VirtualDub documentation: compiling

1 min read • original

It seems you can never compile someone else's application without a lot of hair pulling!

What do I need to compile VirtualDub?

You need Visual C++ 6.0 SP5 + Processor Pack and Microsoft Macro Assembler (MASM) 6.15. The Processor Pack is a free download from Microsoft's website, although you will need to patch to SP5 first (this is mandatory anyway since some pre-SP3 bugs will cause VirtualDub to miscompile). It also includes MASM (`ml.exe`) as well. If you don't have the Processor Pack installed, the SSE instruction `sfence` will not compile.

What are the `verinc` and `mapconv` tools?

`verinc` is my automatic build number incrementer, and `mapconv` generates the `.dbg` files used to generate stack dumps on a crash. `mapconv` can be safely removed from the VirtualDub.exe post-build step without problems, but `verstub.asm` still needs to be compiled.

Download source code for mapconv and verinc from virtualdub.org (HTTP).

How should I lay out the directory structure when I unzip the archives?

The source and auxsrc distributions can go into any directory, although `VirtualDub` just might be a good name for it. NekoAmp should go into `amplib_new` and Sylia should go into `sylia`, with both directories at the same level as the `VirtualDub` directory.

What's `INVALID_SET_FILE_POINTER`?

A macro constant included in recent versions of Microsoft's Platform SDK, which has newer Win32 includes than the original Visual C++ 6.0 distribution. Install the PSDK includes or use:

```
#define INVALID_SET_FILE_POINTER ((DWORD)-1)
```

VC++ says it can't find `IAMPDecoder.h`.

You need to install the NekoAmp source code and headers. By mistake, some of VirtualDub's modules refer to an `amplib` directory in their preprocessor settings; they should all be pointing to `amplib_new`.

VC++ says it can't find `IScriptInterpreter.h`.

Install the source code and headers for the Sylia scripting language in `../sylia`.

When I recompile VirtualDub, the executable is over a megabyte, instead of the 380K yours is!

Don't release Debug mode builds; change the build target to "VirtualDub - Win32 Release." (You're not supposed to ship debug executables anyway, as the Visual C++ debug RTL isn't redistributable.)

I'm building a Release build now, but it's still over 800K.

I cheated -- the release `VirtualDub.exe` is compacted with UPX.

Isn't assembly language dead with modern compilers?

```
void add_pairs(float *dst, const float *src, int count) {
    if (count) {
        do {
```

```
            float x = *src++;
            float y = *src++;

            *dst++ = x+y;
        } while(--count);
    }
}

F:\test>cl /c /O2ax /G6s fpu.cpp && dumpbin /disasm fpu.obj
Microsoft (R) 32-bit C/C++ Optimizing Compiler Version 12.00.8804 for 80x86
Copyright (C) Microsoft Corp 1984-1998. All rights reserved.

fpu.cpp
Microsoft (R) COFF Binary File Dumper Version 6.00.8447
Copyright (C) Microsoft Corp 1992-1998. All rights reserved.


Dump of file fpu.obj

File Type: COFF OBJECT

?add_pairs@@YAXPAMPBMH@Z (void __cdecl add_pairs(float *,float const *,int)):
  00000000: 8B 54 24 0C        mov         edx,dword ptr [esp+0Ch]
  00000004: 85 D2              test        edx,edx
  00000006: 74 1F              je          00000027
  00000008: 8B 44 24 08        mov         eax,dword ptr [esp+8]
  0000000C: 8B 4C 24 04        mov         ecx,dword ptr [esp+4]
  00000010: D9 00              fld         dword ptr [eax]
  00000012: 83 C0 04           add         eax,4
  00000015: D9 00              fld         dword ptr [eax]
  00000017: 83 C0 04           add         eax,4
  0000001A: D8 C1              fadd        st,st(1)
  0000001C: 83 C1 04           add         ecx,4
  0000001F: 4A                 dec         edx
  00000020: D9 59 FC           fstp        dword ptr [ecx-4]
  00000023: DD D8              fstp        st(0)
  00000025: 75 E9              jne         00000010
  00000027: C3                 ret
  00000028: 90                 nop
  00000029: 90                 nop
  0000002A: 90                 nop
  0000002B: 90                 nop
  0000002C: 90                 nop
  0000002D: 90                 nop
  0000002E: 90                 nop
  0000002F: 90                 nop
```

What was that again?