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Subject: Putting plugin/png on a diet

Posted by [guido](#) on Mon, 11 Jun 2007 14:14:32 GMT

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Hi,

libpng is huge and up doesn't use half of its features.

So currently a lot of "dead" code is linked in.

Fortunately libpng offers fine grained build control, so we should take advantage of it:

options

- DPNG\_NO\_READ\_EXPAND,
- DPNG\_NO\_READ\_SHIFT,
- DPNG\_NO\_READ\_PACK,
- DPNG\_NO\_READ\_SWAP,
- DPNG\_NO\_READ\_PACKSWAP,
- DPNG\_NO\_READ\_INVERT,
- DPNG\_NO\_READ\_DITHER,
- DPNG\_NO\_READ\_BACKGROUND,
- DPNG\_NO\_READ\_FILLER,
- DPNG\_NO\_READ\_GAMMA,
- DPNG\_NO\_READ\_GRAY\_TO\_RGB,
- DPNG\_NO\_READ\_SWAP\_ALPHA,
- DPNG\_NO\_READ\_INVERT\_ALPHA,
- DPNG\_NO\_READ\_STRIP\_ALPHA,
- DPNG\_NO\_READ\_USER\_TRANSFORM,
- DPNG\_NO\_READ\_RGB\_TO\_GRAY,
- DPNG\_NO\_PROGRESSIVE\_READ,
- DPNG\_NO\_READ\_COMPOSITE\_NODIV,
- DPNG\_NO\_MNG\_FEATURES,
- DPNG\_NO\_READ\_EMPTY\_PLTE,
- DPNG\_NO\_WRITE\_SHIFT,
- DPNG\_NO\_WRITE\_PACK,
- DPNG\_NO\_WRITE\_SWAP,
- DPNG\_NO\_WRITE\_PACKSWAP,
- DPNG\_NO\_WRITE\_INVERT,
- DPNG\_NO\_WRITE\_FILLER,
- DPNG\_NO\_WRITE\_SWAP\_ALPHA,
- DPNG\_NO\_WRITE\_INVERT\_ALPHA,
- DPNG\_NO\_WRITE\_USER\_TRANSFORM,
- DPNG\_NO\_USER\_TRANSFORM\_PTR,
- DPNG\_NO\_WRITE\_EMPTY\_PLTE,
- DPNG\_NO\_EASY\_ACCESS,
- DPNG\_NO\_READ\_bKGD,
- DPNG\_NO\_READ\_cHRM,
- DPNG\_NO\_READ\_gAMA,
- DPNG\_NO\_READ\_iCCP,

```
-DPNG_NO_READ_oFFs,  
-DPNG_NO_READ_pCAL,  
-DPNG_NO_READ_sCAL,  
-DPNG_NO_READ_sBIT,  
-DPNG_NO_READ_sPLT,  
-DPNG_NO_READ_sRGB,  
-DPNG_NO_READ_tIME,  
-DPNG_NO_READ_zTXt,  
-DPNG_NO_READ_OPT_PLTE,  
-DPNG_NO_INFO_IMAGE;
```

Adding above to png.upp reduces executable size by 40k and plugin build time is cut in half (gcc-4.1/optimal).

Plugin overhead thus marginal, I suggest static linking on all platforms. Though libpng can be assumed on X11, ABI stability is a concern.

PS:

The included libpng is quite ancient. Should be replaced with a recent copy. There have been a number of buffer-overruns fixed at least. Also recent versions should be faster due to assembly/mmx routines.

Guido

## File Attachments

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1) [png.upp](#), downloaded 327 times

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