Deadlock Freedom for Session Types Using Separation Logic

Radboud University, NijmegenRadboud University, NijmegenCMU

JULES JACOBS, ROBBERT KREBBERS, and STEPHANIE BALZER

$$\frac{\cdot}{\{x \mapsto t\} \vdash x : t} \text{ Var} \qquad \frac{n \in \mathbb{N}}{\emptyset \vdash n : Nat} \text{ Nat} \qquad \frac{\Gamma_1 \vdash e_1 : t_1 \rightarrow t_2 \qquad \Gamma_2 \vdash e_2 : t_1 \qquad \Gamma_1 \cap \Gamma_2 = \emptyset}{(\Gamma_1 \cup \Gamma_2) \vdash e_1 \, e_2 : t_2} \text{ App}$$

$$\frac{\Gamma_1 \vdash e_1 : !t, R \qquad \Gamma_2 \vdash e_2 : t \qquad \Gamma_1 \cap \Gamma_2 = \emptyset}{(\Gamma_1 \cup \Gamma_2) \vdash \text{send}(e_1, e_2) : R} \text{ Send}$$

REFERENCES

Authors' address: Jules JacobsRadboud University, Nijmegen, julesjacobs@gmail.com; Robbert KrebbersRadboud University, Nijmegen, robbert@cs.ru.nl; Stephanie BalzerCMU, balzers@cs.cmu.edu.