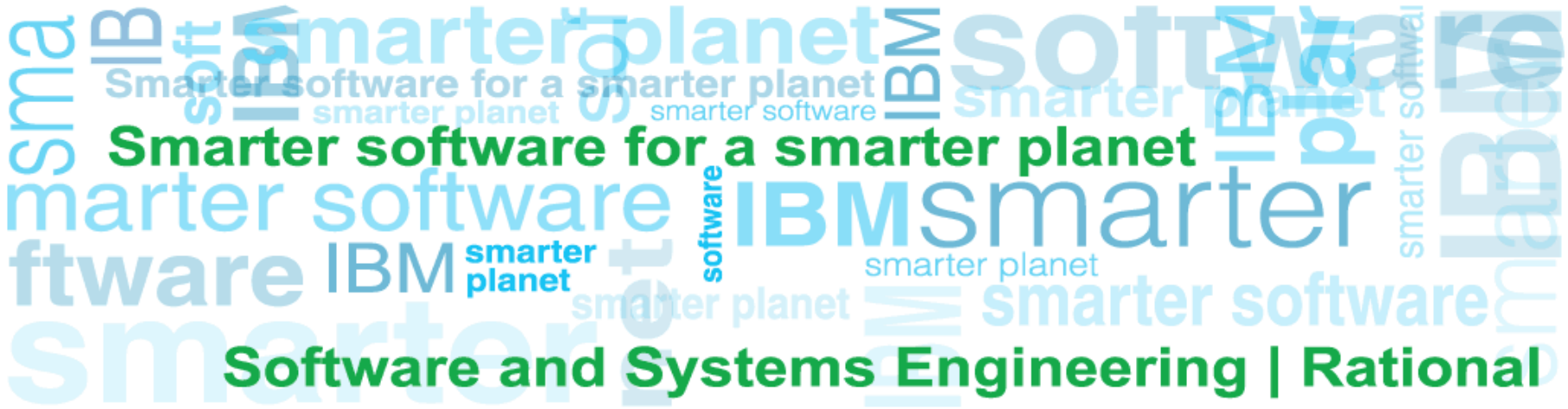
Andy Gurd, Go to Market Manager
IBM Software, Rational

Working Smarter Not Harder: Tips and Tricks for Strategic Asset Reuse



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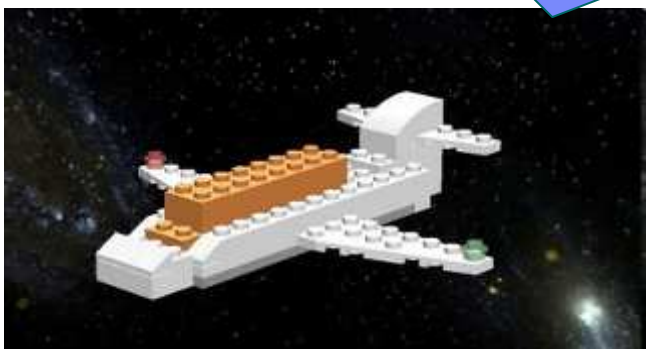

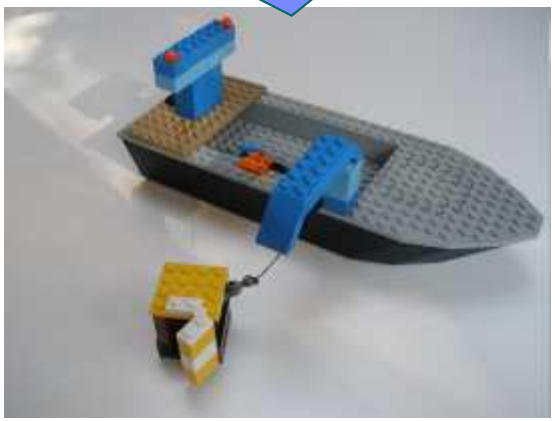

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THE DAILY

Lethal 'Lego'

Navy unveils combat ship with changeable features

http://www.thedaily.com/page/2011/11/07/110711-news-navy-ship-1-4/

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Benefits of a strategic approach to reuse

- Economy of Scale
- Cost Savings from Efficiency and Productivity
- Faster Profits from Faster Time to Market
- Better Products from Better Quality

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IBM is helping to address the complexity challenge with two approaches

Variant Management Through Domain Specific Reuse:

Variant management approach that enables companies to strategically reuse systems and software assets within a development domain – starting with an “entry point”.

Product Line Engineering:

New generation lifecycle approach that enables the shift from asset reuse to asset sharing – across an entire product line portfolio and throughout each stage of the lifecycle. Enables feature-based product line engineering and automated production for delivering a complex portfolio of products, with less time and cost

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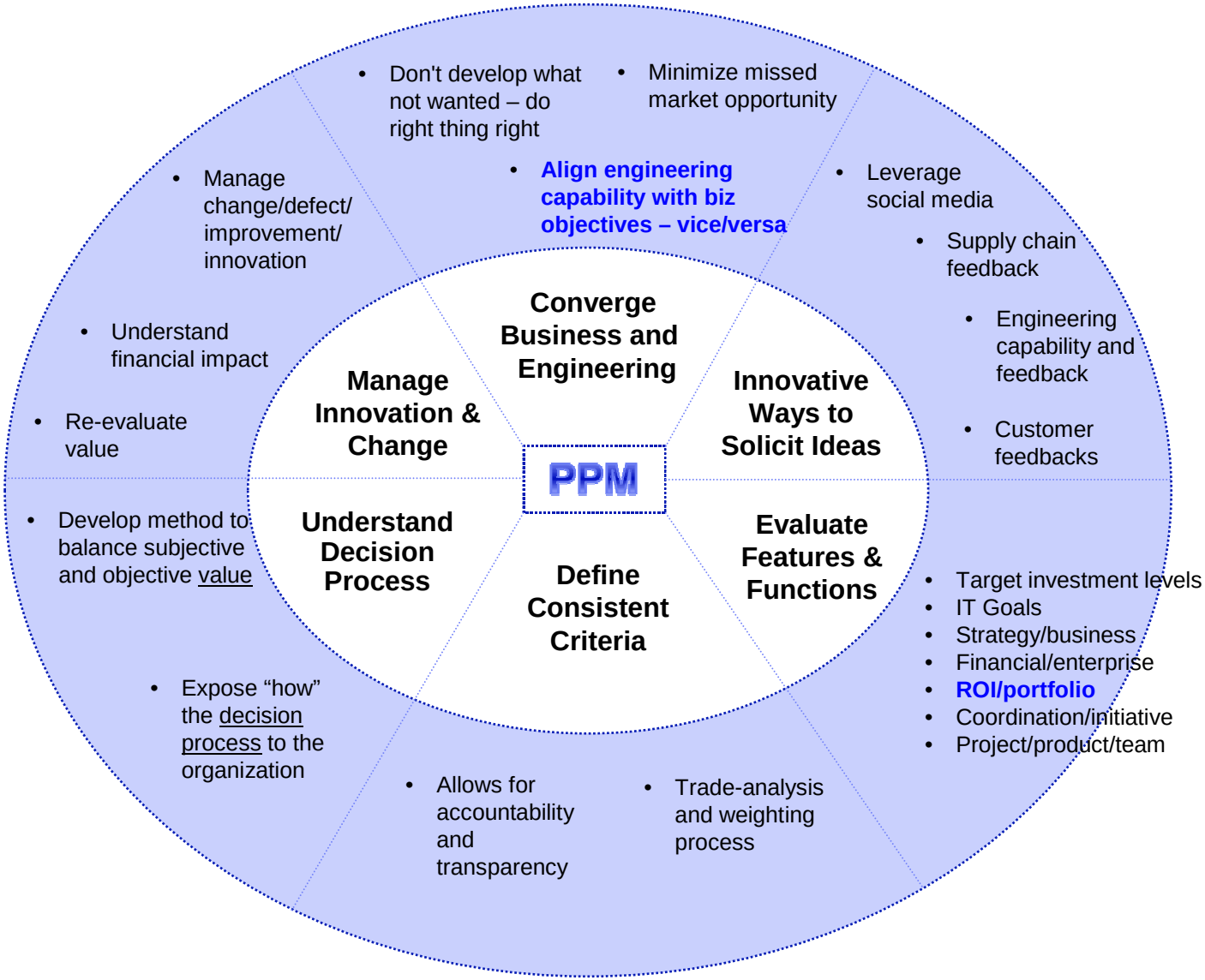
Product and Portfolio Management Approach



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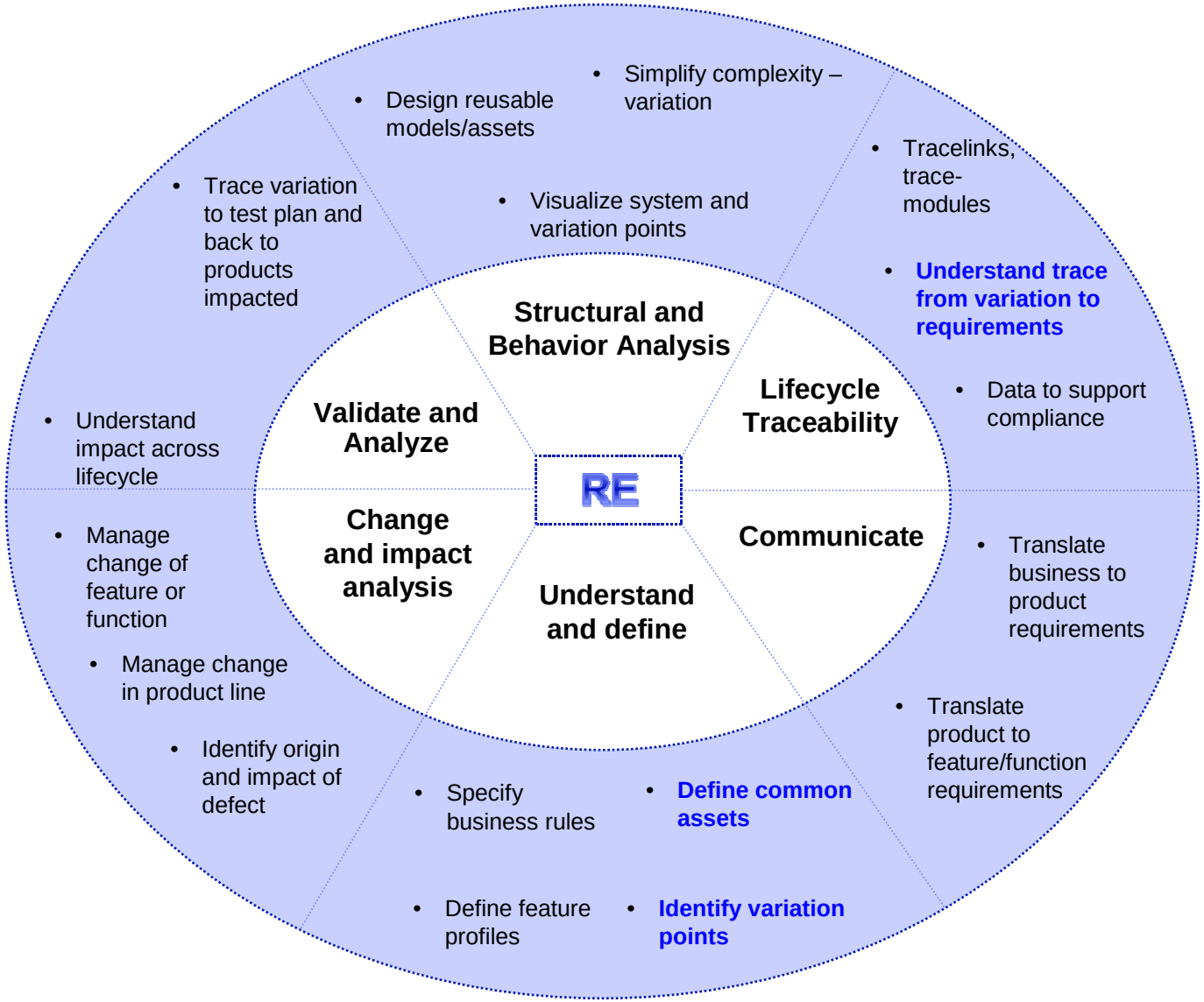
Requirements Engineering Approach



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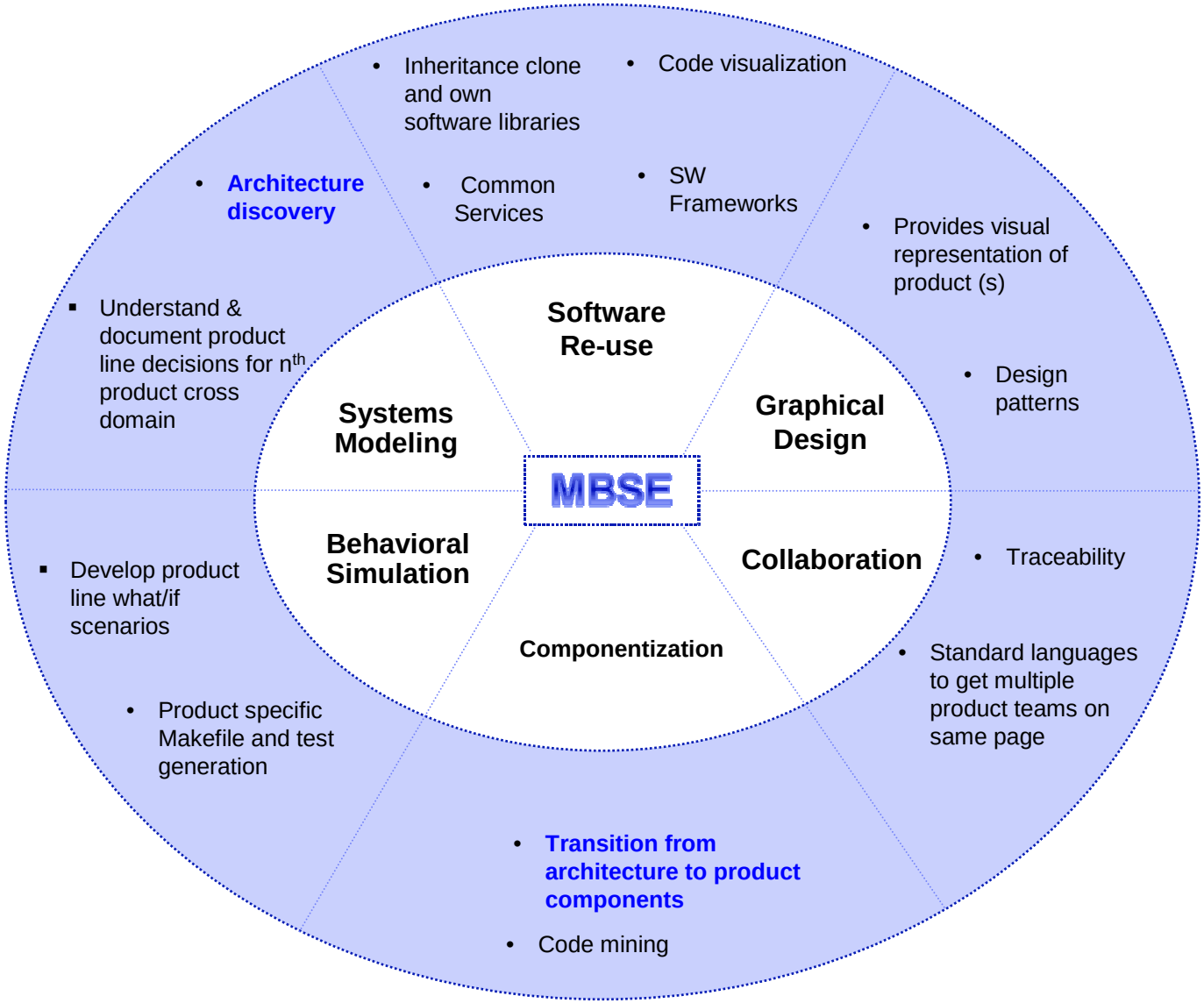
Model-Based Systems Engineering Approach



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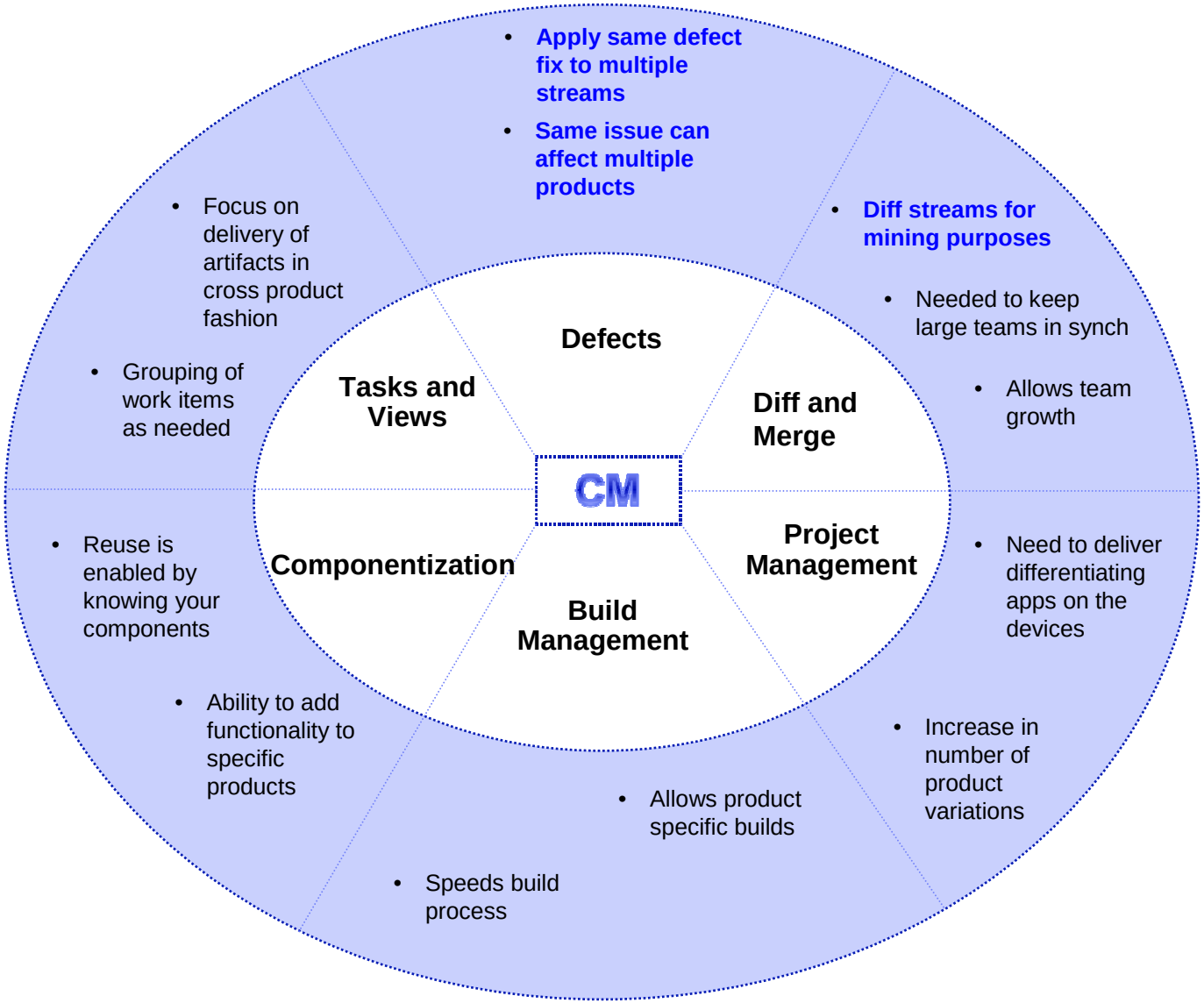
Change and Configuration Management Approach

Introducing Collaboration, Workflows and Reporting



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Quality Management Approach

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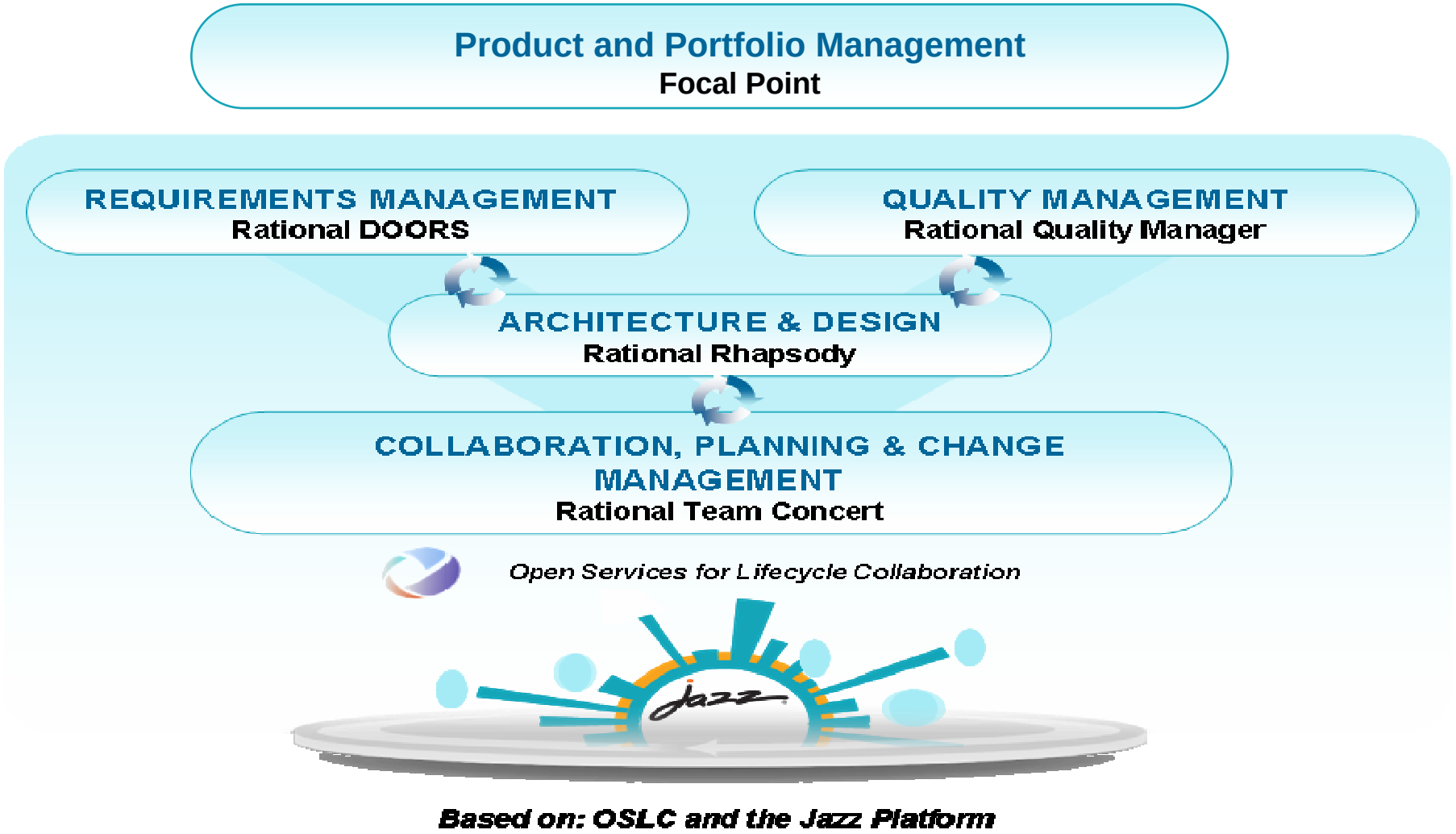
IBM Rational Systems & Software Engineering Solution extended with product & portfolio management



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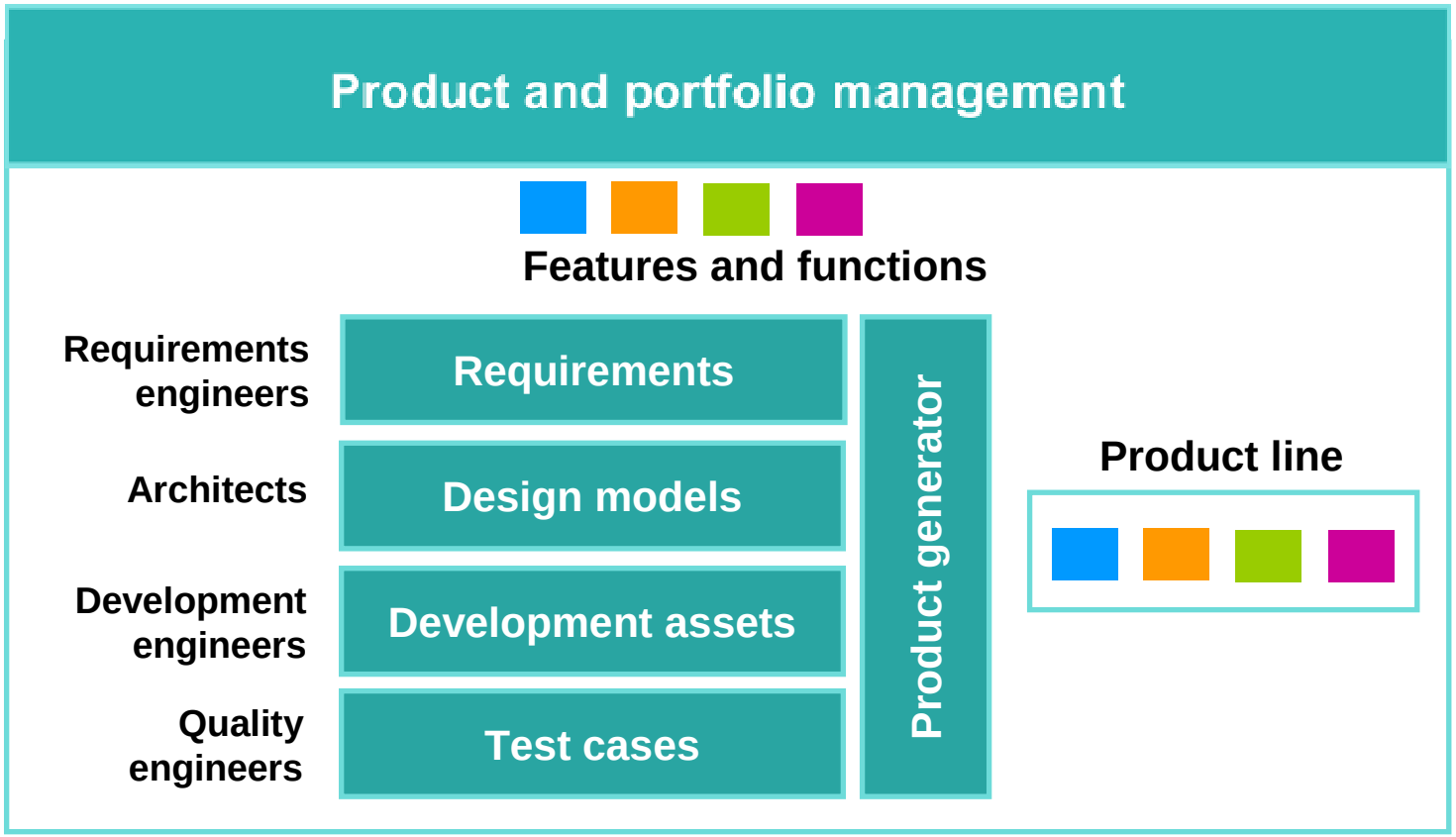
Lifecycle Approach to Product Line Engineering



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BigLever Software

- BigLever Software™ is the leading provider of systems and software product line engineering framework, tools and services. BigLever's patented Gears™ solution dramatically simplifies the creation, evolution and maintenance of systems and software for a product line – a portfolio of similar products or systems with variations in features and functions.
- With Gears, development organizations can reduce costs and bring new product line features and products to market faster, enabling businesses to more reliably target and hit strategic market windows.
- BigLever Bridge solutions for the IBM Rational toolset include DOORS, Rhapsody, Rational Quality Manager, Synergy and ClearCase. BigLever and IBM also offer methodology integrations for Rational Publishing Engine, Focal Point and Rational Team Concert.
- www.biglever.com

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IBM & BigLever PLE solution: BigLever Gears Software Product Line (SPL) Lifecycle Framework integrations for the IBM Rational Solution for Systems and Software Engineering

Improve product line management
IBM Rational Focal Point

Manage requirements diversity
IBM Rational DOORS

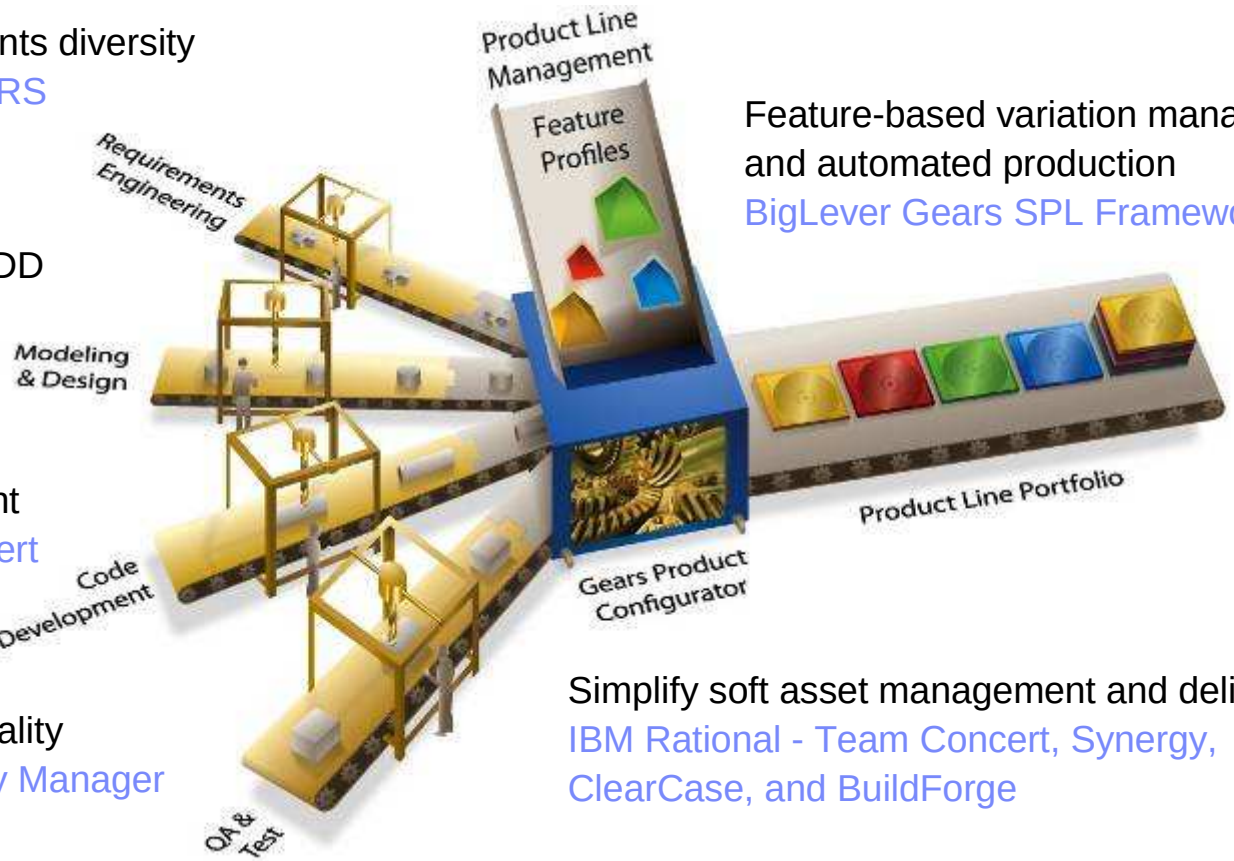
Feature-based variation management and automated production
BigLever Gears SPL Framework

Implement variants with MDD
IBM Rational Rhapsody

Collaborative development
IBM Rational Team Concert

Increase product quality
IBM Rational Quality Manager

Simplify soft asset management and delivery:
IBM Rational - Team Concert, Synergy, ClearCase, and BuildForge



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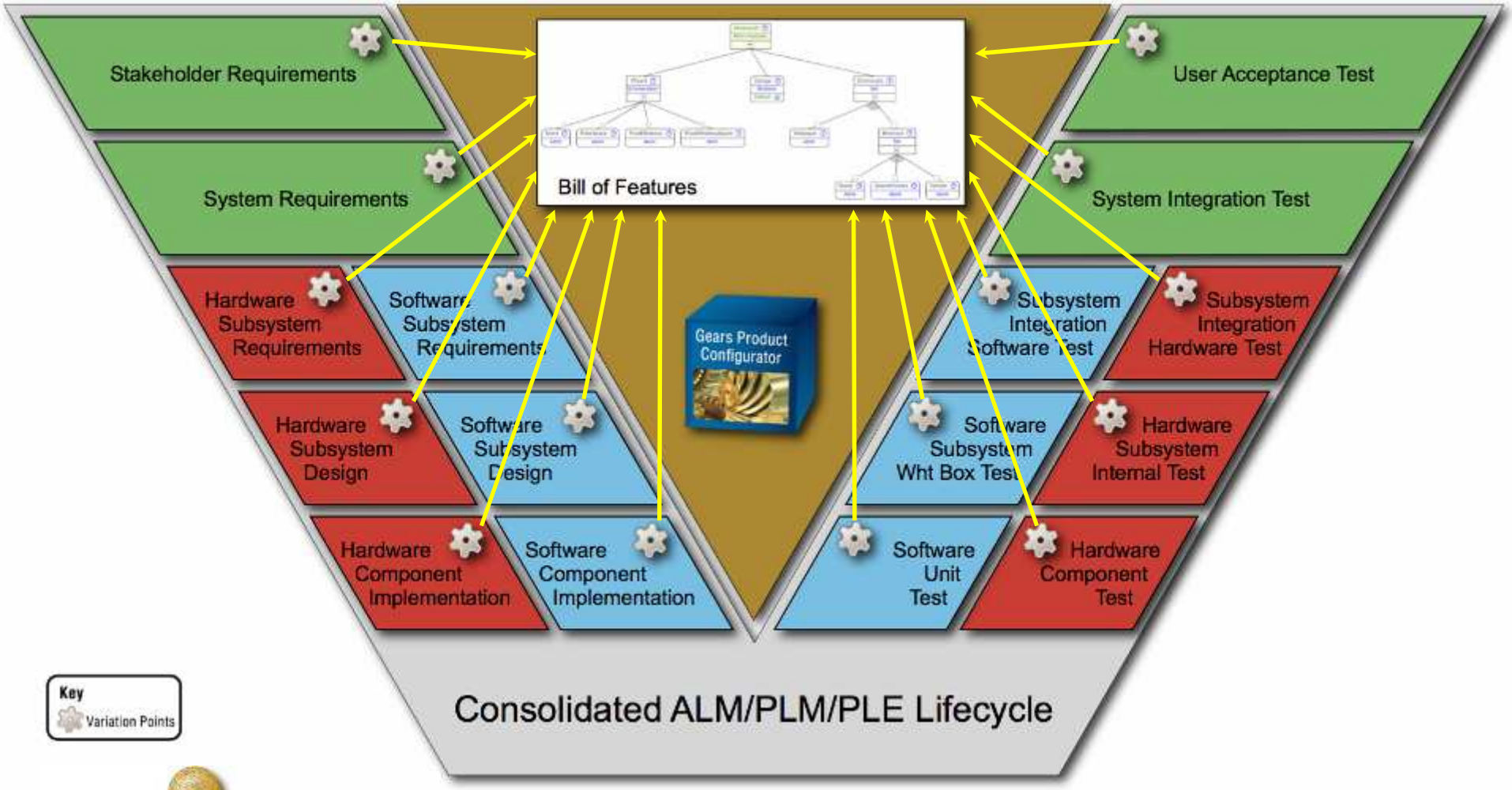
Enables Feature-based Consolidation
of ALM, PLM & PLE



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Delivering Measurable Benefits

- Provide an **innovative** and **pragmatic solution** for systems and software product line engineering, design and delivery.
- Increase the **scope of product diversity** and **scale** of different products that can be effectively delivered in a product line.
- Boost **productivity** and **efficiency**.
- Decrease **per-product development cost**, potentially resulting in higher **profit margins**.
- Reduce **time to market** for new and updated products.
- Increase **agility to react** to **new opportunities** and **changing marketplace conditions**.
- Improve **product quality** by **reducing defect** density and **improving risk management.**

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Strategic Asset Reuse Solutions

Alignment of Business Objectives and Engineering Capabilities

Approaches:

Variant Management via Domain Specific reuse

- Define entry points
- Build strategy to leverage existing artifacts within and across domains
  - Product and Portfolio Management
  - Requirements Engineering
  - Model-Driven Approach
  - Change and Configuration Management
  - Quality Management

Lifecycle PLE

- Define product line features, profiles and variation points
- Establish automated feature-based production line

Strategic reuse to new generation lifecycle approach

Solutions:

IBM Rational Solution for System and Software Engineering

- OSLC and Jazz based
- Technology
- Best practices
- Industry expertise
- Services
- Collaborative cross-domain integrations

IBM and BigLever PLE Solution

- PLE Engineering Lifecycle Framework
- Automated feature-based production system
- Pragmatic 3-Tiered Methodology
- Industry-leading PLE technology, expertise & services

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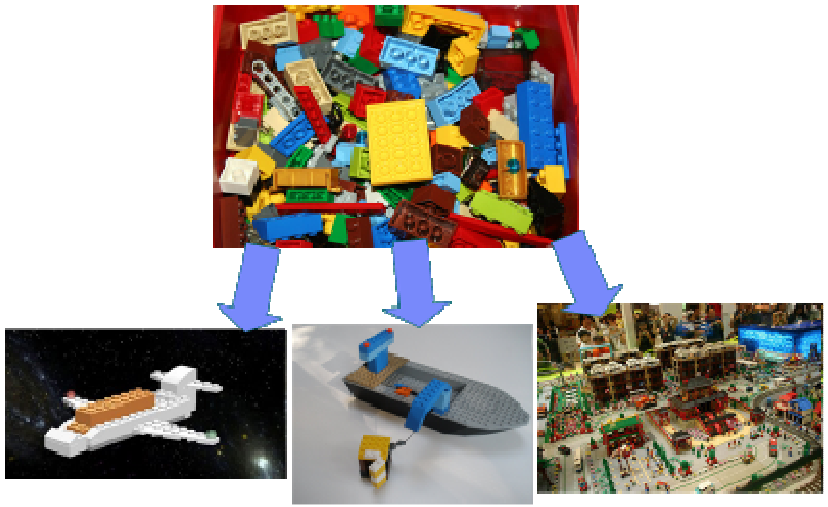
Summary

- Complexity can rapidly increase as you develop variations of your products and systems
- Maintaining the various systems relationships manually is very difficult – maybe impossible
- IBM's *Solution for Systems and Software Engineering* helps you manage elements of reuse across the systems engineering lifecycle
- The IBM Rational and BigLever Software PLE Solution provides leading technology, best practices and the BigLever Gears SPL Lifecycle Framework
- Strategic reuse enables flexibility, economies of scale & diversification



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