IBM Rhapsody Systems Engineering

Turn complexity into a competitive advantage with advanced system modeling

Highlights

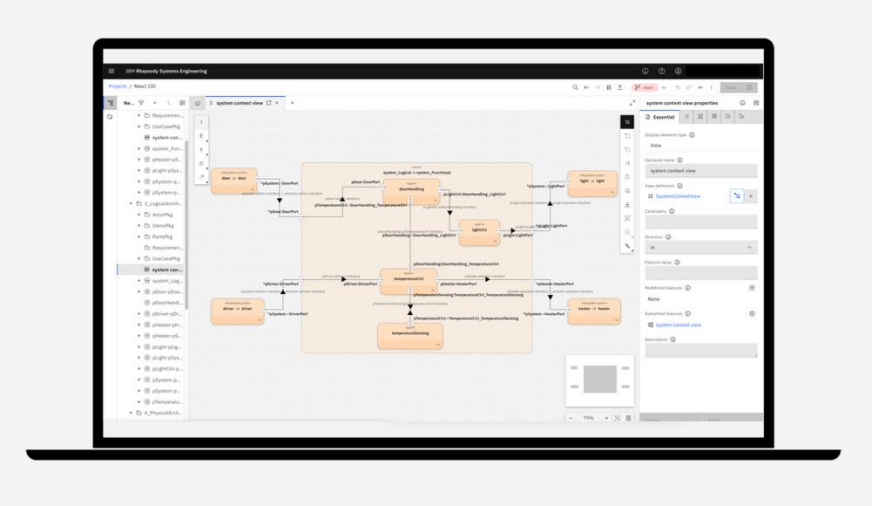
Employ SysML v2 and modern workflows for the design of complex systems

Facilitate effective model-based design collaboration across engineering domains

Enable a cross-domain digital thread across the full development lifecycle

Today's systems engineering teams face rising levels of complexity that impact every dimension of product development, amplifying challenges across functionality, quality, scalability, reliability, and security. Connecting individual systems across engineering domains often results in unexpected outcomes and increased risk. Engineering teams recognize that addressing these concerns and issues early is essential to delivering advanced, high-performing products on schedule and with success.

IBM® Rhapsody® Systems Engineering (Rhapsody SE) is designed to help systems engineering teams tackle this need at scale, and develop and deliver smarter, more complex and more competitive products. It provides a modern, cloud-native and web-based environment that helps strengthen the collaboration of cross-domain and distributed teams, coordination of their technical design efforts, and improves overall alignment - ultimately ensuring stakeholder expectations are met.



Employ SysML v2 and modern workflows for the design of complex systems
The SysML v2 standard was defined by systems engineers for systems engineers, designed for increased precision, and improved expressiveness and accuracy across modern systems modeling practices. Rhapsody SE supports the SysML v2 language standard natively and is designed to make its adoption significantly easier for organizations transitioning from earlier modeling approaches – particularly keeping in mind the intense pressures systems engineers face. Its cloud-native, web-based architecture and extensible APIs provide a flexible foundation that enables large-scale teams to take advantage of the new standard while still fitting it into their toolchain and workflows.

With Rhapsody SE, systems engineers can configure modeling preferences, corporate style guides, and quality checks to help ensure correctness and alignment across teams. The solution incorporates a guided-modeling approach, enabling intuitive gestures and automated creation of valid SysML v2 constructs that help reduce the learning curve and support engineers at varying levels of SysML v2 language expertise.

Facilitate effective model-based collaboration
Rhapsody SE enables web-based design collaboration among engineering teams using semantically rich SysML v2 models, while also extending the digital thread to existing SysML v1 assets. This continuity allows teams working across different modeling generations to contribute without losing intent or valuable IP in pre-existing models. The solution supports collaboration not only with SysML and UML practitioners, but also with electrical/electronic (E/E), mechanical engineering (ME), as well as software engineering domains, enabling correct functional allocation early in the development process. This also helps ensure correct and early interface identification, reducing downstream integration issues and improving overall coordination and cohesion across teams – enabling increased efficiency.

Enable a cross-domain digital thread across the full development lifecycle
A cross-domain digital thread is established through open standards and OSLC-based linked data architecture, connecting system models with relevant engineering artifacts across the development lifecycle, tools, and disciplines. Versioned data relationships are maintained through Global Configuration Management, ensuring that all changes remain mapped consistently and are fully traceable as the system evolves. This framework supports a streamlined and well-synchronized handoff to downstream engineering domains, ensuring visibility into dependencies and impacts.

Such interconnected approach helps engineering teams across domains receive the right information at the right time, enabling more confident and timely decisions, and reducing the risk of costly late-stage surprises.

Conclusion

IBM Rhapsody Systems Engineering transforms growing systems complexity into a real competitive advantage by providing a modern, collaborative, and customizable modeling foundation that incorporates the SysML v2 standard and a cross-domain digital thread. Its cloud-native, browser-based foundation helps teams onboard with speed, and work with greater efficiency and agility, enabling earlier insights, improved alignment, and higher-quality outcomes' delivery. As engineering organizations face escalating product complexity and time pressures, adopting a modern systems engineering solution is becoming essential for maintaining competitiveness and meeting stakeholder expectations.

Why IBM?

IBM offers decades of engineering and digital transformation expertise, backed by continuous innovation – supporting many of the world's most complex and safety-critical engineering programs, and helping organizations modernize their systems engineering with confidence.

For more information

To learn more about IBM Rhapsody Systems Engineering Lifecycle Management, contact your IBM representative or IBM Business Partner or visit https://www.ibm.com/products/rhapsody-systems-engineering.

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