

**TannerTM Tools Release Notes**

Software Version 2020.3

October 2020



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Tanner Tools Version 2020.3

Corrected Defects

This section describes Defect Report (DRs) and Enhancement Requests (ERs) fixed in the Tanner Tools 2020.3. Release highlights are described in tanner\_rh.pdf.

S-Edit

Enhancement Requests

* **ER 38338** **–**  When starting S-Edit from the command line, the lib.defs in the current directory will be automatically loaded if no lib.defs is specified.
* **ER 42874 –** Design Check results are now presented in a Design Check Navigator rather than in the Command/Log window. The navigator presents results in a tree control and can group results by cell or by rule. Clicking on links in the Navigator will select and zoom to the violations in the schematic.
* **ER 50819 –** The time toopen schematic views with very large numbers of wires, has significantly reduced, in some cases from hours to seconds. Schematic views generated by Calibre parasitic extraction, with tens or hundreds of thousands of wires and instances are an example of such a view. The improvement is a result of improved “Wirecutting”, which is the operation of splitting wires where they intersect ports, pins, netlabels, or other wire endpoints.
* **ER 33785, 49127 -** Performance of the Command/Log window is improved when logging large numbers of messages. Operations that log many messages will now be faster.
* **ER 50372** – The “find net” command now has a "-scope selection" option that selects the entire net given any selected part of the net. The “find” UI now has a Look in Selection option also.
* **ER 50821 –** Search for Netset properties for inherited connections is improved. This improves performance opening schematic views and doing design checks.
* **ER 50840** – S-Edit has been enhanced with features to support Photonic design. A new port of type **Photonic** has been added. Photonic nets (any net connected to a photonic port or pin) are displayed in a different color than electrical nets. Design checks are added to check Photonic connection rules, i) Optical nets must connect exactly two optical terminals, and ii) Optical terminals cannot connect to non-optical terminals.
* **ER 50919 –** Performance of design check “24 – Overlapping netlabels and pins” has been significantly improved on views with large numbers of instances and netlabels. Schematic views generated by Calibre parasitic extraction are an example of such a view.

Defect Reports

* **DR 37791** – Import Verilog now copies ‘include statements to each of the cells imported.
* **DR 49129, 50068** – Rename and Delete Cell operations have been improved, and it is now possible to create a view with the same name as a previously deleted view, without having to save the design first.
* **DR 46822** – Fixed crashes and other problems when attempting to edit properties in the Property Navigator without having previously obtained a reservation.
* **DR 48562** – Import Verilog with “Implicitly define missing cells enabled” now searched all libraries before determining that a cell is missing.
* **DR 49433** – Opening files from **Recently Opened Files** list now works if path contains Japanese characters.
* **DR 50520** –Undo (Ctrl+Z) after Duplicate (Ctrl+D) now works correctly.
* **DR 50588** **–** Fixed problem where S-Edit would hang for several minutes after opening the Hierarchy Navigator on large designs. S-Edit may still take time to load cells the first time when opening the Hierarchy Navigator on a view, but opening it on that view thereafter will be fast.
* **DR 50605** - When auto-naming placed symbols, S-Edit no longer creates instance names that collide case insensitively.
* **DR 50711** - S-Edit now allows deletion of unresolved cells.
* **DR 50747** - Results folder browse button no longer appends the path.
* **DR 50751** – Fixed Hotkeys for starting simulation via “Alt” key to navigate menus. Hotkeys for Tools > Start Simulation > [StartSimulation] now works.
* **DR 50766** - Design Check now flags shorted nets if one net is a global net.
* **DR 50795** – Fixed problem where Spice Export did not write the “m” parameter when there was no simInfo on the symbol. Property m is a special property that should be included on subcircuit and instance.
* **DR 50828** – Fixed problem initializing custom menus due to language command in startup scripts.
* **DR 50869** – Fixed problems with the **database pins** TCL command.
* **DR 50899** – The “.DEL LIB” statement is no longer written to Spice for Eldo Corner Simulations for better compatibility with different versions of Eldo.
* **DR 50967** – Fixed a problem where a corrupt TSIM file would crash S-Edit.
* **DR 51020** – A hug .tstop file is no longer generated after an Eldo parameter sweep analysis with dc OP enabled.

T-Spice

Enhancement Requests

* **ER 39321** - Added support for SOA (Safe Operating Area) checks for BSIM3, BSIM4, and bipolar transistors using the vgs\_max, vbd\_max, etc. model parameters.
* **ER 38152, 41767** - New HYST option for the .DC command performs an up-down hysteresis sweep.
* **ER 48989** - Implemented a new linear solver option that may be suitable and faster for some large simulations (.option linearsolver=umfpack).
* **ER 49791** - The HICUM/L0 version 2.0.0 model is now supported.

Defect Reports

* **DR 25598** - Implemented handling of wildcards in noise print and probe statements.
* **DR 33466, 38043, 40644, 47296** - Corrected various problems with wildcards in print and probe statements for hierarchical device and node references.
* **DR 50693** - Added support for SOA (Safe Operating Area) checks for diodes, capacitors, and resistors using the bv\_max model parameter.
* **DR 49921** - Changed the default location of Verilog-A/MS database to be %TMP%\.ams\_work. This can be changed by setting the environment variable TANNER\_AMS\_WORK.
* **DR 50250** - Corrected problems with W-Edit and Tanner Designer viewing and post-processing of simulation results when the netlist filename contains multiple periods (.).
* **DR 50307** - Corrected problems with a Verilog-AMS simulation being stuck in ‘running’ mode when the digital simulator exits before simulation start.
* **DR 50791** - Improved the DC convergence for bipolar circuits.

Waveform Viewer

Defect Reports

* **DR 47297 –** Added message describing how to change internal limits, when the number of traces in a chart exceeds those limits. This solves the case where changing "Independent" variable, makes existing chart empty because limits were exceeded.

ESI

Enhancement Requests

* **ER 50422** - Added the Ezwave command input field to allow the user to customize EZwave execution.
* **ER 50431** - Added the ability to have multiple “Saved Sessions” for different hosts and their associated settings.
* **ER 50479** - Remote simulations are now manually re-playable using a shell script that is saved to the simulation directory.

Defect Reports

* **DR 50330** - EZwave now launches from S-Edit using the environment variable settings from ESI.
* **DR 50419** - Support proper expansion of environment variable values that reference other variables.
* **DR 50455** - Use the environment variable settings when performing the <Test> operation.

Tanner Designer

Enhancement Requests

* **ER 38338** **–**  When starting Tanner Designer from the command line, if no tanner.tdesigner is specified then the tanner.tdesigner in the current directory is loaded.
* **ER 40417** – A new “Log” button is on the Tanner Designer ribbon which opens the simulation log files for selected testbenches.
* **ER 47366 –** A context menu “Retarget Path” is added to the Testbenches table to retarget the lib.defs file for a simulation. This was previously only available via double click.
* **ER 49642 –** Tanner Designer now runs testbenches top to bottom in the order displayed in the Testbenches table. This allows one to sort (possibly by multiple columns) to get a desired order.
* **ER 49707 -** A testbench must now have a successful simulation, the result data must be fresh, and all the measurements that contain specs must be within spec in order to be marked “Success”. Previously testbenches without specs would appear as “Success”.
* **ER 49946 -** Column filters are now available on all grid controls.
* **ER 50701 –** The Spec dialog now has four fields to specify different tolerance and weak fail conditions for the Min and Max values, and each of these fields supports absolute values OR relative values. Negative Tolerance is allowed which is interpreted as a weak pass region inside the min-max range. The dialog shows a color bar indicating the values for the Fail, Weak Fail, Weak Pass, and Pass regions.

L-Edit

Enhancement Requests

* **ER 38338** **–**  When starting L-Edit from the command line, the lib.defs in the current directory will be automatically loaded if no lib.defs is specified.
* **ER 42522 –** The list of known Guard Rings is now saved, andused to populate the Guard Ring drop down the next time the database is loaded.
* **ER 42876 –** Evaluation of P-Cell instances can be time consuming for designs with large numbers of unique P-Cell instances. Performance opening views with many P-Cells is improved though caching of P-Cells on disk. P-Cells caching is enabled in **Setup > Application > Saving > Enable autoGen cache**. P-Cells in a view are cached when the view is saved.
* **ER 45680, 51008 –** Cell loading performance is improved. On some databases users may see a speed improvement of 2x or more.
* **ER 45947** – Port type (Input, Output, etc) is now preserved when netlist is **Published to SDL** from S-Edit.
* **ER 47043 -** Push from SDL now creates new cell if it doesn't already exist in layout.
* **ER 49873 –** When drawing a port, the shape is now drawn on the active drawing layer, and the Label Layer is specified in the New Port dialog. This allows one to draw ports with separate shape and label layers.
* **ER 50617 –** The “database grids" command can now set grids.
* **ER 50207 –** Performance of the Setup Design dialog is significantly improved, especially on Linux.
* **ER 50846 -** Cell->New View now initializes the Cell Name with the name of the cell in the active window.
* **ER 51173 -** Database objects (that have a name) in UPI TCL interface are now represented by paths/names instead of TCL handles, to be used as command arguments/return values. The object to a UPI TCL command argument can be specified just using its name without getting its handle explicitly by a getter command beforehand.
* **ER 51176 -** Enhanced Text Editor window within L-Edit to support Python. Python and TCL languages are supported with Syntax Highlighting, autocomplete feature with tooltips which tells what arguments the command expects and also script running within the Text Edit window.

Defect Reports

* **DR 47128** - Duplicate of port/netlabel with numeric value now autoincrements the value like L-Edit does.
* **DR 48641** – GDS files are now cleaned up from Temp folder after Calibre run.
* **DR 48733** – Slow performance on Linux in saving databases with very large numbers of properties has been improved. In particular, this can occur when importing DEF files with many SHAPE attributes that are stored in properties.
* **DR 49216** – SDL Auto-Router performance is improved for layout with large ports.
* **DR 49657** - Join style in wires is now saved to OA databases.
* **DR 50205** – Fixed problem where Via Stack was placed in area where two connecting layers do not overlap.
* **DR 50206** – Fixed problem where opening the Setup > Design, Setup > Layers, Setup > Colors, or Setup > Custom layer Purposes dialogs would mark technology as having changed, even when no changes were made. Closing the database would then prompt to save changes.
* **DR 50331** – Improvements in the SDL Autorouter to prevent DRC errors when using LEF tech file for routing.
* **DR 50257** – Net Highlight now correctly zooms to highlighted net, and clears the selection so you can see the net highlight color.
* **DR 50326** - TDI no longer requires the SDC file to be in the Data Directory.
* **DR 50383** - When using .tdb name in Japanese, "Extract connectivity" for Node Highlighting now works.
* **DR 50741** – Fixed Custom Text Keyword highlight dialog where the Edit button invoked the incorrect dialog.
* **DR 50888** – Problems where the netlist would sometimes not appear in the SDL Navigator are fixed.
* **DR 51046** – Fixed incorrect “oaLib Unable to open library” error messages when launching L-Edit from the command line, with autosave enabled.

EVI

Defect Reports

* **DR 50646** - RVE no longer exits suddenly when changing settings

Revision Control

Defect Reports

* **DR 49447** - Perforce Version Control System integration has been improved sufficiently in S-Edit and L-Edit. The performance overhead on large designs is between 5-10% now.

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