

Acknowledgements

The work presented herein was carried out mainly at the Freie Universität Berlin, Germany and partly at the Institute Eurécom, France and at Rutgers University, USA more specifically Rutgers' WINLAB. This document is the accumulation of my work as a PhD student at the Computer Systems and Telematics group headed by Professor Jochen Schiller. I would like to take this opportunity to thank all the people that supported me during this time personally and professionally.

First, I would like to thank Professor Jochen Schiller. As my primary advisor he not only helped me with his guidance but at the same time he left me the space and freedom to follow my own ideas and projects. I am very thankful for the opportunity he gave me, for sharing his amazing talents, for the work environment he provided, for all his time he invested listening to me and his encouraging advice. He is a truly remarkable person and he has a passion for his work that I have never experienced before. I owe him my deepest gratitude.

Additionally, I would like to thank Professor Klaus Wehrle for taking over the second review. I very much appreciate his professional attitude and his tremendous responsiveness even during the busy days of significant professional change.

Furthermore, I am very grateful for the supervision of Professor Agnès Voisard who acts as my third advisor and member of my committee. Coming slightly from a different background she helped a great deal not to getting lost in too much detail and focusing on the big picture.

I would also like to thank Professor Christian Bonnet for the very inspiring research visit at his group and Professor Dipankar Raychaudhuri for giving me the unique opportunity work on the ORBIT platform in his lab and exchange knowledge and experience with him and his whole team.

The fellows of the Berlin-Brandenburg Graduate School on Distributed Information Systems deserve my gratitude for discussing my work, being critical towards it and making valuable suggestions during our regular meetings

My special thanks go out to Thomas Zahn. I have been very fortunate not only to share an office with him for three years but also to pursue several projects together with him. The lively and inspiring discussions with Thomas more than once helped to shape my own work. In addition to working on scientific challenges we challenged each other on the Squash court and on Thursday evenings. We became very good friends.

I also owe a dept of gratitude to my colleagues of the Computer Systems and Telematics group for their great support. The work environment they created could not have been more inspiring, friendly and enjoyable.

I would also like to express my gratitude to Mie Ishii for her constant encouragement and support. Without her, writing this document would have taken far longer, the process itself would have been much more painful and joyless for the most part.

Finally, I would like thank my parents and family. Not only for their support during my time as a PhD student but for their loving support, advice and encouragement that accompanied me during my entire life. Without it, I would not have been able to pursue this or any other meaningful career path. Thank you for being there all this time and for believing in me.