Deliverable 13: Summary of Dissemination Activities Year 3
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March 15, 2005

1 Executive Summary

The work in PROFUNDIS has been successful in year 3 (2004), with only minor deviations from the Technical Annex (TA) and from the Dissemination and Use Plan (DUP). An elaboration of what has been accomplished can be found in the Periodic Progress Report (PPR) for year 3. The present document contains a summary of dissemination activities in PROFUNDIS year 3.

The main form of dissemination for PROFUNDIS at this stage is through publications in scientific conferences, workshops and journals. Here we have been successful with 37 peer reviewed publications and 12 other reports, several of which are being submitted, including three Ph.D. theses. We include here also papers appearing in publications even if they were accepted for publication before 2004 and noted as such in a previous SDA.

There has been one general PROFUNDIS workshop and 6 visits between partners, sometimes involving several persons. These indirectly contribute also to dissemination outside the project, since visitors often give presentations attracting an external audience.

There have been 28 visits from project members to sites outside the project in order to present parts of the project. These visits range from lecture series at summer schools and invited talks at conferences to more informal presentations. The number is on par with that of the previous year, which confirm our impression that PROFUNDIS is well regarded in the scientific community.

9 websites with links to papers and tools have been created.
2 Overview of the Work Packages

PROFUNDIS consists of three technical Work Packages (WPs) outlined below. A fourth WP is devoted to project management and is given no special consideration in the DUP.

WP1

The objectives of the Work Package consist of the development of a HD-Automata model, suitable for finite-state verification, enhanced with additional capabilities like name fusions and substitutions. Also, versions of mobile calculi should be defined, e.g. for the symbolic analysis of security protocols. A verification environment should be designed and implemented, equipped with a general, open architecture and consisting of new tools realizing the models and the verification methods above. Several case studies should show the flexibility and effectiveness of our approach.

WP2

The objectives of the Work Package are to develop new logics to support the verification of structural (spatial) and behavioural properties of concurrent mobile systems, and to develop proof systems for these logics based on sequent calculi. A tool for the logical framework should be built, integrated in the verification environment developed together with other tasks. The usefulness of the approach should be illustrated by several case studies.

WP3

The objectives are to develop new type systems to control interferences among processes and the resources used by the processes [Task 3.1]; to integrate the type techniques with operational and logic techniques [Task 3.2]; to investigate the robustness of the type techniques and their algorithmic definitions [Task 3.3]; to assess the applicability of the techniques by means of case studies, and to implement some of the type algorithms and proof techniques.
3 Publications

The project has in the third year produced a total of 49 papers, out of which 37 have already passed an international peer review process to be accepted for publication at a conference or journal. This represents a substantial effort and demonstrates our commitment to follow established scientific routes for dissemination of results. The complete list of papers is at the end of this report. We include here also papers appearing in publications even if they were accepted for publication before 2004 and noted as such in a previous SDA.

4 Web Presence

1. http://www.it.uu.se/profundis is the project main web page. It includes:
   - A main page with synopsis of overview and pointers to all other resources.
   - A project overview, related projects, and a list of official (yearly) progress reports.
   - A list of meetings, with links to files for each meeting.
   - A list of visits.
   - A list of events, with links to the main web page of each event.
   - A list of publications reporting the work done within the project.
   - Links to all delivered software.

2. http://jordie.di.unipi.it:8080/pweb is a web site for the distributed PROFUNDIS tools. Here the tools STA, pi-compiler, Reducer, MWB and Trust can be accessed in a general framework.


4. http://jordie.di.unipi.it:8080/mihda is the web site of the HD-Reducer

5. http://rep1.iei.pi.cnr.it/projects/JACK/hal.html is the web site for the HAL tool.

6. http://www.it.uu.se/research/group/mobility/mwb is the web site for the MWB tool.


5 Project meetings

There has been one formal PROFUNDIS meeting, at Rovereto, March 5-12 2004, with around 30 participants. All sites were well represented, there were technical presentations from all Work Packages and a PROFUNDIS business meeting.

6 Visits between members of the project

In order to continue collaboration and disseminate progress from different sites the following 6 visits have been made. Note that some of these involve several people visiting simultaneously.

1. June 2004: D. Hirschko and D. Pous (Lyon) visited D. Sangiorgi (Bologna) to work on an optimised abstract machine for the distributed execution of Safe Ambients. twice, in June and December 2004,


4. December 2004: D. Hirschko and D. Pous (Lyon) visited D. Sangiorgi (Bologna) again to work on an optimised abstract machine for the distributed execution of Safe Ambients.

7 Visits and talks by project members outside PROFUNDIS

On 28 occasions PROFUNDIS researchers have travelled outside their sites to present ongoing PROFUNDIS work. Though most of these trips entailed a single presentation some trips gave rise to several presentations or a series of lectures at research schools. PROFUNDIS has also this year been globally disseminated with visits to Argentina, although the vast majority understandably is within Europe.

1. January 2004: D. Sangiorgi gave an invited talk at the conference POPL 04 on “coinduction in programming languages”. 

3. March 2004: at the Global Computing Workshop in Rovereto, Italy,
   - E. Lozes presented “On the expressiveness of spatial logics”
   - E. Tuosto presented “Modelling and Minimising the Fusion Calculus using HD-automata”
   - L. Caires presented “Behavioral-Spatial Specifications in a Logic for the Pi-Calculus”
   - M. Baldamus presented “Spi-calculus translated to pi-calculus preserving may-testing”
   - D. Teller presented “Recovering resources in the pi-calculus”


10. April 2004: A. Ravara delivered a talk entitled “Spatial Types for Processes” at the Second APPSEM II Workshop Tallinn.


15. July 2004: D. Sangiorgi gave an invited talk at the conference LICS 04 on the topic of bisimulation and coinduction, relevant for the work carried out within in Profundis.


18. August 2004: K. Yemane attended the Category Theory and Computer Science workshop (CTCS’04) and a Graduate Student Summer School, Copenhagen.


22. October 2004: D. Teller gave a talk titled “Pi-calculus, resources, garbage-collection” at the Joint seminar of QMUL and Imperial College, London.


25. November 2004: M. Buscemi attended the Second ASIAN Symposium on Programming Languages and Systems (APLAS 2004), Taipei, Taiwan, and presented a paper on D-fusion calculus (deliverable of the second year).


27. December 2004: B. Victor visited the IT University, Copenhagen, and gave a talk on “Fusion Solos and D-Fusion Diagrams”.

Articles and reports produced by PROFUNDIS year 3

Reviewed Publications


[12] Michele Boreale and Marzia Buscemi. A framework for the analysis of

In Igor Walukiwicz, editor, Proc. of Foundations of Software Science and
Computation Structures’2004, Lecture Notes in Computer Science. Springer


spatial logics for concurrency. In Proc. of CONCUR’04, number 3170 in

[16] Luís Caires and Etienne Lozes. Elimination of quantifiers and undecid-
ability in spatial logics for concurrency. Theoretical Computer Science. To
appear.

[17] S. Dantchev and F. Valencia. On infinite CSP’s. In In proceedings of
the Third International Workshop on Modelling and Reformulating CSPs,
2004.

[18] Yuxin Deng and Catuscia Palamidessi. Axiomatizations for probabilistic
finite-state behaviors. In Proceedings of the 8th International Conference
on Foundations of Software Science and Computation Structures, Lecture

finite-state behaviors. In Proceedings of the 8th International Conference
on Foundations of Software Science and Computation Structures, Lecture

In Proceedings of the 3rd IFIP International Conference on Theoretical

[21] Yuxin Deng and Davide Sangiorgi. Towards an algebraic theory of typed
mobile processes. In Proceedings of the 31th International Colloquium on
Automata, Languages and Programming, volume 3142 of Lecture Notes in

[22] Yuxin Deng and Davide Sangiorgi. Towards an algebraic theory of typed


**Papers Submitted for Publication, Reports, Drafts**


