

Privacy Issues in Middleware for Service-oriented Applications

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Abstract

Privacy helps to establish personal autonomy and create individualism. Privacy is a state or condition of limited access to a person. In particular, information privacy relates to an individual's right to determine how, when, and to what extent information about the self will be released to another person or to an organization. It can be said that privacy is a much broader concept than security; privacy protection is based on security protection. Security may enable privacy protection from authorized access, but security alone cannot provide privacy. Service-Oriented Computing (SOC) has recently gained a lot of attention both in industry and academic areas. However, its characteristics can not be easily solved using existing distributed computing technologies. The composition and interaction issues have been the central concerns because service-oriented applications are composed of autonomous, heterogeneous, and distributed processes. Middleware is thus proposed to serve as a solution to manage and provision service-oriented applications. Middleware is computer software that connects software components or applications in a distributed environment. Middleware includes different systems to support application development and delivery such as Web servers, application servers, and content management systems. To tackle the complexity of the interactions among services from various organizations, complex process requirements can be decomposed into different types of information flows, such as control, and data. This talk will give an overview of the research on privacy issues in this context and discuss the future research directions.

Biography

Patrick C. K. Hung is an Assistant Professor at the Faculty of Business and Information Technology in UOIT and an Adjunct Assistant Professor 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, and he has filed two US patent applications on "Mobile Network Dynamic Workflow Exception Handling System." In addition, Patrick is also cooperating on Web services composition research projects with Southeast University in China. He was a Research Scientist with Commonwealth Scientific and Industrial Research Organization (Canberra, Australia) and a Visiting Assistant Professor at the Department of Computer Science in the Hong Kong University of Science and Technology. Patrick has been serving as a panelist of the Small Business Innovation Research and Small Business Technology Transfer programs of the National Science Foundation (NSF) in the States since 2000. 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.