Designing Secure Business Processes Through Secure Activity Resource Coordination (SARC)

Lakshmi Iyer  
*The University of North Carolina, Greensboro*

Rahul Singh  
*The University of North Carolina, Greensboro*

Fergle DAubeterre  
*The University of North Carolina, Greensboro*

Follow this and additional works at: http://aisel.aisnet.org/icis2007

Recommended Citation  
http://aisel.aisnet.org/icis2007/57

This material is brought to you by the International Conference on Information Systems (ICIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ICIS 2007 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.
DESIGNING SECURE BUSINESS PROCESSES THROUGH SECURE ACTIVITY RESOURCE COORDINATION (SARC)

Fergle D’Aubeterre *
fjdaubet@uncg.edu

Rahul Singh *
rahul@uncg.edu

Lakshmi Iyer*
lsiyer@uncg.edu

*Information Systems and Operations Management,
Bryan School of Business and Economics,
The University of North Carolina at Greensboro,
Greensboro, NC 27402, USA

Abstract

Business processes enable organizations to achieve business goals. Organizations require that their business processes exchange information in a secure environment. Access control mechanisms must be incorporated into the analysis, modeling, and design of business processes to prevent unauthorized access to information resources, to provide non-repudiation mechanisms, and to allow for segregation of duties. Existing methods in the design of secure information systems lack a conceptualization of secure business process. We develop the modeling concepts and modeling grammar that are used by the Secure Activity Resource Coordination (SARC) artifact to represent a secure business process. SARC can be used by business analysts to analyze and model secure business process. Using a real-world business process, we show how SARC can be used to create models that depict the secure activity resource coordination for secure business processes. We plan to empirically evaluate the SARC artifact against the enhanced Use Case and standard UML activity diagram.

Keywords: Secure Business Process, Role-Based Access Control, Activity-Resource Coordination, Security Awareness, Secure Systems Design