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BigLever's *Getting Started Package* is an intense, accelerated, hands-on program that brings leading-edge product line engineering methods, knowledge and experience into your organization. The package entails the interactive creation of a pilot project that serves as the catalyst for learning and change within your organization.

# Getting Started with Product Line Engineering Practice

## Report #201202221

With a myriad of available literature – from both academia and industry – covering a spectrum of topics posed from a variety of perspectives, it can be difficult to decipher where to begin with your transition to product line engineering practice.

Ultimately, beyond the theories and concepts, the important question is... where do you start next Monday? This summary provides insight into BigLever's practical, proven approach based on successful real-world product line engineering implementations.

Choosing the right systems and software product line engineering (PLE) approach is crucial. While some organizations attempting to use *early generation* software product line methods have found that barriers to adoption with these approaches can be high, similar organizations using *new generation* PLE methods from BigLever Software have achieved breakthrough success with minimal upfront investment and non-disruptive transitions.

At BigLever, we've played an instrumental role in the industry's most notable PLE success stories. Our innovative yet pragmatic methods are specifically designed to help companies "get started" and to realize an immediate return on investment.

Experience shows us that successful transitions to PLE practice have three primary characteristics in common:

- First, they emphasize a "start with what you've got", bottom-up approach that reuses existing assets, rather than the traditional top-down approach that requires the upfront re-engineering of your entire product line.
- Second, they emphasize a non-disruptive, incremental transition strategy over a "big bang" strategy that requires all systems and software engineering assets, processes and organizations to be redefined, restructured and transitioned in unison.
- And finally, the cornerstone and impetus for the transition is a focused, small-scale, operational pilot project that effectively demonstrates the tangible benefits and serves as the catalyst for change.

Let's examine each of these important characteristics in more detail:

### 1. Start with what you've got

Recent case studies show that bottom-up approaches to getting started – those that emphasize the reuse of existing requirements, architecture, design, source code, test cases, organizational structures and processes – are dramatically more effective than early generation approaches that emphasize large scale, top-down, greenfield redesigns of your entire collection of product line and organizational assets.

BigLever Software's industry-standard Gears technology and *minimally invasive transition* methodology provide strong, out-of-the-box support for bottom-up transitions. By leveraging our technology, pragmatic methods and proven expertise, BigLever customers have validated that bottom-up transitions require less than 1% of the effort of top-down transitions, are much more likely to succeed, and offer the same level of benefits in a much shorter time period.

BigLever's minimally invasive approach enables you to make a strong business case for a PLE transition by offering high-impact outcomes with minimal upfront resources, minimal risk, and without disrupting ongoing production schedules.

## 2. Use an incremental transition strategy

Incremental PLE transition strategies – proven successful in recent BigLever customer deployments – enable you to achieve immediate results with significantly greater efficiency and much less disruption than early generation “big bang” approaches.

BigLever utilizes an *incremental return on incremental investment* methodology. This pragmatic transition approach is structured such that each increment provides sufficient benefits to fuel the next increment, thereby making the transition pay for itself.

With an incremental approach, your return on investment can be achieved in a fraction of the time required by big bang methods – measured now in days or weeks rather than years.

An incremental transition allows you to start small – for example, with one or two products, subsystems or assets, teams or individuals. This enables you to partition your transition into manageable increments along one or more of the following dimensions:

- *Lifecycle*. Start with assets in one phase of the development lifecycle – such as requirements, source code or test cases – and incrementally expand your transition from there.
- *Products*. Start with a small subset of your product line portfolio – such as one or two products – and incrementally transition additional products over time.
- *Subsystems*. Start with assets for a small subsystem, module or component within your products and incrementally transition additional subsystems.
- *People*. Start with one team or individual and incrementally transition others over time.

## 3. Create a pilot as the catalyst for change

Recent success stories consistently demonstrate that the key to a vigorous and sustainable transition to PLE practice lies in the creation of a tangible, representative, small-scale pilot project.

Creating a pilot enables you to effectively use a bottom-up approach to achieve the essential first step in your incremental transition. The pilot helps to build momentum by demonstrating to managers and engineers a practical, operational example of PLE practice and the tangible benefits it delivers.

This approach also circumvents the “analysis paralysis” that is typical of big bang, top-down, early generation approaches.

Pilots of less than a week have served as the basis for some of the industry's most efficient and successful transitions. A pilot project can be your catalyst to simultaneously energize and accelerate your transition, elucidate analysis and design, gain and maintain buy-in, and ultimately, establish your foundation for full deployment.

## 4. Leverage the experts – and become one

*Enlist the services of BigLever Software to help define your best approach for getting started.*

BigLever combines industry-leading methodology expertise with practical, real-world experience to help you realize strategic-level benefits from PLE practice. Regardless of your current stage – from just learning to experienced practitioner – BigLever can help you design and implement a simple, hands-on pilot project that enables you to

effectively learn and deploy the industry's best practices for creating a highly successful PLE practice.

## **BigLever's *Getting Started Package***

BigLever's *Getting Started Package* is an intense, accelerated, hands-on program that brings leading-edge PLE methods, knowledge and experience into your organization. The package entails the interactive creation of a pilot project that serves as the catalyst for learning and change within your organization.

This special package – a \$10,000 value – is \$5,000 and includes 3 days of onsite pilot project development and consulting, plus 1/2 day of interactive offsite preparation and 1/2 day of interactive offsite post-processing to summarize the results.<sup>1</sup> BigLever will assist you with pre-qualification, to ensure that the package offers an appropriate level of benefit to your organization. The cost of the package is fully refundable if you are not 100% satisfied.

For more information:

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<sup>1</sup> Offer subject to change without notice.