OpenStudio Version 1.7.0

Release Notes – 3/27/2015

These release notes describe version 1.7.0 of the OpenStudio software suite developed by the National Renewable Energy Laboratory (NREL), Buildings and Thermal Systems, Commercial Buildings Research Group, Tools Development Section, and associated collaborators. The notes are organized into the following sections:

- Where to Find OpenStudio Documentation
- Installation Notes
- Overview

Where to Find OpenStudio Documentation

- OpenStudio release documentation, including these release notes, tutorials, and other user documentation, is available at https://www.openstudio.net/.
- C++ API documentation is available at https://s3.amazonaws.com/openstudio-sdk-documentation/index.html.
- Measure development documentation is available at http://nrel.github.io/OpenStudio-user-documentation/measures/measure_writing_guide/.

Installation Notes

OpenStudio is supported on Windows 7 – 8.1, OS X 10.9 – 10.10, and 64-bit Ubuntu 14.04.

OpenStudio 1.7.0 supports EnergyPlus Release 8.2.0 Update 1.2, which is bundled with the OpenStudio installer. It is no longer necessary to download and install EnergyPlus separately, however an installer is available at https://github.com/NREL/EnergyPlus/releases/tag/v8.2.0-Update-1.2. Other builds of EnergyPlus 8.2 are not supported by OpenStudio 1.7.0.

Installation Steps

- The OpenStudio SketchUp Plug-in requires SketchUp 2015 (not available for Linux). The OpenStudio SketchUp Plug-in does not support older versions of SketchUp SketchUp 2015 is available in 32 and 64 bit versions, the 32 bit version of OpenStudio on Windows will only work with the 32 bit version of SketchUp 2015 and the 64 bit version of OpenStudio will only work with the 64 bit version of SketchUp 2015.
- Download and install OpenStudio.
- Setup a Building Component Library (BCL) account to access online building components and measures. View instructions on how to setup your account and configure the key in OpenStudio.

Optional Installation Steps

- For Radiance integration, download and install Radiance.

Overview

The biggest new feature in OpenStudio 1.7.0 is the addition of multi-edit capability to grid views in the OpenStudio Application. Implemented for the Thermal Zone and Space Type tabs this new feature allows users to change properties of several objects at once. More grid views will be applied throughout the rest of the OpenStudio Application in coming releases. A video tutorial for this new feature is available at Link to David's video.

OpenStudio now supports Radiance 3-phase simulation of dynamic window shading controls. Currently, shading devices are simulated only as venetian blinds, using pre-defined BSDFs hosted on the BCL. Blind operation is automated, with the blinds retracted by default, and covering the window when the illuminance on the shade-controlled window(s) exceeds 2,000 lux. Support for user-defined BSDFs and alternative shade control algorithms will be added in a future release. Documentation for this new feature is available on the OpenStudio website.

The OS:WindowFrameAndDivider object was added to allow import of detailed Window properties from the LBNL WINDOW program. Currently only spectral average data from WINDOW is supported for import into OpenStudio. Wall thickness around windows can be represented in daylighting models using the window reveal and sill dimensions specified in the OS:WindowFrameAndDivider. These dimensions are translated to both EnergyPlus and Radiance. Note: window frame geometry is not currently translated to Radiance, this will be added in a future release. Documentation for this new feature is available on the OpenStudio website.

OpenStudio 1.7.0 includes several other minor features as well as many bug fixes. For a full list of changes included in OpenStudio 1.7.0 please see the complete changelog.

Issue Statistics Since Previous Release

- 153 new issues were filed since the 1.6.0 release of OpenStudio (not including opened pull requests).
- 264 issues were closed since the 1.6.0 release of OpenStudio (not including closed pull requests).