



香港中文大學  
The Chinese University of Hong Kong

Institute of Theoretical Computer Science and Communications

*ITCSC Seminar*

## **Least Privilege Concept in Workflow Model**

By

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*2:30pm - 3:30pm*

*Rm. 1021, Ho Sin Hang Engineering Building, CUHK*

### **Abstract:**

Workflow Management Systems (WFMSs) are becoming very popular and are being used to support many of the day-to-day workflows in large organizations. One of the major problems with workflow management systems is that they often use heterogeneous and distributed hardware and software systems to execute a given workflow. This gives rise to decentralized security policies and mechanisms that need to be managed. It is possible that WFMS may assign too many privileges (for accessing resources like documents) to the agents executing the workflow without the mechanism to evaluate the risk of privileges being assigned or manage the status of privileges after assignment. This talk discusses the concept of least privilege in workflow management. This talk also presents the Security Risk Factor (SRF) to measure the level of risk associated with a set of agents executing a group of inter-dependent tasks. In particular, a WFMS may choose to grant additional privileges to certain agents (relaxing the least privilege concept) in order to provide for a backup agent in case a primary agent fails (strengthening resilience to failures). This talk also presents the trade-off between resilience to agent failure and the least privilege concept.

### **Biography:**

Patrick Hung is an Associate Professor at the Faculty of Business and Information Technology in UOIT. He is also an Adjunct Faculty Member at the Department of Electrical and Computer Engineering in University of Waterloo. Patrick is currently collaborating with Boeing Phantom Works (Seattle, USA) and Bell Canada on security- and privacy-related research projects. He is also cooperating on Web services composition research projects with Southeast University in China. He is an executive committee member of the IEEE Computer Society's Technical Steering Committee for Services Computing, a steering member of EDOC "Enterprise Computing," and an associate editor/editorial board member/guest editor in several international journals such as the IEEE Transactions on Services Computing (TSC), International Journal of Web Services Research (JWSR) and International journal of Business Process and Integration Management (IJBPIIM).

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