Creating an AMD64 Build Environment for DirectX-Based Applications

Developer Application Note

Audience

This document is intended for the programmer who is either porting 32-bit DirectX applications to 64 bits or creating new 64-bit DirectX applications to run in Microsoft® Windows® operating systems.

Intent of Document

Initial 64-bit DirectX application development for AMD64 processors can make use of 32-bit development environments, such as Microsoft's Visual Studio. These 32-bit development environments may also be used to port existing 32-bit software to a 64-bit operating environment. After compilation and building, 64-bit DirectX applications may be installed on systems running a 64-bit Windows operating system on AMD64 processor-based systems. This document describes the preliminary steps necessary to allow programmers to build 64-bit DirectX applications from 32-bit sources.

Note: *The content in this Developer Application Note is expected to be superceded by the release of Microsoft's AMD64 version of the DirectX SDK.*

Additionally, for more general information on how to setup a build environment for AMD64 processors, please refer to the Building AMD64 Applications with Microsoft® Platform SDK Developer Application Note*, order# 30887.*

Technical Content

Until Microsoft releases a GameSDK for 64 bits, a programmer must use currently available resources to develop 64-bit DirectX applications. To enable programmers to accomplish this task, Microsoft has made available the necessary libraries and DLLs.

The AMD64 compilers can be used in the VisualC 6.0 integrated development environment.

The instructions below show the programmer both how to use the AMD64 compilers in the VisualC 6.0 integrated development environment and how to get the necessary libraries and DLLs.

Required Action

The process for creating the 64-bit DirectX build environment is as follows:

1. Setup the operating system:
    Install 32-bit Microsoft Windows XP operating system.

2. Install Microsoft Visual Studio 6.0 and the appropriate patches.
    To install the Visual Studio 6.0 Service Pack 5 and Microsoft Visual C++ Processor Pack, go to
    http://msdn.microsoft.com/visualc/previous/vc6/downloads/default.aspx.

3. Install the 1069 Beta 1 Microsoft PSDK for AMD64.

4. Install the Microsoft Windows DDK Beta1 for AMD64.

5. Install the DirectX 9 SDK.

6. Setup the build environment in Visual C++ 6.0 IDE.

    Assuming default installation options, the additional include directories are as follows:

    *   C:\WINDDK\3790.1069\INC\WNET—this directory provides the DirectShow includes
    *   C:\DXSDK\INCLUDE—this directory provides the DirectX base includes
    *   C:\DXSDK\SAMPLES\C++\DIRECTSHOW\BASECLASSES-—this directory provides the DXSDK sample's baseclass includes (if your application uses them)

    The additional library directory is C:\WINDDK\3790.1069\LIB\WNET\AMD64

    To set up the build environment, you can either modify the *C:\Program Files\Microsoft SDK\SetEnv.bat* file to add the include directories and the library directories, or you can make these directories part of your project settings. To make them part of your project settings, see Step 8.

    *   To modify the *SetEnv.bat* file, add the includes end of the "Include" environment variable and the lib on the "lib" environment variable in the AMD64 section.

7. Invoke Visual C++ 6.0 IDE.

    a. Change directory to C:\Program Files\Microsoft SDK and type: *SetEnv /AMD64 /RETAIL*.

    b. Change directory to C:\Program Files\Microsoft Visual Studio\Common\MSDev98\Bin and type: *msdev /useenv*.

8. (*Alternative setup*) Setup the build environment in Visual C++ 6.0 IDE as part of the project settings.
    If you did *not* modify the *SetEnv.bat* file, then make the changes in the project settings:

    a. Go to **Tools**, then **Options**. Select the Directories tab. Go to **Show Directories** for include files, and add in the three include directories.

    b. Go to **Show Directories** for library files and add the library directory.

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