## A formal verification and simulation of Common Criteria Recognition Arrangement (CCRA)

## ABSTRACT

Common Criteria (CC) is an international standard body for certifying security products and services. CC is used for information technology security evaluation that covers generic security model, security functional and security assurance components. The standard is published to unify pre-existing security standard for users, vendors, manufactures (industries) and government in using standard security requirements and evaluations. This publication is the first attempt in an information security research that is to CCRA model and simulates it. The purpose of this research work is to help CC's stakeholders to further understand CC's framework using a modeling and simulation. The CCRA model will deliver a generic model of CC relationships between a product manufacturer, product authorizer and product consumer in the CC's supply chains. We use Event-B as modeling language (notation), Atelier-B as theorem prover and ProB as a simulation tool. We also provide a case study for a simulation.

**Keyword**: Common criteria; CCRA; Formal methods; Simulation; Verification; International standard