



Industry's First Integrated MDD and SPL Solution

As emerging software product line (SPL) technologies have evolved, Model-Driven Development (MDD) has remained an under-served part of the SPL portfolio development lifecycle, making it difficult to simultaneously leverage the benefits of both practices.

The Rhapsody/Gears Bridge is the industry's first solution to provide fully integrated MDD and SPL technologies. With the Bridge's innovative capabilities, you can achieve new levels of efficiency by utilizing:

- Rhapsody MDD models, rather than working with conventional source code.
- Gears' SPL consolidation, first-class model variation points, and automated production capabilities – rather than creating cloned copies of MDD models for each product or building “one-size-fits-all” models for all products.

This increased efficiency enables you to deliver more new products and features faster, while reducing the development effort and optimizing product quality.

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Telelogic Rhapsody® / BigLever Gears™ Bridge Product Overview

While Model-Driven Development™ (MDD™) technology provides a powerful enabler for the rapid development of individual products within a product line, as well as greater conceptual clarity for the maintenance and evolution of those products over time, companies face complex challenges in managing product diversity across a product line. Software product line (SPL) methods and tools are specifically designed to provide these essential capabilities.

Now, with the integration of Telelogic's leading-edge MDD product and BigLever's innovative SPL engineering solution, the new Rhapsody/Gears Bridge provides a simple and elegant approach for effectively incorporating the management of product diversity into your MDD processes.

Integrated MDD and SPL Capabilities

The Rhapsody/Gears Bridge solution – co-developed by Telelogic and BigLever Software – offers fully integrated MDD and SPL technologies that enable you to easily leverage the benefits of MDD in your product line development lifecycle.

With the Bridge solution, you can utilize: 1) Rhapsody MDD models as first-class reusable assets in the Gears SPL portfolio development lifecycle, and 2) Gears SPL constructs as first-class software engineering mechanisms for managing product line diversity in Rhapsody MDD models, orthogonal to the model UML™.

More specifically, the Rhapsody/Gears Bridge allows you to:

- Use SPL mechanisms to manage the diversity for a full product line portfolio in a single, consolidated MDD model, as a highly scalable alternative to cloned copies of models or one-size-fits-all UML models.
- Automatically configure different Rhapsody model behaviors for different products, simply by making product feature choices in a Gears feature profile.
- Convert Rhapsody model elements into Gears variation points to encapsulate the SPL diversity for that model element, without extending or complicating the UML model.
- Use one or more Rhapsody models – either packages or projects – in a larger collection of reusable assets for the full development lifecycle of a Gears SPL portfolio.
- Perform integrated SPL operations – such as product configuration, variation point editing and variation impact analysis – directly from Rhapsody menus.



Features at a Glance

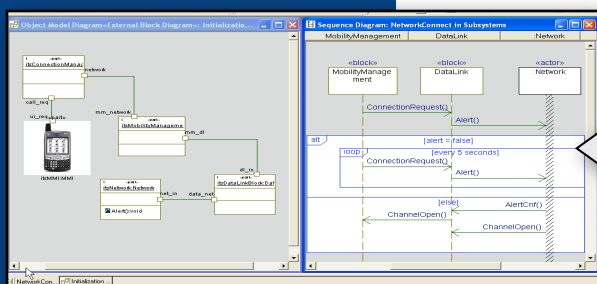
- Use Rhapsody projects and packages as modules in the Gears production line
- Convert Rhapsody model elements to variation points
- Edit logic for Rhapsody model element variation points
- Edit code variants for model element variation points
- Run Gears actuator from within Rhapsody
- Execute Gears Membership to perform impact analysis of changes

Model elements that can be variation points:

- Attributes
- Events
- Operations
- Transitions
- Types
- States

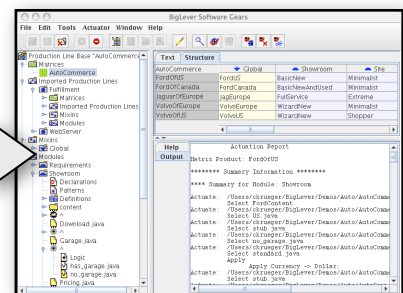
Product Versions

- Rhapsody Version: 7.3 +
- Gears Version 5.5 +



Telelogic Rhapsody

Rhapsody /
Gears
Bridge



BigLever Software Gears

Bridge Plugin Extensions

The Rhapsody/Gears Bridge solution takes the form of a dual plugin that provides the following extensions to each product:



Gears Plugin Extensions

On the Gears side, the Bridge enables you to include Rhapsody MDD models as another form of core asset within a Gears software production line. You can use the Gears product configurator to automatically configure the different behaviors of a Rhapsody model, based on your feature profile selections made within Gears.

Using MDD models as first-class SPL core assets, you can now automatically configure different instantiations of those models without having to utilize clone-and-own modeling approaches.

Rhapsody Plugin Extensions

On the Rhapsody side, the Bridge allows individual model elements within a MDD model to be converted into first-class Gears variation points. As a result, the diversity of the model elements needed to create different products within the portfolio can be managed as variation points within the model.

Now, you can express the full diversity of feature variations, size and complexity needed in model behaviors without using the one-size-fits-all approach to UML modeling.

Gears operations for product configuration – as well as creating, editing and managing variation points – are now available from within the Rhapsody menus.

Operating Systems

- Windows

The numerous strategic benefits offered by the Rhapsody and Gears synergy allow you to dramatically optimize your product line's scalability while improving productivity and driving down defect rates – all with a rapid time-to-market.

For more information regarding the Rhapsody/Gears Bridge, contact BigLever Software at info@biglever.com or Telelogic at info@telelogic.com.