

# Solstice-TDS v2023.0-r5809

## Release Notes

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### Changes for Release v2023.0-r5809:

- **0002022 [UltraFLEX / J750 TesterBridges]:** A problem was fixed where formulas in the Time Sets (Basic) sheet were missing the leading '=' in the cell data when using the Add Equation option.
- **0002021 [Aemulus TesterBridge]:** A problem was fixed when using Mux Mode where the Mux WFC on input pins was not being set to a no-op ('z') on non-Mux vectors.
- **0002020 [WGL In CAE]:** Improvements were made to the in converter to speed up the handling of large blocks of comments within the pattern section.
- **0002010 [STIL In CAE]:** An enhancement was made to the in converter to restrict signals to only the ones present in the Port Definition File, if used. This allows users to limit the signal set of the incoming source file.
- **0001959 [V93000 WaveBridge]:** A problem was fixed where the bridge would create an empty pin group in the output test program when all pins within the group were marked as REFERENCE.

## Changes for Release v2022:

- **0002017 [WaveMakerPlus]:** A problem was fixed where simulation log files were incorrectly interpreted as a comments file when dropping them onto an SEF.
- **0002015 [UltraFLEX TesterBridge]:** Support was added for the UltraFLEX+ UP2200 instruments with Single and Dual Modes. The new instruments are available in the drop down menu for ATE Type in the Properties Sheet.
- **0002014 [V93000-ST8 TesterBridge]:** Support for Initial P State was added where the first vector of the output pattern has the initial timing setup to convert a 'PS' waveform shape to a 'US' waveform.
- **0002006 [WaveMakerPlus]:** A problem was fixed where an OrbitX based scenario with a conditional step was not running correctly in batch mode (wavemakerplus -b).
- **0002004 [WaveMakerPlus]:** Support for mapping bus names with alternate naming conventions was added to the Port Map's Auto-Map feature. Bus names with brackets (BusA[7]) are now converted to an ATE style naming convention (BusA\_7).
- **0001999 [Chroma 3680 TesterBridge]:** The changes below were made to the output files of the TesterBridge:
  - In the pattern file for SCAN vectors, a 'scanload' opcode was added.
  - In the pattern file, the default 'nop' opcode was removed.
  - In the SetPins.cs file, "SCAN\_IN" and "SCAN\_OUT" was added to the 'attributeStr' for SCAN pins.
- **0001998 [Pattern Replace Tool]:** The tool is now able to process Multi-Time-Domain WDBs.
- **0001994 [WaveMakerPlus]:** A new feature has been added that allows an OrbitX loop to be restarted after an error. The operation where the error occurred will be highlighted in red and an option will be available to resume the scenario from that point.
- **0001973 [STIL In CAE]:** A problem was fixed where the application would suddenly terminate when running out of resources on the Windows platform. The process will now exit gracefully with an error indicating what the problem was.
- **Known issues in this release for the V93000-ST8 TesterBridge:**
  - After change of period, an incremental TPL entry is generated for each pattern even though timing is identical between patterns.
  - The syntax in the timing file is missing an entry for the last timingset used.
- **0002003 [V93000-ST8 TesterBridge]:** The issues below were fixed as part of the verification on the V93000-ST8 offline software. Testing was done on testcases with Incremental Timing, MTD (Ports) , Equations and TS-Switching (changeTiming).
  - Fixed a problem where Spec variable names did not match the names in the Eqn.spec timing file.
  - Added the domain as part of the TimingSet name to make them unique across the timing files.
  - Added a 'changeTiming' Instruction on the 1<sup>st</sup> vector of the pattern file for TS-Switching in Incremental Mode.
- **0002000 [Verilog Out CAE]:** The keyword "expect" was changed to "expected" so as not to conflict with the keyword in System Verilog.
- **0001996 [Verilog Out CAE]:** An option was added to display WDB/SEF comments during simulation in FAST mode.
- **0001993 [WaveMakerPlus]:** The OrbitX iteration tables are now refreshed when a loop starts executing as well as when the scenario starts running.
- **0001992 [STIL In CAE]:** Limited support for the 1450.1 *Variables* block and *IntegerConstant* syntax was added to the converter. The variables identified by the *IntegerConstant* statement can be referenced in the *Spec* block variable's timing expression.
- **0001992 [STIL In CAE]:** Support was added for the Tessent "async\_clock" declaration in the STIL Header block annotations. Each clock definition will be output as a separate domain in the WDB.
- **0001990 [V93000-ST8 TesterBridge]:** An error message is now generated on Time Domains that don't have any signals listed in that domain. The problem was originally shown in the output as an incomplete pin group in the SignalGroups file.
- **0001989 [V93000-ST8 TesterBridge]:** A couple of changes were made to the Properties Sheet interface:
  - The field 'ATE X-Mode' was removed and is now only settable from the Pin Assignment File. A default of X-Mode 1 will be used if not assigned in the PAF.

- A new option has been added to improve the handling of timing equations, along with its support in TS-Switching mode. The Properties Sheet *'equations'* field has the following options:
  - *PassThru*: Any equations from the incoming database will be passed through to the output test program.
  - *AddEqns*: Period based equations will be generated for each pin in the output test program. Note: the Timing Groups option will default to NO.
  - *Times*: The edge timing in the output test program will set to time values.
- **0001988 [V93000-ST8 TesterBridge]**: A problem was fixed in Incremental Mode where Period changes in TimePlates with the same name were not being tracked from one iteration to the next. A change in the Period now causes a new timing set to be produced in the output test program.
- **0001978 [NI-STS TesterBridge]**: A new option has been added to improve the handling of timing equations. The Properties Sheet *'equations'* field has the following options:
  - *PassThru*: Any equations from the incoming database will be passed through to the output test program.
  - *AddEqns*: Period based equations will be generated for each pin in the output test program. Note: the Timing Groups option will default to NO.
  - *Times*: The edge timing in the output test program will set to time values.
- **0001972 [Chroma 3680 TesterBridge]**: An adjustment was made to the signal name length to allow up to 255 characters.
- **0001968 [Cyclizer Conditioner]**: Due to a condition where the process seems to be hung, the Cyclizer now outputs improved log messages to WM+. The improved messages include the Period being used for cyclization, which could be the cause for long processing times if incompatible with the base simulation clock.
- **0001951 [WaveMaker Plus]**: Improvements were made to the error message output by WM+ when it fails to find a license, including the status of the license variable that applies. Also, the license manager (RLM or FlexLM) is now identified in the WM+ Help/About dialog box.
- **0001828 [UltraFLEX TesterBridge]**: The *'IGXL Version'* field was removed from the Properties Sheet interface and is now available as an ATE file setting: *IGXL\_Software\_Version*. The default version setting for each model is shown below:
  - V8 – teradyne\_ultraflex\_single.ate
  - V8 – teradyne\_ultraflex\_dual.ate
  - V9 – teradyne\_ultraflex\_800\_single.ate
  - V9 – teradyne\_ultraflex\_800\_dual.ate
  - V9 – teradyne\_ultraflex\_1600\_single.ate
  - V9 – teradyne\_ultraflex\_1600\_dual.ate
  - V9 – teradyne\_ultraflex\_1600\_quad.ate
- **0001984 [V93000-ST8 Retargeter]**: A problem was fixed in the Retargeter where the number of open text files reached the maximum and caused an error condition.
- **0001983 [V93000-ST8 Retargeter]**: The sequence map output file has been enhanced with an OrbitX iteration table that allows it to be loaded into WM+ and used subsequently with Verilog Out to make a testbench per pattern.
- **0001982 [V93000-ST8 Retargeter]**: A problem was fixed where errors were being reported on valid WDBs produced by the Retargeter.
- **0001979 [V93000-ST8 TesterBridge]**: A change was made in the TesterBridge to include the 'brk' definition in the Wavetable for xMode 1. Also, a new parameter was added to the PAF to allow setting the break state on clock pins to pulse.
  - PAF parameter = *BrkState*, possible values for pins are 'N' (no change) or 'P' (clock pulse), with 'N' as the default. See the User Manual under TesterBridges for more information.
- **0001976 [V93000-ST8 TesterBridge]**: A problem was fixed where the TesterBridge would issue an “Unable to open file” error message when using Incremental Mode with xMode 4 selected.
- **0001975 [WDB Conditioner]**: A problem was fixed where the Conditioner would not correctly process a single-port MTD WDB when running TimePlate Optimize.
- **0001974 [Verilog Out CAE]**: The Out Converter now supports portmap files produced by Pattern Validator.

- **0001966 [STIL In Converter]:** A problem was fixed where the Converter would go into an infinite loop when the source is a corrupted gzipped file.
- **0001969a [NI-ST8 TesterBridge]:** A problem was fixed where the TesterBridge would incorrectly select pin groups that did not have compatible timing.
- **0001969b [NI-ST8 TesterBridge]:** A set of timing constraints was add to the TesterBridge:
  - Minimum period = 10.0ns.
  - Minimum time between any driven data change = 3.75ns.
  - Minimum time between any Drive On and Drive Off edges = 5.00ns.
  - Minimum time between Compare Strobes = 5.00ns.
- **0001967 [V93000-ST8 TesterBridge]:** A problem was fixed in Incremental Mode where some pattern characters used were not defined in the Wavetable of the timing file.
- **0001964 [J750/UltraFLEX/Flex TesterBridges]:** The TesterBridges now have the option to produce period based timing equations in the output test program. The Properties Sheet 'equations' field has the following options:
  - *PassThru:* Any equations from the incoming database will be passed through to the output test program.
  - *AddEqns:* Period based equations will be generated for each pin in the output test program. Note: the Timing Groups option will default to NO.
  - *Times:* The edge timing in the output test program will set to time values.
- **0001888 [UltraFLEX TesterBridge]:** A problem was fixed when using the 'timing values' option where the Period value was using a time constant instead of the variable name.
- **0001833 [V93000-ST8 TesterBridge]:** The TesterBridge now supports Multiple Time Domains (MTD), and the V93000 test program produced loads directly into the ST8 software. This works with Incremental Mode and includes assigning different xModes to each of the domains defined. See the V93000-ST8 TesterBridge documentation in the Solstice User Manual for instructions on how to setup an MTD scenario.
- **0001952 [V93000-ST8 TesterBridge]:** The FunctionalBurst flow with the java method was removed from the standard test program output by the TesterBridge, and can now be enabled through the custom ATE file option. See the V93000-ST8 TesterBridge documentation in the Solstice User Manual on how to set this up.
- **0001950 [V93000-ST8 TesterBridge]:** The TesterBridge was modified to add an internal library to zip the pattern file instead of relying on the OS zip command. As such, the option for turning off the pattern zip file has been removed.
- **0001767 [All TesterBridges]:** Support for Multiple Time Domains has been added to the TesterBridges when using an MTD enhanced database (MTD-WDB). For most TesterBridges, the test program will be output into a separate directory for each domain. See the Solstice User Manual under | User Defined Files | Signal Definition Files | Signal to Port/Domain Mapping | for more information.
- **0001949 [All TesterBridges]:** A new feature has been added to retain the internal incremental files for when additional patterns are added to the flow. When running new pattern files through the flow, previous patterns will be skipped and incremental timing information will be constructed across all patterns, new and old. A new option has been added to the TesterBridge to restart the Incremental process for the current pattern set in the OrbitX table.
- **0001880 [Simulation Rules Checker Utility]:** The SRC Utility has been enhanced to read a WDB as well as an SEF database.
- **0001954 [V93000-ST8 Retargeter]:** A problem was fixed where pin delays in expressions were not handled correctly if the variable name already existed in the test program in a different form.
- **0001965 [Verilog Out Converter]:** Support has been added to the Converter for Multiple Time Domains which allows the user to define the order in which WDBs are applied to a DUT model through the use of a Sequence file. See the Verilog Out section of the Solstice User Manual for more details.
- **0001957 [V93000 WaveBridge]:** A change was made in the WaveBridge to assign an edge time to signals that have no activity to remove the error in Smartest when loading a test program.
- **0001944 [V93000 WaveBridge]:** A problem was fixed where some equation variable names were not properly converted in the test program.

- **0001947 [STIL In Converter]:** An error is now generated in the Pattern Block when the WFCs on a Signal do not resolve into a valid track for the currently selected WaveformTable. This can happen when Signals are left undefined in a Vector after changing the WaveformTable.
- **0001946 [WaveMaker Plus]:** A problem was fixed where WM+ would unexpectedly quit when searching for signals in the Waveform Editor.
- **0001942 [V93000 WaveBridge]:** An erroneous error message was fixed when running in incremental with Break Waveforms; "Error:no drive edge available...".
- **0001941 [V93000-ST8 Retargeter]:** A new module has been added to Solstice to read V93000 StmarTest8 test program files and produce a WDB, suitable for retargeting to a different TesterBridge or WaveBridge. The new module can be found in the WM+ "Choose Operation" menu under "trt->v93000\_st8". The following restrictions apply:
  - If test program contains drive waveforms with no actions, the UltraFlex will not be able to generate test programs from the WDBs.
  - The test program must define its pattern bursts using opsequences.
  - All pins are expected to have timing.
  - Pattern comments are not preserved.
  - The following pattern instructions are ignored: actionCall, changeLevel, changeTiming, match, nop, wait
  - The "using" statements in specification files are ignored.
  - Signal setups of timing set and wavetables from multiple files not supported. I.e. the last timingset or wavetable loaded for each signal found in the import hierarchy is applied. This restriction has no effect on test programs output by the ST8 TesterBridge.
  - Parallel pattern sequences are not supported.
- **0001939 [Add Equation Tool]:** The default for "Bind period variable" is now YES.
- **0001938 [WDB Conditioner]:** A problem was fixed in the TimePlate Optimization stage where a clock shape that got promoted (DUD => PSD) was missing pulses in the output database.
- **0001935 [License]:** The RLM license manager for Windows has been upgraded to v14.
- **0001934 [WDB Conditioner]:** A problem was fixed where the TP Optimize operation was creating a faulty database causing the TesterBridge to quit without producing a pattern file.
- **0001933 [Cyclizer Conditioner]:** An incremental timing feature was added to the Cyclizer to allow a timing database to be include as an input to the operation.
- **0001930 [Aemulus TesterBridge]:** Some problems were fixed in the TesterBridge:
  - The check for a violation of the minimum period is now performed before the pattern file is generated and any errors found during the process no longer result in empty output files.
  - A problem with Mux Mode was fixed where the last row in the pattern file was incorrect if it was not a full Mux cycle.
- **0001925 [All TesterBridges]:** All TesterBridges now support an internal Incremental Mode which removes the need for the Incremental Conditioner when running an OrbitX loop on multiple pattern files.
- **[V93000-ST8 TesterBridge]:** Updates and Enhancements:
  - **0001726:** The TesterBridge is now able to automatically detect the optimal period and split several TimePlates based on the GCD. The 'detect period' option produces timing and edges based on the sub-cycles of the incoming TimePlates, which eliminates the need to re-cyclize the WDB to get a single TimePlate.
  - **0001936:** The TesterBridge will now automatically generate timing equations based on the edge value in relation to the period. The equations get generated when the database does not already have equations and the options are set as follows:
    - TS Switching = NO
    - Timing Groups = NO
    - Equation Usage = Equations
  - **0001921:** A problem where using the TesterBridge with the Cyclizer and Incremental Conditioner caused missing edges in the output timing files was fixed due to the enhanced TesterBridge Incremental Mode changes and detect period option.

- **0001924:** A problem where using the TesterBridge with the Incremental Conditioner caused missing vectors in the output pattern file was fixed due to the enhanced TesterBridge Incremental Mode changes.
- **0001804 [V93000 WaveBridge]:** The default TCL settings for “P” class instruments have been changed to:
  - SubroutineCompression := FALSE;
  - LoopCompression := FALSE;
  - RepeatCompression := TRUE;
- **0001895 [NI-STS TesterBridge]:** The TesterBridge now generates the correct syntax in the project file for importing several pattern files into the NI Digital Pattern Editor. To enable this feature, when converting multiple source files in an Orbitx Loop, select the “bridge action = Block” option.
- **0001892 [Aemulus TesterBridge]:** Support for 2x Mux Mode and the DM58xx Tester ATE Type has been added to the TesterBridge.
- **[V93000 TVT]:** Updates and Enhancements:
  - **0001931:** The PLI now supports an input portmap file to map the information between the WDB and the Verilog model.
  - **0001906:** The PLI now automatically detects whether the binary pattern file has compression and makes the necessary adjustments to read the file in.
  - **0001823:** The compiler was changed to correctly process xMode timing generator values produced by the V93000 WaveBridge.
- **[WaveMakerPlus]:** Updates and Enhancements:
  - **0001901:** WM+ now changes the path of TDSDIR if it does not match the path where it was launched from.
  - **0001922:** When loading a port list from a Verilog file that has more than one module, the user can choose the module that gets loaded.
  - **0001923:** When comparing databases, the user can apply a port map to match up pins between the two databases.
  - **0001927:** When comparing databases, the user can choose to ignore differences based on specific states. The options can then be set as a preference and applied to future comparisons.
  - NOTE: Some large compares may not display the progress bar correctly but the compare feature is functioning and mis-compare reports are accurate. The Waveform window re-displays and updates if a mis-compre is found or the task completes.
- **0001917 [NI-STS TesterBridge]:** A problem where using the TesterBridge with the Incremental Conditioner caused missing vectors in the output pattern file was fixed due to the enhanced TesterBridge Incremental Mode changes.
- **0001736 [STIL In Converter]:** After importing a STIL file, the WDB Checker no longer reports superfluous warnings about unnecessary pattern data.
- **0001650 [TimeTable Utility]:** A problem was fixed where an erroneous error was generated on a pin with a DNRZ format and 2 edges (with one edge not active).

## Changes for Release v2021:

- **0001929 [Compare Conditioner]:** A problem was fixed in the conditioner, where a large number of signals in the operation file would result in an error with the message "Signal not in source".
- **0001928 [Signal Edit]:** A problem was fixed in the Signal Edit conditioner and the Signal Editor UI where names with greater than 128 characters were causing the process to terminate unexpectedly.
- **0001919 [WDB Checker Utility]:** The utility now displays errors and warnings to stdout log so that it is consistent with the other TDS modules.
- **0001918 [WaveMaker Plus]:** A new feature in was added to export an SEF type database directly from an SDB or WDB type database.
- **0001915 [Verilog Out Converter]:** The value of "miscompareLimit" can now be changed without the need to recompile.
- **0001914 [WDB Checker Utility]:** The utility no longer complains about "no sample state" for scan pins on some databases.
- **0001912 [WaveMaker Plus]:** The Scenario Editor now refreshes the port icons of an operation to reflect it's type, as soon as it completes running.
- **0001907 [Licensing]:** The DEMO License check was disabled to fix a problem where the license manager would sometimes use the DEMO license instead of the TesterBridge license.
- **0001902 [V93000 WaveBridge]:** A problem was fixed where the "universalize wavetable" parameter was not applied when an xMode of 1 was selected.
- **0001896 [Incremental Conditioner]:** A problem was fixed where some pins would acquire a duplicate timing track in the output database which caused the subsequent TesterBridge operation to fail.
- **0001887 [Add Equation Tool]:** A new parameter was added in the Properties Sheet to allow offsets to be added in the equation definitions for pins and groups.
- **0001884 [Signal Edit Conditioner]:** The conditioner now supports operations on Multiple Time Domain (MTD) databases, such as Match Pin File, Change Timing and Change Direction, with the ability to focus on a single Time Domain or all Time Domains.
- **0001879 [Simulation Rules Checker Utility]:** A new rule was added to check for unique edge times. Refer to the Solstice User Manual under Tools → SRC for a complete description and information on usage.
- **0001877 [Simulation Rules Checker Utility]:** Corrected a problem where log messages were output when the "suppress banner" option was enabled.
- **0001875 [UltraFLEX TesterBridge]:** A problem was fixed where Scan Vectors were missing in the output pattern file when using the TesterBridge with the *Incremental Conditioner*. The recommended settings for *STIL In* and *Incremental Conditioner* have also changed along with the TesterBridge User Manual that shows the correct configuration. See the *Solstice User Manual* → *TesterBridges* → *UlterFLEX* → *Pattern Burst with Incremental Timing* for more information.
- **[WaveMakerPlus]:** Changes and fixes in the UI:
  - **0001874:** The Scenario Editor was fixed to correctly handle file object paths when doing a Copy and Past between scenarios.
  - **0001869:** The Scenario Editor was fixed so that displaying a user comment popup on an operation does not cause warning messages in the console.
  - **0001849:** A fix was made so the cursor no longer gets stuck as an hourglass when processing the steps during the "New Scenario → Import Functional Waveforms".
  - **0001672:** The File Browser was fixed so that network drives now appear in the "Change Working Directory" dialog box.
  - **0001669:** A new executable is available for WaveMakerPlus (wavemakerpluscl.exe) for running in "Batch" mode with the "Command Prompt" on Windows.
- **0001872 [ETS800 TesterBridge]:** The user comments in the output pattern file were changed from "// ..." to "Ann {\* ... \*}" style.
- **0001871a [DiamondX TesterBridge]:** Changes and fixes to the TesterBridge:

- A change was made to the way repeat vectors get formed when source comments are enabled. Previously, source comments in the source database would prevent duplicate vectors from forming a repeat but now the comments are accumulated and output after the repeat vector.
- The repeat option was changed to compression and support for “PassThru” was added to allow repeats in the source database to pass through as is.
- The end-of-line vector comments were fixed to accurately calculate the cycle count for scan vectors.
- **0001871b [NI-STS TesterBridge]:** A change was made to the way repeat vectors get formed when the 'user comments' parameter is enabled. Previously, user comments in the source database would prevent duplicate vectors from forming a repeat but now the comments are accumulated and output after the repeat vector.
- **0001870 [V93000 WaveBridge]:** An option was added to the WaveBridge to apply equations directly to the timing edges (d1, d2... etc) instead of using a variable.
- **0001868 [V93000 WaveBridge]:** The WaveBridge no longer generates an error for missing tracks in the TimePlate when processing an SDB from a ATPG STIL file.
- **0001867 [WAT Conditioner]:** A new option has been added to the Properties Sheet for 'MSB assignment' of the bus index order with the choices being: DESCENDING as in “abus[3..0]”, ASCENDING as in “abus[0..3]” or SIGNAL\_ORDER. Also, the Properties Sheet now has the 'Advanced Settings' option to reduce clutter.
- **0001866 [C3650 TesterBridge]:** Changes and fixes to the TesterBridge:
  - The log message now accurately shows the number of pattern rows in the output file.
  - The 'compression' parameter was added to allow repeats to be passed through from the source database.
  - A parameter was added to specify the minimum count for repeat vectors in the pattern file.
  - The end-of-line vector comments were changed to improve readability and accuracy.
- **0001863 [STIL In Converter]:** The status report for the operation was enhanced to include the names of the TimePlates in the WGL file along with the period and usage count.
- **0001862 [WGL In Converter]:** The status report for the operation was enhanced to include the names of the TimePlates in the WGL file along with the period and usage count.
- **0001861 [C3650 TesterBridge]:** A fix was made in the output pattern for scan to convert the 1st scan state in a set of horizontal sanchains into the previous parallel vector with the 'scanload' opcode.
- **0001859 [C3680 TesterBridge]:** A fix was made in the output pattern for scan to convert the 1st scan state in a set of horizontal sanchains into the previous parallel vector.
- **0001858 [ETS800 TesterBridge]:** Added support for a supplemental timing file (<...>\_timing.cpp) to the output of the TesterBridge.
- **0001855 [WDB Conditioner]:** Improvements were made to the performance and log messages when running the TIMEPLATE\_OPTIMIZE operation on MTD databases.
- **0001837 [NI-STS TesterBridge]:** A problem causing Pattern Compiler errors, due to the a Timing Set name of “scan”, was fixed. The name “scan” was added to the list of reserved words checked by the TesterBridge, and now gets changed to “Scan”.
- **0001681 [WaveMaker Plus]:** A problem where WM+ windows would appear in random places when using dual displays was fixed.
- **0001848 [ETS800 TesterBridge]:** A fix was made to the 'SignalsGroups' block to replace other groups defined in the pin list with individual pins.
- **0001845 [WDB Conditioner / V93000 WaveBridge]:** A problem with the MTD\_PARTITION operation in the conditioner was corrected, so that free-running clocks and regular signals are now automatically separated into different domains. Allowing mixed domains with free-running clocks was causing various problems with the WaveBridge.
- **0001844 [V93000 WaveBridge]:** A problem was fixed in the WaveBridge timing file where the SPECSET line was missing from the “EQSP TIM,SPS” section when the source was missing or had no equations.
- **0001842 [WaveMakerPlus]:** Enhancements to UI and Scenario Editor:
  - Added the ability to define global comments and a title for a Scenario as well as attach comments to objects.
  - Added the ability to make execution of an operation in the Scenario conditional upon an environmental variable. Works with variables defined in an OrbitX Table.



- **0001840 [Chroma 3650 TesterBridge]:** A fix was made to the TesterBridge when combining Output Tracks, where a Mask Track merged with a Compare Track would cause missing pattern states and bad timing.
- **0001839 [WaveMakerPlus]:** A problem with WM+ quitting unexpectedly when comparing databases with muxed signals, has been fixed.
- **0001838 [NI-STS TesterBridge]:** Enhancements were made to the TesterBridge to better handle equations:
  - Equations in the .specs file now contain only the active SpecSet.
  - The Driver Off edge in the TimingSheet now uses the Period variable when equations are enabled.
  - Support for the 'time values' option has been added so that expressions can be used as edge values in the TimingSheets.
- **0001836 [WDB Conditioner]:** The MTD\_PARTITION operation for the Free-Running Clock partitioning preserves direction of the clock in the source database, has been fixed.
- **0001835 [V93000-ST8 TesterBridge]:** The TesterBridge has been changed to accommodate version 8.4 of SmarTest8 which requires the Main.prog testprogram file in the 'common' directory.
- **0001834 [V93000-ST8 TesterBridge]:** The PS9G instrument has been added to the TesterBridge to support version 8.4 of SmarTest8.
- **0001832 [V93000-ST8 TesterBridge]:** A fix has been made to correctly support pattern combinations for xModes when running the TesterBridge in incremental mode.
- **0001830 [Cyclizer Conditioner]:** An improvement has been made to the message the user receives when selecting a period that is too long for the events.
- **0001827 [WaveMakerPlus]:** An improvement has been made to reduce the number of steps it takes to assign a table to an OrbitX loop.
- **0001797 [WDB Conditioner]:** An enhancement has been made to the TIMEPLATE\_OPTIMIZE operation to support Multi-Time Domain databases. For more information on this feature, please contact [hotline@tessi.com](mailto:hotline@tessi.com).
- **0001796 [Cyclizer Conditioner]:** An improvement has been made to the Cyclizer to report the number of rows matched.
- **0001790 [WaveMakerPlus / STIL In]:** Changes have been made to the default settings for STIL In, when creating a "New Scenario / Import Scan Waveforms" from WM+. The defaults for 'scan structures' and 'C++ style comments' have been changed from YES to NO.
- **0001790 [STIL In Converter]:** Major performance improvements have been made to the converter to reduce the time and memory needed when importing scan files with millions of scan cells.
- **0000994 [WAT Conditioner]:** The conditioner now set the P-Mode in the output database to avoid conflicts when running SequenceMatch Conditioner.
- **0001831 [Signal Edit Conditioner]:** The CHANGE\_TIMING operation has been fixed to replace all tracks of the specified direction with the new track for a group or pin, in the specified TimePlate(s).
- **0001826 [J750 & UltraFLEX TesterBridges]:** Improvements for tracking Scan failures:
  - Padding on Sanchains is now calculated for each Scan Vector instead of the longest chain in the pattern.
  - An option for including Labels in the output pattern file has been added in the Properties Sheet. This option is only valid in Extended or Single Mode tester types.
- **0001825 [WDB Conditioner]:** Free-running Clock Domains now have the correct cycle times in the pattern when the original period has been overridden.
- **0001824 [V93000 WaveBridge]:** A problem was fixed in the WaveBridge where an error would occur on an SDB when using a conditioner to adjusting the timing in the database.
- **0001818 [WaveMakerPlus]:** The built in Examples in WM+ have been enhanced with various new operations, scenarios and flows. See the WM+ User Manual / Examples section for more information.
- **0001807 [WDB Conditioner]:** The TIMEPLATE\_OPTIMIZE operation has been improved to detect when a simple track copy would enable merging.
- **0001819 [Advantest T33xx WaveBridge]:** The WaveBridge has been refurbished and upgraded to work with the latest edition of Solstice-TDS.
- **[V93000 WaveBridge]:** Miscellaneous fixes and enhancements:

- **0001814:** An enhancement was made to support FreeRunningClock ports with the timing restriction of having one waveform for the entire pattern. FRC ports can be defined using the WGL FreeRunningClock syntax or waveform import ( freerunningclock prtC )...
- **0001811:** Break waveforms were fixed for input signals that don't have any events on them.
- **0001810:** The “No such file or directory” message for output objects no longer appears before the operation has tried to create them.
- **0001794:** An enhancement was made to allow compression on a port by port basis with a Pin Assignment File or a TCL file with the bridge operation. See the User Manual for more information.
- **0001793:** A fix was made to the PMFL file to add a “./” before the directory name in the 'path' directive.
- **0001791:** The output directory for patterns was changed from patterns to vectors and in the PMFL file from “pattern/zippped” to “vectors/zippped”.
- **0001786:** Improved edge assignment on bidir pins to allow 8x support on input tracks by assigning delays to the HI-Z actions of the output tracks and using 'PS' shapes on input tracks.
- **0001813 [WDB Conditioner]:** An enhancement was made to the MTD\_PARTITION operation to support FreeRunningClock on a domain. See the User Manual for more information.
- **[C3680 TesterBridge]:** Changes to the Chroma 3680 TesterBridge:
  - **0001817:** A fix was made so that changes to the 'level values' in the Properties sheet would be properly reflected in the 'setDeftLevels' function of the SetLvlS file. See the “C3680 Levels Support” section in the User Manual for more information.
  - **0001806:** The minimum Period for each of the Tester Modes was changed:
    - X1 = 8.0nS (125MHz)      X2 = 4.0nS (250MHz)      X3 = 2.67nS (375MHz)      X6 = 1.33nS (750MHz)
- **0001777 [TesterBridges]:** A problem common in several TesterBridges, where expressions that had a divide operation on integers were incorrectly handled, has been fixed.
- **0001780 [EVCD In Converter]:** The EVCD “\$dumpportson” and “\$dumpportsoff” statements are now ignored during processing to avoid parts of the simulation being skipped.
- **0001720 [EVCD Out Converter]:** Problems corrected in the Converter:
  - The output now correctly stops at the last event instead of the last transition.
  - An issue with the way buses were handled, when the MSB was less than the LSB, has been resolved.
- **[WaveMakerPlus]:** Fixes and enhancements:
  - **0001816:** A problem was fixed in the Scenario Editor where, after creating a new OrbitX Table by selecting the OrbitX properties button on an OrbitX loop, the new table was not connected to the loop.
  - **0001808:** A problem was fixed when installing the product on a new machine where the Examples directory list did not include the standard set of examples.
  - **0001800:** The 'New Scenario' wizard has been updated to use the Teradyne J750 TesterBridge instead of the WaveBridge.
  - **0001784:** A problem has been fixed on the Windows OS when using the 'New Scenario' with an EVCD file, the busy cursor does not changing back to the normal cursor and some temporary files were left behind.
  - **0001703:** A new feature on Windows OS is the ability to explore a folder from the 'Files' browser tab.
- **[STIL In Converter]:** Issues that were addressed with the In Converter:
  - **0001798:** An issue with equation based timing when creating an MTD type WDB, has been fixed.
  - **0001777:** An issue handling expressions with a divide operation on integers, has been corrected.
  - **0001485:** A warning message was added to help point out an issue in having a Scanchain length of 1 cell.
  - **0001396:** An issue when importing invalid Spec variables that caused errors in the resulting database, has been fixed.
- **[V93000 TRT]:** Some issues were fixed in the retargeter:
  - **0001675:** Temporary files are now removed when the process is finished.
  - **0001599:** Some issues related to converting Window to Edge and merging multiple compare states on a track, were fixed.
- **0001782 [TimeTable Utility]:** A fix was made to correct the SEF output path when running on Windows OS.

- **0001795 [Cyclizer Conditioner]:** A problem on the Windows OS, where the process would exit with an error about the TimingSource file when trying to process signals that produce thousands of tracks (asynchronous), was fixed.
- **0001806 [C3680 TesterBridge]:** Added support X2, X3 and X6 Modes:
  - The new modes are selectable in the Properties Sheet under the 'ATE name' parameter.
  - Modes are based on groups of pattern rows where Labels are allowed on the first row of the group, and the opcode is allowed on the last row of the group.
  - Scan, using the 'SCAN\_SEG' opcode, is available in X1 and X2 Modes. The other modes will flatten scan vectors into parallel vectors.
  - Pattern compression, using the 'rept' opcode, is available for all modes. Multi-vector loops in the source database are automatically flattened for all modes except X1.
  - Dummy rows are added at the end of the pattern when needed, to have the 'stop' opcode as the last row of the row group.
- **0001792 [C3680 TesterBridge]:** The changes below were made to the TesterBridge:
  - Vectors in the the pattern file now have a comma (',') between the timeset and opcode.
  - The repeat opcode in the pattern file was changed from 'rep' to 'rept'.
  - The maximum length allowed for the pattern name in the 'MAIN\_PAT <name>' statement is 256 characters.
  - Parameter settings for Pattern\_Name, Start\_Label\_Name and Stop\_Label\_Name were updated in the ATE file. More information on how to change the ATE file to customize the output program can be found in the Solstice User Manual, Chroma 3680 TesterBridge section.
- **0001789 [Add Equation Tool]:** The tool was enhanced to process Multi-Time-Domain WDBs, allowing equations to be added to each port.
- **0001785 [STIL In Converter]:** A problem was fixed with license queuing where some processes, like STIL In, would not finish even after a license becomes available. Some additional issues with license queuing were fixed. Details below:
  - Hitting CTRL-C could freeze an application queuing for a license. To solve this, SIGINT needed to be blocked in the heart-beat thread.
  - Stopped the heart-beat thread from waiting for a license that hadn't been checked out yet (in the case where the executable has to wait for a license to become available).
- **0001788 [V93000 WaveBridge]:** A problem was fixed where the application would suddenly quit when a break waveform referenced timing that was not defined.
- **[WaveMakerPlus]:** Changes made to the UI:
  - **0001787:** The "File->Save As..." function was fixed to work with WDB and SEF databases.
  - **0001781:** The V93000-ST8 TesterBridge was added to the Import TimeTable Wizard.
  - **0001454:** An improvement was made to the Scenario Editor when displaying long file names.
- **0001783 [C3680 TesterBridge]:** Enhancements and improvements to the Chroma 3680 TesterBridge:
  - Scan mode has been added to the output pattern file:
    - The SCAN\_SEG opcode includes the scan length and the first set of scan states in each chain are converted into a parallel vector to setup the pattern states for the non-scan pins.
    - The last set of scan states in each chain are converted into a parallel vector when the scan is on the last row of the pattern for the purpose of adding the halt opcode on the last row.
  - Tester restrictions for pattern compression and timing have been updated.
  - Pattern constructs have been added to support STIL MatchLoops and IddqTestPoint statements, if included in the STIL source file. See the Solstice User Manual for more information on the opcodes used.
- **0001764 [C3360 TesterBridge]** A problem was fixed where the output timing was not correct when pin groups, with a single pin defined, were used in the timing definition of the source file.
- **0001776 [IMS WaveBridge]:** The old IMS WaveBridge was incorporated back into the current Solstice release. This bridge includes the IMS ATS200, ATS125, XL60 and XL100 models.
- **[WaveMakerPlus]:** Improvements and fixes made to the UI:
  - **0001770:** Improvements have been made to the Waveform Viewer and Pattern Editor to reduce the number of drawing artifacts when viewed through a VNC connection.

- **0001733:** An Examples tab has been added (next to the File browser) that gives users the option to install prepackaged scenarios that demonstrate the use of various operations within the software. User the 'View / Examples' menu item to enable this feature.
- **0001702:** Some improvements were made in the way the Open Text Editor and Open System Editor operations handle spaces in the Path variable on the Linux OS. This also applies to the scripts Verilog Out generates for testbench paths.
- **0001412:** When running a scenario with an OrbitX loop, WM+ now issues warning about undefined variables before proceeding.
- **[V93000 WaveBridge]:** Several fixes have been made to the WaveBridge:
  - **0001775:** A problem was fixed where the timing for a bidir track was being applied to the output instead of the proper input track for traditional WDB.
  - **0001772:** A fix was made to prevent the WaveBridge from crashing on testcases using an X-Mode greater than 1, resulting in bidirectional waveforms.
  - **0001747:** The WaveBridge now correctly converts Window Strokes in the output EQSP Tim file, when using the 'use AIT? = NO' option. An advanced option was also added to convert Window Strokes to Edge Strokes.
  - **0001691:** When generating the EQSP statements in the output Tim file, the WaveBridge no longer outputs pins that have no assigned edges.
  - **0001110:** The user option for 'vector alignment: PAD/TRUNCATE' has been fixed for the HSM and PS tester models.
- **0001754 [Add Equation Tool]:** A problem was fixed with the 'createTCL' parameter where the NO state was not retain, when saving and reopening a scenario.
- **0001742 [Cyclizer Conditioner]:** The conditioner now properly stops processing and exits when a sequence match failure is detected.
- **0001727 [TesterBridges]:** When running a TesterBridge with the Incremental Conditioner in an OrbitX loop, the accumulated timing from the History DB, which is compatible with all the previously run patterns, is used in the output test program. See the TesterBridge User Manual and the 'use incr hist' parameter for more information.
- **[V93000 TRT]:** Several issues were fixed in the retargeter:
  - **0001677:** Some confusing error messages related to Window Strokes were changed.
  - **0001599:** Some issues related to converting Window to Edge and merging multiple compare states on a track, were fixed.
  - **0001407:** An issue where the 'Period\_div' statement was not handled correctly, has been fixed.

## Changes for Release v2020:

- **0001766 [WaveMaker+]:** A fix was made to the Waveform Editor where it would occasionally shut down unexpectedly when doing a forward search for edges.
- **0001760 [Signal Edit Conditioner]:** Some improvements were made to the conditioner:
  - An option was added to the Properties sheet to output the report file (default is NO).
  - The GROUP\_DELETE operation now accepts a wildcard (\*) which will delete all groups.
  - A new CHANGE\_TIMING operation was added which allows the selective replacement of signal timing tracks along with the pattern data (optional).
- **0001759 [J750 TesterBridge]:** A change was made to the Time Sets (Basic) sheet when in Extended Mode and using equations, to set the Drive Off value to a variable instead of using a fixed time value.
- **0001758 [J750 & UltraFLEX TesterBridges & OrbitX]:** A problem was fixed in the TesterBridge that was causing an error when assigning the 'workbook' field to a variable in an OrbitX loop.  
**Note:**
  - When changing the 'workbook' field with a loop variable, a separate set of program files for each iteration of the loop will be generated and for this type of setup, the 'bridge action' field must be set to Single.
  - To setup multiple patterns in a burst, the 'bridge action' field must be set to Burst, and the 'workbook' field needs to be a constant value. In this case, the TesterBridge will generate just one set of program files with the patterns listed in the <prgname>\_pgp.txt file.
- **0001757 [WaveMaker+]:** A problem was fixed in WM+ where the 'Load in TimeTable Editor' menu function did not always behave properly when used on an SEF database in the Files tab of the UI.
- **0001744 [WaveMaker+]:** A problem was fixed in WM+ where the Properties of an Operation were not being saved correctly when a Variable was used in a field that was hidden by the Advanced Settings check box.
- **0001734 [J750 & UltraFLEX TesterBridges]:** The TesterBridge is now able to properly convert a pattern with a Scan Vector on the first row.
- **0001741 [J750 & UltraFLEX TesterBridges]:** The default state map for Drive Unknown ('N') was changed to Drive Low ('0'). The Default\_Character\_Map parameter that adjusts this, can be found in the J750 and UltraFLEX ATE files.
- **0001739 [STIL In and other modules]:** A FlexLM heart-beat licensing related issue that caused STIL In and other Solstice processes to intermittently lock up, has been fixed. This problem was specific to the Linux OS, and the process would show no CPU usage but would never finish.
- **0001738 [Simulation Rules Checker Utility]:** Improvements were made to the SIGNAL LIST syntax to make it easier to specify the signals in the EXCLUDE list. The syntax for the SIGNAL LIST is now:
  - SIGNAL LIST = <list1> [ EXCLUDE <list2> ]
- **0001737 [Chroma TesterBridges]:** A problem was fixed in the bridge that caused an error when run inside an OrbitX loop, when using a loop variable in the 'program name' property.
- **0001732 [UltraFLEX TesterBridge]:** The default state map for Driver Off ('Z') for Input pins was changed from Drive Low ('0'), to 'X', Drive Off. The Default\_Character\_Map parameter that adjusts this, can be found in the UltraFLEX ATE files.
- **0001730 [V93000 WaveBridge]:** Some improvements have been made to the generated compile script to avoid a condition where v2b would hang when finding a bin.gz file already exists. Some additional fixes to the output message and PATH settings were also made.
- **0001729 [Window Conditioner]:** A problem with signals being masked incorrectly, due to an interaction with other signals, was fixed in the conditioner.
- **0001725 [V93000 ST8 TesterBridge]:** A problem that was causing an error was fixed when calculating the number of timing edges used in xModes greater than one. The number of edges used is now calculated on the pattern combos listed in the Wavetable timing file, and is separated by drive and receive edges with each having a maximum of 8 allowed. Some other related changes are listed below:
  - The standard pattern character for UDU shapes was changed from 'N' to 'p', with 'N' being reserved for the 'brk' waveform when using xModes.
  - Tracks with SBH or SBL type formats are now optimized to a RH or RL type format (where possible).

- Bidirectional pins with only output tracks, are optimized by removing the driver off at 'Ons'.
- **0001723 [V93000 WaveBridge]:** Several enhancements have been made to improve incremental timing and added options to provide predefined timing or manipulate existing WAVETBL, EQNSETS and SPECSETS.
  - See the Solstice User Manual for options and details.
- **0001722 [J750 and other TesterBridges]:** A problem was fixed where the bridge would generate an error when WGL default pin groups were encountered in the timing definitions. See below for an example:
  - ALLINPUT, ALLBIDIR := input[0pS:S];
  - ALLOUTPUT, ALLBIDIR := output[0pS:Q];
- **0001721 [V93000 ST8 TesterBridge]:** An enhancement has been made to the bridge that allows it to process large STIL scan files 2.5x faster. Individual results may vary depending upon the number of pins, scan chains, scan vectors and the machine hardware being used.
- **0001718 [WAT/Cyclizer Conditioner]:** A problem was fixed in the conditioners that was keeping them from processing databases created by STIL In with the SDB option enabled.
- **0001697 [Verilog Out Converter]:** Some problems with the way strobe width was handled during simulation were fixed in the Out Converter:
  - The various settings in the properties sheet that affect strobe width are now checked and enforced.
  - When running the simulation with the PLI, if the DUT files raises the timescale to be invalid with respect to the strobe width, an error message is emitted and the simulation is stopped.
  - In the case where the DUT file changes the timescale to be out of sync with the strobe width setting, warnings are emitted, but the simulation continues.
- **0001608 [Chroma TesterBridges]:** A problem was fixed in the bridge where the start/stop pattern labels did not reflect changes to the label parameters in the ATE file.
- **0001717 [UltraFLEX TesterBridge]:** The location of the 'scan\_type' directive in the pattern header was move to come before the ATPG section.
- **0001715 [Window Conditioner]:** A problem was fixed where the conditioner would not finish if the simulation ended in a partial cycle.
- **0001714 [Seq Match / Cyclizer Conditioner]:** The timing on buses was fixed to output member tracks separately when they have different input waveforms.
- **0001711 [STIL In]:** The parser now allows a single defined Category to be Global, and is not required to have a reference in the PatternExec block.
- **0001710 [TesterBridges]:** Unknown ('N') states on input scan chains are now converted to drive low ('0') states on the following bridges: Aemulus, C3360, C3650, Magnum, NI-STS and T2000.
- **0001709 [ETS800 TesterBridge]:** Support was added for user specified affixes that the bridge uses to identify pin direction when creating WaveformTable names and SignalGroup names. The 'pin dir names:' option can be found in the Properties Sheet.
- **0001707 [J750 / UltraFLEX TesterBridges]:** Multi-File Pattern Burst support was added to the bridges for use when running scenarios with an OrbitX on several source files. This option fills in the 'Pattern Sets Sheet' and adds the 'Pattern Groups Sheet', for the J750 TesterBridge, to run multiple patterns as a Pattern Burst.
- **0001706 [UltraFLEX TesterBridge]:** A problem fixed where processing large scan files would cause a long delay before the bridge would start.
- **0001699 [Pattern Validator / Verilog Out]:** A new feature was added to stop the simulation after a user defined number of mismatches are found.
- **0001698 [Pattern Validator / Verilog Out]:** The file listing the all the signals is no longer output by default, and an option was added that re-enables it.
- **0001696 [Sequence Match Conditioner]:** A problem was fixed in the conditioner that was causing the V93000 WaveBridge to fail to produce a valid timing file with 5 edgesets.
- **0001693a [TesterBridges]:** A new 'PassThru' choice has been added to the 'TimingGroups' option, which uses the original source signal groups when constructing the output timing. Selecting 'No' now causes the bridge to output the timing on each pin individually. Selecting 'Yes' now causes the bridge to choose the largest signal group that has common timing, and checks if the default pin groups qualify when available. This change applies to the following:

- C3360, C3650, DiamondX, Flex, J750, UltraFLEX and NI-STS TesterBridges.
- **0001693b [V93000-ST8 TesterBridge]:** The 'TimingGroups' option has changed to output timing on each pin individually when 'No' is selected. Selecting 'Yes' will cause the bridge to add a set of standard Waveform definitions to each pin, to optimize group matching of timing.
- **0001683 [TimeTable / V93000 WaveBridge]:** The scenario generated by the Tool has been updated to support the latest features of the WaveBridge.
- **0001682 [Waveform Viewer]:** An issue was fixed in the Waveform Viewer where the vertical line was not displayed, indicating when a transition occurred on a collapsed bus.
- **0001662 [WaveMaker+ / TimeTable]:** The “New Scenario” dialog has been improved to have better support for VCD files, and now has the option to add a Window Conditioner operation to the auto-generated scenario.
- **0001659 [TesterBridges]:** A problem was fixed that was causing the TesterBridge process to run out of memory when converting long scan chains to parallel vectors. This generally occurred when flattening scan chains that had more than 50K data states per scan vector, and would result in a significant increase in processing time or possibly cause the process to hang.
- **0001638 [V93000 WaveBridge]:** Some improvements have been made to the way the bridge does pattern compression on MTD databases.
- **0001630 [WaveMaker+]:** A new “Wrap” check box has been added to the Waveform Editor' “Find” control cluster, that stops at the end of the simulation if unchecked, or starts again at the beginning if checked.
- **0001624 [T2000 TRT]:** The reader is now able to handle single row repeats in the test program pattern file.
- **0001620 [V93000 WaveBridge]:** Source comments are now limited to 250 characters in the output pattern file.
- **0001605 [eVCD Out]:** Support for femtosecond resolution has been added to the out converter.
- **0001529 [Pattern Validator]:** The default strobe width has been changed to 200ps.
- **0001472 [V93000 WaveBridge / Signal Edit Conditioner]:** A problem was fixed where signals added by Signal Edit were not properly output by the WaveBridge.
- **0001463 [Add Equation Tool]:** The tool has been enhanced to allow equations at Ons on the first event of a track.
- **0001408 [WDB Conditioner]:** A problem was fixed when using the Concatenate operation, and the second WDB start location was a loop begin, the conditioner would exit prematurely.
- **0001095 [WaveBridges]:** A problem was fixed where an error would occur when generating the TCL file, cause by pattern bursts in the WDB having a space in the name.
- **0001705 [WDB Conditioner]:** A problem was fixed in the conditioner that was causing it to exit erroneously on certain testcases containing a large number of loops.
- **0001704 [J750 TesterBridge]:** Changes to the start label in the pattern file:
  - The label now uses the 'start\_label' key word instead of 'global' to prevent it from being stored in SVM.
  - The 'Start\_Label\_Name' parameter in the ATE file can be used to change the start label .  
See the TesterBridge User Manual on how to use and modify ATE files:
    - The '%V' macro as a substitute for the base pattern file name. (`Start_Label_Name = "%V_st";`)
    - Set the parameter to empty, to not output a starting label. (`Start_Label_Name = "";`)
- **0001701 [Sequence Match Conditioner]:** A fix was made to prevent the Conditioner from quitting unexpectedly on large databases with more than 14,000 signals.
- **0001700 [Verilog In]:** A fix was made to the Progress Status message to keep it from reporting negative values when processing VCD files greater than 4GB.
- **0001692 [V93000 WaveBridge]:** Improvements to the bridge:
  - Changes were made to the progress reporting of the compile script, showing the progress through each of the 3 stages separately (ddcrpt, binl and gzip).
  - A problem was fixed where the compiler wasn't run properly if the port assignment file had a port column and the source database was not an MTD.
  - Improvements to run time processing of certain types of databases.
- **0001684 [V93000 WaveBridge]:** A fix was made to prevent the bridge from quitting unexpectedly when processing Signal Groups that have a lot of members with long names (total num of chars in member names > 1024).

- **0001690 [Aemulus DM TesterBridge]:** The DM500x ATE has been updated with the following changes:
  - The name of the SCANSET block has been corrected in the Declaration file.
  - The SCANOUT 'z' Scan State has been changed to an 'X'.
  - Beta support for the '2.5ns' edge placement restrictions has been added as a new ATE model in the TesterBridge Properties Sheet. By selecting the "Aemulus\_DM500y" ATE name, the bridge will output a TIMINGSET block in the Declaration file that has the restrictions: (D0<D3) , (D1<D2<D4<D5) & (R0<R1) with a '2.5ns' pulse width.
  - Scan vectors appearing on the last row of the pattern, now have the last set of scan states unrolled into a parallel vector which is required to have the 'stop' opcode in it.
- **0001689 [STIL In]:** A problem was fixed in the reader when mapping Signals to Scan Ports, where the names did not match when there was an underscore as the last character.
- **0001688 [V93000-ST8 TesterBridge]:** Support has been added for Multi-File Pattern Bursts when running inside an OrbitX loop. The bridge now outputs the list of patterns to the 'PatBurst.flow' and 'PatOpSeq.seq' files.
- **0001687 [V93000-ST8 TesterBridge]:** The bridge now outputs a script to zip the pattern files when running on platforms that do not support the Large File Zip utility, or when the Zip command fails. The pattern files are left in a sub-directory along with the script, so the files can be zipped at a later time.
- **0001679 [DL500 TRT]:** Labels and Loop End are now being placed in the proper location when creating a WDB.
- **0001678 [V93000 WaveBridge]:** A problem with multiple TimePlates causing the Advantest v2b pattern compiler to crash, was fixed.
- **0001673 [V93000 WaveBridge]:** A fix was made to reduce the number of edges needed for an RZ shape when using xMode 4.
- **0001671 [DiamondX TesterBridge]:** Improvements have been made to the way the bridge assigns Instruments, Slots and Channels.
  - The ATE file is now setup to make Slots 1:14 available for assignment when either the 'DPIN96' or 'GX1' Instrument has been selected.
  - There is now an option available to select the starting Slot and Channel number, when the auto-assign function is used. See the User Manual for more details.
- **0001668 [DiamondX TesterBridge]:** A 'Connections' block for the DUT channel assignment was added to the Flow section of the UNA file.
- **0001666 [STIL Out, TesterBridges]:** A problem was fixed when using a PAF to delete a Scan Pin would cause the application to quit unexpectedly.
- **0001665 [V93000 WaveBridge]:** A fix was made to prevent the bridge from quitting unexpectedly on large Multi-Time-Domain databases with a different number of signals in each.
- **0001658 [Aemulus DM TesterBridge]:** Added support for the DM500x tester model, and changed the currently supported model to DM400e. Note: for existing scenarios, the default ATE Type will automatically be upgraded to the DM500x ATE. The DM500x ATE has been updated with the following changes:
  - Added support to output Scan data in a format that is compatible with the tester hardware.
  - Added an option to select '10ns' or '20ns' as the minimum Period allowed when converting timing.
  - The bridge supports the edge placement restrictions: (D0<=D3) , (D1<=D2<=D4<=D5) & (R0<= R1).
- **0001657 [WaveMaker+]:** A fix was made to the GUI that prevented a scenario being generating from an EVCD file.
- **0001648 [NI-ST5 TesterBridge]:** Changes were made to the pattern compile script, output by the bridge, so that all pattern files within the directory will be compiled.
- **0001647 [Align, Window Conditioner]:** When setting the 'Cycle Boundary' parameter, both conditioners now support the CLOCK and FIXED relations from a Port Definition File (SDF).
- **0001646 [WDB Conditioner]:** Support for Multi-Time Domain was added to the WDB Conditioner. By using a port-signal file with the conditioner, an MTD database can be generated and used with the V93000 WaveBridge.
- **0001645 [V93000 WaveBridge]:** The bridge now generates a Pattern Master File List (PMFL), and updates it when in incremental mode.
- **0001644 [V93000 WaveBridge]:** The bridge now generates gzip pattern files.



- **0001643 [STIL In]:** The in converter has been optimized to run faster on files with scan chains of 200K cells or greater in length.
- **0001639 [V93000 WaveBridge]:** Changes were made in the way bidirectional pins are assigned edges when going from a drive to compare, to reduce the number of edges needed.
- **0001634 [J750 TesterBridge]:** The output of the Time Sets (Basic) sheet was changed to make the Driver Off [D3] edge default to 'Disable'.
- **0001628 [V93000 WaveBridge]:** Several problems were fixed in the timing output by the bridge when generating the waveform actions on bidirectional pins. This also fixed some problems in the way break cycles were being output.
- **0001627 [STIL In/WGL In]:** Support for Multi-Time Domains from STIL and WGL source files has been added Solstice-TDS. By using a port-signal file with the In Converter, an MTD database can be generated and used with the V93000 WaveBridge.
- **0001626 [WaveMaker+]:** A problem was fixed where the waveform display would freeze when displaying MatchLoops with millions of cycles.
- **0001622 [Aemulus DM TesterBridge]:** Support for loop pattern compression has been added to the TesterBridge, which takes incoming loops from the source file, and transforms them into opcodes used by the tester. The items below have been added along with this enhancement:
  - Added support for pattern labels, with auto calc for left margin.
  - Added checks for legal Program and Pattern File names in the Properties Sheet.
  - Added compression option with choice for YES, NO and PASSTHRU.
  - Added option for min repeat count.
  - Use 'MatchLoop Infinite' to support the 'jmp label' opcode.
  - Loop support for 'jnzX label' will use existing label if present.
  - Added option for Source Comments, and a cap of 64 char max length.
  - Added label check and shorten for max length of 31, plus uniquefy.
  - Added label check for max count of 2048.
  - IddqTestPoint now inserts the 'paus(e)' opcode in the vector.
  - Loop constraints for nesting, 1st/last vector & min/max count are supported.
- **0001522 [V93000-ST8 TesterBridge]:** A problem with zipping large pattern files (>4GB) has been fixed. The 'fz' switch was added to the system zip command to maintain comparability with the ST8 software. An option was add to the bridge interface for older versions of the system zip command to run the command without the 'fz' option, for versions older than 3.0.
- **0001623 [TesterBridges]:** A new option has been added to the top of the Properties Sheet in WM+ called 'Advanced Settings'. When unchecked (default), it will hide all the non-essential options on the sheet, using the default settings for those fields.
- **0001621 [TimeTable]:** Users now have the option of using frequency (400MHz) for specifying the cycle time.
- **0001619 [STIL In]:** Comments from Macro and Procedure Calls in the STIL file are no longer saved by default, but only if the 'C Style Comments' option is enabled.
- **0001618 [UltraFLEX TesterBridge]:** Support for IG-XL version 10.10 has been added. Several sheet version numbers have been updated along with some column headers. Older versions of IG-XL are still supported through an option in the Properties Sheet [IG-XL version].
- **0001617 [Flex/J750/UltraFLEX TesterBridges]:** Several new options have been added to the bridge that give the user better control over Pin Groups. See the Solstice User Manual under TesterBridges for more information:
  - Output default pin groups [DefaultPinGroups].
  - Naming of the default pin groups [DefaultPinGroupName].
  - Use pin groups in the Time Sets sheet [TimingGroups].
  - Pattern group name to use for pattern pin order [PatternGroupName].
- **0001616 [WM+ / OrbitX]:** A problem was fixed where sometimes, when working with the OrbitX Reconfigure Table; preview table dialog, the application would suddenly exit.
- **0001615 [Flex/J750/UltraFLEX TesterBridges]:** Several fixes have been made in the Time Sets sheet in IGXL:
  - Some default settings for Drive and Compare have been corrected.

- Drive Off [D3] edges corrected for drive only and compare only tracks.
- Corrected the Compare Mode for tracks with mixed Mask and Edge/Window tracks.
- Corrected Drive On [D0] edge for shapes like 'ZS', 'ZD' and 'ZU'.
- MCLK Mode edges for Drive Off have been corrected.
- Correct the Drive Data [D1] edge for NR-2X drive format (2X Mode on UltraFLEX).
- Changed the Compare format for 2X Mode to Edge with both [R0] and [R1] programmed.
- **0001610 [WaveMaker+]**: Users now have the option to view the User Manual in a Web Browser using the preference setting in Edit → Preferences → General.
- **0001606 [TimeTable]**: Enhanced to support using equations in sheets for defining time values, support for multi-port definitions, and works with the new Cyclizer Conditioner.
- **0001595 [V93K WaveBridge]**: The bridge has additional functionality that now generates timing and binary files directly. This enhancement also has improved support for:
  - Improved per-pin and per-port edgeset support..
  - Multiple ports.
  - Incremental Wavetables.
  - OrbitX.
  - Simpler layout for parameter setup.
  - Universal Port / Pin Assignment Files.
- **0001590 [V93K WaveBridge]**: The bridge now supports automatic rounding of timing edges based on the tester resolution, and the period value is adjusted based on the XMODE.
- **0001561 [V93K WaveBridge]**: The Port Scale tester model files (PS400, PS800, PS1600 & PS9G) have been changed to use Repeat compression only, and the number of available channels have increased to give a pin count of 43216 pins.
- **0001375 [SEF Conditioners]**: The Port Definition File and clock settings are now preserved when running any of the SEF Conditioner. See the Solstice User Manual → User Defined Files → Signal Definition Files for information on the Port Definition File.
- **0001239 [Incremental Conditioner]**: The tool now creates the output directory, if it does not exist, instead of exiting with an error.