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S£MINAIRE S®curit® et M®thodes Formelles

S®minaire organis® par Sandrine BLAZY de l'®quipe CELTIQUE

D®partement : D4 - Langage et g®nie logiciel

Lieu : INRIA Rennes - Salle Turing

Campus de Beaulieu

Date & heure : Vendredi 2 mars 2012, 11h00

Pr®sentation : Roberto Giacobazzi, Universit® de V®rone

Titre : **Obfuscation by Partial Evaluation of Distorted Interpreters**

R®sum®:

How to construct a general program obfuscator? We present a novel approach to automatically generating obfuscated code P' from any program P with source clear code. Start with a (program-executing) interpreter Interp for the language in which P is written. Then ñdistortòInterp so it is still correct, but its specialization P' with respect to P is transformed code that is equivalent to the original program, but harder to understand or analyze. Potency of the obfuscator is proved with respect to a general model of the attacker, modeled as an approximate (abstract) interpreter. A systematic approach to distortion is to make program P obscure by transforming it to P' on which (abstract) interpretation is incomplete. Interpreter distortion can be done by making residual in the specialization process sufficiently many interpreter operations to defeat an attacker in extracting sensible information from transformed code. Our method is applied to: code flattening, data-type obfuscation, and opaque predicate insertion. The technique is language independent and can be exploited for designing obfuscating compilers.

Joint work with Neil D. Jones and Isabella Mastroeni

Les s®minaires sont ouverts ¨ tous. Afin de faciliter l'acc¯s ¨ la salle du s®minaire, les personnes ext®rieures ¨ l'INRIA et ¨ l'IRISA doivent s'inscrire en donnant leur nom et leur affiliation ¨ Lydie Mabil lydie.mabil@irisa.fr