

Transforming Legacy Systems into Software Product Lines

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1. Tutorial Motivation

Often organizations face the problem that after a while their software system is deployed in several variants and the need arises to migrate to systematic variability and variant management using a software product line approach.

In practice most organisations can not afford to start a software product line development from scratch and therefore have to use as much existing software assets as possible. Discussion of (successful) transition techniques thus helps those organisations to decide for adoption of a software product line approach. Since the software product line development is still in a phase where widespread use has not been achieved the tutorial tries to help attendees to increase the number of SPL in the industry.

2. Tutorial Contents

The tutorial will discuss issues coming up during this migration process mainly on the technical level, leaving out most of the organisational questions. The goal of the tutorial is to give attendees an initial idea how a transition into a software product line

development process could be done with respect to the technical transition.

The tutorial starts with a brief introduction into software product line concepts, discussing terms such as problem and solution space, feature models, versions vs. variants.

Tutorial topics are how to choose adequate problem space modelling, the mining of problem space variability from existing artefacts such as requirements documents and software architecture. Also part of the discussion will be the need for separation of problem space from solution space and ways to realize it. A substantial part will be dedicated to variability detection and refactoring in the solution space of legacy systems.

3. Tutorial Audience

The intended audience is practitioners from industry (software product line novice to intermediate). Attendees should have a basic understanding software design; some knowledge about software product lines in general is helpful.