Release notes

RT-LAB

Version 10.5.7

Version 10.5.6

Bug fixes

- Fixed empty real-time subsystem folders were created directly under C:\ or C:\Users\username\ when retrieving files from a target. (TT#7469, RT3#264962)

Version 10.5.5

Version 10.5.4

New features

- Added a license check after installation. An error dialog is displayed if the license is invalid, and the previous one is restored. (TT#7278)

Bug fixes

- Improved License user interface and usability. (TT#7277)

- Improved incremental build step. (TT#7344)

- Fixed Incremental Build for selected subsystem. (TT#7347, RT3#267183)

Version 10.5.3

Bug fixes

- OP5142/ML605: Fixed synchronisation issue with FPGA boards distributed on a cluster. (TT#7305, RT3#266945)

- Can/Provetech: Fixed compilation issue under linux. (TT#7313)

- Fixed Orchestra to support framework in XHP mode and external in non-XHP mode. (TT#7329)

Version 10.5.1

Bug fixes

- Documentation: update of the list of supported Xilinx ISE tool suite versions. (TT#7244)

Version 10.5.0

New features

- Added support for Model Reference. (TT#2343)

- Added support of MatLab 64 bit (R2010a, R2010b, R2011a, R2011b) (TT#3604)

- Added incremental build in RT-LAB. (TT#7256)

- Added new parameter in Dynamic acquisition to set the file size limit during writing of a MAT-File. (TT#7257)

Bug fixes

- Fixed InstallShield Wizard keep open on windows bar after installation of RT-LAB. (TT#6969)

- Fixed RT-LAB installshield freeze sometimes at the end of the installation (TT#7075)

- Fixed some Simscape example fail to compile on WIN32 target. (TT#7160)

- Fixed compiling models in debug mode is not functionnal. (TT#7192)

Version 10.4.10.200

Version 10.4.9.184

Bug fixes

- Fixed Opcomm & wideband are not working together. (TT#7173, RT3#265226)

Version 10.4.8.179

Version 10.4.7.169

Version 10.4.6.149

Version 10.4.5.147

Bug fixes

- Fixed: targets running QNX 6.3.2 are oftenly shown down in the target list (TT#6990)

- Fixed RT-LAB does not start when Hardware.config file is not in Common\bin folder. (TT#7065)

Version 10.4.4.130

New features

- Added preference to select same Matlab version than model during the compilation and edition. (TT#6972)

Bug fixes

- Fixed compilation failed during file transferring (OpalD died). (TT#6987)

- Fixed Installation Guide of RT-Lab 10.4 is still the one for 10.3. (TT#7002, RT3#263298)

Version 10.4.3.101

New features

Bug fixes

- Added command to list all Opal-RT hardware in "Get I/O Infos" command in RT-LAB. (TT#6967)

Version 10.4.2.95

Version 10.4.1.94

New features

Bug fixes

- Fixed compilation failed with some Simscape functionnalities with MatLab R2011a and R2011b. (TT#6938)

- Fixed TestStand API is not installed on Win7 platform. (TT#6948)

- Fixed Target Detection ranges did not work correctly. (TT#6950)

Version 10.4.0.83

New features

- Fixed API function doesn't remember that an extra file was added for all subsystems. (TT#5026)

- Added notifications for all attribute changes. (TT#5347)

- Added "Set default" button to the Target Editor to switch between RT-LAB versions. (TT#6222)

- Added License Request Form to RT-LAB (TT#6444)

- Added example for the LabVIEW API (TT#6753, RT3#260403)

Bug fixes

- Fixed The .llm file contains superflous enter characters. (TT#2044)

- Improve performance when openning RT-LAB project. (TT#2429)

- Fixed problem when saving ProbeCtrl acquisition settings. (TT#2837)

- Fixed negative triggerdoesn't work when using decimation factor in the probe control. (TT#3123)

- Added validation to the offset in the data acquisition triggering of the probe control. (TT#4681)

- Added Release Notes in RT-LAB documentation. (TT#6211)

- Fixed ImportError: No module named rtlab.report. (TT#6425, RT3#254330)

- Fixed OpTrigger output with a strange behavior. (TT#6445)

- Fixed error in rtdemo2 init example model. (TT#6626)

- Added warning during model code generation to specify Console / Acquisition will freeze with some models. (TT#6770)

- Fixed some problems with Dynamic trigger and OpTrigger block. (TT#6829)

- Fixed some problems with Extra Files in RT-LAB. (TT#6838)

- Fixed OpWriteFile cannot change filename during simulation. (TT#6873)

Version 10.3.2

Version 10.3.1

Bug fixes

- Fixed multi subsystem model compilation failed during linking step with LibOpalOrchestra. (TT#6779)

- Fixed failed of RT-LAB Runtime installation when Matlab is not installed on host platform. (TT#6796, RT3#262114)

- Fixed SSN-parallel model fails to load after consecutive running. (TT#6833, RT3#262166)

Version 10.3

New features

- Added support of space in the path of Simulink model. (TT#4527)

- Added detection of installed MatLab version during RT-LAB installation process. (TT#4564)

- Added new RT-LAB example in Feature/OpDelay. (TT#5662, RT3#211567)

- Added support of embedded mode for multi-subsystem model. (Only on Redhat Target) (TT#6009, RT3#218309)

- Added a new Matlab/Simulink block OpAsyncEFSCtrl for controlling a Malibu Failure Injection Unit (FIU). (TT#6124, RT3#184687)

- Added support for Visual Studio 2010 on Windows target. (TT#6537)

- Added support of Matlab R2011a. (TT#6663)

- Added new acquisition example using Labview API. (API/acquisition_multithreads) (TT#6718)

Bug fixes

- Fixed retrieve extrafile after compilation does not work. (TT#1519)

- Fixed management of "Signal Control" by model. For exemple, when running two models into two different targets in the same project and the option Handle console automatically is ON there are error messages appearing. (TT#5270)

- Fixed Console ran from the network (UNC path name) does not run. (TT#5818, RT3#214894)

- Fixed error message when using OpFromFile block and mat files transfer is missing during Load process. (TT#6079, RT3#222680)

- Fixed problem with Qnx 6.5 when loading several sub-systems (>5) on a target in both xhp and non-xhp mode. (TT#6426)

- Fixed dynamic signal list lost when closing the Controller. (TT#6486)

Version 10.2.5

New features

Bug fixes

- Fixed "Unknown Error Code" occurs on large Orchestra simulations. (TT#6713, RT3#261224)

Version 10.2.4

New features

Bug fixes

- Fixed linking error when using an OpAssertion block. (TT#6671, RT3#261210)

- Fixed error when compiling RT-LAB Orchestra rtlabframework model with Visual C++ 2005 and upper version of Visual C++. (TT#6672, RT3#261167)

Version 10.2.3

New features

Bug fixes

- Fixed broken help link for Orchestra blocks. (TT#4660)

- Fixed compilation with MatLab R2006b does not use the correct MatLab version. (TT#6607, RT3#260644)

- Fixed crash of OpalD.exe during reset of Orchestra Simulink example. (TT#6608, RT3#260644)

- Fixed RT-LAB compilation error on OpalSnapshotUtil.c whit MatLab 2006b, 2007b, 2008a and 2008b. (TT#6616, RT3#260644)

- Fixed limitation and truncation on the number of libraries (and characters) allowed in RT-LAB 10.2.2. (TT#6620, RT3#260826)

- Fixed CMD_FIND from the generic functions didn't can search through model components unless other components forced them to be loaded. This returned valid results only if another API operation, such as GetParametersDescription(), forced a loading all required information. Otherwise, the function returned empty results. (TT#6648)

Version 10.2.2

New features

Bug fixes

- Fixed compilation failed during the creation of the parameter database when the model contains variables with names that differ only in capitalization. (TT#6565)

- Fixed parameters do not handle correctly model names that include capital letters. (TT#6568)

- Fixed compilation error when using some DSP blocks. (TT#6586)

Version 10.2.1

New features

Bug fixes

- Fixed drift between the simulation time and the real time in XHP mode. When running the simualtion for a long time (many hours), there was a drift between the simulation time and the real time. (TT#5388)

- Fixed Wrong cpu speed on windows 7 64 bits target (TT#6490)

- Fixed compilation of a multi-CPU stateflow model with R2006b. (TT#6538, RT3#260170)

Version 10.2.0

New features

- Added support for Embedded Mode. (TT#605)

- Added Labview Palette. (TT#1041)

- Updated documentation for Labview API. (TT#3633)

- Added support for connection handle in Labview API. (TT#3695)

- Added support for Labview 8.6.

Added support for Labview 2009.

Added support for Labview 2010. (TT#3739)

- Added New Labview API.

(TT#5124)

- Added support of Goto / From blocks at the top-level of a RT-LAB model. (TT#5245)

- Added an menu item in the contextual menu of the metacontrolle to open the help center. (TT#5918)

- Added a simple example for asynchronous processes in default RT-LAB Examples. (TT#6299)

- Updated the number of CPUs assigned to 12 in the assignment tab. (TT#6301)

- Added a direct link in RT-LAB interface to the web Knowledge Base. (TT#6322)

- Added ScopeView in context menu of MetaController. (TT#6339)

- Added support of the Simulink OpParameterManager block under target RedHat operating system. (TT#6358)

- Add support for Matlab R2010a and 2010b. (TT#6535)

Bug fixes

- Added support for several Internet Browser for html RT-LAB reports. (TT#4459)

- Fixed OpalSaveParemeters API function created a corrupted file if the path argument was empty. (TT#4503)

- Added multiple OpProbeExternalVar block management. (TT#4823)

- Fixed crash of the model while loading on target with no OHCI card but OHCI link is selected. (TT#4940)

- Fixed MacroStop function doesn't work correctly when recording macro using any API language. (TT#4998)

- Updated makefiles of RT-LAB API examples in compliance with RedHat operating system and intel compiler. (TT#5258)

- Fixed problem of crash when the monitoring mode is activated in the model. (TT#6097, RT3#226544)

- Fix: Removed compilation warning on Qnx 6.5 operating systems. (TT#6156)

- Added documentation for RT-Model support. (TT#6160)

- Updated Simscape examples in RT-LAB. (TT#6177)

- Updated documentation of Opcomm block. (TT#6351)

- Fixed multiple controller in memory after multiple switch workspace. (TT#6353)

- Fixed large model's snapshot does not save properly. (TT#6388, RT3#251090)

- Added support of more than 16 models by RT-LAB project. (TT#6432)

Version 10.1.4

New features

Bug fixes

- Fixed large model's snapshot does not save properly. (TT#6388, RT3#251090)

Version 10.1.2

New features

Bug fixes

- Fixed Orchestra - Simulink External Client Controller Mask problem if an error occurs in domain name, we can't change any mask parameter. (TT#3758)

- Fixed support for model with multiple StateFlow chart into multiple subsystems. (TT#5778)

- Fixed Simulink Subscribe Orchestra block does not work. (TT#6013)

- Added check of start time different from 0 during model initialization. (TT#6292)

Version 10.1

New features

- User interface: add a new Monitoring Viewer view. (TT#1544)

- Added support for RTW RT_Model structure. Models are now generated with this structure. This version of RT-LAB is no more compatible with old RTW simstruct structure. (TT#2664)

- Added OpVirtualScope block compatibility with RedHat targets. (TT#5219)

- Added 'Handle Console Automatically' set by default for a new model. (TT#5654)

- Added support for the ode8 solver. (TT#6029)

- Added detection of software incompatibilities (Between RT-LAB and RT-Events and/or ARTEMiS). (TT#6172)

Bug fixes

- Fix erroneous computation time while running simulation on RedHawk/RedHat target. (TT#4497)

- Fixed OpMonitor block to avoid model crash when it is added to multirate models. (TT#4835, RT3#168209)

- Fixed OpSharedMemory blocks default Offset parameter causes a Simulink error. (TT#4836)

- Added documentation for OpConversion block. (TT#4837)

- Updated makefiles of RT-LAB API examples in compliance with RedHat operating system and intel compiler. (TT#5258)

- Fxed Matlab path is not updated correctly when a new RT-LAB version is installed. (TT#5537)

- Fixed wrong RT-LAB version info in MatLab when a newer version of RT-LAB is installed. (TT#5588)

- Added Redhat target in the mask of OpConfiguration block. (TT#5600)

- Fixed support for model with multiple StateFlow chart into multiple subsystems. (TT#5778)

- Fix problem of compatibility of the target Opal-RT daemon between the version 8.4 and 10 of RT-LAB. (TT#5803)

- Added support for QNX 6.4.1. (TT#6023)

- Fixed display of the output of the host/target-pre/post python script. The out put was not displayed in the display view. (TT#6118)

- Fixed the highlighting while writing in all editable fields is way too dark. It renders the text near unreadable when using RT-Lab with Windows 7. (TT#6166)

- Fixed a transfer files problem that may happen with some particular files. (TT#6186)

Version 10.0.5

New features

Bug fixes

- Fixed support for model with multiple StateFlow chart into multiple subsystems. (TT#5778)

- Fixed a transfer files problem that may happen with some particular files. (TT#6186)

Version 10.0.4

New features

Bug fixes

- Added field "additional include path" in Library tab in block mask Opconfiguration. (TT#5296, RT3#193155)

- Updated OpWriteFile documentation. (TT#5646)

- Fix problem of compatibility of the target Opal-RT daemon between the version 8.4 and 10 of RT-LAB. (TT#5803)

- Fixed ModelState for TestStand API. (TT#6125)

Version 10.0.3

New features

Bug fixes

- Added more details in the usage message of the tool ohci_test. (TT#4966)

- Fixed acquisition which was slower in multirate than in single rate. (TT#6037, RT3#209035)

- Added detection of separation error to stop compilation. (TT#6039)

- Fixed defective RT-LAB documentation. (TT#6089)

Version 10.0.1

New features

Bug fixes

- Added an error message during file transfert when a file is missing. (TT#5293)

- Fixed the support of snapshot for MatLab R2009b. (TT#5667)

- Modified the model templates for RT-LAB; compilation step didn't work. (TT#5795)

- Fixed the opening help of RT-LAB blocks. (TT#5996)

- Fixed the code generation of multi-subsystems model when Master subsystem has no receive blocks. (TT#6010)

Version 10.0.0

New features

- Added Simulink DSP blockset support. The configuration required for compiling models using the DSP blockset is now added automatically. (TT#2601)

- Added support for multiple models. (TT#3702)

- Added full support for JAVA API. (TT#4548)

- Added new API function to set/get model attributes. (TT#4554)

- New OpalCommand API function. (TT#4558)

- Added new model state (compiling, loading, resetting). (TT#4592)

- Added support for Redhat linux target. (TT#4631)

- Added support for MATLAB R2009b. (TT#4633)

- Dropped MATLAB R14.x support. (TT#4638)

- Added the support of RedHat 5.2 operating system. (TT#4646)

- Improved model compilation time. Large models now compile up to 10 times faster. (TT#4850)

- Replaced .dll extension by .mexw32 for all Simulink block to be compatible with future MATLAB releases. (TT#5039)

- Added an option to abort compilation when a bitstream is missing. (TT#5201)

- Increased the maximum number of subsystems allowed in a model to 64 subsystems. (TT#5659)

- Added concept for RT-LAB Project. (TT#5957)

- Modified Properties in order to distinguish Model properties and General properties. (TT#5986)

- Added an option for the action to perform on overruns. (TT#5988)

- Added new transfer time for the file transfer. Now, there are 4 transfer times : before compilation, after compilation, before load and after reset. (TT#5989)

- Added OpalGetRtlabLicenseExpirationDate API function to return the number of days remaining before the RT-Lab license expires. (TT#5990)

- Added OpalGetActiveProjects API function to return a list of active projects. (TT#5991)

- Added OpalGetInstalledMatlabReleases API function to get the list of Matlab releases that currently installed. (TT#5992)

- Added OpalSetNotificationCallbackForModel API function to register a callback function that will be called when a specific event happens in the simulator. (TT#5993)

- Added OpalGetChildren API function to get the reference IDs of an object's children. (TT#5994)

- Added OpalStartTargetPythonScript API function to start a python script on the selected target. (TT#5995)

Bug fixes

- Added support for model with a huge number of parameters (more than 65535 parameters). (TT#1461)

- Fixed some issues in shared memory allocation in Simulink OPAL-RT SharedMemory library. (TT#1711)

- Fixed OpalGetRtlabVersion C API function that was not working correctly. (TT#2172)

- Fixed management of aliases so that they are properly retrieved after model is modified, for example when signals are added or removed from busses. (TT#3676)

- Fixed the license check to prevent error related to missing Real-Time communication link license tokens, reported by multi-subsystems models even when no communication link is needed. (TT#4339)

- Fixed GetTargetNodeSystemInfo API function that was not working correctly on Windows target.

(TT#4441)

- Fixed RT-LAB Display to prevent truncation of the separation log, as occurred when separating models including many Artemis blocks. (TT#4542)

- Fixed multiple problem related to the monitoring. (TT#4732)

- Fixed RT-LAB acquisition process to prevent intermittent freeze of the console on multi-core host computers. (TT#4925, RT3#173260)

- Reworked previous fixes of RT-LAB acquisition process to prevent intermittent freeze of the console on multi-core host computers, or console freezing completely when setting the model in Run mode. (TT#4925, RT3#173260)

- Added a file status output to the OpWriteFile block. This output is set to 1 when the file is opened, set to 0 when the file is closed, and set to -1 when the file is in closing state or in opening state. In offline mode (Simulink mode), this output is always set to 1. (TT#4939)

- Fixed OpComm block error related to the BlockReduction parameter in Matlab R14. (TT#4999)

- Fixed load process to prevent automatic reset of models set in EXHAUSTIVE mode. (TT#5013)

- Fixed TestStand API LoadParameters() function. (TT#5034)

- Fixed OpTrigger block for proper support of acquisition group 25 (Monitoring group). (TT#5035)

- Improved the reconnection process to prevent loss of model control after a reboot of the host computer. (TT#5048)

- User Interface : Added option to clean shared memories and core dump on target. (TT#5612)

- Added support for model with multiple StateFlow chart into multiple subsystems. (TT#5778)

Version 8.4.4

New features

Bug fixes

- Fixed acquisition which was slower in multirate than in single rate. (TT#6037, RT3#209035)

Version 8.4.1

New features

Bug fixes

- Fixed frozen console when an OpComm without any inputs/ouputs is inserted in the console. (TT#5268)

- Fixed monitoring that was not working after model reconnection. (TT#5269)

Version 8.4.0

New features

- Added an option to restore only parameters when restoring a snapshot. (TT#5354)

Bug fixes

- Fixed reference link help for block in MATLAB R2008b. (TT#4418)

- Fixed working folder to be set to the model directory when opening a model into MATLAB. (TT#5181)

- Fixed model compilation in debug that was not working since MATLAB R2008b. (TT#5378)

RT-LAB UI

Version 10.5.7

Version 10.5.6

Version 10.5.5

Version 10.5.4

New features

Bug fixes

- Fixed Re-import a model after having deleted it from a project. (TT#7349)

- Fixed Select/Deselect probes in Monitoring View was not working. (TT#7350)

Version 10.5.3

Version 10.5.2

Version 10.5.1

Version 10.5.0

New features

- Added "Save As" button to target consoles (TT#6805)

- Added automatic installation of Opal-RT product documentation in RT-LAB. (TT#6817)

Bug fixes

- Added more visibility for error during transfert file (Compilation step). (TT#6836)

\Version 10.4.10.200

Version 10.4.9.184

Version 10.4.8.179

Bug fixes

- Fixed Target detection filter. (TT#7142, RT3#264827)

Version 10.4.7.169

Version 10.4.6.149

Version 10.4.5.147

New features

- Added target sorting in tthe Detected Targets Wizard (TT#7076)

Version 10.4.4.130

Version 10.4.3.101

Version 10.4.2.95

Version 10.4.1.94

New features

Bug fixes

- Fixed RT-LAB 10.4 Help/About does show Version "0". (TT#6941)

Version 10.4.0.83

New features

- Added setting to support Monitoring information to be displayed in the display view. (TT#5074)

- Added label decorations to Project Explorer to display the platform, the assignation and the problems of a model (TT#6020)

- Added search functionality to the template page of the "New Project" wizard (TT#6102)

- Added list of installed RT-LAB versions to the Target Editor. (TT#6543)

- Added Target Editor. (TT#6702, RT3#260986)

- Added Console display when installing RT-LAB on a target. (TT#6828)

- Added a new Welcome page including the release notes (TT#6905)

Bug fixes

- Improved Target list order in the sybsystem settings panel. (TT#5445)

- Fixed opening projects takes too much time (TT#5864)

- Added auto detection of target. (TT#6018)

- Fixed too long names in PyDev-related generated folders (TT#6464)

- Fixed error during renaming RT-LAB project. (TT#6673, RT3#261120)

Version 10.3.2

Version 10.3.1

Version 10.3

New features

- Added support of Working Set in RT-LAB. (TT#5240)

- Added model description field in Model Editor. (TT#5523)

- Added new view to manage Parameters, Signals and Variables of a model : Variable Viewer and Variable Table. (TT#5787)

- Added support of parameters and signals working set. (TT#5830)

- Added button to clear the results in the diplay and compilation views. (TT#6120)

- Added link to Support Live Chat in RT-LAB Help menu. (TT#6678)

Bug fixes

- Fixed shortcut of Copy/Paste Project does not work. (TT#5799)

- Added detection of invalid file name during "Take snapshot" and "restore snapshot" operation. (TT#6063)

- Fixed lose of target development node when changing the target's name. (TT#6227, RT3#241815)

Version 10.2.5

Version 10.2.4

Version 10.2.3

New features

Bug fixes

- Fixed random crashes of RT-LAB user interface if a project is closed while a model is resetting. (TT#5408)

- Fixed console still opens even if the load failed. (TT#6402)

- Fixed Load/Execute/Reset of MultiModels project works for only one model among all models in project. (TT#6606, RT3#260644)

- Fixed ModelEditor didn't select the associated model. (TT#6631)

Version 10.2.2

Version 10.2.1

New features

- Added a view that display the content of the controller.log and metacontroller.log file. (TT#5478)

- Added sorting models feature in a RT-LAB project. (TT#6093)

Bug fixes

- Fixed lost of model references if a project is renamed and the original model file is lost. (TT#6352)

- Added Windows 7 in RT-LAB list. (TT#6489)

Version 10.2.0

New features

- Added new Macro Recorder in RT-LAB user interface. (TT#5332)

- Added new Conflict View in RT-LAB. (TT#5384)

- Added new Flash bitstream wizard. (TT#5407)

- Added support for Eclipse 3.6.1. (TT#5860)

Bug fixes

- Added protection to prevent the deletion of the project while model is running. (TT#5329)

- Fiexed return key doesn't work in the Eclipse Help System when performing search. (TT#5692)

- Added documentation to explain how to update and install of a new version of rt-lab on the target. (TT#5693)

- Fixed Drag and drop from Windows explorer to LiveLab does not work with Windows Seven. (TT#6310)

Version 10.1.0

New features

- ScopeView is now delivered with RT-LAB. RT-LAB signals could be displayed into ScopeView. (TT#5846)

Bug fixes

- Improved target diagnostic command. (TT#5511)

- Fixed RT-LAB display does not receive prints from Python scripts like preload, postreset, etc. (TT#5920)

- Improved reboot target fonctionnality (Detection of dual-boot target). (TT#6082)

- Fixed error on executing target script on Windows target. (TT#6116)

- Fixed model drap and drop function. The model is copied anymore into the workspace. A link is created to the model file. (TT#6121, RT3#217206)

- Fixed target installation failure is not reported by RT-LAB when the rpm or tgz is missing. (TT#6212)

Version 10.0.4

New features

- Added automatic MatLab detection in RT-LAB. (TT#5484)

- Added "Edit With..." menu for Consoles subsystem. (TT#5683)

- Added functionnality : delete some extra files without delete all extra file. (TT#5697)

Bug fixes

Version 10.0.3

New features

- Fixed browse button in File Transfert section of Preference Page. (TT#5514)

- Added "Delete All" functionality in Development settings. (TT#5638)

- Added multi-selection functionality in Development settings. (TT#5751)

Bug fixes

- Fixed Import RT-LAB model wizard which don't allow to finish importation when use of Select All and Deselect All button. (TT#5555)

- Fixed editing Simulink Console with the right-click menu, one could not edit the Simulink Console with the right-click menu in Project Explorer. (TT#5912)

Version 10.0.0

New features

- User Interface : Added target filters to the project explorer view to filter the available target configured with RT-LAB. (TT#5337)

- User Interface : Added target shutdown and reboot command on RT-LAB user interface. (TT#5366, RT3#198950)

- User Interface : Added Welcome Page. (TT#5936)

- User Interface : Added Overview Page. (TT#5937)

- User Interface : Added Tutorial Page. (TT#5938)

- User Interface : Added "What's New" Page. (TT#5939)

- User Interface : Added direct access to Opal-RT website. (TT#5940)

- User Interface : Added Workbench in RT-LAB. (TT#5941)

- User Interface : Added a Project explorer. (TT#5942)

- User Interface : Added support for external editor. (TT#5943)

- User Interface : Added Model Overview Editor with general information and shortcut to preparing, compiling and executing model. (TT#5944)

- User Interface : Added Development Setting Editor. (TT#5945)

- User Interface : Added Execution Properties Editor. (TT#5946)

- User Interface : Added Environment Variables Properties Editor to Set/Unset user variable. (TT#5947)

- User Interface : Added Wizard to Add/Modify user variable from Environment Variable Editor. (TT#5948)

- User Interface : Added File Properties Editor. (TT#5949)

- User Interface : Added selection of subsystem to transfer file (TT#5950)

- User Interface : Added Wizard to add transfer file more easily. (TT#5951)

- User Interface : Added Subsystem Setting Editor (Subsystem assignation). (TT#5952)

- User Interface : Added Diagnostic Properties Editor. (TT#5953)

- User Interface : Added Hardware Properties Editor. (TT#5954)

- User Interface : Added Simulation Tools Editor. (TT#5955)

- User Interface : Added option to handle console automatically during loading of model. (TT#5956)

- User Interface : Added support for adding a model to a project from a specific location. (TT#5958)

- User Interface : Added support for importing a model to a project. (A copy of model is made into RT-LAB workspace) (TT#5959)

- User Interface : Added support for creating a model into a RT-LAB project. (Empty model or model from example model or model from template model) (TT#5960)

- User Interface : Added Target management with viewer of target state (up or down), viewer of current operating system, viewer of current development node... (TT#5961)

- User Interface : Added editable command for target execution. (TT#5962)

- User Interface : Added Wizard to execute Python script on target. (TT#5963)

- User Interface : Improved identification of error and warning in compilation view and display view. (TT#5964)

- User Interface : Added option to search text in compilation view and display view. (TT#5965)

- User Interface : Add properties view to display property names and values for a selected item from the Project Explorer. (TT#5966)

- User Interface : Added Matlab View to provide a quick access to the local Matlab application inside RT-LAB. (TT#5967)

- User Interface : Added Console View to display formatted text. Console View provide a generic view that may contain different Console types like Interactive Python Console, Target Console and Log Console. (TT#5968)

- User Interface : Added Terminal View to provide a quick access to the remote target by opening a telnet connection. (TT#5969)

- User Interface : Added Hel View to provide user assistance inside the workbench. (TT#5970)

- User Interface : Added Search View to display the results of a search. Text searches will only search for expressions in files with extensions (file types) specified in the search dialog. (TT#5971)

- User Interface : Added Workbench Menus that provide access to all commands of RT-LAB. (TT#5972)

- User Interface : Added Worbench Toolbar that provide quick access to most-used commands. (TT#5973)

- User Interface : Added Wizard for most-used commands (New RT-LAB Project, New model, import, Add model, New Target, New resources project, New Folder, new file, Export…). (TT#5974)

- User Interface : Added General Preference page to set the general preferences of the RT-LAB workbench. (TT#5975)

- User Interface : Added RT-LAB Preference page to set the preferences of RT-LAB.

(TT#5976)

- User Interface : Added Cheat Sheets to guide user through some of its application processes. (TT#5977)

- User Interface : Added support for standard Windows shortcut (Copy, Paste, Delete, Drag and Drop, Rename...). (TT#5978)

- User Interface : Added support for Key Assist (Compile, Load, Execute, Reset...). (TT#5979)

- User Interface : Added Matlab selector. (TT#5980)

- User Interface : Added support for Integrated Python. (TT#5981)

- User Interface : Added File Editor to edit a lot of type file. (*.txt, *.xsl, *.doc,*.html...) (TT#5982)

- User Interface : Added integrated browser to navigate on the Internet. (TT#5983)

- User Interface : Added Workspace concept which is the central hub for user's data files. (TT#5984)

- User Interface : Added Resource Filter to filter internal resources generated by RT-LAB, non RT-LAB projects, resources, target... (TT#5985)

- User Interface : Added detection of available Matlab version. (TT#5987)

Bug fixes

- Added undo a deleted target fonctionality; after deleting a target this operation can be canceled. (TT#6043)

RT-LAB IO

Version 10.5.7

New features

Bug fixes

- IEC61850: bug fix: sometimes an empty goose message was published at the beginning of the simulation. (TT#7247)

- Asynchronous Process (DNP3): Fixed problem of timing while resetting model with many asynchronous processes (more than 20). (TT#7487)

- IEC61850: Bug fixed: wrong construction of the Goose data set name ('GO' replaced by '$'). (TT#7569)

Version 10.5.6

New features

- IEC61850: Added Sampled Value (IEC61850 - 9.2 LE) subscriber functionality. (TT#6707)

- Added the support of the TSync board from Spectracom. This board offers precise timing and synchronisation signal to any FPGA board from OPAL-RT Technologies (OP5142, OP7161, ML605). Using this board, the customer can synchronize their RT-LAB model to any external clock source (IRIG-B, 1PPS). (TT#7463)

- I2C/SPI: added the support of the USB module from Keterex KX910H. SPI master/slave and I2C master/slave interface are now available in RT-LAB. Based on asynchronous process, the user has the ability to format the messages at will. (TT#7504)

Bug fixes

- Orchestra: added support for the reflective memory board VMIC 5565 (128M) under the RedHat operating system. (TT#7321)

- DNP3: Fixed timing issue while resetting models with many DNP3 IEDs. (TT#7488)

- C37.118: Added verification of IP address availability, avoiding duplication of IP address on the network. (TT#7489)

Version 10.5.5

New features

- Added support of the C37.118 communication protocol under the RedHat operating system.

In power electronics, the C37.118 communication protocol is often used by the Phasor Measurement Units to publish their data. Build over Ethernet, this protocol is now supported on RedHat, it uses the asynchronous process architecture to handle the communication on the Ethernet network. Please refer to the example model and to the Matlab/Simulink help for further information. (TT#7458)

- Added the support of the DNP3 Slave protocol under the RedHat operating system.

This allowed the user to emulate any kind of DNP3 slave device in RT-LAB. Please refer to the example model and to the Matlab/Simulink block help for further information. (TT#7462)

Version 10.5.4

Version 10.5.3

New features

- Added example model for DM6210 analog in. (TT#3420)

- Added example model for DM6210 digital I/O. (TT#3421)

- Added Example Model for the Base Module. (TT#4613)

- CanOpen: Added simulation model of a Digital Valve Positionner from Woodward. (TT#7102)

- CanDB: added support of DLC greater than 8 in dbc file. It is physically possible for a value between 9-15 to be transmitted in the 4-bit DLC, although the data is still limited to eight bytes. Certain controllers allow the transmission and/or reception of a DLC greater than eight, but the actual data length is always limited to eight bytes. (TT#7314)

Bug fixes

- Malibu Tech Fault Injection Unit: Fixed problem of FIU freezing after receiving several commands. (TT#7132, RT3#264806)

- OP7000: Fixed issue when flashing more than one OP7000 boards. (TT#7264)

- SBS Arinc429: fixed crash of the target while resetting Arinc429 simulation model. This may happen when the SBS Arinc429 board shares the interrupt line. (TT#7298, RT3#266802)

- Pickering 50-295: added multirate model support. (TT#7310)

- Fault Injection Unit: Added multirate model support (Malibu FIU or ETAS ES4440). (TT#7315)

- ML605/OP761x: Fix compilation error while using Analog In functionalities on both cards ML605 and OP761x in the same model. (TT#7324)

Version 10.5.2

New features

- FIU: added support of ETAS ES4440 module (QNX Operating system). (TT#7099)

Bug fixes

- Malibu Tech FIU: Fixed problem of FIU freezing after the sending of several commands. (TT#7300)

Version 10.5.1

New features

- OP5142: update of the encoder example model. (TT#6059)

- IEC61850: Added source MAC address in published Goose messages. (TT#7063, RT3#263907)

- RCP: Added a new Matlab/Simulink library for Rapid Control Prototyping application. This library allows to synchronize any simulation model on a PWM signal, along with its analog input acquisitions. (TT#7297)

Bug fixes

- IEC61850: Added explanation in error message when initialization fails. (TT#7250)

- Fix compilation error when OpNI-670x Analog Out and OpNI67x Digital In Simulink blocks are used in the same sub-system. (TT#7260, RT3#266242)

- ML605: update of the help file of the Controller Simulink block. (TT#7266)

- RFM: fix crash at model reset when RFM and OP5142 boards are used in the same sub-system. (TT#7291)

Version 10.5.0

New features

- Added advanced functionalities (Encoder, PWM, TSD, TSB) for the new OP7160 board. (TT#6843)

Bug fixes

- Fixed problem of board detection when using both SBS ABI-PCI-2 card and SBS Arinc PCI-8 board in the same model in the same target. (TT#6768)

- Fixed flash_update problem with ML605 and OP7000 on RedHat OS. (TT#6979)

Version 10.4.10.200

Bug fixes

- IEC61850: Implementation of REAL values ASN.1 encoding for 32 and 64 bits and implementation of complex data structures for GOOSE messages. (TT#7143, RT3#264796)

- OP5142/ML605 Resolver In: Fixed unexpected speed when used counterclockwise. (TT#7242, RT3#264700)

Version 10.4.9.184

Version 10.4.8.179

Bug fixes

- Joystick: Support of USB Joystick with Qnx 6.5.0. Note that the RT-LAB driver for the joystick can be in conflict with native Qnx driver (io-hid process). This latter must be killed to allow the RT-LAB driver to drive the joystick. (TT#7084, RT3#264273)

- OP5110: Fixed master-slave synchronization issue with RT-LAB version 10.0 and newer versions. (TT#7139, RT3#264933)

- OP7160: Fixed memory mapping issue with the new Op7160Ex1 Link block. (TT#7144)

- CAN: Fixed model crash when configuring the CanAC2 recv block in the Simulink model with the "External identifiers" option but without the "physical output" option. (TT#7145, RT3#265078)

Version 10.4.7.169

Bug fixes

- Fixed bug with TestDrive RPG module, unable to go into pause mode without going into reset. (TT#7081)

- Fixed bug with TestDrive RTE_Pulse_In Matlab/Simulink block when speed input was greater than 0. (TT#7082)

Version 10.4.6.149

Bug fixes

- Max Technologies / Arinc 429: In the scheduled mode, changed the representation of Ts and minor/major frames.

Before Fix: Ts = Major Frame = One to Multiple Minor Frames, where there's a maximum of 32 messages per Major Frame.

After Fix: Minor Frame = 1 or more Ts = 32 messages, where there's a maximum of 32 messages per Ts. (TT#7048)

Version 10.4.5.147

New features

- Added support of the Xilinx ML605 development board inside the TestDrive chassis. (TT#7067, RT3#264020)

Bug fixes

- Update of the IEC 61850 example model. (TT#6919)

- Fixed problem with TestDrive RPG knock when using RT-LAB version posterior to 8.4.2. (TT#7034, RT3#263717)

- Fixed problem when using TestDrive RPG OpDataSet with OpFcn Engine Sycn Pattern Gen (First pulse was missing). (TT#7041, RT3#263897)

- Fixed problem of sqNum parameter update within IEC 61850 Goose messages. (TT#7047, RT3#263907)

- Removed unexpected warnings (WARNING: External Appl: For ID = 0x0 (0) corresponding DLC ...) when using the Softing CANAC2 board. (TT#7069, RT3#264236)

- Fix problem of OP5142 DAC calibration when using OpLink block (multi-subsystem models). (TT#7070, RT3#264051)

- Fix problem with CAN DB model generation using Matlab R2011a. (TT#7071, RT3#264342)

- Fix issues with LIN LDF model generation. (TT#7072)

Version 10.4.4.130

New features

- Added advanced functionalities (Encoder, PWM, TSD, TSB) for the new OP7160 board. (TT#6843)

Bug fixes

- Fixed problem of board detection when using both SBS ABI-PCI-2 card and SBS Arinc PCI-8 board in the same model in the same target. (TT#6768)

- Fixed unexpected events on the OP5142 TSDO when using more than 8 channels outputs with different and high frequency signals. (TT#6888, RT3#262705)

- Added a verification that the model synchronization mode is compatible with the OP5142 board. (TT#6960)

- Fixed flash_update problem with ML605 and OP7000 on RedHat OS. (TT#6979)

- Added all OP5142, ML605 and OP7160 example models in the "demos" window of Matlab/Simulink. (TT#6980)

Version 10.4.3.101

New features

- Added support of Emerson 3051S Foundation Fieldbus sensor (with new OP5362 mezzanine)

The following FB is supported:

- AI

The following SMK services are supported:

- Probe Node
- Probe Response
- Identify
- Ident
- Clear Address
- Set Address
- Set PD Tag
- Who Has PD Tag
- EN SM OP

The following FMS services are supported:

- Get OD
- Initiate Request / Response
- Read
- Write
- Disconnect
- Information report

The following DLL services are supported:

- Compel data

(TT#6906)

Bug fixes

- Fixed flash_update problem with ML605 and OP7000 on RedHat OS. (TT#6979)

Version 10.4.2.95

New features

Bug fixes

- Fixed problem when using PWM out and Event detector block together (Op5142 board). (TT#6914, RT3#262569)

Version 10.4.1.94

New features

- Added an option to flash_update to output the Hardware IDs of the OP7000 cards. (TT#6929)

Bug fixes

- Fixed crash at load if the .bin extension is not added to the bitstream name in OP5142 control block. (TT#6265, RT3#242553)

- Fixed problem using OP5110 Multirate feature with RT-LAB 10.x.x. (TT#6945, RT3#263194)

Version 10.4.0.83

New features

- Added new features in CanAC2 driver. CanAC2 driver has been adapated to execute several callback functions at precise moment: Init, Closing, and to monitor and trasmission of CAN messages.

(TT#6658)

- Added Resolver in/out I/O block for ML605 board (CPU blocks). (TT#6729, RT3#261484)

- Added a new scope for monitoring data in FPGA. This scope allows the user to sample up to 16 channels at a maximum fix rate of Ts / 250 (where Ts is the time step of the cpu model). All the samples are retrieved at the beginning of the model step and can be displayed using OpVirtualScope block (cf. Examples\IO\Opal-RT\ML605-EX1\XSGscope_IO). (TT#6790)

- Added support of Milbus 1553 RTRT transfers using the GE Fanuc QPCX 1MW or 2MW boards. (TT#6825)

- Added support of Milbus 1553 mode code transfers using the GE Fanuc 1MW or 2MW boards. (TT#6826)

Bug fixes

- Fixed several broken IO example templates in RT-LAB. (TT#6757)

- Fixed problem with OP5142Ex1 LoadOut functionality under RedHat Operating System. (TT#6808)

- Fixed problem with the Analog Output of the ML605 board. (TT#6842)

- Fixed OP5142 multirange problem when using distributed model (OP5142 Link Controller). (TT#6845, RT3#262066)

Version 10.3.2

New features

- Added Resolver in/out I/O block for ML605 board (CPU blocks). (TT#6729, RT3#261484)

Bug fixes

- Fixed problem with OP5142Ex1 LoadOut functionality under RedHat Operating System. (TT#6808)

Version 10.3.1

New features

- Added new features in CanAC2 driver. CanAC2 driver has been adapated to execute several callback functions at precise moment: Init, Closing, and to monitor and trasmission of CAN messages.

(TT#6658)

Bug fixes

- Fixed several broken IO example templates in RT-LAB. (TT#6757)

- Fixed problem with the Analog Output of the ML605 board. (TT#6842)

- Fixed OP5142 multirange problem when using distributed model (OP5142 Link Controller). (TT#6845, RT3#262066)

Version 10.3

New features

- Added the Max Technologies Arinc 429 card's pinout to the documentation. (TT#6282)

- Added support for ML605 I/O blocks. (TT#6354)

- Added support of Pickering PCI Programmable Resistor Card 50-295 (version 5x16bits and 10x8bits) on Qnx and RedHat operating systems. (TT#6420)

- Fixed problem of accuracy of the software clock in xhp mode. (TT#6469)

- Increased the maximum frequency of OP5142EX1 PWM Out to 200kHz. (TT#6483, RT3#257689)

- Added PWM Input block in the OP5142 Matlab/Simulink library. (TT#6484)

- Added support of execution in simulation mode of model with I/O Matlab/Simulink blocks. In this case, the I/O blocks are disabled. (TT#6495)

- Added an option to set independent dead time for OP5142 PWM Out block. (TT#6529, RT3#258556)

- Added support for multiple range for Analog Outputs on the OP5142. (TT#6540)

- Added support of the Malibu Failure Injection Unit (FIU) under Qnx 6.5.0. (TT#6561)

- Added an option to the TSBin block to output Double signals instead of RT-Events signals. (TT#6567)

- Added new IEC61850 Goose Publisher block. (TT#6583)

- Added support for the GE QPCX 1553 board. Only BC-Send, BC-Recv, RT-Send, RT-Recv and Bus monitoring are supported on this release. (TT#6776)

Bug fixes

- Update of the help page of the example model aync_serial/2chan. Added explanation on the jumper settings. (TT#6421, RT3#253394)

- Added support of LIN schedule tables of different sizes in PCAN/LIN Simulink library. (TT#6501)

- Fixed problem of monitoring when using multiple OP5142 cards in the same sub-system. (TT#6517)

- Fixed problem of timeout when resetting model using 8 channels of 2 Connect Technologies bluestorm cards (RS232/RS485). (TT#6549, RT3#260133)

- Fixed a crash on QNX 6.5 when loading a model with an I/O block using an unknown board id. (TT#6581)

- Fixed a timing issue that could prevent a model with multiple OP5142 Controller block to load correctly. (TT#6590)

- Fixed wrong configuration of SBS MIL-STD-1553 card when using only Bus Monitoring features for a given RT/SA couple. (TT#6591, RT3#260525)

- Fixed error of compilation of the OpDM6814 Encoder Matlab/Simulink block. (TT#6694, RT3#261324)

- Fixed support of several SBS Milbus 1553 ABI-PCI-2 cards in one target. (TT#6766)

Version 10.2.4

New features

- Added the Max Technologies Arinc 429 card's pinout to the documentation. (TT#6282)

Bug fixes

- Update of the help page of the example model aync_serial/2chan. Added explanation on the jumper settings. (TT#6421, RT3#253394)

- Added the support of multi sub-systems while using the Opal-RT/IEC 61850 Matlab/Simulink library. (TT#6659

Version 10.2.3

New features

- Added new I/O blocks for OP5142: ResolverIn and ResolverOut. (TT#6329)

- Added new IEC61850 Goose Publisher block. (TT#6583)

Bug fixes

- Fixed TSBin does not work properly with the Output data type DOUBLE . (TT#6655, RT3#260567)

Version 10.2.2

New features

- Added support of Pickering PCI Programmable Resistor Card 50-295 (version 5x16bits and 10x8bits) on Qnx and RedHat operating systems. (TT#6420)

Bug fixes

- Added support of several LDF files while using automatic LIN Simulink blocks generation. (TT#6481)

- Added support of LIN schedule tables of different sizes in PCAN/LIN Simulink library. (TT#6501)

- Fixed a crash on QNX 6.5 when loading a model with an I/O block using an unknown board id. (TT#6581)

- Fixed a timing issue that could prevent a model with multiple OP5142 Controller block to load correctly. (TT#6590)

- Fixed wrong configuration of SBS MIL-STD-1553 card when using only Bus Monitoring features for a given RT/SA couple. (TT#6591, RT3#260525)

Version 10.2.1

New features

- Added support for ML605 I/O blocks. (TT#6354)

- Added an option to set independent dead time for OP5142 PWM Out block. (TT#6529, RT3#258556)

- Added an option to the TSBin block to output Double signals instead of RT-Events signals. (TT#6567)

Bug fixes

- Fixed ML605 PWM Out block. (TT#6566)

- Fixec mask documentation for OpCtrl OP5142EX1 is broken (TT#6585)

Version 10.2.0

New features

- Added a new example showing how to use the RT-LAB IO library blocks to simulate a RT to RT transfer with an SBS ABI-PCI-1 board. (TT#2761)

- Added model reset when CanAc2 cards are missing only if the option "reset on IO missing" is checked. (TT#2953)

- Fix Softing CanAc2 transmission problem while sending more than 50 messages. (TT#5777, RT3#210991)

Bug fixes

- Added Joystick support on Qnx 6.3.2 and Qnx 6.5. (TT#2806)

- Fix Softing CanAc2 problem while sending more than 50 messages without using transmission priority mode. (TT#5441, RT3#202379)

- Updated the documentation reflecting the usage of decodification algorithm to retrieve the embedded information within the Softing CanAc2 Monitor output vector. (TT#5810)

- Fixed OpCanAc2Send block that crash the model when DLC is out of range. (TT#5812)

- Improved management of asynchronous process source files within new RT-LAB projects (asynchronous process are mainly used with MIL-STD 1553, Arinc 429, RS232, ... drivers). (TT#5870)

- Fixed asynchronous process crash when using MIL-1553 with RT-RT mode. (TT#6033, RT3#205752)

- Added flush of the Softing CanAc2 receive buffer when exiting the RT-LAB pause state. (TT#6062, RT3#221656)

- Fixed problem of CAN model generation from DBC file. (TT#6071)

- Fixed Can AC2 ids that were truncated in hexadecimal. (TT#6083, RT3#224296)

- Fixed problem of corrupted file created by OpCanAc2Monitor with fairly active bus. (TT#6217, RT3#232834)

- Fix problem of bad upper limit for a Standard CAN message ID. (TT#6325, RT3#247671)

- Added support for multiple Softing CanAc2 cards on PC104 target. (TT#6412)

Version 10.1.3

New features

Bug fixes

- Added Joystick support on Qnx 6.3.2 and Qnx 6.5. (TT#2806)

- PWM out block on OP5142 (TT#6392)

- Added support for multiple Softing CanAc2 cards on PC104 target. (TT#6412)

Version 10.1.2

New features

Bug fixes

- Fix SBS ABI-PMC2-2 Mil1553 card initialization problem when card is plugged in CPCI CPU Card CT8 Pentium III target. (TT#5162, RT3#180465)

- Fix problem of bad upper limit for a Standard CAN message ID. (TT#6325, RT3#247671)

Version 10.1.0

New features

- Added a new example showing how to use the RT-LAB IO library blocks to simulate a RT to RT transfer with an SBS ABI-PCI-1 board. (TT#2761)

- Added support for the full path of the bitstream file in the OpCtrl OP5142EX1 and OpLnk OP5142EX1 blocks. (TT#5644)

- Added a new option to the Softing CanAc2 Receive Matlab/Simulink block. This new option allows the user to dynamically set which identifiers are to be received by the block. This option allows the user to choose at run-time which CAN messages are to be received. (TT#5717)

- Fix Softing CanAc2 transmission problem while sending more than 50 messages. (TT#5777, RT3#210991)

- Added a command-prompt test program for OP5142 cards. A compiled version of the program, test_op5142_rt, can be found under <RTLAB_ROOT>/common/bin on the target. A package of source code, test_op5142.tgz, can be found under <RTLAB_ROOT>/target/qnx for QNX6.3.2 and <RTLAB_ROOT>/target/redhawk for RedHat. (TT#5808)

- Modified the RPG ESPG block in order to support individually selectable polarity for the ESPG outputs, and making it configurable at run-time. (TT#5875)

- Fixed the opening of the CanAc2 monitor help documentation by cliking on the help button of the block.

Added support for closing the log file from CanAc2 monitor block before the number of messages to log is reached. (TT#5895)

Bug fixes

- Fix Softing CanAc2 problem while sending more than 50 messages without using transmission priority mode. (TT#5441, RT3#202379)

- Added a warning to OP5142EX1 IO blocks when the number of channels in use is set to 0. (TT#5527)

- Fixed python-based target utility opiotest.py. The fix is made for QNX6.3.2 only. The utilirty is not supported on RedHat yet. (TT#5685)

- Added a protection in the OpCtrl OP5142EX1 block for preventing models using OP5142 IO blocks to compile when the configuration file of the bitstream is not found. (TT#5687)

- Updated the documentation reflecting the usage of decodification algorithm to retrieve the embedded information within the Softing CanAc2 Monitor output vector. (TT#5810)

- Fixed OpCanAc2Send block that crash the model when DLC is out of range. (TT#5812)

- Improved management of asynchronous process source files within new RT-LAB projects (asynchronous process are mainly used with MIL-STD 1553, Arinc 429, RS232, ... drivers). (TT#5870)

- Fixed OP5142EX1 Event Generator for corrrect output when only one channel is in use. (TT#5898)

- Fixed the OP5142 IO blocks for proper setting of the number of channels when it is specified in a variable. (TT#6005)

- Improved the error message appearing when the real-time simulation mode of models using OP5142 blocks is not set to Hardware Synchronized. (TT#6008, RT3#214894)

- Fixed asynchronous process crash when using MIL-1553 with RT-RT mode. (TT#6033, RT3#205752)

- Added flush of the Softing CanAc2 receive buffer when exiting the RT-LAB pause state. (TT#6062, RT3#221656)

- Fixed problem of CAN model generation from DBC file. (TT#6071)

- Fixed Can AC2 ids that were truncated in hexadecimal. (TT#6083, RT3#224296)

- Fixed OP5142 Encoder In to improve the computed speed value. (TT#6095, RT3#223805)

- Fixed problem of corrupted file created by OpCanAc2Monitor with fairly active bus. (TT#6217, RT3#232834)

Version 10.0.5

New features

- Added a new example showing how to use the RT-LAB IO library blocks to simulate a RT to RT transfer with an SBS ABI-PCI-1 board. (TT#2761)

- Fix Softing CanAc2 transmission problem while sending more than 50 messages. (TT#5777, RT3#210991)

Bug fixes

- Updated the documentation reflecting the usage of decodification algorithm to retrieve the embedded information within the Softing CanAc2 Monitor output vector. (TT#5810)

- Fixed OpCanAc2Send block that crash the model when DLC is out of range. (TT#5812)

- Improved management of asynchronous process source files within new RT-LAB projects (asynchronous process are mainly used with MIL-STD 1553, Arinc 429, RS232, ... drivers). (TT#5870)

- Fixed asynchronous process crash when using MIL-1553 with RT-RT mode. (TT#6033, RT3#205752)

- Fixed Can AC2 ids that were truncated in hexadecimal. (TT#6083, RT3#224296)

Version 10.0.4

New features

Bug fixes

- Fix Softing CanAc2 problem while sending more than 50 messages without using transmission priority mode. (TT#5441, RT3#202379)

- Added flush of the Softing CanAc2 receive buffer when exiting the RT-LAB pause state. (TT#6062, RT3#221656)

- Fixed problem of CAN model generation from DBC file. (TT#6071)

Version 10.0.3

New features

- Fixed the opening of the CanAc2 monitor help documentation by cliking on the help button of the block.

Added support for closing the log file from CanAc2 monitor block before the number of messages to log is reached. (TT#5895)

Bug fixes

- Added more details in the online help of the configuration parameters of the Matlab/Simulink block OpSerialAsync Controller (RS232). (TT#5053, RT3#181586)

- Added: Support of the PCI serial card BlueStorm from Connect Technologies under RedHat 5.2 operating system. (TT#5605)

Version 10.0.1

New features

- Added a new example OpalDDK. This example contains the complete source code for an IP320 Analog In driver for RT-LAB. This sample represents a typical RT-LAB driver implementation for a PCI I/O card. The IP320 is an Analog I/O Industry Pack module from Acromag. (TT#1718)

- Added support for the full path of the bitstream file in the OpCtrl OP5142EX1 and OpLnk OP5142EX1 blocks. (TT#5644)

- Added a new option to the Softing CanAc2 Receive Matlab/Simulink block. This new option allows the user to dynamically set which identifiers are to be received by the block. This option allows the user to choose at run-time which CAN messages are to be received. (TT#5717)

- Added a new option in the Softing CanAc2 Monitor Matlab/Simulink block. This new option allows the user to close the log file and create a new one on trigger demand. This new option is called "static filename" and must be set in the mask of the block.

Warning: a bug prevents the user from opening the associated help documentation by cliking on the help button of the block. The help documentation of the block can still be read by opening the file Simulink/Docs/html/icons/io/PCI/OpCanAc2_Monitor.html. (TT#5895)

Bug fixes

- Update of the Softing CanAc2 Recv Matlab/Simulink block documentation. An explicit description of the "Engineering value packet" output is added. (TT#5163)

- Added a warning to OP5142EX1 IO blocks when the number of channels in use is set to 0. (TT#5527)

- Added a protection in the OpCtrl OP5142EX1 block for preventing models using OP5142 IO blocks to compile when the configuration file of the bitstream is not found. (TT#5687)

- Update of the Matlab/Simulink example model IO/Peak_System/model_2. (TT#5867)

- Fixed OP5142EX1 Event Generator for corrrect output when only one channel is in use. (TT#5898)

- Fixed the OP5142 IO blocks for proper setting of the number of channels when it is specified in a variable. (TT#6005)

- Improved the error message appearing when the real-time simulation mode of models using OP5142 blocks is not set to Hardware Synchronized. (TT#6008, RT3#214894)

Version 10.0.0

New features

- Added example model for J1939 protocol using Softing CanAc2 blocks. (TT#2955)

- Added function OpalGetSubsetAsyncSendIconData, and modified function OpalSetSubsetAsyncRecvIconData of the AsyncAPI library. These functions improve the asynchronous process performances by allowing the user to send or retrieve a subset of signals from the Async Send and Async Recv blocks. (TT#4561)

- Added support for DMA and non-DMA mode of GEFanuc VMIC 5565 card in Shared Memory blocks. The VMIC5565 example model was updated following this developpement. The DMA mode is enabled by default. The card reverts to non-DMA mode if the User Variable SHARE_MEM_NO_DMA is defined. (TT#4691, RT3#159335)

- Added support for DMA and non-DMA mode of GEFanuc VMIC 5565 card in Shared Memory blocks. The VMIC5565 example model was updated following this developpement. The DMA mode is enabled by default. The card reverts to non-DMA mode if the User Variable SHARE_MEM_NO_DMA is defined. (TT#4691, RT3#159335)

- Dropped support for Opal-RT Nexus probes and associated MStack blocks. (TT#4736)

- Added support for the OP5142 board. (TT#4802)

- Updated the Arinc 429 asynchronous process. Deprecated functions have been removed. (TT#4821)

- Developped an example model for PeakSystems PCAN-LIN adapter, using Softing CanAc2 interface. Note that the PCAN-LIN solution is intended to replace the Kvaser LapcanII solution in future RT-LAB releases. (TT#4862, RT3#166632)

- Added support for OP5142 in flash_update. (TT#4955)

- Added support for reception of Remote Transfer Requests in Softing CanAc2 driver. (TT#4956, RT3#166632)

- Added support for the Analog In, Analog Out, Digital In and Digital Out features of the OP5142 bitstreams. (TT#5088)

- Added the OP5142 Event Generator and Event Detector blocks. These blocks are used for pre- and post-processing of data relative to the TSDI and TSDO features of the OP5142 bitstreams. (TT#5089)

- Added the OP5142 TSBIn block for reception of data from the TOM feature of the OP5142 bistreams. This block is used to provide input data to the RT-Events TSB blocks. (TT#5090)

- Added the support of Max Technologies Arinc 429 IP module in RT-LAB. The IPM-429 provides a high channel density solution to your ARINC 429 Avionics Databus requirements with up to 16 ARINC 429 channels on a single size IPack Module . The IPM-429 offers message scheduling and time-tagging with a precision of one microsecond. The IPM-429 transmitters are short-circuit protected and offer programmable parity, word length, and bit-rate. Receivers can be programmed to filter incoming messages based on their ARINC 429 labels. In addition, receivers can detect parity and short-word errors, and can be configured for internal loopback.

For further information you can refer to the example models located at Examples\IO\Max_Technologies to know more about the integration of the IPM-429 in RT-LAB. (TT#5155)

- Added the support of LIN Description File (LDF) in RT-LAB. This new feature creates a Simulink model from an LDF file which contains all the information needed to build an entire LIN network. Simulink model is based on CanAc2-PCI Simulink blocks and requires the utilization of an adapter PCAN-LIN of Peak System to establish the interface CAN-LIN and viceversa.

A Graphical User Interface (GUI) application is also incorporated to the project to easy visualize and manage the autogeneration of the Simulink model. For further information you can refer to the example model located at Examples\IO\PEAK_System\model_2 to know more about the process of model creation and functioning of the entire system. (TT#5156)

- Added enumeration of OP5142 cards with flash_update '-bim' option. Information relative to the detected OP5142 cards are displayed after the enumeration of the SignalWire boards. (TT#5169)

- Added support for the OP5142 Quadrature Encoder Out block. (TT#5228)

- Added support for the OP5142 Quadrature Encoder In block. (TT#5257)

- Added -rlsafeOP5142 option in flash_update to be able to force the OP5142 card to reload from the SAFE flash. (TT#5259)

- Added -boardid option to flash_update to be able to select a PCI or PCIe card by its board index only. This option is an alternative to the -pci option. (TT#5284)

- Fixed SBS Arinc 429 multi-label support with only one OpAsync_429_scheduled_send and OpAsync_429_Scheduled_major_Frame simulink blocks. (TT#5463, RT3#202952)

- Added support for negative speed and slow-to-stop sequences (also known as bi-Directional Crank feature) in RPG blocks. (TT#5469)

- Added an ouptut to the OpCtrl Base Module block for returning the battery voltage level. (TT#5500)

- Added a ModuleId output to the OpFcnStatusRegister block for returning the ModuleId hardware code of the TestDrive boards. (TT#5501)

- Modified flash_update to support new 24V-capable TestDrive boards. (TT#5506)

- Modified flash_update utility to allow flashing 24V TestDrive cards. (TT#5506)

- Added a MinorId output to the OpFcnStatusRegister block for returning the ProductMinorId value of TestDrive and OP5130 bitstreams. (TT#5519)

- Added an option for rounding to the nearest natural number in Softing CanDB scaling. (TT#5591, RT3#209409)

- Added support for negative speed in the RpgEnginePulseDecoder block (TT#5677)

- Modified the RPG ESPG block in order to support individually selectable polarity for the ESPG outputs, and making it configurable at run-time. (TT#5875)

Bug fixes

- Modified the SignalWire driver for proper detection of SignalWire remote boards when several OP5110 cards are installed on the target and the SignalWire link is not connected to the first OP5110 detected on the PCI bus. (TT#2152)

- Fixed NI671x PWM In, Freq In and Opsync blocks to prevent a model crash occuring when the board is not found. (TT#2672)

- Added support for 'Reset on I/O board missing' option in flash_update utility so that failure of flash_update caused by missing I/O board does not cause the model to reset if the option is unchecked. (TT#3246, RT3#185930)

- Fixed OpAsync_429_Send block for proper transmission of the SSM field. (TT#4587)

- Removed erroneous warning message in RT-LAB display while sending Arinc 429 data word (Label = 0, data = 0, SSM = 2) with SBS ABI PCI1 or PCI2 cards. (TT#4667)

- Fixed handling of the SSM input of the OpAsync_429_Send block in Advanced mode for proper support of vectors of transmission words. (TT#4699)

- Updated error codes description for Status output of OP5110-5120 Event Detector block. (TT#4703)

- Fixed data size of OpAsync_429_Recv block to support widths larger than 1. (TT#4756)

- Fixed the Knock block to prevent the model to reset if the RPG module is not present. (TT#4865)

- Fixed the input 'bus ON/OFF' of the block 1553 Controller which did not work with ABI-PCI2 card. (TT#4867)

- Added support for slave synchronization mode of ML506-XSG boards. In order to specify that an ML506 is slave, an OpConfigSync block must be placed in the model and it must specify the source of synchronization of the model, and the synchronization signal of the source must be connected to the ML506 RTSI line. (TT#4917)

- Fixed SBS Arinc 429 driver for proper behaviour of new 'heavy traffic' reception mode on A429-PCI2-16 cards. (TT#5007)

- Fixed the snapshot of the SBS A429-PCI2-16 loopback connector pinout provided in the html of the example model for this card. (TT#5010)

- Fixed driver error occuring in Softing CanAc2 driver when several cards are used in the model and they do not get initialized in the increasing order of PCI index values. This error prevented the cards with higher PCI index values from transmitting and receiving messages. (TT#5011)

- Fixed some issues in the asynchronous process of the MIL-1553 ABI example which resulted in unexpected error in the simulink console. (TT#5023)

- Fixed some issues in the asynchronous process of the MIL-1553 ABI monitoring example allowing the Bus-Controller / Remote Terminal mode. (TT#5024)

- Added a limit to the maximum range of the shared memory (0x400000) while using OpSharedMemoryCtrl Matlab/Simulink block under Linux operating system. (TT#5084)

- Modified the Matlab version of the GEFanuc/VMIC5565 example simulink model to R14. (TT#5108)

- Improved handling of OP6228 synchronization to overcome some limitations observed relative to the respective positions of the TestDrive and OP6228 cards in the chassis. (TT#5127, RT3#185935)

- Fixed CanAc2 log file not retrieved after reset. (TT#5249)

- Fixed OP5142EX1 Analog Out block to prevent inversion of even and odd channel values. (TT#5406)

- Fixed dynamic behaviour of the OpConfigSync mask for proper display of PCI board specifications depending on the selected Synchronization source value. (TT#5424)

- Improved OP5142EX1 Event Geenrator mask for proper handling of the 'number of events' vector when the 'number of channels' parameter is modified. (TT#5431)

- Fixed crash of RT-LAB models if SBS Arinc 429 channel 1 is configured for sending with minor/major frame capabilities. (TT#5464, RT3#203371)

- Fixed NI6602 Encoder block to prevent output of large positive values when direction is negative. (TT#5473, RT3#203049)

- Fixed error in Matlab/Simulink offline simulation when adding a slash "/" character in a CanDB generated subsystem's name. (TT#5486, RT3#203206)

- Fixed problem with OpCtrl OP5142 block causing Matlab Error 'Too many open files' when model was played and stopped offline several times in the same Matlab session. (TT#5520)

- Fixed OP5142 driver to prevent performances degradation observed when more than one OP5142 is connected to the same target computer. (TT#5525)

- Fixed a core-dump occuring with flash_update at the end of the programming of some TestDrive boards. (TT#5528)

- Fixed OpCtrl OP5142 block to prevent initialization problems with OP5142 I/O blocks when the OpCtrl OP5142 block is placed in a masked subsystem. (TT#5532)

- Fixed OP5142 Analog Out driver to properly output all channels when using an odd number of channels. (TT#5562)

- Fixed dynamic behaviour of the OpCtrl OP5142 block. In previous releases, the 'Synchronization mode' option disappeared from the mask parameters after a model was played offline, saved, closed and then reopened. (TT#5565)

- Improved OP5142 synchronization recovery after a Pause/Execute sequence to prevent situations where the model would be continuously in overruns after a Pause, or situations where the computation time of the subsystem erroneously gets equal to the model calculation time after the Pause. (TT#5567)

- Fixed OP5142 drivers to support model configurations using two or more OP5142 cards with their OpCtrl blocks placed in different subsystems. (TT#5570)

- Improved OP5142 shared-memory clean-up at reset of multi-subsystems models using multiple OP5142 cards. (TT#5572)

- Improved OP5142 shared-memeory management to prevent concurrent access of the shared-memory by multiple subsystems causing the models to crash during load. (TT#5631)

- The Kvaser LAPcan II, a two-channel CAN interface for the PC card (PCMCIA) bus, is no longer supported. (TT#5669)

- Fixed python-based target utility opiotest.py. The fix is made for QNX6.3.2 only. The utilirty is not supported on RedHat yet. (TT#5685)

- Corrected Hardware ID infos displayed in the SC_console subsystem of the OP5142 Digital IO example model. (TT#5734)

Version 8.4.6

New features

- Fix Softing CanAc2 transmission problem while sending more than 50 messages under Qnx operating system.

Known issue: problem of timing under RedHawk 4.2 operating system. (TT#5777, RT3#210991)

- Added support of LIN protocol version 2.0 extended checksum with Kvaser-LapCanII card. (TT#6129, RT3#200457)

Bug fixes

- Fixed OpCanAc2Send block that crash the model when DLC is out of range. (TT#5812)

- Fixed asynchronous process crash when using MIL-1553 with RT-RT mode. (TT#6033, RT3#205752)

- Fixed Can AC2 ids that were truncated in hexadecimal. (TT#6083, RT3#224296)

Version 8.4.5

New features

Bug fixes

- Fix Softing CanAc2 problem while sending more than 50 messages without using transmission priority mode. (TT#5441, RT3#202379)

- Fixed problem of CAN model generation from DBC file. (TT#6071)

Version 8.4.4

New features

- Fixed the opening of the CanAc2 monitor help documentation by cliking on the help button of the block.

Added support for closing the log file from CanAc2 monitor block before the number of messages to log is reached. (TT#5895)

Bug fixes

Version 8.4.3

New features

- Added support for negative speed in the RpgEnginePulseDecoder block (TT#5677)

- Added a new option to the Softing CanAc2 Receive Matlab/Simulink block. This new option allows the user to dynamically set which identifiers are to be received by the block. This option allows the user to choose at run-time which CAN messages are to be received. (TT#5717)

- Modified the RPG ESPG block in order to support individually selectable polarity for the ESPG outputs, and making it configurable at run-time. (TT#5875)

- Added a new option in the Softing CanAc2 Monitor Matlab/Simulink block. This new option allows the user to close the log file and create a new one on trigger demand. This new option is called "static filename" and must be set in the mask of the block.

Warning: a bug prevents the user from opening the associated help documentation by cliking on the help button of the block. The help documentation of the block can still be read by opening the file Simulink/Docs/html/icons/io/PCI/OpCanAc2_Monitor.html. (TT#5895)

Bug fixes

- Update of the Softing CanAc2 Recv Matlab/Simulink block documentation. An explicit description of the "Engineering value packet" output is added. (TT#5163)

- Fixed CanAc2 log file not retrieved after reset. (TT#5249)

Version 8.4.2

New features

- Added function OpalGetSubsetAsyncSendIconData, and modified function OpalSetSubsetAsyncRecvIconData of the AsyncAPI library. These functions improve the asynchronous process performances by allowing the user to send or retrieve a subset of signals from the Async Send and Async Recv blocks. (TT#4561)

- Fixed SBS Arinc 429 multi-label support with only one OpAsync_429_scheduled_send and OpAsync_429_Scheduled_major_Frame simulink blocks. (TT#5463, RT3#202952)

- Added an ouptut to the OpCtrl Base Module block for returning the battery voltage level. (TT#5500)

- Added a ModuleId output to the OpFcnStatusRegister block for returning the ModuleId hardware code of the TestDrive boards. (TT#5501)

- Modified flash_update to support new 24V-capable TestDrive boards. (TT#5506)

- Modified flash_update utility to allow flashing 24V TestDrive cards. (TT#5506)

- Added a MinorId output to the OpFcnStatusRegister block for returning the ProductMinorId value of TestDrive and OP5130 bitstreams. (TT#5519)

- Added an option for rounding to the nearest natural number in Softing CanDB scaling. (TT#5591, RT3#209409)

Bug fixes

- Fixed NI671x PWM In, Freq In and Opsync blocks to prevent a model crash occuring when the board is not found. (TT#2672)

- Clarification of the format of the input "ID" of the OpCanac2Send Matlab/Simulink block in the associated help page. (TT#4679)

- Updated error codes description for Status output of OP5110-5120 Event Detector block. (TT#4703)

- Fixed the input 'bus ON/OFF' of the block 1553 Controller which did not work with ABI-PCI2 card. (TT#4867)

- Improved handling of OP6228 synchronization to overcome some limitations observed relative to the respective positions of the TestDrive and OP6228 cards in the chassis. (TT#5127, RT3#185935)

- Clarification of the output mode in OpCanAc2-PCI_Ctl block help page. (TT#5243)

- Fixed crash of RT-LAB models if SBS Arinc 429 channel 1 is configured for sending with minor/major frame capabilities. (TT#5464, RT3#203371)

- Fixed NI6602 Encoder block to prevent output of large positive values when direction is negative. (TT#5473, RT3#203049)

- Fixed error in Matlab/Simulink offline simulation when adding a slash "/" character in a CanDB generated subsystem's name. (TT#5486, RT3#203206)

- Fixed problem with OpCtrl OP5142 block causing Matlab Error 'Too many open files' when model was played and stopped offline several times in the same Matlab session. (TT#5520)

- Fixed OpCtrl OP5142 block to prevent initialization problems with OP5142 I/O blocks when the OpCtrl OP5142 block is placed in a masked subsystem. (TT#5532)

- Fixed OP5142 Analog Out driver to properly output all channels when using an odd number of channels. (TT#5562)

- Fixed dynamic behaviour of the OpCtrl OP5142 block. In previous releases, the 'Synchronization mode' option disappeared from the mask parameters after a model was played offline, saved, closed and then reopened. (TT#5565)

- Corrected Hardware ID infos displayed in the SC_console subsystem of the OP5142 Digital IO example model. (TT#5734)

- Replaced the OP5142 bitstream provided with the OP5142EX1 Digital IO model. This bitstream was corrupted (wrong file size) in the previous 8.4.x releases. (TT#5735)

Version 8.4.1

New features

- Added example model for J1939 protocol using Softing CanAc2 blocks. (TT#2955)

- Updated the Arinc 429 asynchronous process. Deprecated functions have been removed. (TT#4821)

- Added support for negative speed and slow-to-stop sequences (also known as bi-Directional Crank feature) in RPG blocks. (TT#5469)

Bug fixes

- Fixed OpAsync_429_Send block for proper transmission of the SSM field. (TT#4587)

- Fixed handling of the SSM input of the OpAsync_429_Send block in Advanced mode for proper support of vectors of transmission words. (TT#4699)

- Fixed data size of OpAsync_429_Recv block to support widths larger than 1. (TT#4756)

- Added a verification of the size of the Rx buffer in SBS Mil1553 driver (size < 255). (TT#4903)

- Fixed compilation problem with OpLnk OP5142 block. (TT#5403)

- Fixed OP5142EX1 Analog Out block to prevent inversion of even and odd channel values. (TT#5406)

- Fixed dynamic behaviour of the OpConfigSync mask for proper display of PCI board specifications depending on the selected Synchronization source value. (TT#5424)

- Fixed OpConfigSync block to prevent an 'invalid synchronization source' error to appear when 'SignalWire port 0' is selected as the synchronization source. (TT#5425)

- Improved OP5142EX1 Event Geenrator mask for proper handling of the 'number of events' vector when the 'number of channels' parameter is modified. (TT#5431)

Version 8.4.0

New features

- Added support for the OP5142 board. (TT#4802)

- Added support for OP5142 in flash_update. (TT#4955)

- Added support for the Analog In, Analog Out, Digital In and Digital Out features of the OP5142 bitstreams. (TT#5088)

- Added enumeration of OP5142 cards with flash_update '-bim' option. Information relative to the detected OP5142 cards are displayed after the enumeration of the SignalWire boards. (TT#5169)

- Added -rlsafeOP5142 option in flash_update to be able to force the OP5142 card to reload from the SAFE flash. (TT#5259)

- Added -boardid option to flash_update to be able to select a PCI or PCIe card by its board index only. This option is an alternative to the -pci option. (TT#5284)

Bug fixes

- Added support for 'Reset on I/O board missing' option in flash_update utility so that failure of flash_update caused by missing I/O board does not cause the model to reset if the option is unchecked. (TT#3246, RT3#185930)

ARTEMIS

Version 6.3.2

Version 6.3.1

Version 6.3.0

Bug fixes

- Fixed crash during second simulation with SSN model with more than 16 SSN groups. (TT#6492)

- Fixed WideBand Line compilation in Matlab 2010a. (TT#7218, RT3#265226)

- Fixed Artemis DPL which gives unbalanced voltage, when the number of phases becomes 4. (TT#7326, RT3#266663)

Version A-6.2.1

New features

- Added Resistance shunt with cell capacitor to allow discharge for MMC-1P block. (TT#6963)

Bug fixes

- Modify documentation format to allow compatibility with RT-LAB documentation. (TT#6819)

- Fixed deadtime was not supported for MMC-1P block. Added detection of cross firing allowing new test capability. (TT#6964)

- Fixed SSN solver give NaN when there is many isolated subcircuit inside the SSN model in the form of floating transformer secondaries. (TT#7025)

Version A-6.2

New features

- Added support of MatLab R2011b. (TT#6953)

- Added support of MatLab R2011a. (TT#6660)

- Added voltage measurement to the Wideband and Frequency line. (TT#6695)

- Added parallel mode to SSN solver. (TT#6727)

- Improve memory management in SSN solver during offline simulation. (TT#6772)

Bug fixes

- Fixed error in mask of Asynchronous Machine pu Units with non-unity rotor turn ratio with Matlab 2010b. (TT#6763)

- Fixed Error in Asynchronous Machine pu Unitswith non-unity rotor turn ratio with Matlab 2010b and newer. (TT#6800)

Version A-6.1

New features

- Added support of MatLab R2010a and R2010b. (TT#6394)

- Added new block in Artemis library : MMC 2P (TT#6406)

Bug fixes

- Fixed Help of "marti Line" block does not open properly (TT#6405)

- Optimisation of memory usage of SSN in MatLab. (TT#6413)

Version A-6.0.2

New features

- Add support for Matlab R2010a and 2010b. (TT#6536)

Version A-6.0

New features

- Added support for Frequency Line. (TT#6026)

- Added a new solver: State-Space Nodal (SSN). (TT#6070)

- Added support for RT-Model structure. (TT#6190)

Bug fixes

- Fixed support of multirate model with MatLab R2009b. (TT#5885)

- Fixed SSN Inlined Voltage inverter Compensation is sometimes inccorect. (TT#6152)

Version A-5.2.2

New features

Bug fixes

- Fixed support for snapshot. (TT#5569)

Version A-5.2.1

New features

- Hysteresis can not be simulated in real-time. The m-file S-function of SPS hysteresis was translated into C-code to run hysteresis models in real-time. (TT#5416)

Bug fixes

Version A-5.2

New features

- Added support for MATLAB R2009b. (TT#4634)

Bug fixes

- The specification of transformer parameter is now correctly supported in SI units. (TT#5374)

Version A-5.1.3

New features

Bug fixes

- Bugs have been fixed in the ARTEMiS saturable tranformer model:

1-for the 3-phase transformer, the correct power base to compute the magnetisation inductance must be S/3, where S is the total apparent power rating of the 3-phase transformer. This has been corrected.

2- the correct way to initialise the flux in the saturation transformer in ARTEMiS is through the POWERGUI Initial State Setting panel, NOT with the transformer initial flux condition.

This is because in ARTEMiS, the flux is made part of the main ABCD equation while in SPS, it is a local state (integrator) inside the transformer model (in the shematic).

The locally specified initial flux of transformer is now ignored. The user must set this flux with the PowerGUI Initial Conditions pane. ARTEMiS demos give a detailled explanation of how this is done. Note that, in SPS (without ARTEMiS) in R2008a, in the case of single phase saturable transformer, the user cannot set this flux himself locally in the transformer block.

SPS LIMITATIONS (NOT RELATED TO ARTEMiS)

An important bug not related to ARTEMiS remains (it is in the SPS core code): the transformer flux cannot be read reliably by the SPS 'Multimeter' block. The MathWorks did not gave a time line for the resolution of this bug. (TT#5085)

Version A-5.1.2

New features

Bug fixes

- A error in the ARTEMiS custom model has been corrected.

The turn-ratio was not implemented correctly before. (TT#4808, RT3#164449)

Version A-5.1

New features

- Added support for FLEXnet license manager. (TT#4346)

- Added support for Matlab R2008b. (TT#4347)

Bug fixes

- Improved real-time performance of Artemis line by renaming tlc folders to tlc_c. (TT#4578)

- Improved real-time computation performance by modifying the model compilation options. (TT#4581)

- Fixed problem with initial values in models containing DC voltage sources. (TT#4618)

- Fixed the ARTEMiS 'DPL line model substitution mode' when the ARTEMiS DPl line in the model is of type 'SimPowerSystems'. (TT#4792)

- A fix was found for the Custom DFIM model of SPS. The turn-ratio equations are now computed correctly. (TT#4808, RT3#164449)

- Fixed the ARTEMiS Dynamic Load substitution menu for proper handling of RLC load block reactive power specified as a variable. (TT#4820)

RT-EVENTS

Version 3.8

Bug fixes

- Modify documentation format to allow compatibility with RT-LAB documentation. (TT#6820)

- Fixed 2 level tsb high z block cannot be compiled with RT-LAB. (TT#7022)

Version RTE - 3.7.0.37

New features

- Added support of MatLab R2011b. (TT#6952)

Version RTE - 3.6

New features

- Added support for Matlab R2011a. (TT#6662)

Version RTE - 3.5

New features

- Added support for MatLab R2010a and R2010b. (TT#6393)

Version RTE - 3.4

New features

- Added check for RT-Events installation. (TT#4325)

- Added support for RT-Model structure. (TT#5806, RT3#209983)

Bug fixes

- Fixed automatic file transfer for "rt_MINd_snf.h". This file was not transferred to the target during the compilation when using MATLAB R2008b and later. (TT#5756, RT3#213719)

- Fixed TSB to execute even if SPS is not installed. (TT#5921, RT3#217553)

- Added SPS installation check for use of RTE TSB. (TT#5921, RT3#217553)

- Fixed conversion block to saturate the "times" vector to 0.999. (TT#5922)

- Fixed Latch block to avoid some crashes when sample times is not specified. (TT#6055)

- Added new variable for the Sample Time under the mask of the RTE Latch Block. (TT#6055)

- Fixed the rate transition block to support vectors. (TT#6127)

- Fixed global dependancy to RT-LAB. RT-Events is working now without RT-LAB installed on the computer. (TT#6189)

Version RTE - 3.3.1

New features

- Optimizations in Time-Stamp Bridges have been made to reduce the input to output delay due to Simulink-SPS interfacing when the Output Data Type parameter is SimPowerSystem. (TT#5624)

Bug fixes

Version RTE - 3.3

New features

- Added support for MATLAB R2009b. (TT#4636)

Bug fixes

RT-XSG

Version XSG-2.1.6

Bug fixes

- Fixed issues with the resolver out block. Amplitude for sinus and cosinus are selected independently from carrier amplitude. (TT#7111, RT3#264678)

- Resolver Out: Added amplitudes for SinResolver and CosResolver independant from carrier amplitude. (TT#7111, RT3#264678)

- Added 200MHz support for OP5341 (Fast AIN 2MS). (TT#7129)

- OP7000: fixed synchronization issue between OP7000 chassis (sporadic overruns). (TT#7325)

Version XSG-2.1.5

Bug fixes

- Fixed issue while using A/D channels at 200 MHz. (TT#7268, RT3#266105)

Version XSG-2.1.3.57

Bug fixes

- Fixed problem of contention, overheat on mezzanine and FPGA when DIN/AIN mezzanine is physically present when loading a bitstream where this IO slot/group is unused. (TT#6755, RT3#263151)

- Fixed problem of OP5330 Load_DAC command duplication for one buffer. (TT#6962, RT3#262970)

Version XSG-2.1.2.41

Bug fixes

- Clarified the specifications of the TSDout RT-XSG block. The minimal delay between two pulses is 40 ns. The documentation is up-to-date. (TT#6799, RT3#260778)

- Fixed issue with PWM Out block. Duty of the signal suddenly dropped to 0.

(TT#6889, RT3#262656)

Version XSG-2.1.1

New features

- Added a new XSG Scope. This scope can monitor up to 32 channels with:

- Up to 250 samples per CPU model time step

- User-friendly graphical interface

- data resolution selection (16 bits or free)

This RT-XSG block is associated to a RT-LAB block. (TT#6785)

Bug fixes

- Fixed crash at compilation under Windows 7 (64 bits). (TT#6680)

- Fixed problem of signal routing when compiling models with 2 motors. (TT#6725)

- Fixed problem with Resolver Out when using external carrier (wrong amplitude). (TT#6747, RT3#261629)

- Fixed strange behavior of PMSM torque in motor model. (TT#6749)

- Fixed problem when generating events shortly before the end of the model time step (40 ns) using TSDO. (TT#6812)

- Fixed calibration model for Analog In block. (TT#6848)

Version XSG-2.1

New features

- Added a new configuration parameter of Encoder In: resolution. (TT#6539, RT3#258775)

- Added 4 example models for the ML605:

1- Simple Multiply and Add

2- PWM and Digital IO

3- Analog In/Out

4- DIO, TSDIO, QEIO, AIO (TT#6635, RT3#260904)

Bug fixes

- Modification of PMSM example model. Links with RT-XSG are now broken. Model can run off-line without RT-XSG installed. (TT#6719)

Version XSG-2.1.pr3

New features

- Modification of Resolver In block output order:

    pin1 CarrierOut

    pin2 Theta

    pin3 RotorfreqBase

    pin4 Error

Modification of ResolverIn packing input order:

    pin1 Sync

    pin2 Theta1

    pin3 RotorFreqBase1

    pin4 Theta2

    pin5 RotorFreqBase2 (TT#6656)

Bug fixes

- Fixed FPGA drive output to fix problem avec Analog In board. (TT#6579, RT3#260422)

- Update of the Resolver In block documentation. (TT#6654)

Version XSG-2.1.pr2

New features

- Added new SPI block. (TT#6272, RT3#223779)

Bug fixes

- Fixed problem with OP5142 XSG bitbasher block (wrong endianness). (TT#6551, RT3#258775)

- Update of the Hardware Config XSG block documentation. (TT#6636)

- Fixed bug when selecting OP5236-1 board in Hardware Config block. (TT#6651)

Version XSG-2.1.b5

New features

- Added support for ML605 I/O. (TT#6355)

- Added support for PCIe Xilink patch. THIS PATCH IS REQUIRED in order to be able to generate bitstream with RT-XSG. (TT#6574)

Bug fixes

- Fixed incorrect number for digital IO board. (TT#6553)

- Fixed support for new Mezzanine DIN. Added a new ID board. (TT#6558)

- Fixed PWMO unpacking block. (TT#6562)

- Fixed DDR3 issues with ML605. (TT#6571)

Version XSG-2.1.b3

New features

- Added new ResolverIn and ResolverOut block. (TT#6474)

- Added support for IO on BP1 connector. (TT#6507)

- Increased the Maximum Frequency of the PWM output block to 200Mhz. (TT#6511)

Bug fixes

- Fixed Analog Out block that was keeping the last value after reset. (TT#6487, RT3#258403)

Version XSG-2.1.b2

New features

- Added support for differential mode, resolution and direction in Quad encoder block. (TT#5251)

- Added the Floating-Point FPGA State-Space solver. (TT#5897)

- Added support for MATLAB R2010a and R2010b. (TT#6262)

- Added support for ML605. (TT#6295)

- Added support to execute XSG at 200Mhz on ML605. (TT#6338)

- Added support for DDR3 memory controller. (TT#6340)

- Added support for multiple range for the calibration. (TT#6398)

- Added support for OP5237-3 Isolated High Voltage 16-Pull-16-Push Hybrid 32out/30in Digital Interface (TT#6415)

Bug fixes

- Fixed TSBIn block to remove an additional delay. (TT#6091)

- Fixed "-k" option that is not supported with xilink 12.1. (TT#6107)

- Fixed TSDIn block to send an initial state when no event have been detected. (TT#6327)

Version XSG-2.0.0

New features

- Added an "Asynchronous DataIn" example model. The OP5142 "Extensive IO Usage" model uses asynchronous DataIn. (TT#3547)

- LoadIn and LoadOut blocks have been added to implement initial model parameterization or characterization. (TT#4407)

- Added support for Matlab R2009b. (TT#4637)

- Dropped support for Matlab R14 and Xilinx v7. (TT#4642)

- Added support for Xilinx v11.4, and Matlab R2008b and R2009b. (TT#4761)

- Added the final release of the OP5341 A/D module support for use with the OP5142 and ML506 boards. (TT#5673)

- Added the first release of the OP5341 A/D module support for use with the OP5142 board. This 4MS/s A/D conditioning module is under test and will be made available for general use in a future release. (TT#5674)

- Added support for the ISE Design Suite v11.x in RT-XSG (TT#5676)

- Added a Resolver In block to the library, and an OP5142 application demo using this block. (TT#5890)

- Added the Clarke, Park and Concordia transformation blocks to the RT-XSG "Application" library. (TT#6002)

- Added floating-point multiplier/adder cores for the VirtexIIPro and Spartan3 devices (TT#6086)

- Added support for Xilinx ISE Design Suite v12. (TT#6088)

- EDIF, NGC and other generation files located in the model folder are now included in the generation libraries. (TT#6137)

- The timestamp of an event is now output by the EncoderIn block. The use of this timestamp by the Quadrature Encoder input block from the RT-LAB I/O library enables high-precision velocity (speed) computation. (TT#6242)

Bug fixes

- Changed the SynthesisManager GUI behavior during model compilation to prevent the Matlab interface to freeze until the compilation is finished. (TT#2548)

- A warning is displayed when the RTXSG_ROOT environment variable does not exist or points to a folder that dose not exist. (TT#5111)

- Documented the creation of a CONF file for OP5142 bitstreams in the RT-XSG User Guide. (TT#5401)

- Fixed metastability problems observed with OP5251/3/4 (opto-coupler digital inputs). (TT#5754)

- Improved A/D and D/A controllers and OP5142 Gray Zone placement in order to circumvent recurrent routing problems observed with large designs. (TT#5757)

- Improved the Resolver Out block to ensure that the carrier, sine, cosine, and theta output signals of the block are in phase. (TT#5797)

- Fixed the TSDO (Event Generator) block for producing correct signals at low frequency, and when only one channel of the TSDO port is in use. (TT#5820)

- Updated the Standalone ML50x example projects to reflect the changes made in the A/D controllers. (TT#5876)

- Fixed the TSDO block callbacks to prevent dynamic input and output ports to be disabled or disconnected when re-opening a model. (TT#6148)

- From Xilinx System Generator v12.1, the Xilinx Timing Analyser is run as _timingan.exe instead of _timingan_old.exe on compilation failure due to the inability to meet timing requirements. (TT#6198)

- Fixed a broken link to a VHDL file in the Single Floating-Point Adder and Multiplier blocks. (TT#6239)

- Fixed Analog I/O hardware selection in the ML506 basic example model. (TT#6240)

Version XSG-1.3.7

New features

- Added support for calibration of the fast OP5341. (TT#5675)

Bug fixes

Version XSG-1.3.4

New features

- Added support for a modified version of the OP5210 Digital In/Out carrier that allows the older Digital In/Out mezzanines to be connected to the OP5142 board. (TT#5658)

- Added the first release of the OP5341 A/D module support for use with the OP5142 board. This 4MS/s A/D conditioning module is under test and will be made available for general use in a future release. (TT#5674)

- Integrated the angle generator subsystem in the Quadrature Encoder block. (TT#5712)

Bug fixes

- Fixed metastability problems observed with OP5251/3/4 (opto-coupler digital inputs). (TT#5754)

- Improved A/D and D/A controllers and OP5142 Gray Zone placement in order to circumvent recurrent routing problems observed with large designs. (TT#5757)

- Fixed blocks with dynamic ports to prevent port connections to be mixed when RT-XSG model is reopened in Simulink. (TT#5780)

- Improved the Resolver Out block to ensure that the carrier, sine, cosine, and theta output signals of the block are in phase. (TT#5797)

- Fixed the TSDO (Event Generator) block for producing correct signals at low frequency, and when only one channel of the TSDO port is in use. (TT#5820)

- Updated the Standalone ML50x example projects to reflect the changes made in the A/D controllers. (TT#5876)

Version XSG-1.3.3

New features

Bug fixes

- Fixed the OP5142 Quadrature Encoder Out block to correct a mismatch observed between the frequencies of the A and B signals. (TT#5617)

- Improved DataIn FIFO management in OP5142 Gray Zone to prevent unexpected FIFO reset that could occur during data transfers and that affected the start of the subsequent DMA transfers, causing overruns in RT-LAB models. (TT#5649)

Version XSG-1.3.1

New features

- Added support for the 64 DigitalIn and 64 DigitalOut conditioning cards (OP5252 and OP5253) with the OP5142 board. (TT#5461)

Bug fixes

- Added missing sfifo_512x32_br core to the RT-XSG library, and fixed a typo in the iv16_RenDataOut port name under the DataOUT_16 ports block mask. (TT#5505)

- Added a protection to the OP5142 Gray Zone to prevent crashes of the OP5142 observed when overruns occured in the RT-LAB model. Such crashes required the target to be rebooted for restoring the communication with the OP5142 board, and were caused by an overlap of DMA write and read transfers. (TT#5564)

- Fixed the OP5142 Gray Zone to prevent failure of DMA transfers from the RT-LAB model to the OP5142 board when overruns occur in the RT-LAB model. One symptom of this problem was an apparent 'freeze' of the D/A signal outputs after a Pause/Execute sequence. (TT#5614)

Version XSG-1.3

New features

- Removed the global variable 'version' that caused a conflict with the initialization scripts of standard TestDrive models. (TT#3670)

- Added support for the OP5142 board. (TT#4805)

- Added support for conditioning modules and mezzanines (OP522x, OP523x, OP5330, OP5340 and OP5251) with the OP5142 board. (TT#4806)

- Added RT-XSG blocks for accessing analog interface connectors as simple digital I/Os on the ML506 platform. (TT#4831)

- Added a demo model for ML506-Standalone for the 11Din-11Dout-24Din-24Dout configuration. (TT#4922)

- Added a parameter to the DataIn and DataOut blocks that specifies the number of channels used in the model. (TT#4952)

- Added the Time-stamped Digital Input and Output blocks to the RT-XSG library. These features are also named TSDI and TSDO, or Event Detector and Event Generator. (TT#4987)

- Added PWM In and PWM Out blocks for acquiring pulse width measurements and producing pulse width modulated signals. (TT#4988)

- Made the RT-XSG version tag available in the RT-XSG user models. (TT#5005)

- Added a option to the DataOUT block to allow postponed Data acquisition. (TT#5083)

- Added the Quadrature Encoder In and Quadrature Encoder Out blocks to the RT-XSG application library. (TT#5204)

- Added a Resolver Out block to the RT-XSG application library. (TT#5281, RT3#196216)

Bug fixes

- Improved error management during bitstream generation. Output files presence/absence is verified to find compilation errors. In case of an error, the developer is referred to the xflow.results or synthesis.results file. In case of a timing error, an hyperlink is provided to automatically open the Xilinx Timing Analyzer with the appropriate design/constraint files. (TT#2226)

- Added XSG - xPC Target How-to's to the product domumentation. (TT#4930)

- Added a protection to prevent a bitstream generation failure occuring when the model name is "fpga_model.mdl". Using this model name is not allowed, because it is used internally during the generation process. (TT#4944)

- Removed the constraint that required to place I/O blocks for all the I/Os supported by the XSG board even when these I/Os were not all used by the model. Example models have been updated. (TT#4949)

- Improved the implementation of the OP5330 D/A controller in order to make timing constraints easier to reach when producing bitstreams for the OP5142. (TT#5153)

- Fixed problems in the OP5142 Gray zone, occuring when only a subset of non-adjacent DataIn ports was used, and causing data corruption. (TT#5160)

- Fixed OP5142 Gray zone to prevent Analog Input acquisition values to stop being transferred to the RT-LAB model after a Pause/Execute sequence. (TT#5186)

- Improved the callbacks used by the RT-XSG application library to prevent huge opening times. (TT#5208)

- Fixed the OP5142 Event Generator (TSDO) and Event Detector (TSDI) blocks for correct pattern generation or acquisition when the signal toggles once at every computation step. (TT#5242)

- Fixed a mismatch between the Synchro and A/D controller blocks that could cause corruption of analog input data acquisition in some designs. (TT#5287)

- Updated the documentation of the RT-XSG OP5130 demo model to refer to the correct revisions of adapter card OP5929: One OP5929-3 adaptor card must be connected to the backplane connector of the OP5130, and an OP5929-2 adapter must be connected to the backplane connector of the OP5220. (TT#5288)

- Added pull-ups to the signals used to return the Board Index of OP5142 boards, making the default value 0x1F (31) when the OP5142 is not connected to a backplane adapter. IMPORTANT: This modification is not compatible with Wanda Backplane Adapter (800-0007) Rev 1.0 and 2.0. It requires version 1.1 or 2.1 or else the BoardIndex (BoardID in flash_update) will always be at 0x1F (31). (TT#5303)

- Fixed an unconnected inport error related to the Digital Filter option of the TSDI (Event Detector) block. (TT#5386)

- Fixed an internal error that forced to reopen Matlab after each bitstream generation. (TT#5456)