Solstice-TDS v2019.0 Release Notes

New Features and Enhancements as of 2019.0:

- The new **Advantest CX1000 TesterBridge** produces pin, pattern and timing files that load directly into the Advantest Cloud Test System software, and also includes a command line interface for easily converting ATPG STIL files.
- **WaveMaker Plus and Batch file Processing** now has improved progress reporting when processing large files.
- **Replace Pattern Tool** has **enhancements** to conditionally search and replace states within a pattern block. Refer to the Solstice User Manual, under Tools : Replace Pattern, for more information.
- **WDB Conditioner** now has a **Muxify** operation for creating MUX pins in a database for TesterBridges that support those types of Pin Modes.
- The **LTXC DiamondX TesterBridge** now has the ability to process multiple pattern files within an **OrbitX** loop, and output them as a Pattern Burst in the UNA file.
- The **National Instruments STS TesterBridge** now supports the new **2X Edge Multiplier** feature of the test system. Refer to the Solstice User Manual, in the TesterBridges : NI-STS section, for more information.
- **Verilog In** has been sped up by a factor of 100x (hours to minutes!) for VCD files with a large number of signals (>10,000).
- **WaveMaker Plus** now has a **Pattern Viewer** for displaying the contents of a WDB or SDB database. To view a Pattern in WaveMaker Plus, bring up the context menu on a database in the File Browser or Scenario, and select 'Open Pattern Viewer'. The Pattern Viewer will display the vector rows in a new tabbed window in WaveMaker Plus.
- For other new features in WaveMaker Plus, see the **WaveMaker+ User Manual → New and Notable**.

V2019.0 Release Changes:

- **0001551: [Sequence Match Conditioner]** A fix was made to the conditioner to prevent it, in some rare circumstances, from suddenly closing.
- **0001548: [Pattern Replace Tool]** Signal groups are now supported for the REPLACE operation.
- **0001546: [Verilog Out / PV]** A change was made to map buses to scalar bus members in the DUT model.
- **0001544: [NI-HWS TesterBridges]** The license keys for the bridge now have 'NI_HWS' in the name.
- **0001543: [WGL In]** A change was made to order pins defined as bus members in MSB:LSB order.
- **0001542: [STIL In]** A change was made to use MSB:LSB order for creating buses when the 'detect buses' options is set to YES. The MSB:LSB order is only used when creating buses, it is not changed on buses that are already defined as a bus in the Signals block.
- **0001540: [TesterBridges]** A fix was made to all bridges that use MUX pin mode, where sometimes the 1st column of the pattern would not be correct when using a PAF with 'Use=NO' on one or more pins.
- **0001535: [WDB Conditioner]** A new Muxify operation has been added to create MUX pins in a WDB database. Useful for testers with MUX and 2X (3x, etc.) modes.

- **0001526: [WaveMaker+]** The Waveform Display was enhanced to show the Cycle Number in the popup box, when hovering over a waveform.
- **0001518: [WDB Conditioner]** The TP Optimize operation was enhanced to work with WDB as well as SDB databases.
- **0001517: [NI-STS TesterBridge]** The bridge now supports the 2X Edge Multiplier feature in the National Instruments Semiconductor Test System.
- **0001508: [WaveMaker+]** A problem was fixed where sometimes pressing the 'STOP' button would not actually stop the OrbitX loop being process.
- **0001507: [Verilog In]** A problem was fixed where the converter would mis-process a pin, if it was marked as an input, but had a bidirectional control setup in the Signal Definition File.
- **0001503: [AG93000 IB]** A problem was fixed where the incremental flow did not work when there was a TimePlate name conflict.
- **0001502: [WaveMaker+]** A problem was fixed where WM+ would unexpectedly close when opening an empty Scenario recovery file..
- **0001449: [WAT Conditioner]** The WAT now correctly determines when there is an RZ shape on a cycle boundary and does not create an extra track for it.
- **0001514: [DiamondX TesterBridge]** The bridge now works within an OrbitX loop to process and store a list of patterns as a burst in the UNA file.
- **0001421: [WaveMaker Plus]** A problem was fixed where sometimes pressing the 'STOP' button would not actually stop a STIL In or TesterBridge process.
- **0001420: [OrbitX]** Some minor changes were made to the OrbitX status messages when running in a loop on Windows.
- **0001416: [Solstice User Manual]** Changes were made to the user manual to add missing batch mode parameters to some modules.
- **0001411: [WaveMaker Plus]** A problem was fixed when comparing 3 or more Waveform databases, the display would not refresh to show the 3rd and subsequent Waveforms.
- **0001399: [Replace Pattern Tool]** The tool has been enhanced with several 'Replace Modes' that allow conditional search and replace to target states on pins.
- **0001386: [WaveMaker Plus]** A problem was fixed where signal names would sometimes disappear in the Waveform Viewer on Windows.
- **0001374: [WaveMaker Plus]** The local toolbar item 'Go to Location...', now has a 'View' menu item with the same name.
- **0001346: [WAT Conditioner]** The WAT now logs a message about the measured cycle length(s).
- **0001333: [WAT Conditioner]** The WAT no longer runs when Per Cycle Analysis and TimeTable options are combined.
- **0001245: [V93k WB]** The WaveBridge now outputs the correct timing events for compare Edge Mid-band and compare Window Don't Care ('X').
- **0001200: [WGL In]** WGL In no longer core dumps when processing files with undefined signals.
- **0000998: [STIL In, STIL Out, TesterBridges]** Progress reporting has been improved when processing large files**.**
- **0001545: [STIL In, TesterBridges]** When running multiple Solstice processes in batch mode with a limited set of licenses, jobs will now be set in a queue, and run when the license becomes available. To turn off license queuing, set the TDS environment variable 'TDS_NO_QUEUE'**.**

- **0001541: [J750 TB]** A change was made to the way the 'PassThru' option for pattern compression handles incoming repeat vectors that are over the maximum repeat count for this ATE. The bridge will now divide the repeats over as many vectors as needed to keep the count under the maximum.

- **0001521: [J750 TB]** The warning message for "MCLK pulses across time set are not consistent" was changed to an error.

- **0001538: [STIL In]** A problem was fixed that was causing the reader to run much slower than previous versions. Changes made to some low level database functions, were causing the reader to take longer when adding new pattern rows. This fix corrects the performance problem while preserving the original intent of that change.

- **0001322: [V93k WB]** An comment was added to the PIN/CONFIG file to indicating whether channels were auto-assigned or user generated.

- **0001515: [V93k WB]** A problem was fixed where Break Vector States, defined in the PAF, were being ignored and did not show up in the output test program.

- **0001465: [V93k WB]** A problem was fixed where the bridge would sometimes use illegal State characters ('D' & 'R') when generating a test program.

- **0001501: [Incremental Conditioner]** The conditioner now correctly combines TimePlates when the 'edge tolerance' option is used.

- **0001510: [DiamondX TB]** The SubFlow expression in the output test program is now always set to "TRUE", and the 'equation usage' option checks for valid specs before adding them to the output test program.

- **0001509: [J750 TB]** Some additional checks were added to the bridge for valid waveforms when assigning MCLK pin modes. Also, some additional fixed shape waveforms were added to the ATE files under the MCLK_RL and MCLK_RH format lists.

- **0001513: [WM+]** WaveMaker Plus now correctly opens in the current working directory (CWD) instead of the users home directory. This issue occurred when $TDSDIR was defined in the $PATH environment variable and to start, 'wavemakerplus' was typed into the shell.

- **0001512: [T6682 WB]** An issue with generating and running a "do" file from WaveMaker Plus was fixed.

- **0001506: [Verilog In]** VCD files with single bit bus definitions are now correctly handled when imported into Solstice by Verilog In.

- **0001419: [C3360 TB]** The bridge now outputs labels in the generated pattern file.

- **0001463: [V93k WB]** Added option to generate equation based offsets to all edge times**.**

- **0001501: [Incremental Conditioner]** The conditioner now combines TimePlates by upgrading signals to BIDIR when needed.

V2018.0 Release: Enhancements, Issues and Fixes

- **New Advantest V93000-ST8 TesterBridge,** compatible with Advantest's SmarTest 8 system software, and also supports X-modes.
- **New Teradyne J750Ex tester model** support in the J750 TesterBridge. The bridge now supports the HSD200 and HSD800 instruments in Expanded, Normal and Quad Modes along with MCLK modes and Scan alignment for pattern vector groups.
- **New Teradyne ETS800 TesterBridge,** which produces STIL files specific to Eagle Test System.
- **Enhanced Incremental Conditioner** to better work in scenarios with OrbitX loop capabilities.

- **Support for femtosecond resolution** has been added in the SEF and WDB waveform databases. Databases created by this version and older versions of Solstice-TDS are not compatible, and will need to be re-created in the version being used.
- The **NI 65xx TesterBridge** name has changed to **NI HWS TesterBridge.** Any scenario using this TesterBridge will need to be upgraded to use the new TesterBridge.
- The **Agilent93000ait WaveBridge** is no longer supported and has been replaced by the **Advantest V93000 WaveBridge**. All old scenarios using this WaveBridge will need to be upgraded to use the new WaveBridge.
- **Known Issue in WaveMaker Plus on Windows:** On some Windows OS platforms, signal names in the Waveform Display may disappear when zooming in or out. Signal Names can be re-displayed by resizing the window or moving the Waveform Display to a new window. To move the Waveform Display to a new window, left-click on the tab header and select *Move to New Window*.

V2018.0 Release Changes:

- **0001491:[Signal Edit]** Corrected a problem with the conditioner where deleting an IO pin, using the MatchPinFile operation, was corrupting the output SDB.
- **0001476: [TesterBridge]** Changed the error message to a warning when trying to add a pin through the PAF, and improved the message by added the signal name to it.
- **0001477a: [J750 TB]** Corrected the way a 'PinMode' is set from the PAF for a group, and fixed the warning message. New groups can now be added through the PAF when the 'Members' column is defined.
- **0001477b: [J750 TB]** The bridge now correctly displays the simulation time in the end-of-line vector comments.
- **0001480: [Incremental Conditioner]** The conditioner now has an option for upgrading input and output only signals to bidirectional and will now clear the history database on the 1st iteration of an OrbitX loop**.**
- **0001493: [Library]** Changed the way some files in the WDB database directory had fixed permissions instead of using the umask settings.
- **0001473: [EVCD In]** A fix was made to the Converter to allow 'X' exclusion in a port definition file.
- **0001495: [Advantest T6682 WB]** A fix was made to correctly assign the drive format to "NRZ1" instead of "NRZ".
- **0001426: [EVCD In]** The Converter now supports group definitions.
- **0001432: [TimeTable]** The tool now correctly handles non-linear numbering in BUS structures
- **0001398: [Library]** All internal databases (SDB/WDB/SEF) and modules now support femtosecond resolution for time values.
- **0001391:[Magnum TB]** The bridge now correctly creates repeat vectors on Windows.
- **0001385:[NI65xx TB]** The NI65xx TB has been renamed to the NI_HWS TB.
- **0001379: [NI-STS TB]** The bridge now checks and modifies signal names, timesets and labels if they are in the ATE reserved word list.
- **0001484: [V93k-ST8 TB]** The bridge now supports X-modes and lists the pattern combinations used in the wavetable file.
- **0001497:[V93k-ST8 TB]** The bridge now checks for valid names for file names, timing sets and wavetables.
- **0001475:[Library]** The allowable number of characters used in path names has been increased from 256 to 768 on the linux platform, for WM+ and do files.

- **0001498:[Agilent93000ait WB**] This bridge has been replaced by the Advantest V93000 WaveBridge, and is no longer supported.
- **0001378: [WM+]** A problem was fixed where a directory could not be deleted from the files tab unless it's empty.
- **0001377: [TimeTable]** A problem was fixed where Port clocks were affected when the Double Data Rate Clocks was checked in the WM+ interface.

V2017.1 Patch Release Changes:

- **0001494: [TesterBridge]** A problem was fixed where the TesterBridge would fail to produce a pattern file when the source STIL file had multiple patterns listed in the PatList section.
- **0001482b: [V93k-ST8 TB]** Added support for X-mode pattern combinations and break vectors. The pattern combos are collected while doing the output vectors, only when X-mode > 1 is set, and are output in the Wtb.spec file with the 'used' statement.
- **0001482c: [V93k-ST8 TB]** The vector comments file is now added to the .pat zip, even if empty, to avoid some problems seen in the ST8 pattern display.
- **0001486: [WM+]** A problem was fixed where the WaveMaker Plus dialog boxes didn't display correctly after using a second monitor.
- **0001483: [J750/Flex/UltraFlex TB]** An option was added allowing repeat vectors in the source database to be passed through to the output pattern as is, without combining or adding any additional repeat vectors. This 'Pass Thru' mode is only allowed on the Extended Mode ATE types to avoid conflicts with the pattern vector groups on the Normal and Quad Mode ATE types.
- **0001487: [ETS800 TB]** A bug was fixed to allow vector repeats to be turned off. Also an option for setting the minimum repeat count was added.
- **0001482: [V93k-ST8 TB]** New enhancements to the bridge:
    - Added an option to allow the 'changeTiming' command in the pattern file, when multiple TimePlates have different Period values.
    - Added an option to set the minimum repeat count for vector compression in the output pattern file.
    - When the default pin groups option is set to NO, the bridge will now output the pattern pin group in the levels setup.
    - The 'result.cyclePassFail' statement has been moved from the main specs file to the levels setup file.
    - Added an option to set the X-Mode (2:8) to be applied to all the output pattern pins.
- **0001464: [J750 TB]** An option was added to turn off constraint checking for conversions with a large number of bidir pins, that frequently switch between input and output tracks, as the constraint checking may take an excessive amount of time. Turning off checks on this type of conversion will vastly improve the processing time of the bridge.
- **0001478: [V93k-ST8 TB]** Miscellaneous issues:
    - Fixed a problem in the Eqn.spec file where the bridge would assign the same timing edge to different named variables when they had the same timing value. The bridge now assigns them to separate timing edges.
    - In the Main.spec file, the AllPatGrp pin group has been replaced by the list of individual pins in the 'setup digInOut' statement.
    - Added a check for illegal file name characters in the 'programfilename' and 'patternfilename' fields of the parameters sheet.

- ▪ Fixed a problem in the pattern sequencer file, where subgroups would show up in the pins list.
- ▪ Fixed a problem where the 'Timing Groups' option would not always use a pin group for pins with like timing, when one was available.

- **0001479: [V93k-ST8 TB]** New TesterBridge features:
  - ▪ Added support for repeats and loops in the pattern file.
  - ▪ Added support for comments in the pattern file.
  - ▪ Added an 'Operating Sequence' method to the test program files for running pattern bursts.
  - ▪ Added support for changing the 'Timing Set' & 'Wavetable' names in the parameters sheet.

- **0001464: [UltraFlex TB]** Added an option to the bridge to turn off constraint checking. For conversions with a large number of bidir pins, that use both the input and output tracks, the constraint checking may take an excessive amount of time. Turning off checks on this type of conversion will vastly improve the processing time of the bridge.

- **0001469: [J750 TB]** MultiClock enhancements:
  - ▪ The bridge now calculates the number of pulses (CPP) using 4 clock edges (if available) instead of 3.
  - ▪ The bridge now sets the format column (Fmt) in the timing file, to RL, RH, SBL or SBH based on the clock shapes. The ATE files have been updated to support the different formats.
  - ▪ Added support for expression variables on MultiClock pins in the timing file.

- **0001468: [V93k-ST8 TB]** Fixed a problem when choosing a pattern char for compare mid-band.

- **0001470: [TRT]** Several issues related to compare strobes were fixed, and users can now specify xMode factor.

- **0001459: [V93k-ST8]** New TesterBridge for the Advantest V93000 SmarTest 8 tester.

- **0001457: [T2000 TB]** Fixed the repeat count value in the pattern file.

- **0001458: [STIL In]** The reader now issues a warning on IddqTestPoint statements with the Detection clause instead of stopping with an error.

- **0001442: [J750 TB]** Added a warning to the log for the 1st occurrence of Time Set switching within a vector group.

- **0001441: [J750 TB]** Added support for extra MultiClock shapes to the ATE files.

- **0001448: [J750 TB]** Fixed some problems with Driver On ([D0]) / Driver Off ([D3]) in the ATE files for mid-cycle IO.

- **0001437: [J750 TB]** Added a warning to the log when extra Time Sets are generated by the bridge.

- **0001413: [STIL In]** The "WFC not found" warning was changed to an error.

- **0001418: [STIL In]** Fixed a problem when importing STIL files with include statements, where the included file was not found if it was not in the project directory.

- **0001438: [STIL In]** The reader now issues a warning message when a BreakPoint is not found within a MatchLoop.

- **0001440: [T2000 TB]** Time values in the bridge now have an uppercase 'S' (nS).

- **0001431: [V93000]** Added support for Break Waveforms on the PS9G instrument.

- **0001428: [V93000]** Replaced time value with variable on 1st edge to conserve TGs.

- **0001435: [J750 TB]** The bridge now allows tracks with more than 3 edges when setting up MultiClock shapes. The bridge will also except 'S' shapes with pattern bits, to turn on and off the clock within the pattern.

- **0001434: [J750 TB]** The bridge now has an option for setting the minimum repeat count. The default value in the ATE file will be used if the entry is '0'.
- **0001436: [J750 TB]** When constructing scan vectors for Normal and Quad Modes, the bridge now converts the end scan states to parallel vectors, to adjust the scan length for vector group alignment.
- **0001414: [J750 TB]** The bridge log file now reports scan information: number of scan rows, number of scan cycles and number of scan ports. Other log entries have been cleaned up to conform to the same format. The bridge now issues a warning when a MatchLoop is present in the source database, and adds comments for the start and stop rows in the pattern file.
- **0001425: [STILout]** The 'Site' block is no longer present in the output STIL file.
- **0001430: [UltraFlex TB]** Fixed a problem where Scan vectors did not always output all the pins in the 'scan_pins' statement (ScanOut pins on the 1st Scan vector, or ScanIn pins on the last Scan vector).
- **0001256: [Replace Pattern Tool]** An enhancement was made to allow a 'row range' in the 'cycle' column for operations that span multiple pattern rows. Consecutive rows can be designated with the range identifier in the form of 'n..m' (20..35), or for non consecutive rows, with a comma separated list (2,3,6,10..20).
- **0001395: [Orbitx]** Some improvements were made to the 'Insert Function' dialog box when setting up loops in Orbitx.
- **0001409:[J750/Flex/UltraFlex TB]** General updates to the TesterBridge:
  - The bridge no longer outputs the DVT pins and timing definition file (.atf).
  - The bridge now outputs the Workbook and Patterns into separate subdirectories.
  - Changes were made to some of the element identifiers in the Workbook sheets.
  - The "Category" entry in the Test_Inst sheet is left empty when Specs are not used.
  - The default radix for buses has changed from Hex to Symbolic.
  - Dummy rows at the end of the pattern now have 'X' states for all compares.
  - The driver off (D3) edge in Normal mode is now programmed to happen at the beginning of the receive cycle.
  - The default for an unused edge in the timing sheet has been changed from <blank> to "Disable".
  - When enabled, all rows now show the end-of-line vector comments (row, time, cycle counts), and the accuracy has been improved.
- **0001410:[J750 TB]** Enhancements for the J750Ex tester:
  - The Extended and Normal Modes have been upgraded to the J750Ex spec, and the Quad Mode ATE has been added to the bridge.
  - Scan can be enabled for Extended, Normal and Quad Modes, with automatic alignment for the scan start and scan length to the vector group boundary, for Normal and Quad Modes. The alignment for the starting scan vector is done by converting scan states into parallel vectors, and the alignment for the scan length is done using pad states.
  - For Normal and Quad Modes, automatic alignment to the vector group boundary is also done for repeats and halt.
- **0001384:[NI-STS TB]** The bridge now outputs a script to compile the pattern file with the DigitalPatternCompiler.
- **0001380: [NI-STS TB]** Fixed a problem where the bridge would sometimes insert a comment string in between the Label and Vector in the pattern file.
- **0001403: [NI-STS TB]** Removed the "pattern space" option so that the state chars always have a space between them (except for buses).

- **0001389: [NI65xx TB]** Fixed the bridge so that the empty .rpt file is no longer output.
- **0001387: [J750/Flex/UltraFlex TB]** A "Default_Minimum_Repeat_Count" parameter was added to the ATE file, with a default of 2. Also the "opcode_mode" compiler directive was added to pattern file for the J750 Extended and Normal modes.
- **0001402: [STIL Out]** Output Waveforms now have an 'X' at T0 to adhere to the database requirement of having an event at time0.
- **0001392: [All TesterBridges]** The minimum period constraint check on a TimePlate (T0 to T0.next), now works when there is a single TimePlate or when the TimePlate is the last one used.
- **0001368: [J750/Flex/UltraFlex & C3360 TB]** Fixed a problem on scan vectors where the port name was not converted properly when the scan pin was a bus member.
- **0001397: [WM+]** Changes to Compare Tolerance are now immediately updated in the waveform display.
- **0001390**: **[WM+]** Fixed a problem where sometimes, WM+ incorrectly concludes a child process has output everything and exits before the process has finished. This was causing errors on some In Converters.
- **0001381: [TimeTable]** Fixed a problem with the Timing WDB-generation option where it always created a WDB in the project directory.
- **0001370: [Verilog In]** Fixed a problem where incorrect waveforms were being generated when the bus members were not in top to bottom order.
- **0001393: [PV]** Fixed a problem where the input WDB name was not being processed correctly.
- **0001394: [PV]** Leftover temp files are now removed after the process is completed.

V2017.1.0 Release Changes:

- **0001356: [J750 WB]** Fixed fail to creating test program directory on Windows.
- **0001221: [WDB Conditioner]** New enhancement to TimePlate Optimizer for clock shapes and to reduce the number of tracks.
- **0001360: [WDB Conditioner]** Added ability to annotate vectors with TimePlate name.
- **0001365: [Replace Pattern Tool]** Replacing 'T' with 'X' on SDB now works properly.
- **0001367: [AemulusDM TB]** Standardized the WAVESET section in the declaration (.dec) file.
- **0001354: [AemulusDM TB]** Added 'IddqTestPoint' comment to pattern.
- **0001345: [STIL In]** Default value for DB Type in WM Classic is now honored.
- **0001362: [TimeTable]** The Waveform Display now opens on the correct location the first time a blue-color first-location waveform hyperlink is clicked.
- **0001363: [TimeTable]** The auto-detection menu now has a checkbox menu item "Double Data Rate Clocks".
- **0001296: [TimeTable]** The "Create" button is now deactivated during analysis phase of Create Scenario.
- **0001364: [Verilog In]** Implemented support for a PortRatio column in the Signal Definition Files.
- **0001357: [WaveMaker Plus]** Files can now be deleted after being viewed or touch.
- **0001343: [DiamondX TB]** Added support for MP1x Instrument and Channels for Differential pins.
- **0001336: [WaveMaker Plus]** Parameter Editor should allow environment variables in all fields as appropiate.

- **0001325: [WaveMaker Plus]** Now error messages are displayed when originating from checks in tfs files.
- **0001351: [Cut Conditioner]** If all comments are cut, destination SEF is no longer missing the comment file.
- **0001349: [DiamondX TB]** Added a Custom AliasMap field to the Properties Sheet.
- **0001350: [DiamondX TB]** Now, when there is only 1 WFT, the Default WFT statement is used in the pattern.
- **0001352: [DiamondX TB]** Fixed the SBZ format on Bidir pins.
- **0001353: [DiamondX TB]** Vectors with Triggers statements are now correct.
  0001337: [WaveMaker Plus] Variable Name with an underbar (_) is now displayed correctly in the header of the Variable Table pane.
- **0001335: [V93K WB]** SPECS and EQUATIONS names no longer have the port name appended twice.
- **0001341: [DiamondX TB]** Triggers are now output on the correct vector.
- **0001347: [DiamondX TB]** Formats now correct, using SBO/SBZ instead of SBZC/SBOC.
- **0001348: [DiamondX TB]** Scan templates in pattern file have been corrected for scan runs without all ports present (1st and last vectors).
- **0001321: [V93K WB]** Now appending Port Name to global Groups (ALLBIDIR, …) when port is active.
- **0001318: [V93K WB]** For scan test programs, '-impv' is added to the AIC file v2b_options field.
- **0001340: [TimeTable]** Now converting mixed-direction buses to Bidir in WGL to avoid issues downstream.
- **0001317: [WaveMaker Plus]** Fixed a problem where "File->Export Batch File" would write the file with the default-name.
- **0001339: [AemulusDM TB]** Fixed a problem with UDU and DUD shapes in the dec file.
- **0001314: [Add Equation Conditioner]** Now equation names are modified to include direction on bidirs.
- **0001334: [DiamondX TB]** Added "Trigger" support in pattern file.
- **0000993: [WAT]** Auto-detect now detects a suitable cycle time.
- **0001213: [TimeTable]** Added ability to "Ignore" pin with context menu in TimeTable editor.
- **0001281: [WaveMaker Plus]** Fixed Export Batch File to save in sub directory.
- **0001328: [V93K WB]** The HSM3600 tester type now makes the SPECS and EQUATION names the same as Test Program name.
- **0001327: [V93K WB]** Appended the port name to the output files (for AITCOMPILE tool).
- **0001320: [V93K WB]** For PS9G model, added "-z PS3600" to the "aiv" command line in run file.
- **0001313: [V93K WB]** Added "offset" equations to edge values rather than the equations.
- **0001301: [V93K WB]** Added a "-C" option for AIT Compiler in run file to prevent overwriting of AIC file.
- **0001299: [V93K WB]** Changed default behavior to always emit SPECs section in DVC file.
- **0001330: [AemulusDM TB]** Added Repeats and Stop Opcodes to pattern file.
- **0000570: [Verilog In]** Now able to read EVCD files with direction defined in header for signals.
- **0001260: [TRT to SDB]** V93K now parses Pin file with key word DFPC (DeFine Pin Comment).
- **0001261: [TRT to SDB]** V93K now parses 'CMNT', pattern file comment.

- **0001258: [WAT]** Fixed a problem when specifying a stop time for input events creates a bad timeplate.
- **0001272: [J750 WB]** Bridge no longer outputs duplicate "ATE pin name changed" messages.
- **0001275: [AemulusDM TB]** Fixed missing pattern data and edge definition on signal group with only one pin.
- **0001285: [AemulusDM TB]** Fixed 'PXE' shape in timing file.
- **0001286: [AemulusDM TB]** Pattern Burst with more than 1 pattern, now outputs them in the correct order.

V2016.1.1 Patch Release Changes:

- **0001338: [V93K WB]** The combo file data generated for bidir scan pins has been corrected.
- **0001323: [V93K WB]** The maximum signal name length has been changed from 16 to 64 characters.
- **0001312: [V93K WB]** Added offset SPEC to all equations.
- **0001273: [V93K WB]** When the "port name" field is used, add it to the standard spec names to make them unique.
- **0001297: [UltraFLEX TB]** Fixed a problem where the bridge produced 6 time sets when a pin file was used, and only 1 with no pin file.
- **0001300: [UltraFLEX TB]** Fixed a problem where the ATP file header was not correct with a leading comma in the 'tset' line and the Module/Global Labels were the same.
- **0001271: [WAT]** The "intervals" parameter is no longer ignored making the track distribution feature in WM+ more useful.
- **0001307: [V93K WB]** The bridge now appends "_{port_name}" to EQUATIONS when port is present and HSM3600 tester is selected.
- **0001304: [STIL Out]** Annotations previously between Labels and Vectors are now output before the Labels.
- **0001263: [STIL Out]** 'P' states on timing tracks are now preserved in the output.
- **0001310: [V93K WB]** Scan chains being driven from the same input have been corrected in the output (AVC) file.
- **0001264: [WaveMaker Plus]** Keysight logs without cross references are now matched to the right vectors.
- **0001287: [WaveMaker Plus]** Crash fixed when reading timetable files produced by WAT when the current working directory has a long pathname.
- **0001290: [STIL In]** Default WDB group names are now modified and passed through instead of producing an error.
- **0001289: [STIL In]** Fixed a problem with expressions in Timing block when no Specs block is defined.
- **0001265: [WAT]** Added parameter "SourceType (SEF/WDB)", to tfs file.

V2016.1.0 Release Changes:

- **0001186: [TimeTable]** Signals with Deviant behavior now show a warning icon next to the name, and a button has been added to the upper right corner of the display to step through all the warnings, jumping directly to the flagged signal.
- **0001181: [TimeTable]** A warning is now issued when the input and output sample points are not the same on a bidirectional signal.

- **0001177: [TimeTable]** The progress display has been improved, showing the time remaining during analysis, and is more consistent about showing two progress bars when multiple steps are being performed.

- **0001183: [TimeTable]** A histogram display, to show the frequency and distribution of edges across the simulation, has been added.

- **0001184: [TimeTable]** The Quartet WaveBridge has been added to TimeTable and WM+.

- **0001211: [TimeTable]** Fixed a problem where the keyboard focus was not being set properly when working in the TimeTable editor.

- **0001243: [WaveMaker Plus]** Fixed a problem where opening a file from the scenario pane didn't always open the file.**0001241: [WaveMaker Plus]** When "Remember My Changes to Signal Ordering" is enabled in WM+ Preferences, the radix is now saved along with the signal order.

- **0001242: [WaveMaker Plus]** It is now possible to search for a cycle number in the Waveform Viewer on an SEF database, when the "Overlay Cycle Boundaries" option is turned on.

- **0001243: [WaveMaker Plus]** When selecting a new tab in WM+, the focus now changes without needing to click again in the new window.

- **0001023: [WaveMaker Plus]** The "File" menu now has a "New Database" option to create an SEF, WDB or SDB database.

- **0001180: [WaveMaker Plus]** Waveform Viewer performance has been improved on large databases when using the Zoom function to change perspective.

- **0001206: [WaveMaker Plus]** Fixed a bug where WM+ would sometimes crash when deleting a subdirectory, then expanding another subdirectory.

- **0000985: [WaveMaker Plus]** In the Waveform Viewer, the zoom level can now be changed by opening the context menu on the horizontal time scale, and selecting a new time value from the pop-up menu, or by opening the context menu on the waveform display, and selecting the "Scale Units" submenu. NOTE: the current time scale setting will be grayed out.

- **0001037: [WaveMaker Plus]** The PMode can now be changed on a WDB/SDB by opening the context menu on the waveform display, and selecting "P Mode" from the pop-up menu.

- **0000949: [WaveMaker Plus]** Users can now select the location of the "Temp Directory" from the context menu of an open scenario window.

- **0001079: [V93K WaveBridge]** The HSM tester model now indicates an error and stops when processing a database with more than 1 TimePlate.

- **0001214: [Verilog In]** Added a new EVCD In Converter for processing eVCD files, which does not have the option for an input SDF file for defining signal direction like the Verilog In Converter.

- **0001203: [V93K WaveBridge]** Changed the '-o' and '-c' switches in the .run file, output by the WaveBridge, so the AIT compiler now creates files with the test program name.

- **0001237: [AddComment Conditioner]** Added a new Conditioner to add comments to an SEF database at a specific time stamp.

- **0001139: [WGL In]** TimePlates with duplicate tracks for a signal are now allowed.

- **0001135: [WGL In]** Warning messages of the same type are now limited to 10.

- **0001140: [WGL In]** Added a default mapping for bidirectional signals with entries in both Input and Output data columns.

- **0001070: [V93K TRT]** Bidirectional output tracks are now converted from ZQX to XQX when writing to the SDB.

- **0001071: [V93K TRT]** When converting brackets on bus members to underscores, the trailing underscore is now dropped.

- **0001069: [V93K TRT]** Removed some superfluous messages that are output to the log file during the translation process.
- **0001068: [V93K TRT]** The tool no longer creates useless directories during the conversion process.
- **0001067: [V93K TRT]** Fixed a problem where the tool was trying to create a directory that was already there.

V2016.0.0 Beta Release Changes:

- **0001201: [Sequence Match Conditioner]** The default for "PMode" was changed to "FROM_TIMING_WDB".
- **0000984: [WaveMaker Plus]** Added "Select None" to the Signal context menu in the Waveform Viewer.
- **0001164: [WAT Conditioner]** The WAT now correctly processes all possible RZ/R1 shapes.
- **0001057: [WaveMaker Plus]** Fixed a problem where Export Batch was encoding path names with the temporary work directory.
- **0001120: [WaveMaker Plus]** Fixed a problem where Copy and Past on an "Align" conditioner in the scenario display, set it to SIGNAL not PERIOD, as in original.
- **0001189: [V93K WaveBridge]** The Maximum Edge Placement has been corrected for some tester models.
- **0001188: [V93K WaveBridge]** The Maximum Cycle Time for the new PS instrument has been corrected.
- **0001131: [V93K WaveBridge]** The WaveBridge now shows a progress indicator during the test program generation stage.

V2015.0.3.1 Patch Release Changes:

- **0001194: [WAT Conditioner]** Fixed a problem where the conditioner was not processing muxed output signals correctly.
- **0001150: [Signal Edit]** Producing a WDB with an UNBUSSIFIED signal that is a scan chain edge pin, now passes the WDBChecker.
- **0001169: [Signal Edit]** The Scan output is no longer missing when the conditioner CLONES a signal with a scan chain.

V2015.0.3 Patch Release Changes:

- **0001094:[WaveMaker Plus]** Fixed a problem where the 'Find Signal' function in the Waveform Editor was not functioning properly.
- **0001144: [Keysight STIL Out]** Changed the output of the WaveformTable to not include '/N' type Drive Events.
- **0001147: [Keysight STIL In/Out]** Added support for Markers (like Trigger) in the Site block.
- **0001151: [Keysight Product]** Changed the 'Help/About' dialog to show only the highest level of license installed, either "M9192A" or "M9193A" not both.
- **0001152: [Keysight Product]** The Results format now supports configurations of up to 12 modules.
- **0001162: [STIL In]** Fixed an issue where the process would hang on 'Goto' statements in Pattern block.
- **0001153: [WaveMaker Plus]** Fixed the port names and icons in the Scenario Editor, which were labeled "WDB" when they were actually "SDB".

- **0001154: [WaveMaker Plus]** Fixed a problem where WM+ would sometimes take a long time to load.
- **0001096: [V93K WaveBridge]** Fixed a problem where the bridge did not discover Loop opportunities with Xmode > 1.
- **0001108: [V93K WaveBridge]** Fixed an issue where the bridge did not perform Loop compression when RepeatCompression is set to FALSE.
- **0001109: [V93K WaveBridge]** Fixed an issue where the bridge did not place a second LoopStart on a modulo-8 row.
- **0001114: [STIL In/Out]** Added support for STIL 1450.1 'X Ref' (Cross Reference).
- **0001136: [J750 TesterBridge]** Added MCLK PinMode and MCLK formats to the J750 ate file.
- **0001137: [WaveMaker Plus]** Fixed a problem on some WGL files, where double-clicking to open an editor, caused a crash.
- **0001138: [V93K WaveBridge]** Fixed an issue where the bridge did not correctly align a second Loop instance to modulo-8 boundary.
- **0001145: [J750 TesterBridge]** Fixed an issue where some tester formats did not set 'd0' correctly.
- **0001146: [J750 TesterBridge]** Constraint checking for pulse width and retrigger times now works properly.
- **0001148: [STIL In]** Fixed several problems where WFC repeats ('\rNUM <WFC+>') in Pattern Vectors and Scan Vectors were not being interpreted properly.
- **0001132: [Keysight Product]** The Pattern Validation and SVF file format menu items are no longer visible in WM+.
- **0001133: [Keysight Product]** The name in top left corner of WM+, now reads "DSR Pattern Editor".
- **0001112: [Keysight STIL In]** The converter now supports Loop count of 0 on MatchLoop and WatchLoop.
- **0001113: [Keysight STIL In]** The converter now has the option for "Type = WDB" removed, and SDB is the only choice.
- **0001117: [TDS Process]** The log file has been cleaned up to make it easier to see meaningful errors and warnings by removing non-essential messages and standardizing license usage.