force**] [**-libversion**] [*pnmfile*] <?makeman .SH OPTION USAGE ?>

Obsolete options:

[**-filter** *n*]

Options available only in older versions:

[**-chroma** *wx wy rx ry gx gy bx by*] [**-phys** *x y unit*]
[**-time** [*yy*]*yy***-***mm***-***dd hh***:***mm***:***ss*]

Minimum unique abbreviation of option is acceptable. You may use double hyphens instead of single hyphen to denote options. You may use white space in place of the equals sign to separate an option name from its value.

DESCRIPTION

This program is part of Netpbm.

pnmtopng reads a PNM image as input and produces a PNG image as output.

Color values in PNG files are either eight or sixteen bits wide, so *pnmtopng* will automatically scale colors to have a maxval of 255 or 65535. Grayscale files will be produced with bit depths 1, 2, 4, 8 or 16. An extra **pamdepth** step is not necessary.

OPTIONS

pnmtopng changed in Netpbm 10.30 (October 2005) to use the standard Netpbm command line syntax. Before that, you could not use double hyphens to denote an option and could not use an equal sign to separate an option name from its value. And the options had to come before the non-option program arguments.

Furthermore, the options **-chroma**, **-phys**, and **-time** were replaced by **-rgb**, **size**, and **-modtime**, respectively. The only difference, taking **-phys/-size** as an example, is that **-phys** takes multiple program arguments as the option argument, whereas **-rgb** takes a single program argument which is composed of multiple words. E.g. The old shell command

```
pnmtopng -phys 800 800 0 input.pnm >output.png
```

is equivalent to the new shell command

```
pnmtopng -size "800 800 0" input.pnm >output.png
```

If you're writing a program that needs to work with both new and old **pnmtopng**, have it first try with the new syntax, and if it fails with "unrecognized option," fall back to the old syntax.

-verbose Display the format of the output file.

-downscale Enables scaling of maxvalues of more then 65535 to 16 bit. Since this means loss of image data, the step is not performed by default.

-interlace Creates an interlaced PNG file (Adam7).

-alpha=*filename* This specifies the transparency (alpha channel) of the image. You supply the alpha channel as a standard PGM alpha mask (see the PGM specification. **pnmtopng** does not necessarily represents the transparency information as an alpha channel in the PNG format. If it can represent the transparency information through a palette, it will do so in order to make a smaller PNG file. **pnmtopng** even sorts the palette so it can omit the opaque colors from the transparency part of the palette and save space for the palette.

-transparent=*color***pnmtopng** marks the specified color as transparent in the PNG image.

Specify the color (*color*) as described for the argument of the **ppm_parsecolor()** library routine. E.g. **red** or **rgb:ff/00/0d**. If the color you specify is not present in the image, **pnmtopng** selects instead the color in the image that is closest to the one you specify. Closeness is measured as a cartesian distance between colors in RGB space. If multiple colors are equidistant, **pnmtopng** chooses one of them arbitrarily.

However, if you prefix your color specification with "=", e.g.

-transparent =red

only the exact color you specify will be transparent. If that color does not appear in the image, there will be no transparency. **pnmtopng** issues an information message when this is the case.

-background=*color*Causes **pnmtopng** to create a background color chunk in the PNG output which can be used for subsequent alpha channel or transparent color conversions. Specify *color* the same as for **-transparent**.

-palette=*palettefile*This option specifies a palette to use in the PNG. It forces **pnmtopng** to create the paletted (colormapped) variety of PNG -- if that isn't possible, **pnmtopng** fails. If the palette you specify doesn't contain exactly the colors in the image, **pnmtopng** fails. Since **pnmtopng** will automatically generate a paletted PNG, with a correct palette, when appropriate, the only reason you would specify the **-palette** option is if you care in what order the colors appear in the palette. The PNG palette has colors in the same order as the palette you specify.

You specify the palette by naming a PPM file that has one pixel for each color in the palette.

Alternatively, consider the case that have a palette and you want to make sure your PNG contains only colors from the palette, approximating if necessary. You don't care what indexes the PNG uses internally for the colors (i.e. the order of the PNG palette). In this case, you don't need **-palette**. Pass the Netpbm input image and your palette PPM through **pnmremap**. Though you might think it would, using **-palette** in this case wouldn't even save **pnmtopng** any work.

-gamma=*value*Causes **pnmtopng** to create a gAMA chunk. This information helps describe how the color values in the PNG must be interpreted. Without the gAMA chunk, whatever interprets the PNG must get this information separately (or just assume something standard). If your input is a true PPM or PGM image, you should specify **-gamma .45**. But sometimes people generate images which are ostensibly PPM except the image uses a different gamma transfer function than the one specified for PPM. A common case of this is when the image is created by simple hardware that doesn't have digital computational ability. Also, some simple programs that generate images from scratch do it with a gamma transfer in which the gamma value is 1.0.

-hist Use this parameter to create a chunk that specifies the frequency (or histogram) of the colors in the image.

-rgb=*chroma_list*This option specifies how red, green, and blue component values of a pixel specify a particular color, by telling the chromaticities of those 3 primary illuminants and of white (i.e. full strength of all three).

The *chroma_list* value is a blank-separated list of 8 floating point decimal numbers. The CIE-1931 X and Y chromaticities (in that order) of each of white, red, green, and blue, in that order.

This information goes into the PNG's cHRM chunk.

In a shell command, make sure you use quotation marks so that the blanks in *chroma_list* don't make the shell see multiple command arguments.

This option was new in Netpbm 10.30 (October 2005). Before that, the option **-chroma** does the same thing, but with slightly different syntax.

-size=This option determines the aspect ratio of the individual pixels of your image as well as the physical resolution of it.

unit is either **0** or *1*. When it is *1*, the option specifies the physical resolution of the image in pixels per meter. For example, **-size="10000 15000 1"** means that when someone displays the image, he should make it so that 10,000 pixels horizontally occupy 1 meter and 15,000 pixels vertically occupy one meter. And even if he doesn't take this advice on the overall size of the displayed image, he should at least make it so that each pixel displays as 1.5 times as high as wide.

When *unit* is **0**, that means there is no advice on the absolute physical resolution; just on the ratio of horizontal to vertical physical resolution.

This information goes into the PNG's pHYS chunk.

When you don't specify **-size**, **pnmtopng** creates the image with no pHYS chunk, which means square pixels of no absolute resolution.

This option was new in Netpbm 10.30 (October 2005). Before that, the option **-phys** does the same thing, but with slightly different syntax.

-text=*filename*This option lets you include comments in the text chunk of the PNG output. *file* is the name of a file that contains your text comments.

Here is an example of a comment file:

```
Title         PNG file

Author        Bryan Henderson

Description   how to include a text chunk
              PNG file
"Creation date" 3-feb-1987

Software      pnmtopng
```

The format of the file is as follows: The file is divided into lines, delimited by newline characters. The last line need not end with a newline character. A group of consecutive lines represents a comment.

A "delimiter character" is a blank or tab or null character. The first line representing a comment must not start with a delimiter character. Every other line in the group is a "continuation line" and must start with a delimiter character.

The first line representing a comment consists of a keyword and the first line of comment text. The keyword begins in Column 1 of the file line and continues up to, but not including, the first delimiter character, or the end of the line, whichever is first. Exception: you can enclose the keyword in double quotes and spaces and tabs within the double quotes are part of the keyword. The quotes are not part of the keyword. A NUL character is not allowed in a keyword.

The first line of the comment text is all the text in the file line beginning after the keyword and any delimiter characters after it. immediately after the delimiter character that marks the end of the keyword.

A continuation line defines a subsequent line of the comment. The comment line is all the text on the continuation line starting with the first non-delimiter character.

There is one newline character between every two comment lines. There is no newline character after the last line of comment text.

There is no limit on the length of a file line or keyword or comment text line or comment text. There is no limit on the number of comments or size of or number of lines in the file.

-ztxt=*filename*The same as **-text**, except **pnmtopng** considers the text compressed.

-modtime=This option allows you to specify the modification time value to be placed in the PNG output. You can specify the year parameter either as a two digit or four digit value.

This option was new in Netpbm 10.30 (October 2005). Before that, the option **-time** does the same thing, but with slightly different syntax.

-filter=*n*This option is obsolete. Before Netpbm 10.22 (April 2004), this was the only way to specify a row filter. It specifies a single type of row filter, by number, that **pnmtopng** must use on each row.

Use **-nofilter**, **-sub**, **-up**, **-avg**, and **-paeth** in current Netpbm.

-nofilter

-sub

-up

-avg

-paeth Each of these options permits **pnmtopng** to use one type of row filter. **pnmtopng** chooses whichever of the permitted filters it finds to be optimal. If you specify none of these options, it is the same as specifying all of them -- **pnmtopng** uses any row filter type it finds optimal.

These options were new with Netpbm 10.22 (April 2004). Before that, you could use the **-filter** option to specify one permitted row filter type. The default, when you specify no filter options, was the same.

-compression=*n*This option sets set the compression level of the zlib compression. Select a level from 0 for no compression (maximum speed) to 9 for maximum compression (minimum speed).

-comp_mem_level=*n*This option sets the memory usage level of the zlib compression. Select a level from 1 for minimum memory usage (and minimum speed) to 9 for maximum memory usage (and speed).

This option was new in Netpbm 10.30 (October 2005).

-comp_strategy={**huffman_only**|**filtered**}This options sets the compression strategy of the zlib compression. See Zlib documentation for information on what these strategies are.

This option was new in Netpbm 10.30 (October 2005).

-comp_method=deflated This option does nothing. It is here for mathematical completeness and for possible forward compatibility. It theoretically selects the compression method of the zlib compression, but the Z library knows only one method today, so there's nothing to choose.

This option was new in Netpbm 10.30 (October 2005).

-comp_window_bits=*N*This option tells how big a window the zlib compression algorithm uses. The value is the base 2 logarithm of the window size in bytes, so 8 means 256 bytes. The value must be from 8 to 15 (i.e. 256 bytes to 32K).

See Zlib documentation for details on what this window size is.

This option was new in Netpbm 10.30 (October 2005).

-comp_buffer_size=*N*This option determines in what size pieces **pnmtopng** does the zlib compression. One compressed piece goes in each IDAT chunk in the PNG. So the bigger this value, the fewer IDAT chunks your PNG will have. Theoretically, this makes the PNG smaller because 1) you have less per-IDAT-chunk overhead, and 2) the compression algorithm has more data to work with. But in reality, the difference will probably not be noticeable above about 8K, which is the default.

The value *n* is the size of the compressed piece (i.e. the compression buffer) in bytes.

This option was new in Netpbm 10.30 (October 2005).

-force When you specify this, **pnmtopng** limits its optimizations. The resulting PNG output is as similar to the Netpbm input as possible. For example, the PNG output will not be paletted and the alpha channel will be represented as a full alpha channel even if the information could be represented more succinctly with a transparency chunk.

-libversion This option causes **pnmtopng** to display version information about itself and the libraries it uses, in addition to all its normal function. Do not confuse this with the Netpbm common option **-version**, which causes the program to display version information about the Netpbm library and do nothing else.

You can't really use this option in a program that invokes **pnmtopng** and needs to know which version it is. Its function has changed too much over the history of **pnmtopng**. The option is only good for human eyes.

SEE ALSO

pngtopnm, pamrgbatopng, pnmremap, pnmgamma, pnm

For information on the PNG format, see http://schaik.com/png.

AUTHORS

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