



Málaga, December 2014

Executive Summary

TITLE: **D5.5.2: Searching for errors in mobile IP.**

PAPERS RELATED:

- C. Lakos, F. Chicano, E. Alba, An Experiment in Verifying the Mobile IP Protocol (unpublished)

ABSTRACT:

The main contribution of the current paper is to explore the modelling of the protocol and its verification using Spin and ACOhg. We informally introduce the Mobile IP protocol by considering the use of mail forwarding with normal (snail) mail. Then, we introduce Promela, a specification language to model finite-state systems; and SPIN, a tool for analysing the logical consistency of concurrent systems. SPIN is one of the state-of-the-art model checkers. HSF-SPIN is a software that combines heuristic search with SPIN and ACOhg is an Ant Colony Optimization algorithm that can work with huge graphs. ACOhg has shown to be efficient finding error paths in concurrent systems. We provide a Promela model for Mobile IP and discuss different properties to verify and how they were described in Promela.

GOALS:

1. Provide a Mobile IP model in Promela and verify some properties using SPIN and ACOhg.

CONCLUSIONS:

1. We have provided a Mobile IP model in Promela.
2. We have also discussed how to describe the different properties we are interested in verifying.

RELATION WITH PAST
DELIVERABLES:

OTHERS:
