

Merging Integration Solutions for Architecture and Security Mismatch

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Abstract. Integrating COTS products into a composite application can reduce development effort and associated costs. A major drawback comes from interoperability problems that hinder the seamless integration of components. Two types of problems are prominent: architecture mismatch and security mismatch. Because of their distinct properties, each problem is currently analyzed separately. The results are integration solutions that are constructed in isolation. Combining these solutions can yield another set of problems if their functionality is conflicting, duplicated, or overly complex. It is imperative to address these issues in component based software development. In this paper, we depict the architectural differences among components, their security access control policies, and the integration solutions that result from independent analysis. This is the first step toward including architectural interoperability issues and security conflicts in the design of an encompassing solution for an integrated application. We show a composition of the two solutions, highlighting redundancy and complexity.

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