

Soar 9.5.1

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Release Dates

– Previously on Soar releases...

- 9.4.0 (October 2014)
- 9.5.beta (June 2015)

– 9.5.1

- Now available. Based on 9.5 beta.

– 9.5.2

- Later in 2016

Status

- 9.5.1
 - Has been tested internally for about 1.5 years
 - Now main binary release
 - Missing documentation and profiling
- 9.5.2
 - Final release
- 9.4 moved to old versions page
- 9.5 beta removed

New Features

- Explanation-based Chunking
 - Much improved over beta
- ‘explainer’ command
- ‘visualize’ command
- GQ-Lambda reinforcement learning policy
- Semantic memory --depth parameter

New Features

- New RHS functions:
 - wait <x>: Puts current thread to sleep for <x> ms
 - min and max: Returns min or max of multiple arguments
- Beta of improved Soar's command line interface
 - Command is 'soar'
 - Multi-agent support, multi-line support, simple syntax coloring
- firing-count
 - Can now limit to a certain type of rules
- Justifications now use a more informative naming scheme, just like chunks
- Improved feedback and warning messages

SVS Improvements

- Can now specify a coordinate system when extracting axis_distance
- Can now specify tags in add_node and copy_node svb commands
- Can now specify a reference frame when using calculate_placement
- Several bug fixes

Code Improvements

- Now uses some C++ 11 features
- Better memory usage than 9.5 beta
 - Improved memory manager (few fixes, cached lookup of pools)
 - Many more data structures now use memory pools
 - Switched some data structures to more efficient versions available in C++ 11
 - New file organization, new unit test framework, a lot of code clean-up and refactoring
- save-backtraces, explain-backtrace removed

Bug Fixes

- Several long-standing memory leaks found and fixed
- Fixed semantic memory issues
 - Fixed crash in certain situations that could occur when long-term memories are removed from working memory and then later brought back
 - Fixed bug with multiple working memory elements rooted in a long-term identifier disappearing
- Parser fixes
 - Better support for numeric attributes with periods
 - Fixed several commands broken by lexer changes in 9.4

Nuggets

- Major improvement in learning capability
 - 20x - 80x improvement
- Now comfortable that it is stable and ready for public consumption
- Significant fixes and improvements across many parts of Soar's kernel

Coals

- No documentation yet
 - No release notes
 - No new documentation in the manual
 - No on-line help for new commands
- We have not had the resources yet to profile memory and CPU usage
 - We have fixed a few cases of high memory and/or cpu usage that were obvious while running certain agents