



Software Product Lines: Looking Back, Looking Forward

Greetings from BigLever:

The New Year is the perfect time to take stock of the notable software product line (SPL) milestones of 2006 and to explore new developments on the horizon for 2007. One of the most important milestones that I observed last year was the progression of SPL tools and methods into the consciousness and vocabulary of the mainstream development world.

A key indicator of this progress is the growing interest and rapidly increasing coverage being garnered by SPL topics in the industry trade press - across a broad spectrum of media outlets from developer-centric publications such as Dr. Dobbs and SD Times to niche market journals such as Military Embedded Systems. [See sidebar for a snapshot of media coverage.]

This groundswell of mainstream visibility translates to a wealth of new opportunities for the continued growth and expansion of SPL practice in 2007.

For SPL 'adopters' and proponents, this is especially good news. It provides the validation and supporting evidence - needed to gain buy-in from colleagues and executive management - that SPL technologies and methods should be part of every portfolio development organization. With the new generation of incremental methods, adoption barriers are being eliminated and companies of all types and sizes are realizing a new level of benefits in terms of both technical and business impact.

Three Tiers of SPL Capabilities and Benefits

Historically, prospective SPL adopters have faced difficulty in "connecting the dots" between the technology, methodology and organizational changes prescribed by a SPL approach and the benefits predicted in the available SPL literature. The SPL community has found it difficult to clearly articulate the precise relationship between the new capabilities and the resulting benefits delivered by SPL practice. This lack of detail, precision and clarity has slowed adoption by the mainstream.

Direct involvement in more than ten different SPL deployments, including SPL Hall of Fame inductees LSI Logic/Engenio and Salion, has illuminated a common pattern that now helps me to better understand and articulate the relationship between capabilities and benefits. This emerging pattern reveals a view into a progression of SPL capabilities

Software Product Lines in the News: 2006 Recap

Dr. Dobbs: Podcast

Software Product Lines: More Than Just Code Reuse
>> [Listen to podcast.](#)

Communications of the ACM

New Methods in Software Product Line Practice: Examining the Benefits of Next-generation SPL Methods
>> [See full article.](#)

eWeek

Software Product Lines Automate Development
>> [See full article.](#)

Military Embedded Systems

The Emerging Practice of Software Product Line Development (pg. 39)
>> [See full article.](#)

SD Times

Switching Gears for the Life Cycle
>> [See full article.](#)

Methods and Tools

Making an Incremental Transition to Software Product Line Practice
>> [See full article.](#)

Embedded Computing Design

Similar products, different features
>> [See full article.](#)

About BigLever

BigLever Software, Inc. (TM) is a leading provider of software product line development tools and services. BigLever's

and a resulting progression of benefits, providing a more insightful characterization than traditional explanations.

As companies shift from conventional product-centric software development to SPL development, three tiers of capabilities and benefits are established, sometimes in sequence and sometimes in parallel. Each tier builds upon and is enabled by the previous tier. The first tier provides a very tactical set of developer capabilities and benefits, which enables a middle tier of engineering management capabilities and benefits, which ultimately enables the third tier of highly strategic capabilities and benefits in the executive and business operations.

Tier 1: Variation Management and Automated Production. First class variation management and a fully automated production line deliver optimized developer productivity and significant reductions in per-product development cost.

Tier 2: Core Asset Focused Development. Shifting from product focused to core asset focused development enables the portfolio to be developed as a single system rather than a multitude of products. High levels of software reuse and deep core asset expertise are the result, leading to optimized product quality.

Tier 3: Feature Based Portfolio Evolution. As the business transitions from product based to feature based portfolio evolution - where the entire portfolio evolves by adding or modifying feature requirements for common, optional, and varying features - the result is extremely efficient collaboration and concise communication between the business and engineering teams, leading to faster time-to-market and increased product line scalability.

To start off 2007, we will dedicate the next several issues of this newsletter to sharing with you our observations and experiences regarding these three tiers of SPL capabilities and benefits, as well as how to achieve them.

We wish you great health, happiness, prosperity and SPL success in 2007!

Best Regards,

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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.

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