FDR 3.0

FDR3, which has been under development for around two years has:

- Dramatically improved error messages thanks to a built-in typechecker (no more \(<>\) is not a set).

- A completely redesigned user interface with an interactive prompt (for experimentation), an integrated version of ProBE and errors displayed in sensible places (i.e. no longer hides its error messages in a hidden window)!

- Is able to generate better labelled-transition systems for a large class of CSP processes (primarily those involving \(\odot\) and \(\Theta_A\)) than FDR2, resulting in decreased compilation time.
Performance

The main breakthrough in FDR3 is its performance for checks done in the traces and failures models.

On a single core FDR3 will typically outperform FDR2 by a factor of 2.5.

FDR3 also includes a parallel mode that, on desktop machines at least, scales almost linearly as the number of cores increases.

To complete a series of checks (that includes Dining Philosophers which has around 4 million states and Solitaire which has 170 million states):

FDR2: 2695s
FDR3 Single Threaded: 1033s
FDR3 Parallel: 312s
Demonstration
Availability

FDR3.0-beta-4 is available from https://www.cs.ox.ac.uk/projects/fdr/. A full release will follow by the middle of October.

Part of FDR3 (consisting of the parser, type-checker and evaluator) has been open-sourced and is available from https://github.com/tomgr/libcspm.