



Research Directions

Office of Research Services

Sending Hacking Packing

Associate Professor Yan Zhang from the School of Computing and Mathematics is undertaking research to improve information security. This ARC Discovery project aims to provide the foundations of protocols needed to develop software systems that automatically check and update security procedures, improving their capacity to withstand security attacks.



Dr Zhang explained that 'Although various theories and systems have been proposed and implemented in the last decade, fundamental issues for security protocol modification have only recently been recognised. Automatic protocol generation (APG) is usually done on a case by case basis for specific software applications. Our research will develop a new methodology and technology for the correctness of security protocols and with this information build a system that can be effective across a wider range of applications. It will be a system that automatically checks and updates protocols in a unified and effective manner, protecting against hackers'.

The system prototype will be evaluated for effectiveness through a variety of case studies and will result in the significant enhancement and improvement of the security of current information communication systems. By applying these new methods, the Australian IT industry will be able to develop more secure communications systems in a real world domain. Australia's leading role in cutting edge research on information security will also be significantly enhanced.

Project title: *Knowledge Based Model Updating for the Correctness of Security Protocols*

Funding has been set at: \$284,000.

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March 2006