On RFID Middleware Design and Integrated System Development Model

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Abstract
Radio Frequency Identification (RFID) technology holds the promise to automatically and inexpensively track items as they move through the readers. The proliferation of RFID tags and readers will require dedicated middleware solutions that manage readers and process the vast amount of captured data. In this paper we analyze the requirements and propose a framework to design such a RFID middleware. The framework maps the MDA/UML for software system development and CMMI, PMBOK, ISO12207 techniques for software engineering and project management onto an integrated environment to facilitate the software development processes that organizations use to develop, deliver, and maintain products and services. This framework presents one organization’s interpretation of CMMI and MDA best practices for organizations that primarily provide services. The framework also has capability to help design team members ensure that implemented practices provide the business value necessary to satisfy the goals for quality process improvement that are stated in the CMMI and MDA models.