The Software Engineering Institute (SEI): Help with Adoption of Software Product Lines

"This course was very educational and well presented and will inspire me to apply this approach to one of my projects."

"This course is useful for any software project—not just product lines."

"This was directly applicable to my everyday job. The course brought out some definite areas where I can propose improvements."

"This course was a great introduction to software product lines. I wish my management would attend."

For more information about these services, contact us:

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Interested in...

- lowering your overall production costs by as much as 50%?
- dramatically reducing your time to market?
- improving the quality of your products?

Organizations of all types and sizes are discovering that a product line strategy, when skillfully implemented, can produce those benefits and ultimately provide a competitive edge.

Since 1996, the SEI has worked with industry, government, and academia to create, mature, and transition software product lines and related engineering practices. SEI product line experts can work with you and your organization to provide training for your staff members, diagnose your readiness to adopt product lines, and plan for successful adoption so that you can realize the promise of software product lines.

TRAINING

Learn how to deploy software product lines successfully in your organization

The SEI has developed a series of three courses designed to equip you with state-of-the-art practices, so you can use software product lines efficiently to achieve your business goals:
1. Software Product Lines
2. Adopting Software Product Lines
3. Developing Software Product Lines

Software product line training equips software professionals with state-of-the-art practices, so they can efficiently achieve strategic reuse and other business goals. The courses are based on extensive SEI and community experience in developing, acquiring, and fielding software product lines in order to provide the knowledge necessary for successfully implementing a product line approach.

Earn the SEI Software Product Line Professional Certificate

Take all three courses and earn an SEI certificate as a Software Product Line Professional.

1. Software Product Lines course

This two-day course, available in both classroom and eLearning formats, introduces software product lines and the basic concepts behind them.

Adopting a product line approach to software is both a business and technical decision. This course provides an overview of the essential technical and management practices needed to succeed with software product lines and provides guidelines for applying product line techniques. Case studies illustrate the concepts.

This course, which is also included in the SEI Software Architecture Curriculum, is based on the book *Software Product Lines: Practices and Patterns* by Paul Clements and Linda Northrop (published by Addison-Wesley).
It is a prerequisite for all other courses in the Software Product Line Curriculum.

2. Adopting Software Product Lines course

This two-day course describes a practical, phased, pattern-based approach for planning and orchestrating software product line adoption. It provides in-depth coverage of software product line adoption issues and details an explicit pattern-based product line adoption roadmap in terms of focus areas, phases, subpatterns, and related practice areas, outputs, and roles.

3. Developing Software Product Lines course

Developing a software product line requires planning, orchestration, and technical expertise. For those who have never been part of a working product line organization, the details of and interrelationships among the artifacts can be intimidating.

This two-day course provides hands-on experience in understanding and applying the practice areas needed for software product line mastery.

To learn more about SEI software product lines training, go to www.sei.cmu.edu/productlines/start/training/

The Software Engineering Institute (SEI): Help with Adoption of Software Product Lines

SEI HELP WITH SOFTWARE PRODUCT LINES

For those considering product lines as an option for product development in their organizations or currently implementing product lines, the SEI offers a range of services:

Product Line Executive Session: During this half-day session, a product line expert from the SEI provides an overview of software product lines to a designated group of managers from an organization. The SEI expert facilitates a discussion about software product lines and the potential for an organization's adoption of the approach.

Diagnostic Tools: The SEI can apply one or more of three diagnostic tools to help organizations succeed with software product line adoption:

- **Product Line Quick Look:** a method for gathering initial information relative to an organization's readiness to adopt or ability to succeed with a software product line approach

- **Product Line Technical Probe:** a method for comprehensively examining an organization's readiness to adopt or ability to succeed with a software product line approach

- **Product Line Action Planning Workshop:** a natural follow-on to the Product Line Technical Probe; helps translate that portrayal into a plan of action. The workshop is a tailored, facilitated work session in which an SEI team works with a customer team, typically over two days, to produce an action plan.

Customized Product Line Solution: The SEI collaborates with organizations to develop a customized product line solution, tailoring existing methods and approaches as necessary to fit specific product or organizational needs.

Product Line Analysis: The SEI facilitates an iterative, incremental process of eliciting, analyzing, specifying, and verifying the early requirements for a product line, based on an initial business case and market analysis.

Product Line Architecture Development and Evaluation: The SEI helps organizations establish an appropriate product line architecture. The SEI uses its Attribute-Driven Design (ADD) approach, Views and Beyond architecture documentation philosophy, and Architecture-Tradeoff Analysis Method (ATAM), incorporating these techniques in the organization's own development processes.

Business Case Development: The SEI helps organizations make an economic case built on the current costs of doing business vs. a product line approach.

Configuration Management Workshop: During this two-day session, SEI product line experts lead a product line organization through the initial steps in developing or refining configuration management practices for a software product line effort.

Product Line Variation Management Workshop: During this two- to three-day session, SEI product line experts guide an organization in understanding the goal of variation in a product line approach and help the organization determine appropriate variation points, variation mechanisms, and variation management strategies and tool support.

Product Line Production Planning: SEI experts facilitate creation of a production plan, which describes how products are produced from core assets.

The SEI also provides tailored technical assistance to support
- asset mining, migration planning, components development, and testing
- development of a product line adoption plan, operating concept, acquisition strategy, and training plans
- appropriate data collection, metrics, and tracking mechanisms