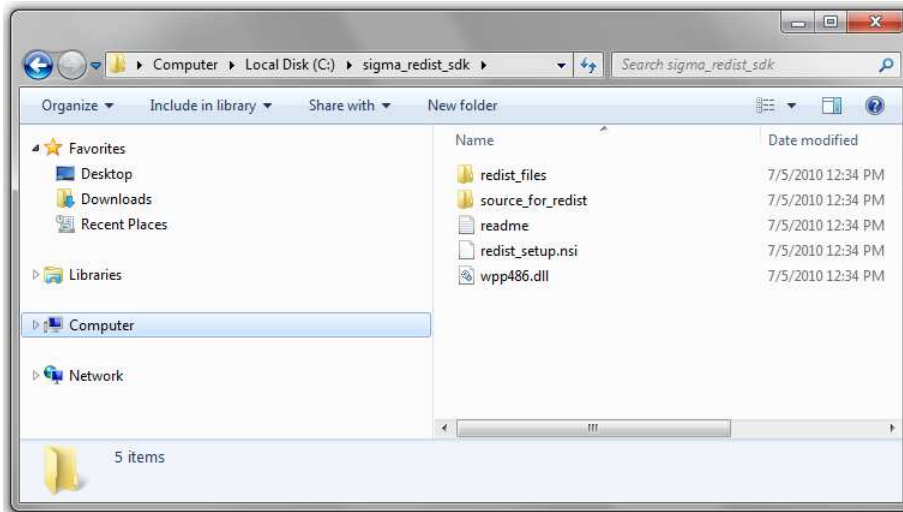


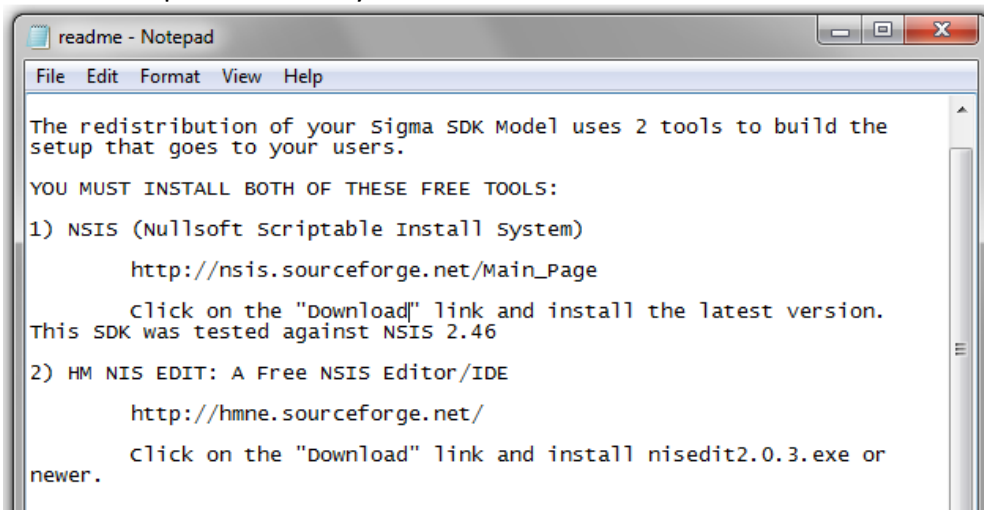
## Making Redistributable Simulations using our SDK

SIGMA Developer edition allows you to make embedded simulation software that you can send out to your customers using our redistributable software development kit, or 'SDK'. This allows you to build any kind of simulation and send it with a simplified user interface, such as an Excel file, that your customers are familiar with. In this tutorial I'll walk you through the steps of building an embedded simulation and how to distribute it to your customers.

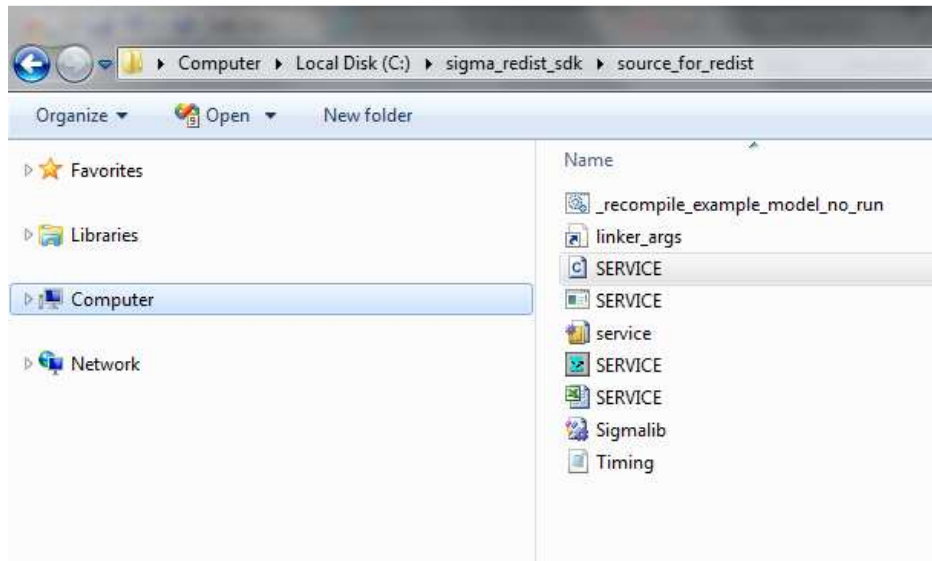
- 1) Start by downloading and extracting the SIGMA SDK package to a directory on your computer. In this case, I've chosen to save it on the desktop.



- 2) Next, follow the instructions in readme.txt to download and install two free toolkits, the 'Nullsoft Scriptable Install System' and a Free NSIS Editor.



- 3) Now that we have the toolsets installed, we're going to compile a redistributable Excel application. In this example we will use the sample stored in the directory 'source\_for\_redist', but you can use your own simulation and Excel or other application.
- 4) Let's open up the C file in notepad, called <my simulation>.C. In this case, the name is service.C.



- 5) Edit line 69 of this file, which will say 'if(!startup\_check(0))' to instead say 'if(!startup\_check(1))'. This step ensures that your application will work provided a valid license key exists. Then save and close this file.

A screenshot of a Notepad window titled 'SERVICE - Notepad'. The window contains the following C code:

```
File Edit Format View Help
/* MAIN PROGRAM */
int main(int argc, char** argv)
{
    int next_event;
    char keytoclose = 'p';

    if(!startup_check(1))
        return -1;

    /* Initialize csiglib and simulation */
    while (initialize(argc, (const char * *)argv)) {};
```

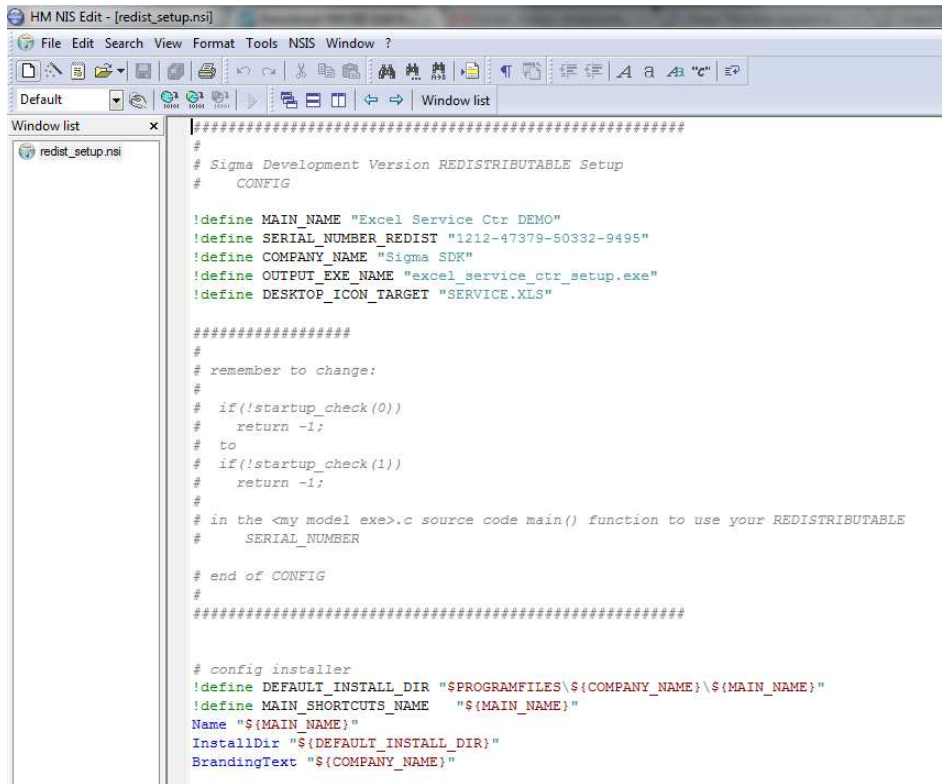
- 6) Next, we're going to recompile the model with the settings above. Double click on '\_recompile\_model', which recompiles the C code changes we just made.

Name	Date modified
_recompile_model	7/5/2010 12:34 PM
linker_args	7/5/2010 12:34 PM
SERVICE	7/5/2010 12:34 PM
SERVICE	7/5/2010 1:02 PM
service	7/5/2010 12:34 PM
SERVICE	7/5/2010 12:34 PM
SERVICE	7/5/2010 12:34 PM
Sigmalib	7/5/2010 12:34 PM
Timing	7/5/2010 12:34 PM

- 7) Now let's drag the new Excel file, executable, and any other supporting files to the directory called 'redist\_files'. In this case, I've copied three files called Service.xls, service.exp and service.exe into the folder.



- 8) Now let's run the NSIS editor, and open the SDK "redist\_setup.nsi" which is located in the redistributable parent directory.



```
HM NIS Edit - [redist_setup.nsi]
File Edit Search View Format Tools NSIS Window ?
Default
Window list
redist_setup.nsi

#####
# Sigma Development Version REDISTRIBUTABLE Setup
# CONFIG

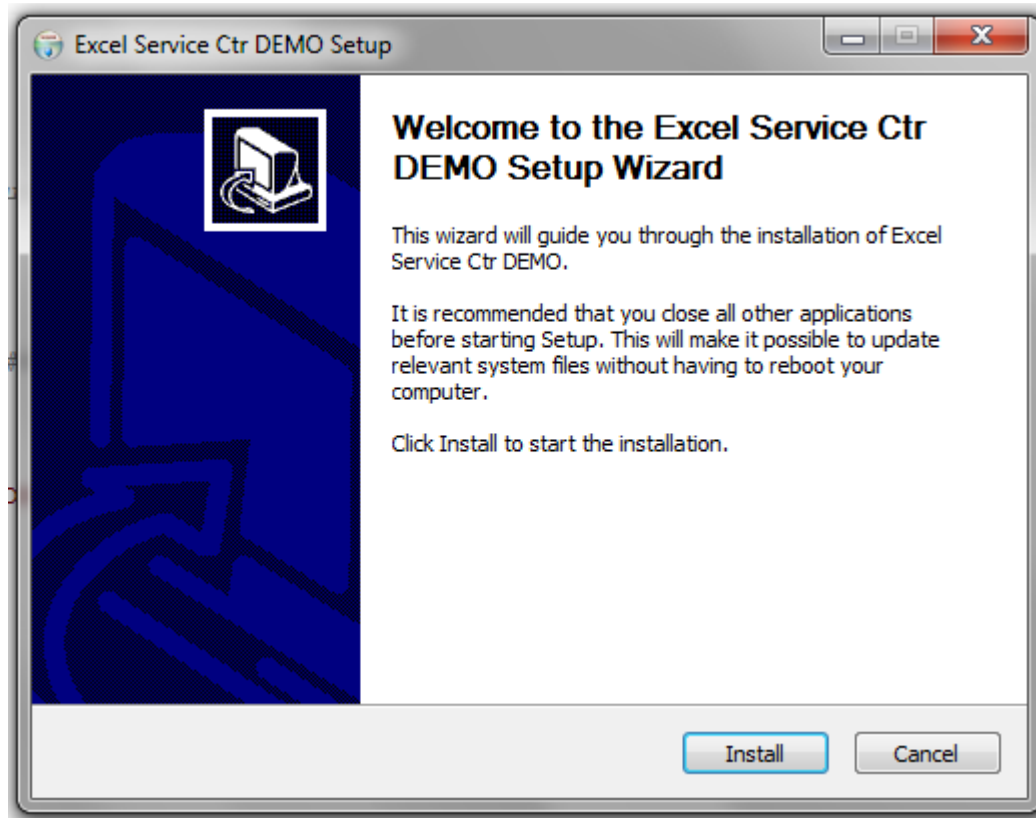
!define MAIN_NAME "Excel Service Ctr DEMO"
!define SERIAL_NUMBER_REDIST "1212-47379-50332-9495"
!define COMPANY_NAME "Sigma SDK"
!define OUTPUT_EXE_NAME "excel_service_ctr_setup.exe"
!define DESKTOP_ICON_TARGET "SERVICE.XLS"

#####
#
# remember to change:
#
# if(!startup_check(0))
#   return -1;
# to
# if(!startup_check(1))
#   return -1;
#
# in the <my model exe>.c source code main() function to use your REDISTRIBUTABLE
# SERIAL_NUMBER

# end of CONFIG
#
#####

# config installer
!define DEFAULT_INSTALL_DIR "$PROGRAMFILES\${COMPANY_NAME}\${MAIN_NAME}"
!define MAIN_SHORTCUTS_NAME "${MAIN_NAME}"
Name "${MAIN_NAME}"
InstallDir "${DEFAULT_INSTALL_DIR}"
BrandingText "${COMPANY_NAME}"
```

- 9) You'll notice you can change some of the settings at the top of the page. The main name is the name of the application that will be installed. The serial number can be your developer serial number or a special serial number with a longer timeout period. Also enter your company name, a name for the executable and the name of your excel file or other link you want visible. In this case, since we have an Excel application called SERVICE.XLS, I'm going to enter service.XLS for this desktop icon target.
- 10) Finally, choose the option NSIS > Compile and Run to test your redistributable.



- 11) After the installation completes, there will be a link to the Excel application on your desktop, and the application itself will be located in the program files directory. The setup file you can send to your customers is located in the directory, with the name you specified in `OUTPUT_EXE_NAME`.

