

ACT-R Software Updates 2019

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Updates over last year

- Last summer
 - Current: 7.5-<2244:2017-07-11>
 - Prerelease: ACT-R 7.11.1-<2629:2018-07-17>
- January 2019
 - Current: 7.12.10-<2762:2018-12-20>
 - 7.5 moved to old
- Now
 - 7.13.5-<2888:2019-07-02>

New Software

- Built-in Remote Procedure Call system
 - Based on a subset of JSON RPC 1.0
- Internals are thread safe
- Entire tutorial reworked with all of the tasks implemented in both Python and Lisp
- Other remote connection examples included

7.5 -> 7.11

- Lots of API changes to support the RPC interface
- Most notable is the *device* construct overhaul
 - Last year's workshop
 - Commented example of changes for unit 2 demo task

7.11 -> 7.13.5

- Dropped the “:ul complete” mechanism
- Fixed a bug in vision with within-move
- Production compilation over perceptual buffers allowed to occur for more cases
- :cache-sim-hook-results saves values across a reset for the same :sim-hook value
- New command: run-until-action
- Tracker module available in extras

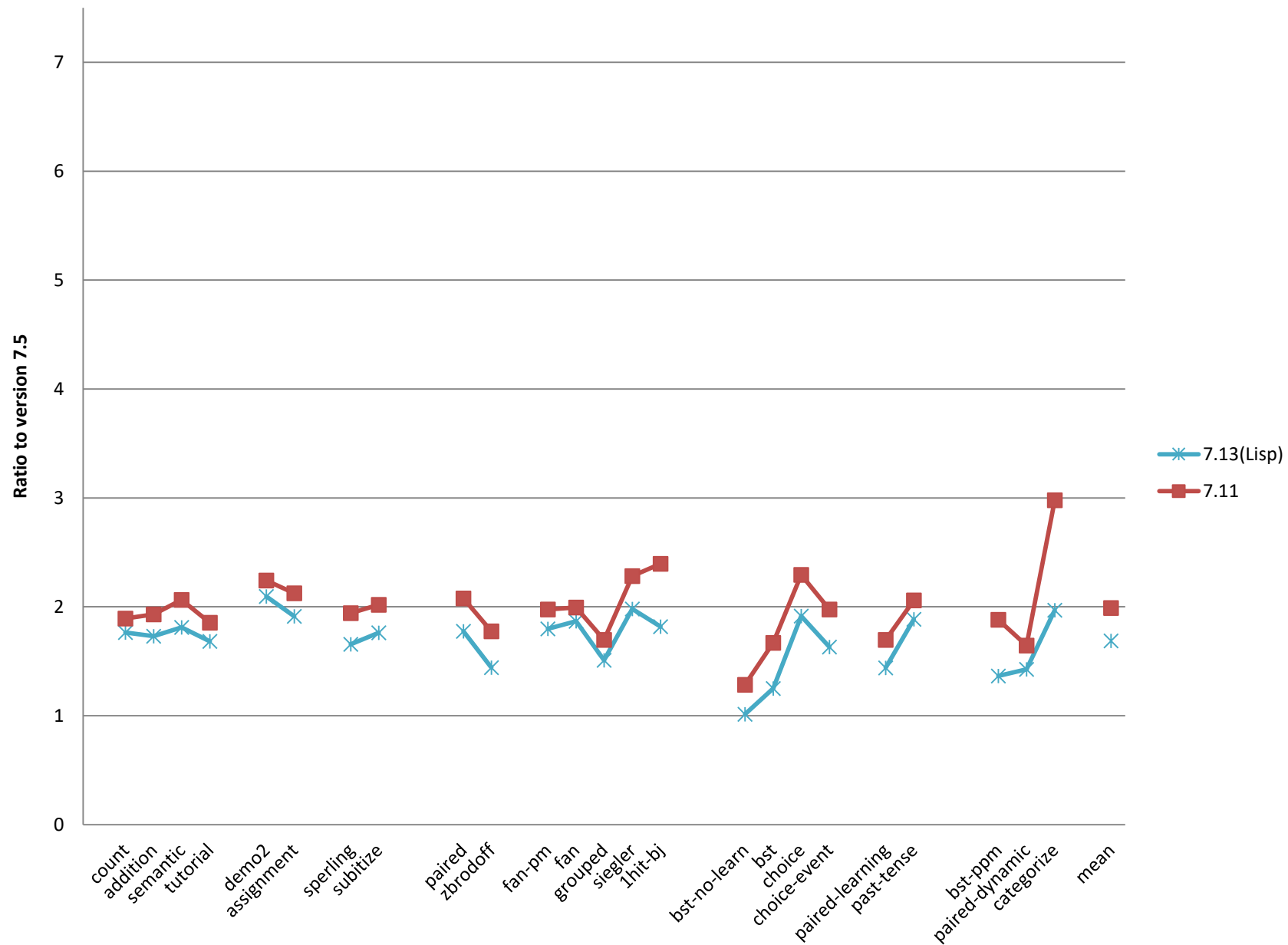
ACT-R Environment Changes

- Stepper can be opened at any time
 - “Step All” flag bypasses stopping on only output events
- Connections & Commands
 - Documentation on available commands
- Running indicator
 - Off by default for performance on some machines
- Buffer viewer shows either chunk or status
- Collapsed some similar buttons

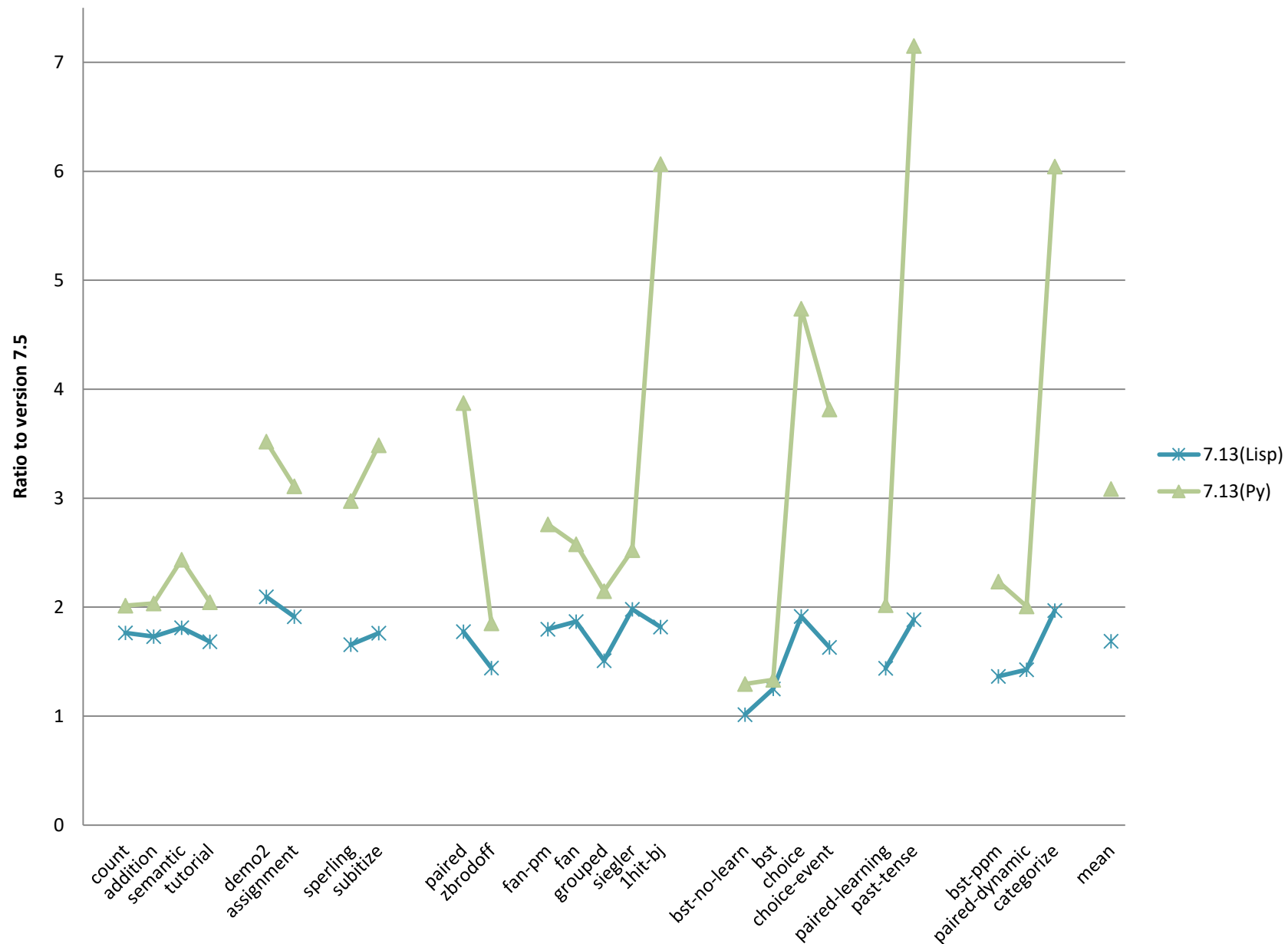
Performance testing

- Use the tutorial models
 - Turn off traces, visible displays, and real-time
- Start with version 7.5 and find how many runs or trials needed to take ~30s for each
- Run them that many times in the new versions

ACT-R 7 Performance



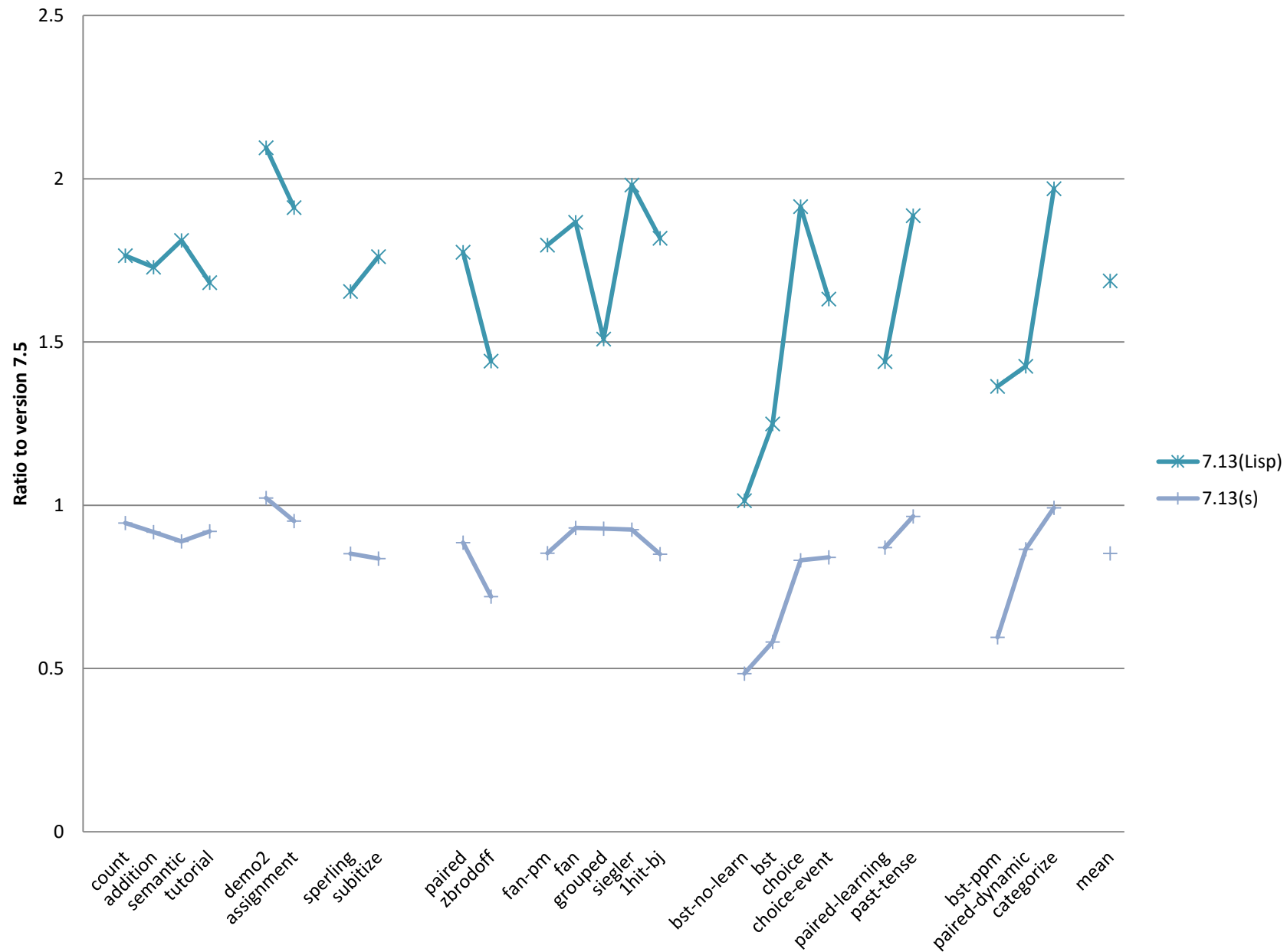
ACT-R 7 Performance



Not a fair comparison

- 7.11 really what 7.5 should have been
 - Thread safety needed to use Environment
- 7.13 has a single threaded mode
 - Lisp only with no external connections

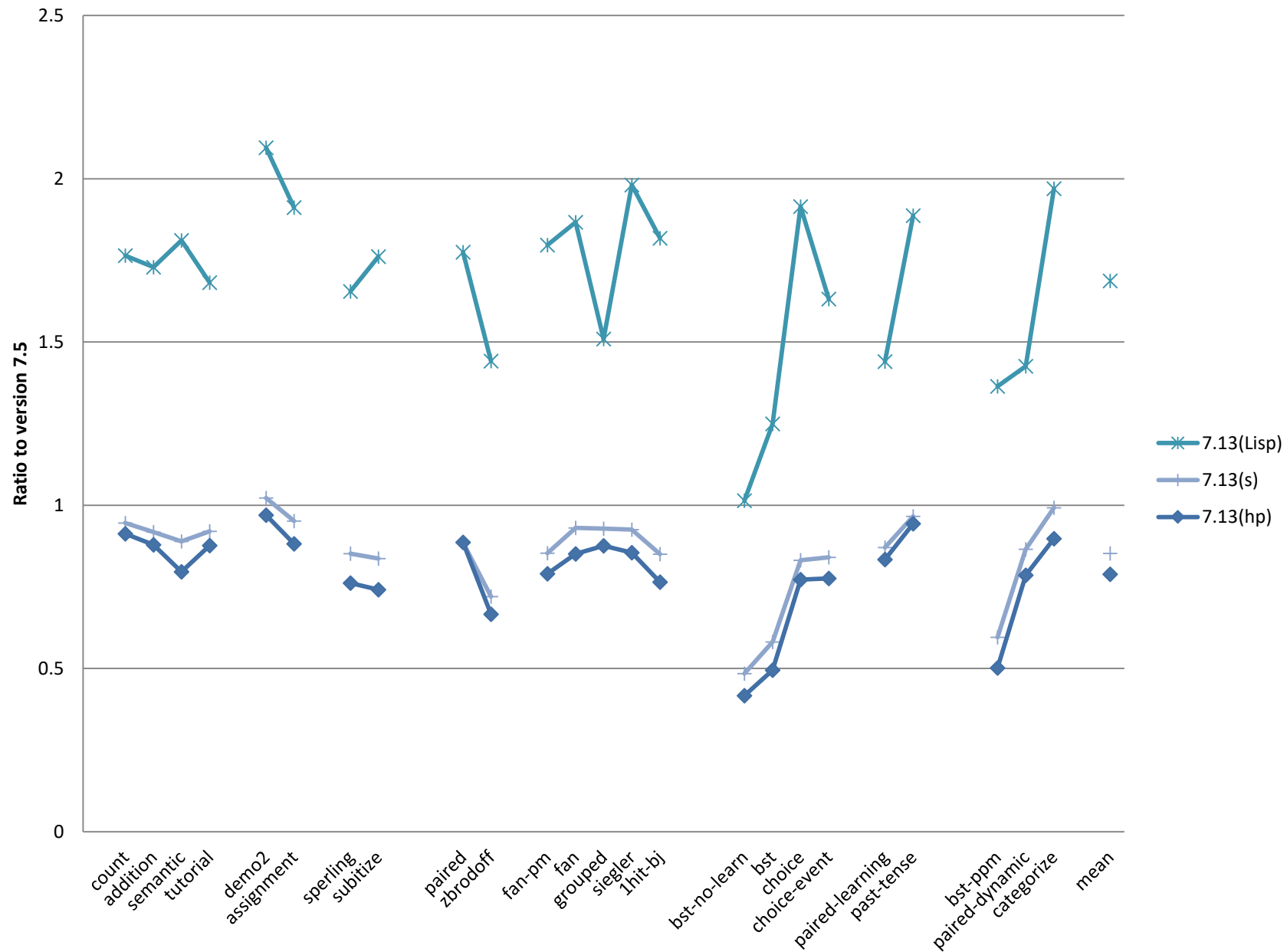
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New system parameter

- `:high-performance`
- Setting to `t` (`ssp :high-performance t`)
 - Disables model output (better than `:v nil`)
 - turns off all the safety/readability parameters that shouldn't affect model operation
 - `:ncnar`, `:style-warnings`, `:model-warnings`, `:cmdt`, `:lhst`,
`:rhst`, `:stableloc-names`, `:visual-movement-tolerance`

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Near Future

- More documentation
- Extending the node.js interface