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SimSys Software

Installation and Setup Instructions

1. Download the archive file for each SimSys Package that is to be installed.

Go to the SimSys Software Forum and login using your username and password at <http://www.simcenter.msstate.edu/software/forum/login.php>. Then select the appropriate package link from those at the top of the page. For each package that is available on the forum there are three sub-folders named *archive* (for older versions), *release* (for the current release), and *special* (for special files if available and as needed). Each folder will contain SimSys Package archive files that are self-contained and include all files for a working system. Also, each folder contains descriptive documents such as this one, including README.pdf, LICENSE.pdf, README_packages.pdf.

2. Create a SimSys installation directory.

Create an installation directory for all SimSys Packages, such as “*simsys*”. Future upgrades can be installed over existing files or multiple directories can be used for each release/upgrade, e.g. *simsys_release*, *simsys_sept_rel*, *simsys_july_rel*, etc. If multiple people will be accessing the files then a global location would be best. The installation directory is static after the files are installed. There is no need for individual users to write within the installation directory.

3. Install the SimSys Package files.

The following Linux/MacOSX terminal commands will uncompress and untar the SimSys Package files.

```
cd simsys (or other installation directory)
tar -zxvpf location_of_package_tar_files/package_archive_file
```

Repeat the command for each package file. Alternatively, you can do the equivalent using Linux or MacOSX standard GUI. On WINDOWS systems use the GUI to unzip the files. After installing the files the following directories should exist.

<i>bin/</i>	executables
<i>bin/dlib</i>	dynamic/shared libraries (if <i>AFLR4</i> is installed)
<i>interface/sm</i>	GUI definitions (if <i>SolidMesh</i> is installed)
<i>doc/system</i>	html-based documentation files for the overall <i>SimSys</i> system
<i>doc/aflr2</i>	html-based documentation files for <i>AFLR2</i> (if installed)
<i>doc/aflr2c</i>	html-based documentation files for <i>AFLR2C</i> (if installed)
<i>doc/aflr3</i>	html-based documentation files for <i>AFLR3</i> (if installed)
<i>doc/aflr4</i>	html-based documentation files for <i>AFLR4</i> (if installed)
<i>doc/sm</i>	html-based documentation files for <i>SolidMesh</i> (if installed)
<i>doc/ug_io</i>	html-based documentation files for <i>UG_IO</i> input/output files

4. Configure the SimSys installation.

You can configure your installation multiple ways to suit your local situation. A short list of alternative means of configuring the SimSys installation follows.

- a. Add the location of the *bin/* directory to your system environment PATH, e.g. */path.../simsys/bin*.
- b. Make links (*ln -s* on Linux or MacOSX) to the contents of the *bin/* directory (no need to link the subdirectory *dlib/* or its contents) in a directory that is already in the environment PATH.
- c. Move or copy the contents of the *bin/* directory (along with the subdirectory *dlib/* and its contents) to a directory that is already in the environment PATH. Note that the subdirectory *dlib/* is only required for AFLR4.

To run a specific program, after configuring you system, use the command line with the name of the specific software followed by options. For example, to test the installation and display a usage summary for AFLR3, enter the following command line statement.

```
aflr3 -h
```

5. View documentation.

To view the documentation, it is recommended that you first point your browser to the system documentation main page file */path.../simsys/doc/system/index.html*. The system documentation main page has links to all the overall system related information as well as links to documentation for specific packages. Open a browser and enter this file path or use the command line. A script is also provided to open the system documentation main page. Enter the following command line statement to use this script.

```
simsys_doc
```

Note that if you chose to move the contents of the *bin/* directory to a directory that is already in the environment PATH (alternative 4. c. above) then the script cannot be used as it will not know the actual location of the *doc/* directory (the script assumes that *bin/* and *doc/* have the same root).

6. Additional comments.

The executables (and scripts) located in the *bin/* directory use a naming that is the same as that of the program name. On Linux and MacOSX the executables do not have a suffix if a script is not required. On WINDOWS the executables always have an *.exe* suffix. Names and comments for most of the SimSys programs and scripts are listed in the following table.

Linux/MacOSX name	WINDOWS name	Description
<i>simsys_doc</i>	<i>simsys_doc.bat</i>	Script (<i>/bin/sh</i> shell or WINDOWS <i>batch</i> file) to open system main documentation page.
<i>aflr2</i>	<i>aflr2.exe</i>	<i>AFLR2</i> executable (with BL).
<i>aflr2c</i>	<i>aflr2c.exe</i>	<i>AFLR2C</i> executable (with anisotropic adaptation).
<i>bsurf2</i>	<i>bsurf2.exe</i>	<i>BSURF2</i> 2D edge grid creation executable.
<i>xplt2</i>	<i>N/A</i>	<i>XPLT2</i> X-window display for 2D grids executable.
<i>aflr3</i>	<i>aflr3.exe</i>	<i>AFLR3</i> executable.
<i>aflr3_l</i>	<i>aflr3_l.exe</i>	<i>AFLR3</i> executable with 64-bit integers.
<i>aflr4</i>	<i>aflr4.exe</i>	<i>AFLR4</i> executable.
<i>ugc</i>	<i>ugc.exe</i>	<i>UGC</i> executable.
<i>ugc_l</i>	<i>ugc_l.exe</i>	<i>UGC</i> executable with 64-bit integers.
<i>sm</i>	<i>N/A</i>	<i>SolidMesh</i> <i>/bin/sh</i> shell script required to set the <i>SOLID_MESH_SETUP_DIR</i> environment variable. This variable must be set to the location of the interface/ directory, e.g. <i>/path.../simsys/interface/sm</i> . The script can be eliminated if that is made part of your standard environment. The script runs the executable <i>sm.exe</i> . Run <i>SolidMesh</i> using the script name <i>sm</i> or the executable name <i>sm.exe</i> if the <i>SOLID_MESH_SETUP_DIR</i> environment variable is set.
<i>sm.exe</i>	<i>N/A</i>	<i>SolidMesh</i> executable.
<i>checkgrid</i>	<i>N/A</i>	<i>GRID_TOOLS</i> <i>checkgrid</i> executable.
<i>grid_tool_name</i>	<i>N/A</i>	<i>GRID_TOOLS</i> <i>grid_tool_name</i> other executable.
<i>name</i>	<i>name.exe</i>	<i>NAME</i> other SimSys standard executable.