

TITLE: Support of Design Reuse by Software Product Lines

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**ABSTRACT:**

One of the goals of the Motorola/FAU "One Pass to Production" (OPP) project is to drastically shorten the software development cycle. This research supports this goal through the reuse of design artifacts by software product lines (SPL). An SPL is "... a set of software-intensive systems sharing a common, managed set of features that satisfy the specific needs of a particular market segment or mission, and that are developed from a common set of core assets in a prescribed way." Low-level, opportunistic code reuse has not proven to be as successful as one might desire to achieve significant ROI and business value. In contrast, SPLs can help facilitate high-level, strategic design reuse by leveraging commonality and managing variability across multiple applications with a common architecture. SPLs have already proven themselves successful in several applications domains (e.g., automotive, control systems). This project will capitalize on existing reuse efforts at Motorola and extend it through the systematic and disciplined use of SPL best practice for targeted market segments (e.g., cell phones).