

Type Abstraction for Relaxed Noninterference (Artifact) *

Raimil Cruz, Tamara Rezk, Bernard Serpette, Éric Tanter

► **To cite this version:**

Raimil Cruz, Tamara Rezk, Bernard Serpette, Éric Tanter. Type Abstraction for Relaxed Noninterference (Artifact) *. Dagstuhl Artifacts Series, Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2017, 3 (2), 2 p. <10.4230/DARTS.3.2.9>. <hal-01644835>

HAL Id: hal-01644835

<https://hal.inria.fr/hal-01644835>

Submitted on 22 Nov 2017

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Type Abstraction for Relaxed Noninterference (Artifact)*

Raimil Cruz¹, Tamara Rezk², Bernard Serpette³, and Éric Tanter⁴

1 PLEIAD Lab, Computer Science Department (DCC), University of Chile
racruz@dcc.uchile.cl

2 INRIA - Indes Project-Team, Sophia Antipolis, France
tamara.rezk@inria.fr

3 INRIA - Indes Project-Team, Sophia Antipolis, France
bernard.serpette@inria.fr

4 PLEIAD Lab, Computer Science Department (DCC), University of Chile
etanter@dcc.uchile.cl

Abstract

This artifact is a web interpreter for the ObSec language defined in the companion paper. ObSec is a simple object-oriented language that supports *type-based declassification*. Type-base declassifica-

tion exploits the familiar notion of type abstraction to support expressive declassification policies in a simple and expressive manner.

1998 ACM Subject Classification D.4.6 Security and Protection: Information flow controls, D.3.2 Language Classifications: Object-oriented languages

Keywords and phrases type abstraction, relaxed noninterference, information flow control

Digital Object Identifier 10.4230/DARTS.3.2.9

Related Article Raimil Cruz, Tamara Rezk, Bernard Serpette and Éric Tanter, “Type Abstraction for Relaxed Noninterference”, in Proceedings of the 31st European Conference on Object-Oriented Programming (ECOOP 2017), LIPIcs, Vol. 74, pp. 7:1–7:27, 2017.

<http://dx.doi.org/10.4230/LIPIcs.ECOOP.2017.7>

Related Conference European Conference on Object-Oriented Programming (ECOOP 2017), June 18-23, 2017, Barcelona, Spain

1 Scope

The artifact is designed to test the semantics of the ObSec language described in companion paper, allowing users to define their own declassification policies.

2 Content

The artifact package includes:

- a Virtual Box Linux machine.
- a .zip file including the binaries of the ObSec interpreter.
- detailed instructions for using the artifact provided as an `readme.pdf` file.

To simplify the access, we provide an online ObSec Pad at <https://pleiad.cl/obsec/> which does not require any installation and is always up-to-date. If you want to use an snapshot of the state of the interpreter (at the submission time), then follow the instructions in the `readme.pdf` file to use either the Virtual Box machine or the ObSec interpreter binaries.

* This work was partially funded by Project Conicyt REDES 140219 “CEV: Challenges in Practical Electronic Voting”. Raimil Cruz is funded by CONICYT-PCHA/Doctorado Nacional/2014-63140148.



9:2 Type Abstraction for Relaxed Noninterference (Artifact)

3 Getting the artifact

The artifact endorsed by the Artifact Evaluation Committee is available free of charge on the Dagstuhl Research Online Publication Server (DROPS). The latest version of our artifact is available at the PLEIAD Lab website (<https://pleiad.cl/research/software/obsec>)

4 Tested platforms

The artifact is known to work on any platform running Oracle VirtualBox version 5.1.18 (<https://www.virtualbox.org/>) with at least 9 GB of free space on disk and at least 2 GB of free space in RAM.

5 License

BSD-3 (<https://opensource.org/licenses/BSD-3-Clause>)

6 MD5 sum of the artifact

6088db75bcf48d9ca75af124b781335e

7 Size of the artifact

2.1 GB

Acknowledgements. The authors wish to thank to Matias Toro for his feedback during the construction and testing of the artifact, and to the anonymous artifact reviewers for their valuable feedback to improve the artifact.