



The 3-Tiered Methodology for Software Product Lines

Greetings from BigLever:

Welcome to Part 1 of my 4-part series on the *3-Tiered Methodology* for software product line (SPL) development. This informational newsletter series provides insight into a pragmatic new generation SPL methodology that is enabling companies of all types and sizes to realize a new level of benefits - in terms of both technical and business impact.

First generation SPL methodologies tended to be large and complex, making adoption difficult in practice. We have identified a simpler pattern of SPL methodology, referred to as the 3-Tiered Methodology, based on observations from real-world deployments of new generation SPL practices. This practical methodology is useful for understanding SPLs and in justifying why SPL technology and methods should be part of every portfolio development organization. Its tiered approach effectively removes barriers in transitioning to and operating SPL practices.

The 3-Tiered Methodology comprises three tiers of capabilities and benefits, where each tier builds upon and is enabled by the capabilities and benefits of the previous tier.

- The **Base Tier**, *Variation Management and Automated Production*, provides a tactical set of developer capabilities and benefits that optimize productivity.
- The **Middle Tier**, *Core Asset Focused Development*, provides part-tactical, part-strategic engineering management capabilities and benefits that optimize product portfolio quality.
- The **Top Tier**, *Feature Based Portfolio Evolution*, provides highly strategic business capabilities and benefits that optimize time-to-market and portfolio scalability.

The base tier of the methodology is outlined in the following section, while the middle and top tiers will be covered in the next installments of this newsletter series.

The Base Tier - Variation Management and Automated Production

The base tier, Variation Management and Automated Production, provides the foundation for a SPL practice. The focus is on the basic infrastructure for first-class variation management in the product line, including feature modeling capabilities, a uniform mechanism that supports variation points in the software assets, and an automated production



BigLever Shifts Gears for Software Product Lines

By Darryl K Taft
eWeek Sr. Editor

February 27, 2007 - BigLever Software Inc., a maker of SPL development tools and services has announced the release of Gears 5.3, the latest version of the company's SPL tool. Gears enables enterprises to engineer their product portfolio as a single system rather than multiple products.

>> [See full article.](#)

Request a Webinar: The 3-Tiered Methodology

Learn more about *The 3-Tiered Methodology* and a new generation of software product line success stories. Request an interactive webinar which can be personalized 'on the fly' for you or your development team.

Please notify BigLever at seminars@biglever.com regarding your preferred date and time.



BigLever Turns Gears for Business Side

By David Rubinstein
SD Times Editor-in-Chief

mechanism to instantiate products from the feature models, software assets and implementation-level variation points.

At the base tier, conventional software assets, such as legacy source code, and conventional organizational structures, such as teams organized around products, are sufficient. That is, in the base tier of the 3-Tiered Methodology, there is no need for specially engineered software product line architectures and core assets, or a dichotomy of engineering roles for domain engineering and application engineering.

First-class variation management and automated production serve to:

- eliminate duplication, cloning, divergence and merging
- consolidate the multiple ad hoc variation management mechanisms typically found in legacy software
- eliminate the manual and parallel production efforts found in conventional approaches

The primary benefit gained from these capabilities in the base tier is lower development overhead compared to conventional approaches - and therefore higher developer productivity and lower per-product development cost.

Compared with first generation SPL methodologies, this tier of the 3-Tiered Methodology provides a much simpler entry point into SPL practice.

Variation management and automated production can be adopted incrementally and with little disruption to ongoing production schedules, particularly when using commercially available product configurators - such as BigLever Gears - that provide these capabilities out of the box. Legacy software assets can be heavily leveraged with little or no re-engineering. Existing team structures can be maintained with little or no reorganization. The processes and day-to-day activities remain virtually unchanged.

The capabilities and benefits of this base tier enable the middle tier of the methodology, *Core Asset Focused Development*. Stay tuned as we explore this middle tier in Part 2 of our 3-Tiered Methodology newsletter series.

I welcome your comments, input and real-world business experiences with software product line methodologies.

Best Regards,

Charles W. Krueger, BigLever Software CEO
SoftwareProductLines.com Moderator

512-426-2227

ckrueger@biglever.com
www.biglever.com

February 15, 2007 - A wizard that helps non-technical workers walk through the decisions that need to be made about a new feature set in a software product is the key new feature in Gears 5.3.

>> [See full article.](#)

Software Product Line Resources

For additional SPL information and resources, see the "Learn More" section of our website at www.biglever.com or visit www.SoftwareProductLines.com, an online resource and open forum for the SPL community.

About this Newsletter

The BigLever Newsletter addresses key issues that impact the software product line community - and delivers strategic insights and observations, practical tips and techniques, and real world experiences.

[To view previous issues, see our newsletter archive.](#)

About BigLever

BigLever Software, Inc. (TM) is a leading provider of software product line development tools and services. BigLever's patent-pending solution, Gears (TM), dramatically simplifies the creation, evolution and maintenance of embedded or standalone software for a product line.

Subscriber Functions:

[Forward](#)
[Subscribe](#)
[Update Info](#)
[Unsubscribe](#)

Contact Info:

BigLever Software, Inc.
10500 Laurel Hill Cove
Austin, TX 78730 USA
512-426-2227
www.biglever.com