PRODUCTS & PLATFORMS
by HCL Technologies

RealTime SOFTWARE TOOLING

Tooling to develop and communicate stateful, real-time applications

HCLRTist

CHALLENGES

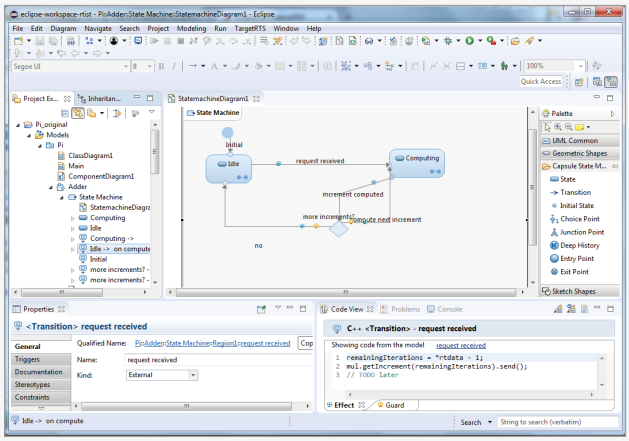
Industries are generating thousands, even millions, of new lines of code in their complex, stateful, real-time systems with model-based designs. Both new and legacy systems require enhancements to capture and react to the plethora of data and consumers of that data, being created by both people and devices every second. To gain competitive advantage, companies need advanced tooling to support and scale their embedded and IoT applications with strategic uses of these model-based designs they can do this with quality, speed and agility. Companies that adopt new technologies and are able to react to this data to enhance the customer experience will gain an edge on competitors.

For example, the refrigerator can tell you that you're out of milk, the device that can tell your doctor exactly when and where your heart has an irregular heartbeat or the coffee maker that knows you're on vacation – ensuring your coffee is freshly brewed after sleeping in. How are developers creating these applications that need to be integrated with both real-time embedded systems (what's in that coffee maker) while multi-tasking with many external devices (reading your calendar) to provide real-world solutions (hot, fresh coffee)?

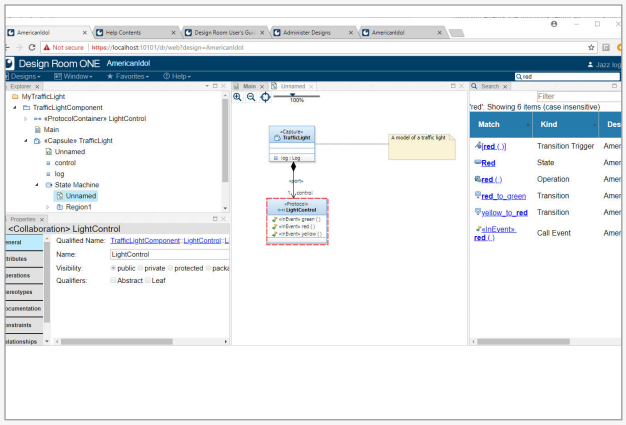
Embedded systems developers are looking for a developer tool to deliver secure, high-quality production code with quick, agile methodologies allowing them to react to new business requirements while minimizing maintenance cost of long-lived applications running on many different device (hardware) preferences of their users. Companies strive to implement strict, continuous delivery processes to ensure code integrity and a stable, highly available production deployment of these real-time applications.

INTRODUCTION

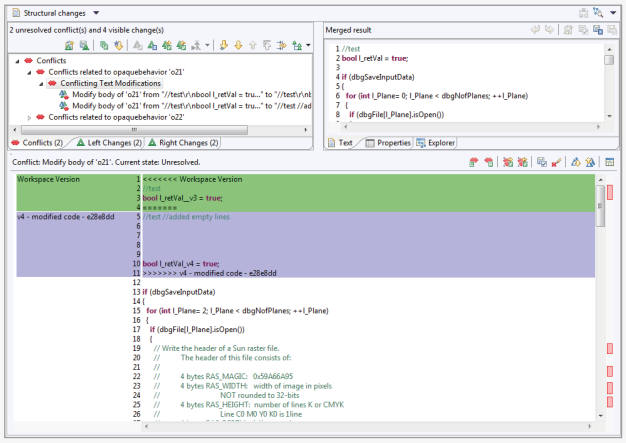
Introducing **HCL Real Time Software Tooling (RTist)**, an Eclipse-based modeling and development environment for creating complex, event-driven, real-time applications. It provides software engineers feature-rich tooling for design, analysis, build and deployment of embedded, real-time systems and IoT applications. Supporting the Unified Modeling Language (UML) and its real-time profile (UML-RT), RTist allows developers to design their applications at a higher abstraction level than code.



General layout of RTist development environment



Access RTist models in a web-browser



Dedicated viewer to merge code changes stored in the RTist model

CAPABILITIES AND BENEFITS

DESIGN AT HIGHER ABSTRACTION LEVEL THAN CODE

- Thread safety using state machines and message-based communication
- Scale industrial applications
- Automatic synchronization of shared data

BUILD YOUR EXECUTABLES YOUR WAY

- Interactive and batch builds
- Easy setup of build configuration
- Highly customizable run-time system

SUPPORT SMALL & LARGE SCALE AGILE TEAMS

- Tightly Integrated with standard SCM
- Interactive compare and merge tooling
- Intuitive merging of code

EASY TO INSTALL, CUSTOMIZE AND PUBLISH

- Installed on top of Eclipse in seconds
- Public APIs
- Web-publishing models; collaborate with team

MIX GRAPHICS AND CODE TO DESIGN YOUR APPLICATION

- Use statecharts, composite structure and other diagrams
- Extended and Dedicated Code Editor built on Eclipse CDT
- Code-to-Model synchronization

DESIGN VERIFICATION & FAILURE DETECTION USING HIGH-LEVEL DEBUGGING

- Trace management and visualization
- Run-time structure monitoring and behavior animation
- Diagram-based event flow analysis

Learn more: https://www.hcltech.com/products-and-platforms

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