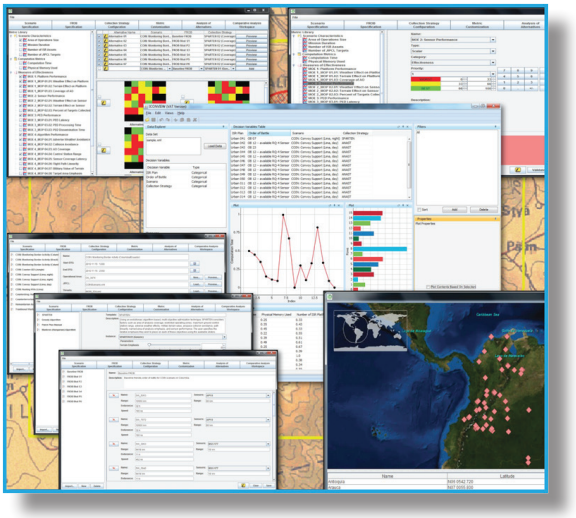
Metronome™

a rich-client application framework

charles river analytics

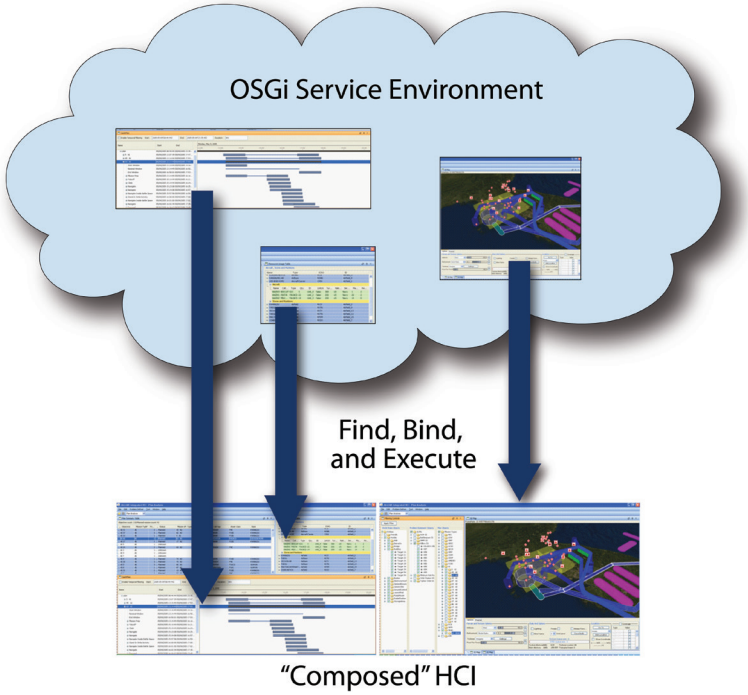
CAPABILITIES

Metronome™ is a service-oriented plug-in based application framework written in Java. Metronome's™ plug-in bundle deployment strategy encourages developers to write reusable, highly cohesive, loosely coupled chunks of application functionality, while trivializing the development tasks common to all desktop applications. This results in a shorter, less costly development cycle. The dynamic plug-in architecture shows its strength in volatile application contexts, allowing for the run-time discovery and incorporation of new application features. Metronome also features a high-availability upgrade model that allows you to update and maintain mission-critical systems without incurring application downtime.



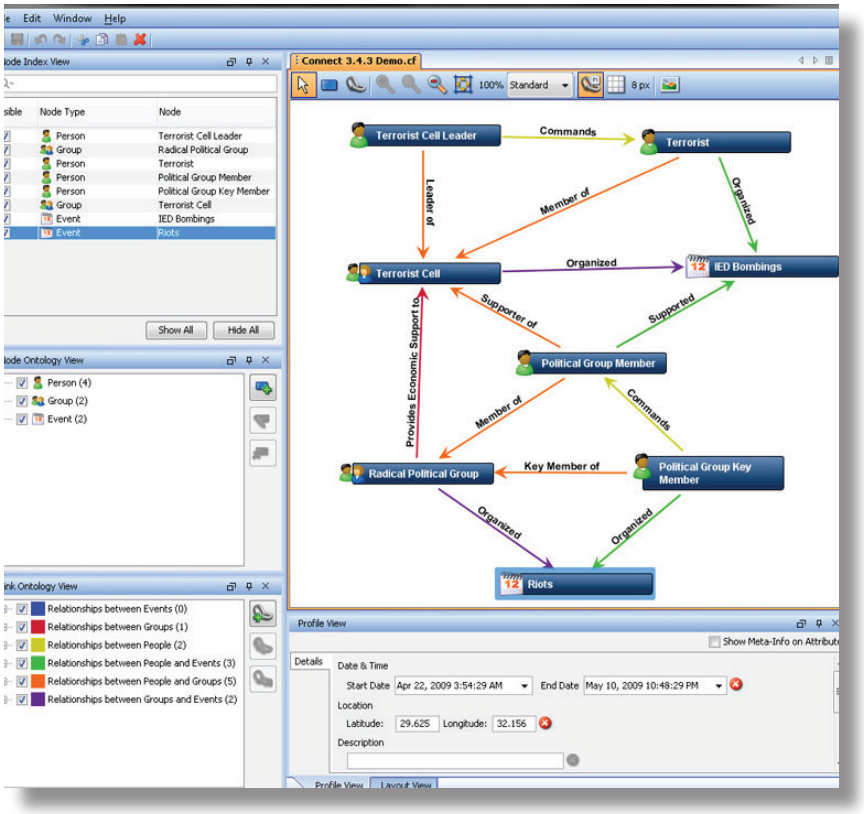
ARCHITECTURE

- **Metronome** provides a base desktop Java application that you can customize for your specific project.
- **Metronome** supports all the common parts of a modern desktop application including application frames, toolbars, menus and menu items, views (individual dockable windows within the application), preferences, background jobs, and more.
- **Metronome**-based applications can be branded, yet all have a consistent look and feel.



Software engineers at Charles River Analytics were wasting too much time repeatedly developing mundane desktop application features. This tedious work hampered their ability to carry out novel research on their projects. Also, because of the disjoint development efforts, the applications Charles River delivered to customers had different "looks." Applications had typically been treated as the final artifact of the software development process. However, we witnessed a gradual change towards reusing completed applications as building blocks for further development. We decided to provide Charles River application developers a way to plan and provide for the structured extension of their applications.

Charles River Analytics has a long history of developing core components that are re-used and improved from one project to the next. These components have been written for the most part in the Java programming language and the visual components use the Java Swing user interface toolkit. While application frameworks such as the Eclipse and Netbeans Rich Client Platforms (RCP) exist, the Netbeans RCP does not contain the wealth of components available within Metronome and the Eclipse RCP is not designed to support the easy integration of Java Swing components. Charles River developers had already created two application frameworks, one that was built on the Inversion of Control design pattern and the other that support a document-centric approach to application. A small team of engineers combined the two frameworks, added the plug-in technology OSGi, and created Metronome.



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