

ACKNOWLEDGEMENTS

First of all, I would like to deliver my greatest appreciation to my supervisor, Prof. Nigel Linge, for all his support and guidance throughout the research period; without his support this research could not have been completed successfully.

I would also like to thank the Thai government for providing me with the scholarships and living allowances in order to support my quest for a PhD degree. Appreciation would also be given to my office, King Mongkut's University of Technology North Bangkok for granting me the study leave and the opportunity to further my studies in this PhD scholarship.

I would also like to thank all the staff and members at CNTR (Computer Networking and Telecommunications Research) centre for all their support and suggestions. I have really enjoyed my time there with everyone.

Last but not least, I would also like to express my gratitude to my family, parents and friends for their continuous patience and support throughout this period of study.