Build my own OpenDSS or Model with Matlab?

From OpenDSSWiki

Question

I want to add some new model into the circuit, such as PHEV or PV. I'm considering whether to rebuild the 'OpenDSS.exe' file under the Delphi environment or not? Can I model with MATLAB, and then use OpenDSS to do power flow calculation?

Answer

You can add a new module, maybe using the Generator as a pattern. I would suggest starting with the MyOpenDSS project template. You should copy that entire folder to another folder and change the file and project names to something else.

Then add your new class unit (*.pas) to the project. I would keep it in the new folder you create so that you can continue to update the existing modules. I would recommend NOT changing any of the existing modules because any of your changes could be wiped out when you do an SVN update.

Then add statements to MyDSSClassDefs.pas to instantiate your new modules. These will be of the form:

```
DSSClasses.New := TMyDSSClass.Create;
```

where you replace TMyDSSClass with the type of your class. See DSSClassDefs.pas for more examples. We are in the process of preparing documentation to elaborate on how to do this, which should appear as a Tech Note in this Wiki.

You can also use the OpenDSSEngine DLL to control the Generator or Storage element from Matlab or some other program. In fact, we will do this sometimes to test an algorithm before we build it into the OpenDSS code. You will need to learn how to use the COM interface for that. This will require registering OpenDSSEngine.DLL and then becoming familiar with the COM interface elements. There is some documentation of COM Interface available in the Wiki and we will continue to update the documentation as time allows. There are several Matlab examples (http://electricdss.svn.sourceforge.net/viewvc/electricdss/Examples/Matlab/) that illustrate different parts of the COM interface being driven from Matlab.

--Rdugan 21:16, 24 August 2010 (UTC)
