



Atelier B 4.7.1 is available as:

- **Community Edition**, freely accessible and usable by all.
- **Maintenance Edition**, restricted to the owner of a maintenance agreement, who can download through their dedicated section.

New Features

Atelier B 4.7.1 has been released on December 2021.

Supported OSes:

- Windows 11
- Linux : Ubuntu LTS 16.04
- Mac OS : Big sur

This version corrects, since version 4.6.3, 58 anomalies and improves the following features:

- Atelier B
 - Optimization of the memory usage of the B compiler on semantic analysis
- Interactive prover GUI
 - Copy of the first branch of the proof tree
 - Filter the POs (proof obligations) by operation name and/or by goal
 - Display the component name with the operation name and the PO number when proving it
- Atelier B GUI
 - Added a button for the Fast Force (proof)
 - Search by whole word in components and projects
- Projects using the new POG (proof obligations generator):

- Ability to configure the maximum number of POs per component (10,000 by default)
 - Added proof mechanisms to call external provers
 - Optimization of POs generation time
- English Manual of the Event-B language as supported by Atelier B

Proof mechanisms

In this version of Atelier B, it is possible to use third-party automatic provers to discharge proof obligations from projects using the new POG, to improve automatic proof performance. This integration is done through proof mechanisms that allow the translation to the format of one or more external provers, but also to interpret their output. When the user applies a proof mechanism to a component, all proof obligations that are not yet proven are passed to the external prover and the results are used to update the proof status of the component.

- New proof status: **Unreliably Proved** and **Disproved**

The B method is mainly used industrially to develop safety critical software components. It is therefore necessary that the tools be qualified according to the role they have in the development. Hence It is possible to define a qualification in the proof mechanisms. When a proof mechanism is not qualified, then the proof obligations that are proved with it are classified as **Unreliably Proved**.

Some automatic provers are not only able to prove, but also to disprove. When a PO is invalid and an external prover is able to prove it, then the status of the OP is **Disproved**. This directly indicates that the related B component B has an error.

- Addition of an English manual accessible from the *Help* menu in Atelier B:

