BigLever's onePLE^{TM} Body of Knowledge for Feature-based Product Line Engineering

BigLever provides a comprehensive web-based compendium of information and resources that allows organizations to become successful and self-sufficient with Product Line Engineering (PLE) faster than ever before. It defines all of the processes related to the establishment and execution of PLE technical activities, as well as the business leadership activities necessary to adopt and institutionalize PLE throughout the organization. It provides a complete body of training materials to support flawless execution for all PLE stakeholders.

For an organization to effectively embrace and adopt Feature-based PLE, it must define roles and processes and work products that establish, operate, maintain, and utilize one or more PLE Factories. Personnel throughout the organization, from individual contributors to those in leadership positions, must be trained to carry out their PLE-related responsibilities effectively.

BigLever's **one**PLE Body of Knowledge for Feature-based PLE is a web-based storehouse of PLE processes, role definitions, and training materials designed to provide all the know-how necessary for each person in a PLE organization to master their roles in the shortest possible amount of time.

Addressing three tiers of organizational capability

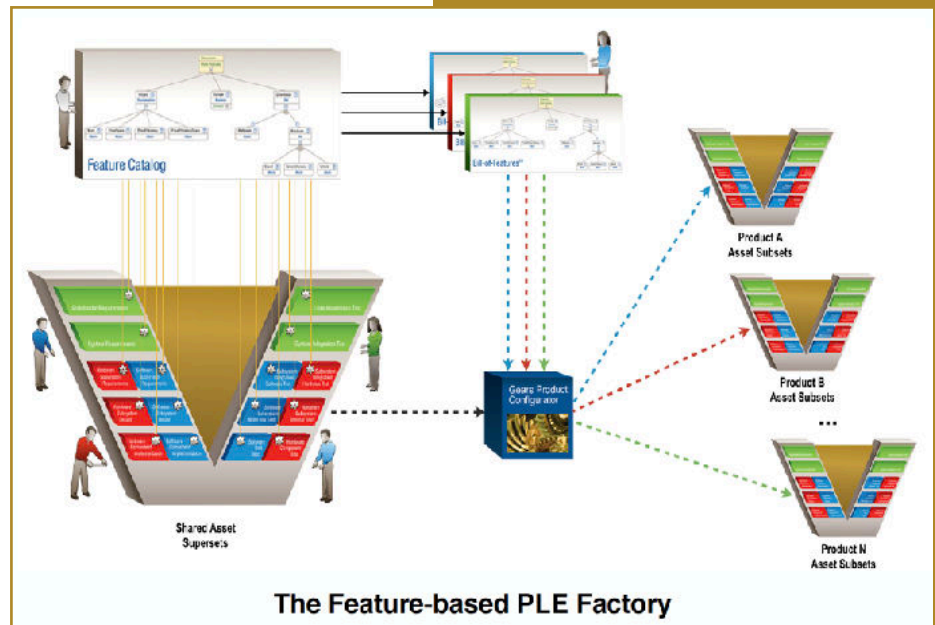The Body of Knowledge is organized around three distinct tiers present in every PLE organization:

- *Business organization management* processes and roles to establish, oversee, and support one or more PLE Factories.
- *Technical organization management* processes and roles to efficiently operate a PLE Factory.
- *Technology* processes and roles to put in place and maintain the tooling and technological infrastructure that underpins each PLE Factory.

Anyone in the organization can go to the Body of Knowledge, look up his or her PLE role; understand its definition and the related processes, responsibilities, and activities; and then undertake associated training targeted specifically for that role.
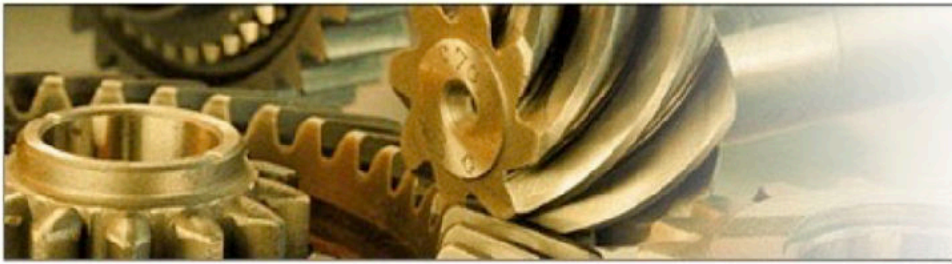
The PLE Factory

The Body of Knowledge addresses the establishment and operation of one or more *PLE Factories*, a concept core to Feature-based PLE. A PLE Factory is comprised of:

- *Shared Asset Supersets* are the digital artifacts configured by the PLE Factory Configurator according to a Bill-of-Features for a product.
- A *Bill-of-Features* is a set of features that describe a product. It is derived from the features made available in the product line's *Feature Catalog*,
- The *PLE Factory Configurato*r (in BigLever's Gears solution) produces a set of System Asset Instances for a product by exercising variation points in the Shared Asset Supersets.
- A *variation point i*s a unit of content in a Shared Asset Superset whose presence, absence, or specific form in the corresponding System Asset Instance for a product is determined by feature choices for that product.

The Feature-based PLE Factory

The Body of Knowledge provides guidance that is compliant with **ISO 26580,** the international standard for Feature-based PLE.

Establishing and operating a PLE Center of Excellence

The Body of Knowledge defines the process for setting up and running a PLE Center of Excellence (COE). A PLE COE's job is to help product line teams establish and operate strong and successful PLE Factories. It can drastically reduce the amount of re-discovery, false starts, re-work, and duplication that would otherwise occur across the various PLE projects.

The Body of Knowledge includes the materials for BigLever's *Technical Getting Started Workshop* and *Business Getting Started Worksho*p — key events that jump-start every PLE adoption. This allows any organization to take over the mentoring, coaching, and training for PLE within its various groups to achieve a high level of PLE self-sufficiency, as quickly as possible.

Features at a Glance

The Body of Knowledge defines:

- all the processes and activities to establish and operate one or more PLE Factories in an organization
- all the roles for managing and operating a PLE Factory, as well as for adopting PLE
- all the work products produced in support of PLE adoption and PLE Factory operation.
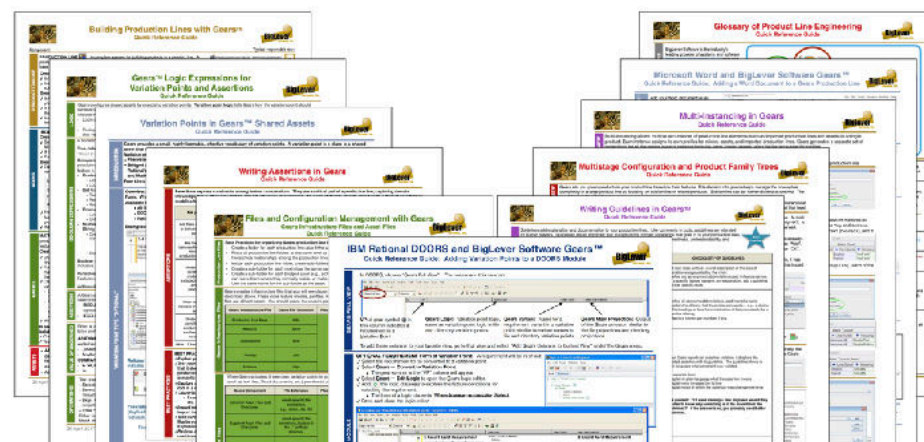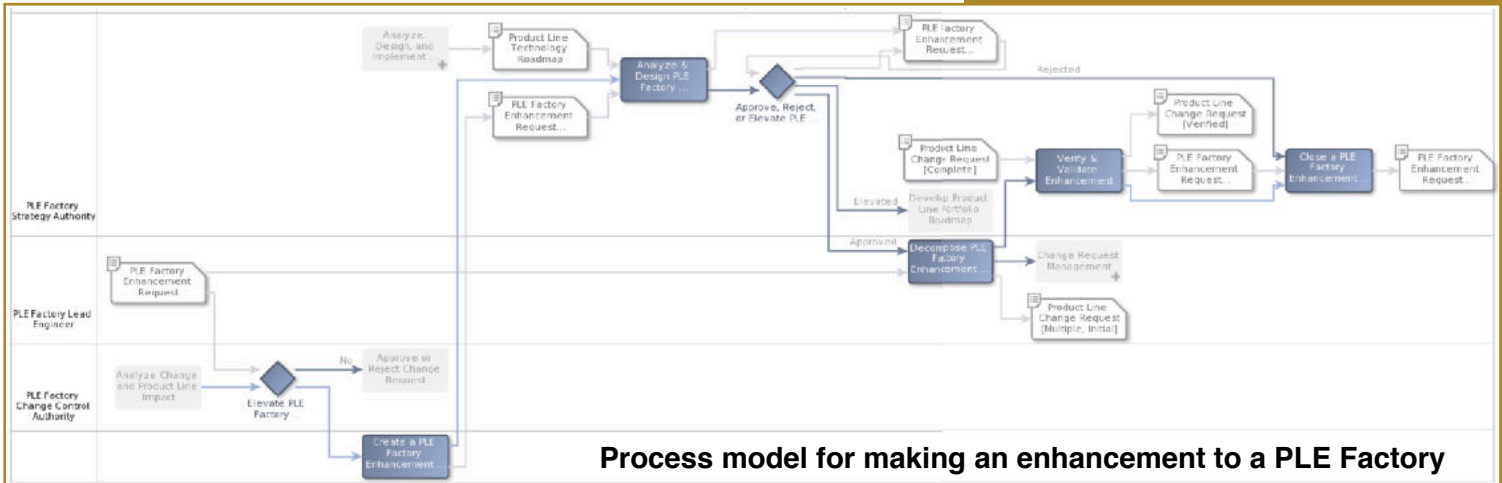
Comprehensive Training

Training materials are based on an extensive role-based curriculum for PLE, so everyone can easily find and take only the training they need. Training comes in different forms, ranging from background and overview pieces to just-in-time guidance for performing technical tasks.

Process model for making an enhancement to a PLE Factory

Examples of Quick Reference Guides

Training formats include:

- Best Practices compendia
- Half- or full-day courses that may be instructor-led or self-guided
- FAQ lists
- Published papers that delve deeper into important PLE topics
- Quick Reference Guides for condensed, detailed topic coverage
- Viewgraph presentations
- Templates and samples of work products
- Short introductory or how-to videos
- White papers for key topic deep dives

Implementation and licensing

The Body of Knowledge is accessed and provided by subscription-based licenses from BigLever.

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