



# Integrated Environmental Solutions Virtual Environment 2017 Hotfix 02 (2017.0.2.0)

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## Release Notes

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## VE 2017 Hotfix 02 Changes

### General

**Crash prevented when importing gbXML file** [ID-10290]: A crash has been prevented when importing certain gbXML files that trigger display of Set Model Properties dialog.

**Performance improvements** [ID-10289]: Performance improvements made to the HVAC Zones browser when the model contains many plenum spaces.

### ModelIT

**Geometry improvements** [ID-7085]: Corrections have been made to address geometry issues where some surfaces could potentially end up with incorrect triangular external adjacencies. This could lead to further problems when rebuilding the model.

**Improvements made when calculating adjacencies** [ID-10285]: Improvements have been made to ensure adjacencies are calculated correctly.

**Rebuild corrections** [ID-10286]: Improvements have been made to the rebuild function to correct issues where holes could be turned into glass.

### SunCast

**Error prevented when loading gsk file result for Solar Visualisation** [ID-10284]: An error has been prevented in certain models when trying to run a simulation or load the gsk file after creating a variant model and applying a high resolution grid.

### Navigator for ASHRAE 90.1 PRM

**Crash prevented when updating profile working week order** [ID-7622]: A crash has been prevented when applying the update to the profile working week order in the 90.1 PRM Navigator workflow.

### ApacheHVAC

**Room assignment retained when deleting system** [ID-10350]: When you delete the first system in a multi system network, the multiplex assignment will no longer change all layers to adiabatic.

**Default Hot Water Loop supply temperatures updated** [ID-10697]: The system library defaults are now as follows;

For the HWL labelled "2 Condensing Boilers, 110-140-F SWT (OA reset), 35-F dT, VSD Primary, Solar HW Pre-heat, WWHP-CHR":

- The existing 140 F temperature (at low threshold when using outdoor reset; at high threshold when using load-based reset) remain as is.
- The value for SWT at high threshold when using outdoor reset; at low threshold when using load-based reset has been revised from 180 F to 110 F.

For all other predefined HWLs, the two values for high and low thresholds have been revised to:

- 150 F and 180 F when supply temperature setpoint is set to Reset per outdoor temperature.
- 180 F and 150 F when supply temperature setpoint is set to Reset per HW loop load

**HWL supply temperature correction** [ID-9917]: The boiler hot water design condition supply temperature is updated when you update the HWL supply temperature.

**Error prevented when steam humidifier is served by GHS** [ID-10293]: A steam humidifier, which is served by a Generic Heat Source, will no longer produce a corrupt .sdb file. This will prevent errors when running an Apache simulation with the HVAC network linked.

**Crash prevented when opening performance curves library** [ID-10382]: A crash has been prevented when opening the performance curves library dialog.

**Script error prevented when generating Loads Report** [ID-10867]: A script error has been prevented when generating the loads report. This was due to a problem where the room components did not have all their data set properly.

## VE Compliance

**Crash prevented when running simulation** [ID-10282]: A crash has been prevented when running a simulation on certain models. This was corrected by making sure the HVAC Zones in the Notional (and other created variants) is observing its associated model's spaces.

## IndusPro

**Drawing improvements** [ID-10291]: Improvements have been made to make sure the ducts and pipes are shown correctly when they are being drawn.

## Colorcoat Renew Solar Collector Navigator

**Error prevented when running room loads [ID-9101]:** "Unexpected end of data in DER file" error prevented when running Room Loads calculations in the Colorcoat Renew solar collector navigator.

## Title 24

**Number of dwelling units written to XML [ID-10121]:** The "Number of dwelling units" is now written out correctly to the XML when building spaces are classified as High-rise residential living space.

## VE 2017 Hotfix 01 Changes

### ModelIT

**ModelIT stability improvement [ID-0096480]:** ModelIT has been improved to detect cases where instability is introduced due to geometry functions including Partition tool, divide space, merge, connect and separate.

### Apache

**Internal Gains categories correctly reported in ASHRAE 90.1 PRM simulations [ID-0095796]:** Corrections to ensure that all internal gains categories are correctly reported in ASHRAE 90.1 PRM simulation results when viewing End Uses & Meters in VistaPro and also in PRM Reports.

**Domestic hot water loads calculated for ApacheHVAC methodology [ID-0096294]:** When model is using ApacheHVAC methodology dhw loads specified on room templates are being calculated correctly during sizing calculations and associated to ApacheHVAC loop (or apache system in some cases) which is serving the rooms for autosizing and simulation.

### ApacheHVAC

**Loads Report generates where rooms have no floor area [ID-0095972]:** When model (or zone or system) contains room with 100% hole in floor the divide by zero floor area no longer results in a script error. Results generated by dividing by zero floor area are shown on reports with a dash ( - ) e.g. in engineering checks

**Loads Report generates where Adjacent Building object is present in model [ID-0095946]:** Where model contains spaces of type Adjacent Building in contact with Rooms the Loads Reports generate without script error.

### Navigator for ASHRAE 90.1 PRM

**ASHRAE 90.1 PRM Full Report Fan Energy corrected [ID-0095555]:** Fans Interior Energy reported for Baseline and Proposed buildings on PRM report is corrected to include all fan categories including exhaust.

**Miscellaneous Energy Consumptions correctly assigned to model [ID-0095659]:** Miscellaneous energy consumptions (e.g. exterior lighting or elevators) are correctly assigned to Baseline and proposed building models for simulation and reporting.

## Radiance

**UDI Threshold results can be displayed on WP Grid [ID-0095462]:** After running UDI dynamic analysis and choosing to apply thresholds when post-processing results the different outputs can be displayed on the WP Grid tab.

*Note: Corruption in previously processed results will result in an error 'encountered an improper argument' when selected on WP Grid, in such cases remove these output files and then process simulation results again in order to assess UDI and thresholds.*



## VE 2017 Changes

### Apache

**Improvements made to free cooling ventilation behaviour** [ID-0090934]: Free cooling ventilation now behaves correctly when internal gains are high, control is configured to give optimum benefit in cases where room air temp is slightly lower than ambient as well.

### ApacheHVAC

**Systems 9l and 9m now operate during unoccupied hours to meet temperature setback** [ID-0094585]: The system airflow now turns on when the air temperature is below the heating setback.

**Update to HVAC Systems descriptions** [ID-0089596]: Prototype system library descriptions have now been added/updated.

**Advanced Cooling Coil improvement** [ID-0094640]: Advanced cooling coil improved to avoid invalid states in derived parameters that could manifest as a range error viewing the coil (e.g. a negative capacity or flow rate) or a simulation error.

**ASHRAE 62.1 Report Improvements** [ID-0093118]: Correct value for  $V_{ot}$  is always reported.  $V_{oz}$  is now being reported as zone level value instead of always showing system level regardless of system configuration. Other label improvements such as system name corrections and population of report at system loads calculation run.

**ISM "OA min reset – Occupied zone CO<sub>2</sub>" parameter link corrected** [ID0094538]: Midband and proportional values are correctly set when selecting the OA min reset link, System Parameters dialog displays 'multi-zone system with DOAS' control options.

**Edits of exhaust data in System Parameters now save when the PRM Space thermal Template is assigned to the exhausted space** [ID-0091835]: When the exhaust requirements are defined for an assigned space template in the "Airflow and ASHRAE 62.1 Ventilation Editor" in the PRM navigator any manual edits of the exhaust data in the System Parameters dialog are saved for the layer using this template.

**Air Filter profiles retained** [ID-0092902]: On opening the HVAC system after simulation the user message 'invalid profile IDs in the network' is no longer displayed causing the user to have to reset Air filter profiles.

### ApacheLoads

**System sizing calculations incorporate gains diversity** [ID-0093037]: When included in the calculation settings any diversity factor specified for room internal gains is included in sizing analysis.

**User must now tick both Heating and Cooling loads when performing an ApacheHVAC systems loads run** [ID-0094559]: In order for the calculation button to be enabled the user must tick both Heating and Cooling loads boxes.

**User can now run ASHRAE loads without having an ApacheHVAC licence** [ID- 0092961]: Corrections made to allow user to run ASHRAE room loads without having an ApacheHVAC licence.

**Potentially unsafe characters within Windows are no longer allowed in ASHRAE loads results file names** [ID-0095523]: ASHRAE loads dialog does not allow the following characters in results file names: `/:*?\"<>|`. As they are potentially unsafe within Windows.

## ApacheSim

**ApacheHVAC Steam Humidifier energy consumption reported** [ID-0093243]: The humidifier energy is reported under local electric heating when the Generic Heat Source box is not checked.

**Simulation progress bar corrected when using EPW weather files** [ID-0090314]: The simulation progress dialog now shows day, month and time being simulated when using epw weather files.

## ApLocate

**Updates to ensure the correct weather data is being used in the selected location** [ID-0062445]: When opening the map and selecting the nearest weather data, ASHRAE weather location and data is updated.

**Weather Data Graph is displayed correctly** [ID-0090025]: Design Weather Data graph option no longer opens a blank chart.

## Apache View

**Errors prevented when restoring design options** [ID-0088059]: Errors have been prevented when choose restore while creating design options.

**Correction preventing the wrong scale being displayed on wind generator power curve** [ID-0071263]: The correct scale is now show when creating power graph curves.

## Building Template Manager

**Correct units now show in relation to DHW consumption** [ID-0064782]: Correct units are displayed on tabular Building Template Manager and updated when the user changes profile.

## Constructions

**Crash prevented in ApacheSim** [ID-0085488]: Could previously create a target construction that would produce zero or negative layer thickness values. Now the user will be prompted to enter a larger value as it will cause an invalid layer thickness.

**Default glazing construction applied when a model has missing/corrupt constructions** [ID-0067161]: When opening a model with missing/corrupt construction glazing is replaced by the default glazing construction.

**Ground contact adjustment layer doesn't impact other materials** [ID-0066814]: Soil layer thickness is not changed when adjustments are made to the ground contact floors.

**Construction error reports improved** [ID-0060915]: Error messages regarding problematic constructions are improved to show affected Construction details.

## FlucsPro/DL

**Room browser improvements** [ID-0093888]: The room browser no longer expands when running a simulation.

**Crash prevented when clearing results** [ID-0093892]: A crash has been prevented when you clear the results while as surface level.

**Daylighting reports now report values of (area-weighted) reflectances** [ID-0083312]: For the reflectances section it would previously report Floor=actual, ceiling=actual, wall=actual. It now reports the percentages.

## Content Manager

**Content manager can now open reports when the project is saved on a server or remote drive** [ID-0092481]: Reports can now be generated when the project is saved on a network drive.

**Content Manager retains link to reports after browsing** [ID-0093310]: When Content Manager is opened and reference to a report is broken, if user browses to location of the report it will be remembered next time Content Manager is opened.

## General

**Unable to delete the project folder while VE is running** [ID-0066151]: User is no longer able to delete the project folder while the project is still open.

## ModelIT

**Tooltip button added in 'Edit body' menu and the 'Component modeller'** [ID-0031552]: Tooltips have been added to buttons.

**Improvements made when selecting zones in the model browser** [ID-0088851]: Improvements have been made to address unusual behaviour when selecting/deselecting rooms in the model browser.

**Automatic highlight colour corrected for Tree objects** [ID-0081258]: When automatic highlighting is switched on, Tree objects will be highlighted using the correct colour.

**Landscaping tree objects shown correctly when disabled** [ID-91062]: Landscaping tree objects no longer disappear when disabled via their layer properties. They will correctly be shown as disabled (greyed out).

**Error message shows when the user is unable to edit element heights within 1ft of room floor** [ID-0088698]: User is now shown an error message stating which height cannot be edited.

**Opening selection and assignment tool improved** [ID-0085654]: Opening selection and assignment dialog is improved so that user can not select conflicting criteria based on current selection.

**Prevention of window/door being created when a zone is split vertically** [ID-0087383]: No additional openings are added when a zone is stratified using the 'split space vertically' tool.

**Add voids tool improvements** [ID-0085788]: Adding a void does not reduce window heights when the void added does not overlap.

**Improvements to the split face vertically tool** [ID-0091395]: User now prompted to review the input data with a warning stating the "Space is unrealistic" when stratifying a zone using the zone's exact height which would result in an invalid room dimension.

**Split space(s) vertically tool operates correctly when local shade is present in the model** [ID-0091265]: Holes are added on stratified layers surfaces if the local shade is present in the model when using the Split spaces(s) vertically tool.

**Improvements to Bitmap scaling in ModelIT** [ID-0092035]: Bitmap scaling now works in metric and imperial units.

**DXF endpoint lock works in all views** [ID-0065406]: Using DXF endpoint lock now works in left, right or back views.

**Imported building room ID's are not duplicated** [ID-0080508]: When a building model is imported to ModelIT from another file as an adjacent building and then changed to rooms each room is now given unique ID's.

**Improvements when editing vertices** [ID-0091577]: The "intersection" check in "Edit Vertices" can now be turned OFF.

**Room groups from any grouping scheme can be removed** [ID-0091458]: Room groups can now be deleted from Room Groups dialog.

**Improvements made to Generate roof tool** [ID-0088993]: Roof can be generated with no unbound surfaces.

**Storey creator does not remove windows** [ID-0086297]: The storey creator tool does not remove windows when the "create perimeter zone" tool has been used prior to the storey creator.

**Failed attempts to stratify a zone will not be added to the undo/redo** [ID-0091295]: If the user tries to stratify a zone and it fails then the event will not be added to the undo/redo options.

**Missing DXF file alert removed** [ID-0089207]: User will no longer receive an alert when opening a model after detaching a DXF file.

**Changes are retained and room group visibility is correct in the model browser** [ID-0091404]: Changes are retained and visibility is correct when closing and reopening the model after switching on/off visibility of rooms and room groups.

**The Vertical Zone Splitter and Add Voids tool have been merged** [ID-0084621]: The two tools have been merged into "Add voids/Split space(s) vertically" tool.

**Select and assign openings tool only assigns to active layers** [ID-0086222]: When using the Select and assign opening tool it will no longer apply changes to any inactive layers.

**Connect spaces dialog remains open when switching views** [ID-0074060]: The connect/merge spaces dialog will remain open when you switch views.

**Landscaping object select colour correction** [ID-0091002]: When selecting a landscaping object it will be highlighted using the correct colour (red by default).

**Zoning tools toolbar buttons no longer enabled when a zone is not selected** [ID-0090270]: Toolbar buttons are no long highlighted when the user has the automatic highlighting preference switched on and a zone is highlighted but not selected.

**New "Clip" feature added in "Place opening" tab** [ID-0084702]: If enabled then it will clip the opening if it is overlapping existing openings, if it's disabled the user will get an alert.

[ID-0093410]: Unsure

## SunCast

**“Error Reading Shading File” error prevented** [ID-0088657]: Improvements made to how surface angles are stored and compared resulting in reduced cases where an error reading shading file is reported due to mismatched windows or surfaces positions.

## PRM

**The baseline model is generated minus any renewables inputs** [ID-0060130]: The baseline model will be generated minus renewable inputs. The user no longer needs to manually remove renewables from the baseline model.

**PRM Simulation Radiance link now ticked by default** [ID-0065620]: The Radiance link within the PRM simulation will now be ticked by default in order to run a full PRM simulation.

**Occupancy categories in PRM workflow ‘Airflow and ASHRAE 62.1 Ventilation Editor’ now save correctly** [ID-0089438]: If the user sets a space storage template to ‘Occupiable storage’ and saves this change is retained.

## Radiance

**Prevention of error when trying to generate working plane for geometry** [ID-0085285]: Radiance dynamic error that occurred when trying to generate working plane for some problematic geometry configurations has been corrected.

**All cells are now shown when viewing Radiance sensors results** [ID-0089687]: All cells are shown including 0 Lux and month columns.

**Scale x 2 and Scale x 4 images now appear correctly** [ID-0087254]: User no longer has to switch tabs to make images appear.

**Results grid copied from ‘Summary Information’ directly to .txt is aligned correctly** [ID-0091937]: When copied the numbers now appear in the column with the correct index that matches the VE’s summary info dialog.

**Improvement to allow users to select (and change position) of a specific sensor in a zone** [ID-0091846]: Clicking a row in the sensors grid turns the corresponding sensor from blue to orange. Double-right-clicking to move now moves the selected sensor.

**Improvements to prevent errors occurring when generating working plane images** [ID-0092448]: Interface updated to prevent errors when generating working plane images.

**Prevention of error when trying to apply a BSDF modifier to glazing** [ID-0092216]: Error “Cannot display the pic file as it is corrupt” no longer occurs.

**Scrollbar added and Y value is now visible to allow user to edit an AOI with more than 6 points** [ID-00916886]: Previously if the area of interest had more than 6 points they could not be edited. A scrollbar has been added and the Y value made visible to allow the user to edit the desired area.

**Illuminance values with 5 digits viewed in the Summary information are not truncated** [ID-0084802]: 5 digit values are no longer truncated. 6 digit values are.

## Revit plug-in

**Crash prevented when exporting gbXML** [ID-0088837]: A crash has been prevented when trying to export gbXML file from problematic geometry.

## Title 24

**Interface updated for CBECC 2016** [ID--]: IES Title24 interface is updated to be compatible with CBECC v2016.

**Define HVAC Zones crash prevented** [ID-0077237]: A crash has been prevented when the user click the “Define HVAC Zones” button.

## VE Compliance

**SBEM, BRUKL, EPC updates; 5.3.a and 4.1.g** [ID--]: Updates to NCM modules; v5.3.a for Part L2 2013 equivalent regulations and 4.1.g for Part L2 2010 equivalent regulations. Approved for Compliance and EPC.

**Bivalent fuel carbon factor applied correctly when switching regulations from section 6 2010 to 2015** [ID-0088830]: When switching regulations from section 6 2010 to 2015 the correct bivalent fuel CF is updated.

**SBEM District Heating CO2 Conversion Factor written out to 3d.p** [ID-0042044]: Now outputs to 3.decimal\_places in the .inp file.

**Section 6 SBEM EPC results tab shows correct value for Actual BER** [ID-0085272]: Correct value is shown. Previously the results tab would always show BER 0/A+ rather than calculated BER.

**User no longer able to edit NCM properties within Tabular room data** [ID-0090286]: User can't edit any of the variables in Tab Edits, they are all disabled.

**Correct U-value is applied when the actual building is served by a mechanical vent system** [ID-0086656]: Section 6 Notional applies the correct external wall U-value when the actual building is served by mechanical vent system.

**Crash prevented when entering VE Compliance application when bl2 file is corrupt** [ID- 0081592]: A crash is prevented in circumstances where building and system data has become corrupted when switching to Compliance.

**Error regarding blind profile prevented** [ID-0090369]: Running a compliance simulation with a model set up with an internal blind using a new profile no longer produces errors regarding blind profiles not being found.

**CHP Check performed for DHW only systems** [ID-0037792]: When CHP is linked only to a DHW system the validation checks are performed prior to running analysis to ensure it has been correctly linked on systems and Renewables tabs

**6m floor area calculation for SBEM style lighting control correction** [ID-0081252]: The 6m floor area calculation for SBEM style lighting control will now include wall which are 100% covered by glazing.

**Results tab no longer incorrectly enabled** [ID-0088658]: After generating an SBEM EPC the ApacheSim EPC results tab will no longer be active.

**User prevented from editing Notional Building variables in Tabular Room Data** [ID-0086536]: Notional building values are no longer editable.

**'Use existing results' option in DSM Compliance is available** [ID-0086534]: Option is now available if the user has previously ran the simulation for benchmark buildings.

**Section 6 2015 ApacheSim – Notional building lighting levels correction** [ID-0086925]: Correct lumens/Watt values applied in Section 6 2015 Notional Building according to room conditioning type as per NCM Modelling Guide.

**Crash prevented when running Part L analysis on a zone that has no exterior surfaces** [ID-0069142]: Prevents crash that occurs when running Part L analysis.

**SBEM LIGHT-LUX-DESIGN written to input file** [ID-0083849]: Design illuminance lux is written out for all rooms as required by SBEM. Value is as set on NCM Lighting data dialog.

## VistaPro

**Vista removed** [ID--]: Vista is discontinued and VistaPro is default results viewer for all thermal/energy analysis.

**Edited fuel zones save to the names chosen** [ID-0093913]: All edited fuel zones appear in VistaPro as expected



**User can no longer select multiple incompatible results files in VistaPro [ID-0087107]:** Incompatible results files can no longer be selected.

**Gaia GLD variables appearing correctly in Vista [ID-0089820]:** No shows 6 variables; Heating/cooling power, heating/cooling COP/EER, ad entering and exiting Fluid temps.



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