

Verifying Rust code with Verus

Travis Hance

Max Planck Institute for Software Systems

Saarbrücken, Germany

thance@mpi-sws.org

Abstract—I will introduce Verus, an open-source, Rust-based verification tool aimed at concurrent software and systems software, which I develop together with a number of collaborators in academia and industry. Verus has spawned a number of publications on a range of verified systems, is already seeing industrial use at Microsoft and Amazon, and has been the subject of a number of experiments on generating proofs with AI. In this tutorial, I will give an overview of Verus and what it can do, and why we invented it compared to the previous state-of-the-art approaches to program verification. I will give a tutorial on how to get started with Verus, and I will illustrate how we approach the various challenges of verification through a number of examples.