Atomistic Galois insertions for flow sensitive integrity

Several program verification techniques assist in showing that software adheres to the required security policies. Such policies may be sensitive to the flow of execution and the verification may be supported by combinations of type systems and Hoare logics. However, this requires user assistance and to obtain full automation we shall explore the over-approximating nature of static analysis. We demonstrate that the use of atomistic Galois insertions constitutes a stable framework in which to obtain sound and fully automatic enforcement of flow sensitive integrity. The framework is illustrated on a concurrent language with local storage and polyadic synchronous communication.