

To compile models.

Compiling Vensim models can lead to a 10x speed increase so it is a good thing to do.

1. First you need a compiler. Search the internet for "Microsoft Visual Studio Express". This is a free C++ compiler available from Microsoft and is fine for compiling Vensim models.
2. Download Visual Studio Express and install it.
3. Now we need to tell Vensim how to find the compiler. All Microsoft compilers come with a batch file called "VCVARS32.BAT". This contains the path to the compiler, lib files etc. Find this file (try looking in "C:\Program Files\Microsoft Visual Studio 9.0\VC\bin").
4. Now we need to edit a Vensim file. Locate a file called MDL.BAT. This is usually found in one of the following locations (depending on operating system).
 - a. C:\Program Files\Vensim\comp
 - b. C:\Users\Public\Vensim\comp\

5. Edit this file in notepad. Search for the following

```
if exist mdl.obj del mdl.obj
```

6. Delete everything above this line apart from the very first line (@ECHO OFF).
7. Now add the following after the "@ECHO OFF" line

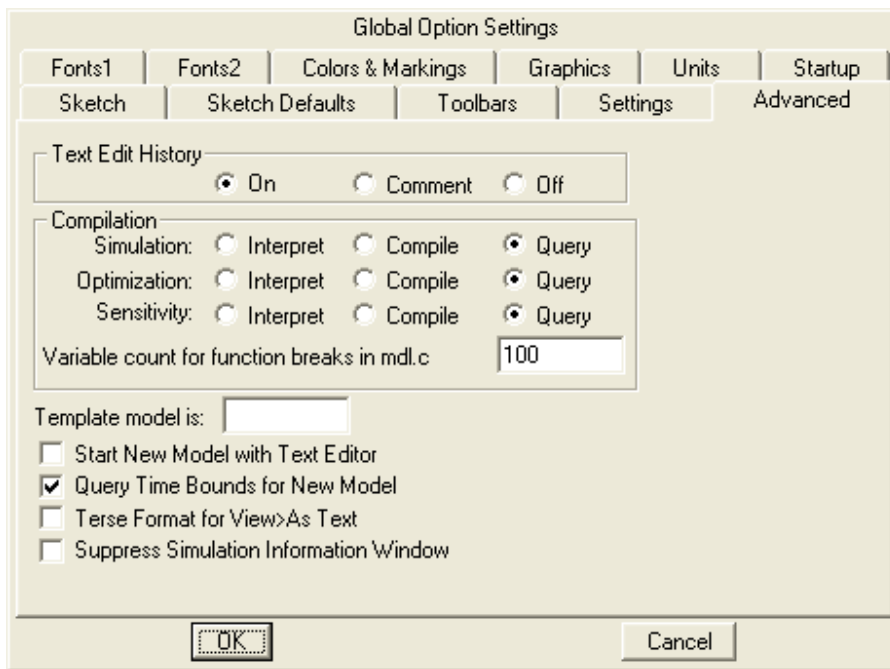
```
call "PATH TO FILE\vcvars32.bat"  
eg, call "C:\Program Files\Microsoft Visual Studio 9.0\VC\bin\vcvars32.bat"
```

8. The file should now look something like this.

```
@ECHO OFF  
call "C:\Program Files\Microsoft Visual Studio 9.0\VC\bin\vcvars32.bat"  
if exist mdl.obj del mdl.obj  
if exist %3.dll del %3.dll  
if .%2 == . goto noinclude  
CL /O2 /c /I "%2" /DWIN32 mdl.c  
.....  
.....
```

9. Save the MDL.BAT file.

10. Now in Vensim click Tools->Options, then click "Advanced" to display the following dialog box.

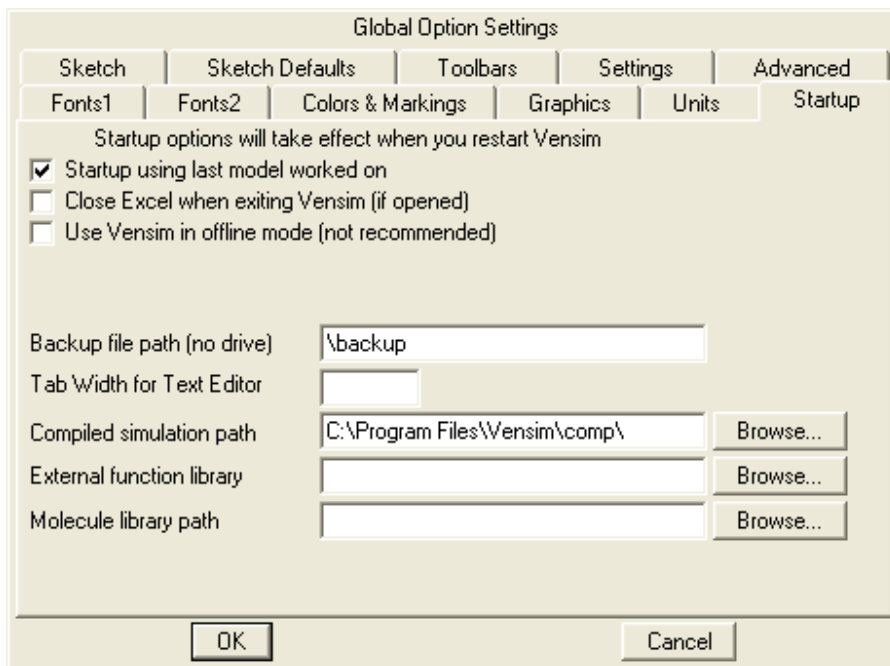


11. Under the options "Compilation", select "Query" for Simulation, Optimization and Sensitivity.

12. Now select the "Startup" tab

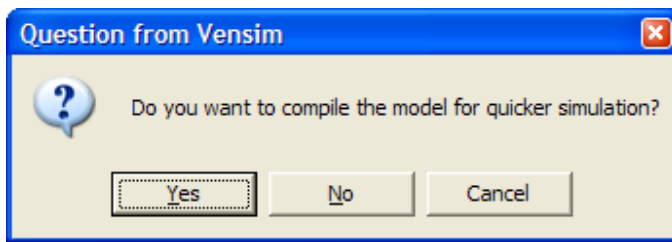
13. Make sure the "Compiled simulation path" is the path where your MDL.BAT file is located. This is usually "c:\program files\vensim\comp\".

This step is very important. If the path is not correct, it will not work.



14. Click OK

15. Now try running a model. You will be asked if you want to compile the model.



16. Click "Yes".

17. A dos box will appear that calls the MDL.BAT file to compile the model.

18. Occasionally there will be an error compiling. An error mentioning LIBC.LIB will appear. To fix this, edit the MDL.BAT file again.

19. Locate the line

```
LINK /DLL /OUT:%3.dll /def:%1sim.def mdl.obj
```

20. Edit this so that it looks like the following

```
LINK /DLL /nodefaultlib libc.lib /OUT:%3.dll /def:%1sim.def mdl.obj
```

21. Try running the model again.

An example “working“ MDL.BAT. All of the redundant lines have been removed from the top of the file as calling VCVARS32.BAT does this job.

```
@ECHO OFF
call "C:\Program Files\Microsoft Visual Studio 9.0\VC\bin\vcvars32.bat"
if exist mdl.obj del mdl.obj
if exist %3.dll del %3.dll
if .%2 == . goto noinclude
CL /O2 /c /I "%2" /DWIN32 mdl.c
goto aftercomp
:noinclude
CL /O2 /c /DWIN32 mdl.c
:aftercomp
if errorlevel 1 goto :error1
if not exist mdl.obj goto :error2
LINK /DLL /OUT:%3.dll /def:%1sim.def mdl.obj
if errorlevel 1 goto :error3
if not exist %3.dll goto :error3
REM clean up .lib and .exp files - they are not needed
del %3.lib
del %3.exp
goto :exit
:error1
echo There were errors while compiling - check the paths in mdl.bat in vensim\comp
goto exit2
:error2
echo Unable to compile. You probably need to set paths in mdl.bat in vensim\comp
goto exit2
:error3
echo Errors while linking %3.dll - make sure compiled simulations were properly
installed
goto :exit2
:exit2
pause
goto :exit3
:exit
echo -----
echo Compilation of %3 seems to have been successful.
echo Close this window and continue.
:exit3
```