



NOTE

This document contains references to Agilent Technologies. Agilent's former Test and Measurement business has become Keysight Technologies. For more information, go to www.keysight.com.

Release Notes

The Integrated Circuit Characterization and Analysis Program (IC-CAP) is the industry standard platform for DC and High Frequency measurement and modeling of semiconductor devices. For general information about IC-CAP, refer to the Keysight EEsof product page at <http://www.keysight.com/find/eesof-products>. This document describes new features, functionality, fixed issues and known issues in IC-CAP 2018. It also includes documentation changes and provides workarounds for defects wherever possible. For more information on known issues in IC-CAP 2018, or to report a new issue, refer to the Keysight EEsof Knowledge Center at: <https://edasupportweb.software.keysight.com/>.

To download IC-CAP 2018, visit the Keysight EEsof Knowledge Center website: <http://www.keysight.com/find/eesof-iccap-latest-downloads>.

- To install IC-CAP 2018 in minimal steps, refer to [IC-CAP Quick Install and License Setup](#).
- To install licenses for IC-CAP 2018 through IC-CAP 2018 License Tools, refer to [IC-CAP Licensing](#).

What's New

New Features in 2018

- Power Electronics Model Generator (PEMG) bundle, which includes IC-CAP Add-on extractions for SiC, IGBT and GaN for Power Electronics. For more information, refer [Power Electronics Model Generator](#).

NOTE

PEMG is supported only on 64-bit platforms.

- IC-CAP 2018 includes new PEL VISA functions available for use in IC-CAP Macros and Transforms to connect with GPIB interfaces and measurement instruments for communication using the "Virtual Instrument Software Architecture" (VISA) standard API. For more information, refer to [VISA Programming](#).
- The python library PyVISA (version 1.8) has been included as built-in python packages available in IC-CAP 2018. The PyVISA library can be used from within IC-CAP Python Macros and Transforms programs to connect with instruments and to communicate with instruments programmatically. For more information refer to [VISA Programming](#).
- A new IC-CAP example file has been added to demonstrate the new PEL VISA functions and PyVISA function capabilities: Please find new example file located in the following installation directory: `<ICCAP_ROOT>/examples/visa/programming_visa.mdl`. For more information, refer to [VISA Programming](#).
- New built-in IC-CAP PEL INSTR functions: INSTR_open, INSTR_write, INSTR_read, INSTR_close, INSTR.... have been added to IC-CAP 2018 for VISA based programmable direct TCP/IP, USB, and GPIB instrument connections and instrument communication from within PEL IC-CAP Macros and Transforms. These functions complement the current existing PEL HPIB functions which work with GPIB interface connections, as well as direct TCP/IP, USB, and GPIB instrument connections. For more information, refer to [INSTR Functions](#).
- [Data Viewer](#) provides an intuitive interface for customers who use full-featured IC-CAP WaferPro, WaferPro Express, or MBP. It allows the users of IC-CAP WaferPro to read a large volume of MDM files by specifying Lot, Wafer, and Die, and to view the measured data in plots as per the selection.
- For DynaFET, the [Extrapolation](#) feature is integrated. With this function, users can generate extrapolated data for model extraction.

Enhancements in 2018

- The built-in IC-CAP PEL HPIB functions: HPIB_open, HPIB_write, HPIB_read, HPIB_close, HPIB.... have been updated in IC-CAP 2018 to support VISA TCP/IP, USB and GPIB directly connected instruments, to extend the current GPIB interface connection capabilities for programmable instrument communication from within PEL IC-CAP Macros and Transforms. For more information, refer to [HPIB Functions](#).
- The IC-CAP Hardware Setup Window now supports adding VISA connections to TCP/IP, USB, and GPIB directly connected instruments, to extend the current existing GPIB interface connections that IC-CAP already supports. For more information, refer to [GPIB Interface and Instrument Connection Names](#).
- The IC-CAP Hardware Setup Window's speed to rebuild the list of active instruments per connected GPIB interface has been improved. The number of SCPI commands sent to each interface address to determine the IC-CAP instrument driver to associate with that GPIB interface address has been reduced, significantly improving the speed to identify the instruments connected per address of a given GPIB interface.
- The List GUI Item has a new special option named "**Double Click Behavior**", refer to [Creating Graphic User Interfaces](#). The new List GUI Item option "**Double Click Behavior**" controls the double click behavior of the list. The values for **Double Click Behavior** are **<None Specified>**, **Double Click Classic**, **Double Click Simplified**. (TFS Issue 98606)
 - Double Click Simplified** mode sets double click to not send a selection callback when an already selected item is double clicked, and will not send a selection callback and not de-select an already selected item when **Selection Policy** is **Single Item Select** or **Select Multiple Items**.
 - Double Click Classic** mode sets double click to send a selection callback if an already selected item is double clicked, and will send a selection callback and de-select an already selected item when **Selection Policy** is **Single Item Select** or **Select Multiple Items**.
 - Default behavior if **<None Specified>** is selected is **Double Click Classic** mode.
- In PEL and Python, 3 new built-in IC-CAP functions are included for getting the X, Y, or Y2 datasets for a given Plot's defined traces. The functions are `get_plot_data_x()`, `get_plot_data_y()` and `get_plot_data_y2()`. (TFS Issue 122727)

The new function details are listed below:

<code>get_plot_data_x</code>	Returns the given Plot definition's X dataset used for the Plot's X data trace, the Plot's Y2 data trace, or a particular Plot's Y data trace number.
<code>get_plot_data_y</code>	Returns the given Plot definitions Y dataset for the given particular Plot Y data trace number.
<code>get_plot_data_y2</code>	Returns the given Plot definition's Y2 dataset for the Plot's Y2 data trace if the Plot is of type XY plot.-

- For [Python](#) new built-in IC-CAP functions have be added, the new functions are listed below:

<code>set_return_value</code>	Returns a value to the transform dataset
<code>set_return_array</code>	Returns a list to the transform dataset
<code>set_return_matrix_array</code>	Returns a python matrix to the transform dataset.

- Updated the built-in IC-CAP PNA and PNA-X drivers connection list to automatically support the latest B model versions of the most popular PNA models available. For more information, refer [Keysight PNA Series Vector Network Analyzer](#) and [Keysight PNA-X Series Vector Network Analyzer](#). (TFS Issue 145885)
- Updated the Anritsu Vector Star instrument driver to support 2-Port S-Parameter measurements with a multiport Anritsu instrument, via specifying the ports of interest in the IC-CAP Instrument options. (TFS 152043)
- The following new plot functions are provided in this release: `ndata`, `tdata`, `udata`, and `plot_vs`.
- For DynaFET, the following updates have been made:
 - Update [PySide](#) to [PySide2](#)

- Supports the new format for NVNA data file: The order of AM_2_1 and AP_2_1; and the AP_2_1 unit are updated.

VAR MeasSeg(real) = 0 VAR VDC_1(real) = -1.86 VAR VDC_2(real) = 16 VAR fund_1(real) = 10000000 VAR Src1Power(real) = 0.001 VAR AP_2_1(real) = -165.000000 VAR AM_2_1(real) = 0.001

Issues Fixed in 2018

- Fixed the copy, rename, and delete methods for IC-CAP Python API IC-CAP objects of type Input, Output, Setup, Dut, Model, Macro, Transform, or Plot, to only copy, rename, and/or delete the IC-CAP objects of the same type as the IC-CAP object in python to perform the operation upon. Therefore if a plot and a transform or input have the same name, a delete on a plot object of that name will delete the plot object and not the input or transform that is found first in an IC-CAP named object search. (TFS Issue 133835)
- Fixed crash in Variable table when an ICCAP_ARRAY[<dim>] is entered for a value in an unnamed variable row. Now the IC-CAP_ARRAY[<dim>] value can be added to an unnamed variable row in the variable tables without a crash, but the dimension of the ICCAP Array will not be initialized until the variable row is given a name. (TFS Issue 71346)
- Fixed IC-CAP crash with Custom GUI Table widgets found during IC-CAP Exit or during Deletion of IC-CAP variables when an IC-CAP GUI Table widget has a property set to for Variable Value tracking. (TFS Issue 129088, 141842, 137633)
- Fixed issue with IC-CAP Python API function get_child_objects() not working properly and throws an Exception for some IC-CAP Inputs with sweep type of 'LIN_DOUBLE', 'LOG_DOUBLE', 'EXP', 'PULSE', 'PWL', 'SFFM', 'SIN', 'TLYSNC', 'TDR', or 'SEG'. (TFS Issue 138048)
- Updated IC-CAP Python API function "set_par()" to now accept a string value, for use in setting a parameter value to the name of an IC-CAP variable. (TFS Issue 131757)
- Fixed IC-CAP crash when deleting a Macro that is currently being edited. (TFS Issue 123302, 145497)
- Fixed writing S2P touchstone and S2PMDIF files by WaferPro and IC-CAP to use the same double precision that MDM files are written with. The S2P touchstone and S2PMDIF formats were only being written out in the past with a fixed default precision of 6 for double precision values. (TFS Issue 151396)
- Fixed some potential crashes in the IC-CAP Optimization and Parameter group features within IC-CAP. (TFS Issue 137633)
- Fixed PSPICE netlisting .PARAM error with LIST input sweeps when LIST input sweeps were second order or greater in sweep order. (TFS Issue 150032, 135210)
- Fixed IC-CAP crash with Multiplot referring to itself. (TFS Issue 134416, 79364)
- Fixed issue with Plot displaying the wrong Y and Y2 trace colors, line types, and symbol marker types when setting new Trace Options in the Plot Options dialog for the Y2 Data trace and for Y Data traces above number 8 in XY Plot types. (TFS Issue 128864)
- Fixed issue with reading in Plot trace plot options information from IC-CAP Model, DUT, Setup, or Plot files where the Plot is more than 8 Y data traces. (TFS Issue 128865)
- Fixed issue with the IC-CAP Python API Output class where the "Admittance/Impedance" Output's mode character was incorrectly specified as 'Z' versus its correct output Mode character of 'X'. (TFS Issue 152492)
- Fixed issue with Plot trace plot options y data trace numbers being incorrect if one reduces the Plot Definition's # of Y traces below 8 Y data traces and then increases it again. (TFS Issue 133525)
- Fixed IC-CAP crash when Loading a Plot Options file which contains less Y data trace options information than the current number of Y data trace options currently loaded in the Plot Options dialog and the Ok button is then pressed. (TFS Issue 154041)
- Fixed issue with Plot displaying the wrong Y2 data trace color, line type, and symbol marker type defined for the Y2 Data trace in the Trace Options tab of the Plot Options dialog when the plot definition has less than 8 Y data traces. (TFS Issue 138588)
- Rebuild Instrument List in the Hardware Setup window will preserve all open setups' instrument options instead of clearing and resetting the open setups' instrument options. This is configurable under the Hardware Setup Window's **Tools** → **Settings** → **Preserve Instrument Options During Instrument Rebuild** menu. (TFS Issue 106918)
- Fixed IC-CAP WaferPro crash when restarting a new WaferPro session after exiting WaferPro and choosing Cancel on the save WaferPro project Save dialog. (TFS Issue 155887)
- New option for B1505: BYPASS_INPUT_RESOL_CHECK option was introduced for HCSMU (B1512, including Dual HCSMU), MCSMU (B1514), UHC (Ultra High Current Unit), UHV (Ultra High Voltage Unit), HVMCU (High Voltage MCU), as well as HVSMU (B1513), to bypass the input resolution check.
- MCSMU support was enabled for B1500A.
- Enabled force and measure V for B1500 with Use User Sweep = No.

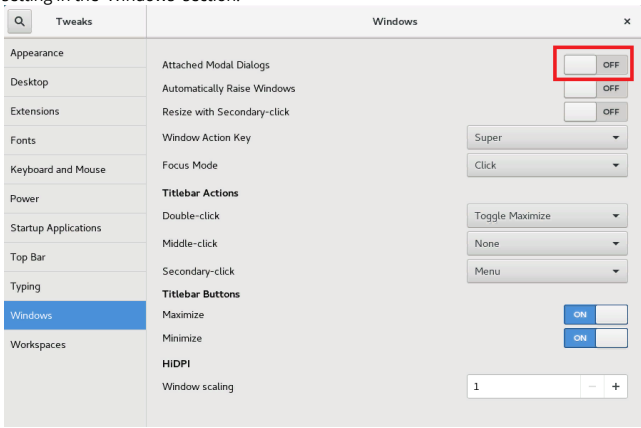
Issues Fixed for Licensing in 2018

- On windows, a possible Administrator privilege issue preventing the automatic restarting of the FlexFNP license server program, **lmgrd** after the PC comes out of the hibernation mode has been fixed. The License Setup Wizard will automatically restart the server without any user intervention.

Known Issues

Problem	Solution
IC-CAP runs child processes named <code>cygpath.exe</code> and <code>sh.exe</code> . On Windows 7, 8 and 10, these processes appear as minimized console windows (similar to cmd prompt) in your task bar. If you restore these windows, a black window may appear.	It is recommended to ignore these windows and keep them minimized as they are required for proper functioning of IC-CAP. If you close these windows, IC-CAP will open these windows again at a later time.
On Linux, the Save Image option may fail for JPG and some other graphics file formats.	The solution is to replace the convert found under <code>\$ICCAP_ROOT/ImageMagick/bin</code> folder with the convert from <code>/usr/bin</code> folder. An example command is <code>cp /usr/bin/convert \$ICCAP_ROOT/ImageMagick/bin/convert</code> .
Optimizer check buttons column often appear too wide when viewing Optimizer Parameter Tables saved from earlier versions of IC-CAP.	NA
When passing variable table values to another transform/macro using GET_INT, it is better to pass val (varname) rather than varname as there is a problem properly dereferencing the variable. It is dereferenced in the context of the get_int() call, not the iccap_func call. This problem will be repaired in a future release.	NA
If you use DYNAMIC_MULTIPLOT_MODE in multiplots, autoscale behavior may be affected. Normally all plots within a multiplot have a separate scaling setting from one multiplot to another or when viewed as a single plot. This allows you to place the same plot twice in a multiplot with different manual scaling settings or have the same plot in 2 multiplots, one autoscaled and the other manual scaled or any such combination. The DYNAMIC_MULTIPLOT_MODE causes the scaling presented in a multiplot to be identical to that displayed in the single plot. If you change the scaling in the multiplot, it will change the default scaling also for when viewing the single plot. But there is currently a problem when changing the scaling properties from the multiplot. The scaling saved to the single plot becomes incorrect leading to unpredictable results.	Open the single plot and set the scaling as desired, once this is done, the plots will open as expected in the multiplot.

Problem	Solution
It was found that opening/closing thousands of plots in a session may cause the IC-CAP process to grow and ultimately crash.	NA
When using WaferPro, selecting "Display Plot During Execution" to "Yes" may result in a blank plot window when trying to resize the plot. This will not affect the data collection.	Set the value to "No" and view the results by clicking on the device measurement lines in the log window.
When viewing plots on multiplot, sometimes symbol size is inconsistent. This may affect the quality of the plot for documentation/publishing purposes.	NA
When displaying to a remote display from Linux (Specifically Cygwin Xwin or Exceed onDemand) you may observe substantial performance problems on the Model window when selecting setups.	Setting environment variable <code>QT_GRAPHICSSYSTEM=native</code> before launching IC-CAP should improve the performance. Some systems may see further improvement by setting <code>EESOF_REMOTE_DISPLAY_DEFAULT_OVERRIDE=1</code> .
You may observe performance issue during WaferPro Test Plan Run on Windows platform, as compared to IC-CAP 2013.01 release.	If IC-CAP 2013.01 is installed on your machine, set <code>ICCAP_CPP_PATH=c:\agilent\iccap_2013_01\bin\iccp</code> in the <code>\$HOME\ICCONFIG</code> file.
Invoking IC-CAP 2014.04 or 2013.01 on windows after installing the new 2015.05 licensing module that comes with IC-CAP 2016.01 may repeatedly ask for bundle usage and not remember the selection.	Either answer the question each time you invoke older versions, or look for Registry Keys <code>ICCAP_PRODSEL_AUTOSTART</code> and <code>ICCAP_PRODSEL_PREVIOUS</code> that define your default bundle for Licensing 2015.05 under <code>HKEY_CURRENT_USER\Software\Agilent\EEsof License Configuration</code> and under <code>HKEY_CURRENT_USER\Software\Keysight\EEsof License Configuration</code> . Copy the values of these two keys to new keys in the same location named <code>ICCAP_PRODSEL_AUTOSTART</code> and <code>ICCAP_PRODSEL_PREVIOUS</code> .
Under certain conditions, you may observe the following message, while opening a plot. However, the plot will appear correctly despite the message. SB: VDC of size zero is not allowed	Ignore the messages.
The DynaFET model created using ICCAP 2018 is not compatible with the older versions of ICCAP.	NA
The DynaFET package is not supported for the Linux 32-bit platforms.	NA
The following IC-CAP Modeling Extraction Packages are not supported for simulation with the ADS simulator (<i>hpeesofsim</i>) for the Linux 32-bit platforms. (TFS 150839) <ul style="list-style-type: none"> BSIMSOI: Example Model file: <code>\$ICCAP_ROOT\examples\model_files\mosfet\bsimsoi4\BSIMSOI4_Extract.mdl</code> HiSIM_HV: Example Model file: <code>\$ICCAP_ROOT\examples\model_files\mosfet\hisim_hv\HiSIM_HV_Extract.mdl</code> PSP: Example Model file: <code>\$ICCAP_ROOT\examples\model_files\mosfet\psp\PSP_Extract.mdl</code> HiSIM2: Example Model file: <code>\$ICCAP_ROOT\examples\model_files\mosfet\hisim2\HiSIM2_Extract.mdl</code> 	NA The 64-bit versions of <i>hpeesofsim</i> and IC-CAP work fine. For 32-bit, the <i>hspice 2010.03</i> (32-bit) simulator and <i>spectre MMSIM_15.10.727</i> work fine.
<ul style="list-style-type: none"> plot_vs() function does not support range plots. plot_vs() plots currently cannot be used for Y2 Data. "View Data" display for plots does not properly support plots where multiple traces rely on differing X data. This can happen when using plot_vs() or <code>USE_PLOT_LOOKUP=TRUE</code>. When using plot_vs() functions or <code>USE_PLOT_LOOKUP=TRUE</code> features to construct plots with differing numbers of curves or differing X names, plot decoration such as X label and legend lines default to the decoration of the first trace in the plot regardless of selected points. 	NA
The IC-CAP PEL system variable <code>ICCAP_MAXIMUM_CALL_CHAIN</code> is not working. (TFS 123432) The maximum number of PEL Transforms or Macros that can be called (via <code>iccap_func()</code>) without returning will not be limited by the <code>ICCAP_MAXIMUM_CALL_CHAIN</code> variable. Any infinitely recursive Macro or Transform function calls can continue to cause IC-CAP to consume all available system memory and potentially freeze your system and crash IC-CAP when setting the <code>ICCAP_MAXIMUM_CALL_CHAIN</code> variable.	NA
The last official 32-bit Linux version for ADS is ADS 2011.01. However, this version does not work with IC-CAP 2018 due to licensing.	Use ADS 2013.06, and comment the following lines in <code>\$HPEESOF_DIR/bin/sim-bootscrip.sh</code> : <pre>#if ["\$MACH_UNAME" != "x86_64"]; then #echo "\nThis EEsof product is not supported on 32-bit versions of Linux operating systems.\n" #exit 1 #endif</pre>

Problem	Solution
<p>IC-CAP may fail to start on Windows 7/10 machines that have National Instruments 488.2 IO libraries version 2.8 or older installed.</p> <p>IC-CAP 2018 has a new dependency on the 3rd party IO libraries shared library named visa64.dll that is installed with Keysight IO Libraries and/or National Instrument IO Libraries.</p> <p>The VISA API version of visa64.dll that is installed with National Instruments IO libraries 488.2 version 2.8 and older are not compatible with the VISA API that IC-CAP 2018 uses. (TFS Issue 154807)</p>	<p>There are 2 recommended ways to resolve this issue:</p> <ol style="list-style-type: none"> 1. Upgrade your installed National Instruments 488.2 IO libraries version from 2.8 or older to a newer version such as versions: <ul style="list-style-type: none"> • NI 488.2 IO libraries version 3.1.2 • NI 488.2 IO libraries version 14.0 • NI 488.2 IO libraries version 15.0 • NI 488.2 IO libraries version 16.0 • NI 488.2 IO libraries version 17.0 *(Recommended version: This is the newest/latest version available.) <p>Or, If you require to still use NI 488.2 IO libraries version 2.8 or older on your system</p> <ol style="list-style-type: none"> 2. Copy the IC-CAP supplied stub visa64.dll file from <pre>%ICCAP_ROOT%/lib/win32_64/visa64.dll</pre> to <pre>%ICCAP_ROOT%/bin/visa64.dll</pre> to workaround the IC-CAP 2018 will not start issue.
<p>On Linux platforms in Gnome, XFCE, or KDE window managers, IC-CAP 2018 may render some IC-CAP widgets to appear larger in height than in IC-CAP 2016. (TFS Issue 152953)</p>	<p>In IC-CAP 2018 set the following variable on Linux: ICCAPHLEGACY_WIDGET_SIZING=TRUE</p> <p>to have the IC-CAP 2018 windows/widgets draw in vertical height similarly to how they did in IC-CAP 2016.</p> <p>NOTE A side effect of using this variable is that the default FONT may appear to be 1 pixel size smaller in height/width with this configuration file setting. You can set this variable in the environment before IC-CAP startup or by setting it in the \$HOME/hpeesof/config/iccap.cfg file before IC-CAP startup.</p> <p>--</p> <p>Another possible workaround is to set the monitor or Virtual Desktop environment (if using VNC) to have a DPI (Dots Per Inch) setting that is 88-96% of the current set DPI value used in IC-CAP 2016.</p>
<p>Occasionally, external simulators may hang or crash when invoked by IC-CAP. Specifically, the ADS 2016.01 simulator has been found to stop working with the PE Verilog-A models.</p>	<p>In general, IC-CAP will continue to function once the hung/crashed simulator process has been stopped. This may require using task manager to kill the hung process, or dismissing all dialogs alerting you to the crash. In the case of PE Verilog-A, it is recommended to use ADS 2017.</p>
<p>In Data Viewer, if a test plan is rerun after changing the Die in project with the same measurement condition (just changing some bias for same condition). If you use the [Dir Explore] option to see data for all Dies, it shows incorrect data.</p>	<p>For the bias, which are same for both runs, it shows zero data when we plot for all Die's from both run or it will simply plot data from the first run for which the bias condition is different.</p> <p>A possible workaround is to use different MeasCond / MeasGroup name.</p>
<p>If you have set 'step plots' in the model file saved in IC-CAP 2018, it may not be read fine in IC-CAP 2016.</p>	<p>NA</p>
<p>Once you perform math on a dataset with name/unit/text associated with it, the name/unit/text will be forgotten.</p>	<p>If you want to attach name/unit/text data, it should be done after all the math operations are applied.</p> <p>For example:</p> <pre>ndata(x*y*z,"my_x_y_z") ! name "my_x_y_z" will be attached to the product of x,y, and z</pre> <p>rather than</p> <pre>ndata(x,"x")*ndata(y,"y")*ndata(z,"z") ! names will be forgotten</pre>
<p>While using RHEL 7, the windows that pops up on clicking few items can get tied to the windows behind it.</p>	<p>Open a terminal and type 'gnome-tweak-tool' and turn off 'Attached Model Dialogs' setting in the 'Windows' section:</p> 
<p>In PEMG, the Save option becomes inactive if you try to save a project with a file name that includes a space.</p>	<p>A file name with a space is not supported. You can use the Save As option to the save the project.</p>
<p>In PEMG, the Maximize button may not behave as desired on Exceed onDemand (EOD) and Exceed TurboX (ETX) display.</p>	<p>NA</p>
<p>Crash dump is displayed if you close IC-CAP after using Data Viewer on Exceed onDemand display.</p>	<p>NA</p>
<p>On Windows 10, while invoking IC-CAP, an error message is sometimes displayed in the Status window.</p>	<p>A possible workaround is to install the latest version of Cygwin.</p>

Problem	Solution
IC-CAP may crash sometimes while using Admos packages.	NA
On Linux, IC-CAP crashes while running the NeuroFet.	NA
IC-CAP crashes if the netlist circuit file includes a line with 20000 characters.	NA
Spectre results in negative capacitances for S-parameter simulation.	NA
HB 2 tone simulation not reading full data into IC-CAP.	NA
While using the Advanced Module options in PEMG, sometimes if you add a DUT/Setup in the Measure Module, and then run the associated step, the DUT/Setup list in the Extract Module is not automatically updated.	The workaround to view the updated DUT/Setup is to use the Load Data option on the Measured Data page.
On Linux, unable to delete the PEMG folder under the IC-CAP installation directory.	The workaround is to use the <code>chmod 777 -R</code> command on the <code>\$(ICCAP_ROOT)/ModelGenerator</code> directory before trying to delete.
On Windows 7 32-bit, the Verilog simulation fails.	The workaround is to keep the simulation debugger open while performing the simulation.
In Data Viewer, an error is displayed if you open the wafermap_sim.mdmpjrj example from the File > Examples menu.	The workaround is to access this example from the Data Viewer home page.
If you are using IC-CAP 32-bit version on a RHEL7 64-bit machine, the Qt help window does not open using the Help > Topics and Index menu.	The workaround is to install <code>readline.i686</code> , <code>sqlite.i686</code> , and the other required libraries as listed in the Installation section known issues.

Documentation

- On Windows, Printing directly from Qt Help generates non-readable output. **Workaround:** Use PDF version of the document for printing purpose.
- In IC-CAP help when you open a page using the "Open a link in new tab" option the help does not opens a page in different tab by default. You need to set the preferences to open any link in a new tab. To set the preferences:
 - From the IC-CAP Help, Click **Edit > Preferences**. The Preferences Dialog box is displayed.
 - Select the **Options** tab.
 - Under Appearance, select the **Show tabs for each individual page** option.

This is one time setting for a particular release of a product.
- Unable to open online help, any external link, or Embedded Survey link in Linux on Mozilla Firefox browser. **Workaround:** Use Mozilla Firefox version 39 or above or keep the Firefox window open and then try to open online help.
- IC-CAP online help is not supported on the Google Chrome browser. **Workaround:** Use Internet Explorer or Firefox version 39 or above to view ADS documentation.
- If the IC-CAP help does not show any content, throws an error, or does not display any search results. **Workaround:** Close the help and delete the contents of the following directory:
 - On Windows 7: `C:\Users\<Windows_Login_ID>\AppData\Local\Keysight\Help`
 - On Linux: `$HOME/.local/share/Keysight/Help`
- IC-CAP Qt search does not support `[]` or `{}` or any other text using these combinations.

Simulation

- Segment Sweep with Noise analysis is not creating the correct netlist for the ADS simulator.
- Simulating to ADS 2014.01 or later requires IC-CAP 2014.04 or newer version. Older versions of IC-CAP cannot work with ADS 2014.01 and beyond.
- When performing ADS simulations with Verilog-A references using ADS 2014 and IC-CAP 2014.04 on Linux, ensure to set the environment variable, `ADS_LICENSE_FILE`, to reference your IC-CAP license file before launching IC-CAP. Without this setting, ADS will be unable to properly compile *.va files for simulation.
- ADS simulations to IC-CAP 2016.01 are now performed in the `$HOME/hpeesof/iccap_ads/data` directory and not in the current working directory. Although it does not affect most simulations, if you direct ADS to load a file relative to the current working directory with the assumption that current working directory will be the same as IC-CAP, this will no longer work for simulations to ADS 2016.01. Please modify such netlists to refer to the full path of the file that ADS must access.

Installation

Problem	Solution
On Windows systems, if you have installed a pre-release version of IC-CAP and then try to install the current version or a newer version of the IC-CAP release, you can get the warning stating 'Previous Version Detected' even though you have uninstalled the current version properly.	To get past the 'Previous Version Detected' message while installing, you need to delete the <code>.com.zerog.registry</code> file. <ul style="list-style-type: none"> On 64 bit systems the file is at <code>C:\Program Files (x86)\Zero G Registry\com.zerog.registry</code>. On 32-bit systems, the path to this file is <code>C:\Program Files\Zero G Registry\com.zerog.registry</code>. (The directory Zero G Registry is a hidden folder so you need to turn on <i>Show hidden files...</i> On Windows 7, you can get to this setting under Control Panel\Appearance and Personalization>Show hidden files and folder.)
IC-CAP ships with an installation of ImageMagick 'convert' for the Save Image feature in plots. Without a working 'convert' call, the Save Image option can only save JPG, BMP, PNG, PPM, XBM, and XPM formats. The version of convert shipped with IC-CAP does not work on Red Hat version 5, though most default installations of Red Hat version 5 will have a working ImageMagick tool in <code>/usr/bin/convert</code> folder. IC-CAP tests for a workable 'convert' program during launch. Initially at <code>\$MAGICK_HOME/bin/convert</code> , then within IC-CAP installation, and finally within the path. A warning about the limited save options are issued at launch if no working version of 'convert' is found.	To avoid this warning, you can install a current version of ImageMagick on your system or set the <code>MAGICK_HOME</code> environment variable to a working installation.

Problem	Solution
<p>IC-CAP 2018 crashes while launching the 32-bit installer on some 64-bit machine.</p>	<p>A possible workaround is to install the following libraries:</p> <ul style="list-style-type: none"> • dbus-libs.i686 • libstdc++.i686 • zlib.i686 • libXrender.i686 • libICE.i686 • libSM.i686 • libXext.i686 • libX11.i686 • xcb-util.i686 • libXi.i686 • compat-libxcb.i686 • libxcb-devel.i686 • xcb-util-devel.i686 • xcb-util-image.i686 • xcb-util-image-devel.i686 • xcb-util-renderutil.i686 • xcb-util-renderutil-devel.i686 • xcb-util-wm.i686 • xcb-util-wm-devel.i686 • libX11-devel.i686 • libICE-devel.i686 • fontconfig.i686 <p>On RHEL 7.1 Workstation.x86_64, install the following libraries:</p> <ul style="list-style-type: none"> • compat-libcap1-1.10-7.el7.i686 • libXrender-0.9.8-2.1.el7.i686 • dbus-libs-1.6.12-11.el7.i686 • libstdc++-4.8.3-9.el7.i686 • fontconfig-2.10.95-7.el7.i686 • libxcb-devel-1.9-5.el7.i686 • libICE-1.0.8-7.el7.i686 • readline-6.2-9.el7.i686 • libICE-devel-1.0.8-7.el7.i686 • sqlite-3.7.17-4.el7.i686 • libSM-1.2.1-7.el7.i686 • xcb-util-0.3.9-4.el7.i686 • libX11-1.6.0-2.1.el7.i686 • xcb-util-image-0.3.9-4.el7.i686 • libX11-devel-1.6.0-2.1.el7.i686 • xcb-util-wm-0.3.9-5.el7.i686 • libXext-1.3.2-2.1.el7.i686 • zlib-1.2.7-13.el7.i686 • libXi-1.7.2-2.1.el7.i686
<p>If McAfee antivirus is running, it may pause the installation.</p>	<p>On disabling the Security firewall option in McAfee antivirus settings, the installation works fine. After the installation is complete, enable the Security firewall option in the McAfee antivirus settings.</p>

Licensing

Problem	Solution
<p>New license server software packaged in the EESof EDA License Tools version 2014.01 does not work on SuSE 10 platform.</p>	<p>Use SuSE 11 or RHEL 5 or 6 instead as your Linux license server machine.</p>
<p>License server may stop recognizing Flex-10 dongle on some systems within a few hours after starting.</p>	<p>If you experience this problem, it can be remedied by installing the latest WibuKey drivers from Wibu Systems.</p>
<p>Unable to install Flex-10 driver if Flex-9 dongle is already plugged into a machine.</p>	<p>Before installing a Flex-10 driver for the first time, unplug the Flex-9 dongle.</p>
<p>There is a known Flexera FNP issue, whereby mixing node-locked codewords and floating codewords in one license file can result in: a) Remote simulations not working or b) A second local simulation not working in case the license is node-locked and also has incorrect version.</p>	<p>It is strongly recommended that you do not mix node-locked codewords and floating codewords in one license file nor in <i>any</i> configuration that ends up with node-locked codewords and floating codewords both available on the same server. In other words, put the node-locked license and the floating license on different servers, and point to the respective one based on what you need to run. Additionally, we also recommend you to remove expired codewords, to separate out the new and the old versions of codewords into different files and different servers, and to point to the respective one based on what you need to run.</p>
<p>On the Linux platform, NAMEofPRODUCT_LICENSE_FILE needs to be correctly specified before starting SHORT_PRODUCT_NAME. Without that being set correctly, SHORT_PRODUCT_NAME would not start.</p>	<p>Set NAMEofPRODUCT_LICENSE_FILE as instructed.</p>


Problem	Solution
Not specifying the TCP/IP port for the license server during license setup may lead to unexpected behavior and/or license checkout failure on the Windows platform.	We strongly recommend you to always explicitly specify the TCP/IP port associated with each license server.
A node-locked and floating bundle operating on Linux cannot be shared between products using EDA License Tools version 2014.01 and 11.9.0.0 or earlier when run at the same time.	NA
The "Check-in failed" message occurs in the license activity log occasionally can be ignored; the license mentioned in this message is actually properly returned.	NA
License Setup Wizard does not remove any previous user-configured FLEX Windows License Service installed using FlexNet's Imtools.	<p>You must remove the previous user-configured Windows License Service via Imtools.</p> <ul style="list-style-type: none"> Run the Imtools.exe from C:\Program Files\Agilent\EEsof_License_Tools\bin to invoke the Imtools utility. The Imtools utility window is displayed. In the Service/License File tab, check the Configuration using Services option. All user-configured FLEX Windows License Services will be listed. Select the service you wish to remove. Select the Config Services tab and click the Remove Service button to remove the service. To ensure that the license service or Imgrd is running, click View Log. A log window appears that confirms whether agileesofd and Imgrd are up and running.
While running multiple versions of prior SHORT_PRODUCT_NAME releases together, set NAMEofPRODUCT_MAXIMUM_BUNDLE_USAGE=ON in your environment so that all of them will use the same method to check out licenses. Otherwise, you might receive an error message, "Licensed number of users already reached".	NA
On some Windows 7 machines, when more than one definition of an Ethernet adapter exists (duplicates), license checkouts may appear to hang up.	Disable the duplicate network card definitions in your network settings: Control Panel > Network and Internet > Network Connections . This issue has been acknowledged by Flexera and they have created a bug report (SIOC-000103097).
If a license server is configured with two license versions, that is, version 2.8 and 2.9 node-locked license files, the license server may crash.	You should combine the two license files into one file, instead of using them separately.
For LSF style distributed simulations, in case of windows, ensure that the PATH points to the \$HPEESOF_DIR/EEsof_License_Tools/\${architecture} directory that corresponds to the EEsof release being used. This needs to be done in order to ensure that the proper version of the Flexera utilities (like Imutil) gets picked up in the path before any older in-compatible versions (that may also be installed on a users' system.)	
License Setup Wizard (aglmwizard.exe) , which is used to set up and record the license path would not work if you already have an environment variable set for NAMEofPRODUCT_LICENSE_FILE.	You can use NAMEofPRODUCT_LICENSE_FILE variable to point to license file or refer to Licensing (For Administrators) .
The License Setup Wizard will exit or not properly configure a license server, if the server has all of its licenses currently in use.	Wait for a license on the server to become available as you normally would before launching the product.
If SHORT_PRODUCT_NAME does not start after you reboot your 64-bit Windows computer, and a license denial message is displayed, then it might be caused by a spurious registry entry.	Check to see if registry entry HKEY_LOCAL_MACHINE\SOFTWARE\FLEX\License Manager\EEsof EDA License Server exists; if it does, remove it and restart SHORT_PRODUCT_NAME.
Unable to set license in case unicode characters are used either in path or license file name because the Flex License Service does not support these characters.	NA
The Product Selector tool will be unable to display the license server status properly when connected to older license server.	Upgrade your license server to the latest version.
When the same user is running similar simulations from multiple sessions of IC-CAP on the same computer and display—that is, the same User-Display-Host—and if simulations are rerun an extra license may be pulled.	Click Stop from the Status window of all the IC-CAP sessions to release all the simulator licenses, then rerun the simulations.
Product selector opens every time we invoke IC-CAP 2014.04 even when we auto-start by selecting a particular product license.	Set the environment variables, IC-CAP_PRODSEL_PREVIOUS and IC-CAP_PRODSEL_AUTOSTART to the same values of what it is creating ICCAP_PRODSEL_PREVIOUS and ICCAP_PRODSEL_AUTOSTART resolves the problem.

Licensing Information

- IC-CAP 2018 requires:
 - version 2017.01** of the EEsof EDA licensing software,
 - a minimum code-word version **2017.01 or above**
 - the licensing server software, **Imgrd** and **agileesofd**, to be upgraded to at least the same versions as what are included in EEsof EDA Licensing software **2017.01**. IC-CAP 2018 will not start if any of these requirements is not met. Refer to the [License Codeword Version Compatibility](#) table.
- In the EEsof EDA License Tools version 2017.01, licensing vendor daemon (**agileesofd**) is integrated with FlexNet FNP **11.13.1.4** version (Windows) and FlexNet FNP **11.13.1.3** version (Linux) of FlexNet license manager daemon (**Imgrd**). For the Windows platform, IC-CAP installer will automatically set up these two new license server daemons by default for the local node-locked license users; for the Linux platform, you need to follow the [Linux/Solaris Licensing Setup](#) instruction to complete the licensing configuration process. For more details, refer to [Licensing \(For Administrators\)](#).
- A **My Support ID** utility is added to the **License manager** tool to allow a user to retrieve his/her Support ID required to contact Keysight EEsof Tech Support.

Enhancements and Improvements

- For simplified and robust licensing, PJC (Per Job Control) licenses are no longer checked out by IC-CAP 2018.
- The **License Setup Wizard** no longer requires Administrator privilege on Windows to setup license files. Administrator privilege is only required to setup the windows service that will automatically start the license server upon system restart rather than on EEsof application startup.

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