CLEARSY
Safety Solutions Designer

Release Notes

Atelier B Professional Edition 25.02

– February, 2025

1 Introduction

Release 25.02 of Atelier B Professional Edition adds new features (new archival mode, use of environment variables to set resources, settings to wrap lines in generated PMM files). It also improves on some existing features, updates the documentation and contains several bug fixes.

In the following, all the changes in the details of the changes are listed.

2 Changes

- New archival mode for the forthcoming "Atelier B Certifier".

- Resources may be defined with environment variables. Resource files may now refer to environment variables by name using the prefix $. The environment variable name must be constituted with POSIX portable file name character set:

    - Uppercase or lowercase A to Z
    - Numbers 0 to 9
    - Period (.)
    - Underscore (_)
    - Hyphen (-)

    The $ character may be obtained from the resource file with the $$ string.

- New UI settings to set a line wrapping length when automatically updating a PMM file (UserPass theory).

- Component creation wizard improved

    - The scheme used to propose names now follows standard practices.
    - The prefilled component text is improved.

- Interactive prover: a tooltip exhibits current command in proof tree view.

- Tool OPRGUI now issues additional diagnostic information.

- Improved execution from GUI of proof rules validation on Windows.

- Improved workspace importation.

- Command history (hi) available in bbatch.

- The bcomp tool emits an error message on empty definition files.

- Atelier B User Guide, version 0.7, is included in the distribution.

- B Language Reference Manual updated to version 1.9:

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- SEES clause updated.
- tree expressions are now deprecated.
- Condition on names of formal parameters.
- Hexadecimal and binary integer literals added.

- Interactive Prover User Manual added to distribution.

- Updated documentation of interactive prover command dcs.

- Counter-example visualization in Atelier B file editor. When using external provers, if a proof obligation is found to be false by the prover, and that prover has the capability to produce a counter-example, this information is presented to the user in the file editor.

- Proof mechanisms now feature counter-verification.

- Added proof mechanisms for Atelier B provers pr and pp.

- Improved SMT encoding in pptranspog. Customization of the prelude in the produced files based on the operators and types found in the problem.

- Updated documentation for external provers.

- Improved desktop integration (icons and Freedesktop files are installed) in some Linux distributions.

3 Fixes

- Fixes regression in inter-process communication between Atelier B GUI and bbatch instances.

- Errors corrected in the B Language Reference Manual: priority information, DEFINES clause, LET substitution, List_ident non terminal.

- Added documentation for krt guard bforward.

- Fixes editor crashing GUI when saving a new file.

- Fixes outline in file editor for PMM files.

- Fixes removal of definition library from project properties in GUI.

- Improved TPTP compatibility in the pptranspog tool.

  - Removes spurious parentheses in the type definition of set insertion operators.
  - Outputs declarations of types before they are used in type definitions.

- Fix lock of well-definedness projects. Projects for the well-definedness stopped being accessible from the GUI. This has been fixed.

- Fixed a glitch in proof view in interactive prover. The proof view would become mangled when the text size of the new goals increase a threshold. This glitch is now fixed.

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- "User pass stopping on failed command" restored.

- Fixed regression in PMI reading tool.

- Project view reports cycles in component imports graph. Atelier B would freeze (infinite loop) in case of cycles. It now displays a message.

- Fixed anomaly on automatic User_Pass theory updates

- B compiler uses project information to disambiguate file lookup. File lookup based on the component name may err in case two files have the same prefix and suffixes "sys" and "mch". Knowing the project type lets the search chose the correct file.

- In the interactive prover, theory files are now open using the project encoding. Double-clicking a file from the "theory list" pane in the interactive prover opens the file in the editor. The file is now read using the encoding declared in the current project resource file.

- Fixed issue in automatic update of PMM files following smt command. Fixes the following issue: the update of the PMM file would create a syntax error in case the SMT_Rules theory was empty (i.e., after a user edit).

- Improved project view management. When several project views are open, changing the aspect of one view no longer changes the aspect of the others.

- Fixed crash on call to C++ transcoder.

- #61698 Correction crash quand on tape "" dans la barre de recherche avec surlignage activé

- Improved handling of check-box associated to overflow proof obligation generation.

- Fixed unlocking operation when project is deleted