Multiparty Session Types for Safe Runtime Adaptation in an Actor Language (Artifact)

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Abstract

This is the companion artifact for the paper "Multiparty Session Types for Safe Runtime Adaptation in an Actor Language". EnsembleS is an actor-based programming language supporting dynamic self-adaptation, (*discovery*, *replacement*, and *com-* *munication*), which also guarantees communication safety. The artifact includes the EnsembleS compiler, the modified StMungo code, and all examples contained within the paper.

1 Scope

The artifact showcases the implementation of the EnsembleS compiler and typechecker, and shows that it can run the example code included in the paper. It also shows how the typechecker will statically detect errors.

2 Content

The artifact package includes:

- The EnsembleS implementation, in particular the compiler and typechecker
- A modified StMungo implementation which generates EnsembleS template code
- The example code from the paper

3   Getting the artifact

The artifact endorsed by the Artifact Evaluation Committee is available free of charge on the Dagstuhl Research Online Publication Server (DROPS).

4   Tested platforms

This artifact has been tested on VirtualBox 6.1 on Arch Linux, with 16GB RAM and an Intel Core i7 9th Gen. It should be runnable on any modern laptop or desktop machine.

5   License

The artifact is available under the GPLv3 license.

6   MD5 sum of the artifact

8b223e1c291a4fc141040acb18b094fb

7   Size of the artifact

6.33 GiB