UTMOST IV

Release Notes

03/19/12

SILVACO

RELEASE NOTES

VERSION 1.8.5

ALTERATIONS AND ENHANCEMENTS

- Add '-n' option when running SmartSpice to avoid using initialization file.
- Improve rubberband simulation with SmartSpice to avoid a potential crash if initial simulation fails.

VERSION 1.8.4

ALTERATIONS AND ENHANCEMENTS

- Add ft function with default parameters to import of UTMOST III bipolar FT_CE routine.
- Add cable length option to hp_4284 and hp_4285 instrument drivers.
- Correct hp_4142 driver to enable sources when used as secondary instrument.

VERSION 1.8.3

ALTERATIONS AND ENHANCEMENTS

- Correct import of datasets which contain an iterator.
- Improve editing of iteratee list sweeps in measurement setup dialog.
- Optimization setup targets that select all traces from the data will now only be split in the viewer according to the user preference.
- Add model template for HiSIMHV200Ref model.
- Update model template for HiSIM, HiSIMRef, HiSIMHV and HiSIMHVRef models.
- Ensure that if a simulation fails, the simulation result is discarded.

VERSION 1.8.2

ALTERATIONS AND ENHANCEMENTS

- Improve export wizards for model cards and model parameters.
- Switch off DC and LCR biases when a measurement is stopped or aborted.

VERSION 1.8.1

ALTERATIONS AND ENHANCEMENTS

- Add support for R2_CMC and R3_CMC model type.
- Add model template for R2_CMC and R3_CMC models.
- Improve clarity of error message if dataset import fails.

VERSION 1.8.0

ALTERATIONS AND ENHANCEMENTS

- Add support for UTMOST III MOSFET IS routine with single trace.
- Add support for UTMOST III DIODE BV routine with logarithmic sweep.
- Improve hp_4142 driver for high voltage operation.
- Measurement sequence will now stop if a measurement fails.
- Improve dataset search efficiency.
- Correct default dc instrument driver name.
- Correct editing of AC_TABLE datasets.
- Correct dataset check for AC_TABLE datasets.
- Correct dataset search in Data Acquisition to avoid potential crash.
- Change UTMOST III logfile import to report unsupported routine error first.
- Relax check for sweep range.

VERSION 1.7.20

ALTERATIONS AND ENHANCEMENTS

- Extend bsimpro data conversion script to import new data format.
- Correct optimization step in the fit module to avoid potential crash.
- Correct cosmetic format of optimization feedback in fit module.

VERSION 1.7.19

ALTERATIONS AND ENHANCEMENTS

- Correct overwriting of existing model cards when importing cards containing expressions.

- Improve numerical derivative algorithm for equally spaced x values.
- Improve html report generation to avoid rendering problem in web browsers.

VERSION 1.7.18

NEW FEATURES

- Add getKeyVal function for datasets in the fit module.
- Add drivers for AC instruments hp_8753 versions a, b and c.
- Add driver for DC instrument keithley_4200.

ALTERATIONS AND ENHANCEMENTS

- Correct check when reading objects into empty project to avoid potential crash.
- Remove extractions dialog from data acquisition project.

VERSION 1.7.17

ALTERATIONS AND ENHANCEMENTS

- A default file name is now given when exporting projects.

VERSION 1.7.16

NEW FEATURES

- Add project information dialog for extended project documentation.
- AC Calibration now supports measurement setups containing iterators.
- This version now requires a version 9 UTMOST IV database.

VERSION 1.7.15

ALTERATIONS AND ENHANCEMENTS

- Correct check in sequence containing pauses.

VERSION 1.7.14

NEW FEATURES

- Add DC iterator/iteratee measurement capability.
- Add DC pulse measurement capability.

- Instruments without pulse capability will abort for measurement setup containing pulsed DC.
- New agilent_hp_4155/6 a/b/c drivers replace agilent_hp_4155/6 drivers as the 'a' version of this instrument does not support pulsed DC measurements in user mode.
- Add support for import of MOSFET IS UTMOST III routine.
- Add new summary error table format into report document generation.

ALTERATIONS AND ENHANCEMENTS

- A request to stop a simulation or optimization will now happen immediately and not wait for the current simulation to complete.
- Improve optimization speed as final simulation of best results at end is no longer performed.
- Calling revert or cancel from the rubberband dialog now happens immediately without the need to perform one final simulation.
- Improved check when opening model check project to avoid potential crash.
- Correct the refresh of attribute values in the dataset edit dialog.
- Remove parameter DTMAX from VBIC model template to avoid bug is Spectre simulator.

VERSION 1.7.13

NEW FEATURES

- This version now requires a version 8 UTMOST IV database.

ALTERATIONS AND ENHANCEMENTS

- Correct list sweep measurement condition label in viewer.

VERSION 1.7.12

NEW FEATURES

- Add LCR calibration and de-embedding functionality.
- Add support for MOSVAR varactor model type.
- Add model template for MOSVAR model.
- Add model template for BSIM-CMG model.

- Add drivers for agilent_e5070, agilent_e5071, hp_8510c, hp_8719d, hp_8719es, hp_8720d, hp_8720es, hp_8722d, hp_8722es, hp_8753e and hp_8753es AC instruments.
- Add driver for agilent_b1505 dc instrument.

ALTERATIONS AND ENHANCEMENTS

- Correct problem when exporting model cards from Fit and Optimized columns.
- Optimization setup targets can now be defined with fractional percentages.
- Correct issue when reading measurement setup with variables from database.
- Protect UTMOST IV from improperly installed simulator and viewer software.
- Correct syntax errors in the agilent_e5260, agilent_e5270, keithley_595, electroglas_1034 and karl_suss_pe100 instrument drivers.
- Dataset deletion wizard now correctly closes upon finishing.
- Add final page to AC SOLT calibration wizard to indicate success.
- Now support calibration from a measurement setup containing variables.
- Placeholder datasets are no longer shown in the dataset selector area.
- All calls to instrument drivers are now threaded to keep the GUI responsive.
- AC probe information is now editable and stored within the project.
- Improved instrument and scanner dialogs.

VERSION 1.7.11

ALTERATIONS AND ENHANCEMENTS

- Improve reliability of SmartSpice startup on multi-cpu machines.
- When measuring in single step mode, skipped devices no longer pause the sequence.
- Data acquisition project now checks for misuse of the manual ground connection.
- Correct check on number of points in hp_8753d driver.
- During optimization if a simulation fails, the values of parameters which cause the failure are now shown in the status log area and the optimization will continue

VERSION 1.7.10

ALTERATIONS AND ENHANCEMENTS

- When aquiring datasets, the sort order from the data acquisition project is now the default sort order in the selector window.

VERSION 1.7.9

NEW FEATURES

- Datasets which already exist in the database and which match the current state of the measurement sequence will now be displayed in the dataset selector area of the Data Acquisition project window.

ALTERATIONS AND ENHANCEMENTS

- Improve simulation check to avoid potential crash upon failure of AC dataset simulation.

VERSION 1.7.8

ALTERATIONS AND ENHANCEMENTS

- Correct import of UTMOST III ZENER_DB and ZENER_DL routines.
- Message is now displayed when a new connection is needed.
- Disabled instrument warning now shown before any measurement setup is performed.
- Correct prober movement control code.

VERSION 1.7.7

NEW FEATURES

- Add fT function capability for AC datasets.

ALTERATIONS AND ENHANCEMENTS

- Message when deleting from data acquisition sequence, now refers to the measurement sequence.
- DC bias option added to hp_4285 instrument driver.
- Improve checking for duplicate device names in the devices dialog.
- Messages displayed during measurement are now displayed as information, rather than an error.

VERSION 1.7.6

NEW FEATURES

- Add ability to select the reset temperature after the measurement sequence is finished and to also disable this feature.
- This version now requires a version 7 UTMOST IV database.

VERSION 1.7.5

NEW FEATURES

- Add AC s-parameter measurement and de-embedding capability to data acquisition module.
- Add support for NI488 instrument controller (e.g. USB, ENET controller) for windows.
- Add support for a number of DC instrument drivers (agilent_b1500, agilent_e5260, agilent_e5270, agilent_hp_4155, agilent_hp_4156, hp_4142, hp_4145).
- Add support for a number of LCR instrument drivers (agilent_e4980, hp_4274, hp_4275, hp_4276, hp_4277, hp_4279, hp_4280, hp_4284, hp_4285, keithley_590, keithley_595).
- Add support for a number of prober drivers (alessi_rel2500, alessi_rel4500, alessi_rel5500, alessi_rel6171, cascade_summit_11500, cascade_summit_12000, electroglas_1034, electroglas_2001, electroglas_4080, electroglas_commander, karl_suss_pa200, karl_suss_pe100, rucker_kolls_680, rucker_kolls_681, rucker_kolls_691, signatone_wavelink_350, tokyo_seimitsu_3000, tokyo_seimitsu_4000, tokyo_seimitsu_5000, tokyo_seimitsu_6000, tokyo_seimitsu_amp90a, wentworth_uk, wentworth_us).
- Add support for a number of scanner drivers (agilent_b2200, agilent_hp_e5250, hp_3235, hp_3488, hp_3495, hp_3852, hp_4084, hp_4085, hp_4086, keithley_7002, keithley_705, keithley_706, keithley_707, keithley_708).
- Add support for a number of thermal controller drivers (delta_9010, delta_9388, electroglas_tc2000, ers_sp53, ers_sp62, etac_fx4050, micronics_wec10, ransco_900, temptronic_tp03000, temptronic_tp03100, temptronic_tp04100, tenney_junior, thermonics_t2420, thermonics_t2500, thermonics_t2600, thermonics_t2820, thermotron, triotech_tc1000, triotech_tc2800).
- Add report generation feature for spice optimization module.
- Add chart labeling feature.
- Add ability to completely clear the model library with one command.

ALTERATIONS AND ENHANCEMENTS

- Improve driver script error message handling.

- Model cards and model parameters can now be imported from or exported to a file which does not have a .lib statement.
- Model cards and model parameters can now be imported from or exported to any level of library or subcircuit hierarchy.
- Improve check to avoid a potential crash when attempting to import a model check project into the database.
- When running a long sequence, the project window will now scroll to keep the current item in view.
- Additional formats and routines now supported in the scripts to convert from BSimPro and ProPlus data into UTMOST IV data format files.
- Improve optimization library initialization so that consecutive runs with the same parameters and targets will now produce exactly the same results.
- Improve UTMOST III logfile importer.
- Improve dialog when reading project parts to avoid potential crash.
- Improve measurement setup dialog to avoid potential crash.
- When the last search in a spice optimization project is deleted, the dataset selection area is now cleared.
- When SmartView is closed and then re-opened, UTMOST IV now retains no memory of the viewers former state.
- During optimization the error for a failed simulation is no longer set to zero, which previously could cause the optimization algorithm to see these cases as good.
- When optimizing large numbers of parameters in the rubberband dialog, the scroll bar is now enabled to allow the user to view all parameters without resizing the dialog.
- Improve search engine processing for wildcards.
- Functions of independent data are no longer included when calculating errors.

VERSION 1.7.0

NEW FEATURES

- Add data acquisition from measurement, supporting DC and LCR/Capacitance measurement.
- Add user customizable instrument drivers implemented in JavaScript.
- Developed JavaScript instrument driver engine.

- Add model check module.
- Add fully user customizable parameter extraction feature.
- Add ability to plot, simulate and optimize extracted parameters, such as threshold voltage, versus device attributes, such as length.
- Add ability to import parts from other projects.
- This version now requires a version 6 UTMOST IV database.

ALTERATIONS AND ENHANCEMENTS

- Enhance optimization library.
- Improve measurement setup dialog.
- Improve model library window.
- Improve database search dialog.
- Enhance export of model parameters.
- Modify default SmartSpice options.

VERSION 1.6.5

NEW FEATURES

- Add ability to remove attributes, functions, and plots from datasets in the Fit Module.

VERSION 1.6.4

NEW FEATURES

- Correct import of datasets containing node names with different cases.