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IFIP – The International Federation for Information Processing

IFIP was founded in 1960 under the auspices of UNESCO, following the First World Computer Congress held in Paris the previous year. An umbrella organization for societies working in information processing, IFIP's aim is two-fold: to support information processing within its member countries and to encourage technology transfer to developing nations. As its mission statement clearly states,

IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is less rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

Any national society whose primary activity is in information may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly, National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.

Scott A. Hissam Barbara Russo
Manoel G. de Mendonça Neto Fabio Kon (Eds.)

Open Source Systems: Grounding Research

7th IFIP WG 2.13 International Conference, OSS 2011
Salvador, Brazil, October 6-7, 2011
Proceedings

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General Chair's Foreword

Welcome to the 7th International Conference on Open Source Systems of the International Federation for Information Processing (IFIP) Working Group 2.13. The people and city of Salvador, Brazil, could not have been a more generous and exciting host for our inaugural South American venue. Within these proceedings you will find papers, panels, and workshops of practitioners and researchers sharing their experiences, lessons, and discoveries as they pertain to creating, distributing, acquiring, and using software and software-based services based on free, libre, and open source software (FLOSS).

Selecting reliability as the theme for this year's conference was timely and appropriate given the pervasiveness of FLOSS in seemingly everything from academia to industry, from scientific computing to entertainment, and from consumer electronics to safety-critical systems—the reach of FLOSS seems unbounded. I continue to be amazed as to where I find FLOSS, such as my television, navigation unit, picture frame, WiFi access point, multimedia set-top box, and smartphone. However, thinking more broadly, perhaps I should not be so surprised. As a community that stands on the shoulders of giants, the limits of innovations are bounded only by our imagination, evidenced by the permeation of FLOSS today. But, for FLOSS to maintain and expand its status in these industries, as well as those not explicitly mentioned here, we as a community must continue to reflect appropriately in order to repeat our successes, and to reach beyond that which is comfortable and ask the hard questions so that we may address any remaining barriers impeding trust, adoption, and use of FLOSS.

Putting together this international conference from geographically disparate locales was very challenging. Sincere thanks go to the Organizing Chairs Fabio Kon and Manoel G. de Mendonça Neto for their relentless drive to get every detail just right for this conference. For filling this wonderful venue with a top-notch technical program, I thank Barbara Russo for selecting the theme of the conference, publishing the call for papers, and marshaling all the submissions through the review process and selecting the best of the best for the papers accepted this year. And without skipping a beat, I thank Imed Hammouda and Bruno Rossi for their tireless job of assembling and preparing the conference proceedings.

It was only possible to accomplish all this work because others took on important duties to help make this conference a success. From tutorials chaired by Stefan Koch and Hyrum Wright, workshops chaired by Roberto Di Cosmo, to panels chaired by Jay Kesan, John Noll, and Marcos Sfair Sunyé—thank you. The Publicity Chair, Greg Madey, and Co-chairs who worked to spread word of the conference, which included Africa (Imed Hammouda), Asia (Antonio Cerone), Central and South America (Carlos Denner Santos Jr.), Eastern Europe (Sulayman K. Sowe), Middle East (Faheen Ahmed), and Western

Europe and the Nordic regions (Björn Lundell), are to thank for the international diversity of the conference. For generating industry participation, I thank Stefano De Panfilis and Rafael Prikladnicki for their efforts. I especially would also like to thank the Web Portal team, Antonio Terceiro, Beraldo Leal, and Paulo Meirelles for the complete revamp of the conference website.

A very special thanks goes to the Chairs and organizers of the Doctoral Consortium, Paula Bach, Charles M. Schweik, and Alberto Sillitti, for their efforts to continue this very special and important service to newly emerging researchers embarking on the next discoveries related to FLOSS. I specifically want to thank Charles Schweik for obtaining National Science Foundation support for US-based doctoral student participation in the consortium. I also thank the IFIP Working Group 2.13 and past conference organizers for their help and advice provided to me, Pär J. Ågerfalk, Ernesto Damiani, Björn Lundell, Greg Madey, Walt Scacchi, Giancarlo Succi, and Tony Wasserman.

Lastly, I humbly thank the authors and members of the Program Committee without whom there would be no technical program.

August 2011

Scott Hissam

Program Chair's Foreword

Welcome to the proceedings of the 7th International Conference on Open Source Systems—Open Source Systems: Grounding Research (OSS 2011)—which was held in Salvador, Brazil!

This year we had a very polyhedral technical program originated by open source software (OSS) reliability the major theme of the conference and intended to ground theory on OSS. The program had a special focus on OSS adoption in industry, as quality and reliable software has better chances of being selected and adopted in enterprises. Quality software also provides value to the final user, and one of the conference sessions was dedicated to OSS value and economics. Adopting OSS needs the support of an extensive OSS technology review and building that follow the principles of open innovation, reuse, integration, and compliance as proposed in the first-day session of the conference. Availability of data is the wealth of the OSS community and OSS 2011 papers on mining software repositories illustrate this through methods, practices, and results. Finally, OSS research needs to reflect on its own evolution. A session on knowledge and research building concluded the first day. The majority of sessions included lightning talks. These short and focused presentations were intended to increase the debate and research discussion at the conference.

There were three great keynotes: Linda Northrop of the Software Engineering Institute opened the conference at the welcome reception, James Herbsleb of Carnegie Mellon University on the first day, and Christiana Soares de Freitas of the University of Brasilia and Corinto Meffe of the Brazilian Ministry of Planning on the second conference day.

There were workshops, tutorials, and a doctoral consortium event collocated with the main conference. Panels helped increase the research discussion, for example, on education in OSS and eGovernment and OSS.

The call for research papers attracted 56 paper submissions. The review was intensive and several online discussions increased the quality of the review process. Four full papers underwent a major revision process. We accepted 20 papers as full research papers, 4 as industrial full papers, and 8 lightning talks.

I would like to join Scott in thanking the authors who provided the content for the program, expressing my sincere gratitude to the Program Committee members and the external reviewers who volunteered time and resources to make this program possible. Finally, I thank all the people that made this conference a success. In particular, I sincerely thank Scott, who was great in making this conference meet the highest standards.

We hope that you will enjoy the proceedings.

Barbara Russo

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