

# Product Lines: Successful Development of Software Variants

## *Training Description*

### **Overview**

This training provides important knowledge for managing software variants and for developing software product lines. It places particular emphasis on the gradual transition from existing development practices to new levels of product line development. Important focus areas are requirements management as well as configuration and integration management. Examples from industrial product line practice illustrate how large sets of software variants can be managed successfully using a product line approach.

### **Target Groups**

Line Management, Project Management, Product Management, Software Architects, Requirements Management, Test Management, Quality Management

### **Level**

Entry & Advanced

### **Contents**

- Software variants and product lines
- Typical scenarios for software product lines
- Business relevance of product lines
- Approaches to product line development
- Development organization for product lines
- Processes and methods of product line development
  - Release management
  - Requirements management
  - Software architecture
  - Configuration and Integration development
  - Testing
  - Project and program management

- Agile software development for product lines
- Tool-support for product line development
- Gradual transition to software product lines

## **Duration**

2 Days

## **Maximum Number of Participants**

12 Persons

## **Summary**

Many software organizations develop products that are delivered as a multitude of variants or as parts of product lines. Partly, market demands many product variants. Partly, software organizations expect higher productivity through reuse. In each such case, software development becomes more complex with regard to required development organization, software architecture as well as applied methods and development approaches.

Individuals who are dealing with software variants—among them project managers, requirements managers, software architects, and testers—or who want to design product line development—such as line managers or quality managers—must answer the following questions:

- What are the possible benefits of software variants and product lines? What are the main challenges?
- What approaches to product line development are available?
- How shall development practices be designed in order to gain maximum control over variants and in order to draw optimal benefit from product lines?
- Which new competencies are required in the important areas of requirements management as well as configuration and integration management?
- How can product line development be established in organizations in a sustainable manner?

This training provides important knowledge for managing software variants and for developing software product lines. It places particular emphasis on the gradual transition from existing development practices to new levels of product line development. Important focus areas are requirements management as well as configuration and integration management.

Examples from industrial product line practice illustrate how large sets of software variants can be managed successfully using a product line approach. Participants learn how they can improve new or existing product line initiatives, and how they can lead them to success.



## Trainer CVs

Dr. **Andreas Birk** is founder and principal consultant of Software.Process.Management. He helps organizations to optimally align their software processes with their business goals. His focus areas are requirements, test management, and software process improvement.

In more than fifteen years in the software industry, Andreas Birk has built a profound understanding how software and IT contribute to sustained business success. He publishes in renowned IT journals and speaks regularly at international conferences.

**Gerald Heller** is a freelance software process consultant with more than 20 years experience in global software product development. In this context, he has defined and implemented a broad range of development methods with a focus on requirements and test management for iterative incremental development. He has extensive experience in establishing software development processes with integrated support of application lifecycle tools.

Gerald Heller publishes in software engineering magazines and speaks regularly at international conferences.