

# Redwood Business Solutions

Making complex processes easy to manage.



## At A Glance

### Industry

- Technology

### Environment

- DSI Java based high throughput insurance claims application
- Java J2EE and Oracle development environment
- Eclipse, JDeveloper
- HP-UX, Solaris, Red Hat Linux and Windows

### Key Challenges

- Integrating enterprise class process automation with Java / J2EE applications
- Reducing complexity of developing solutions
- Developing solutions for a growing number of customers within resource constraints

### The Solution

- CronacleBeans automated management of Java workload and integration with DSI solutions
- Cronacle core process automation environment

### Key Benefits

- Reduced time to market for new solutions
- Reduced development complexity through re-usable services
- Ability to deliver more flexible customer solutions

DeCare<sup>SM</sup>  
Systems Ireland, Ltd

A DeCare  
International  
Company

## DSI embeds CronacleBeans Extensively to Control and Run their Java Based Offline Processing Applications.

Leading E-Business Solutions Provider, DeCare Systems Ireland Ltd (DSI) faced the decision to build or buy a process automation component when porting their Enterprise Insurance Processing solution from a mainframe to Java platform. Choosing CronacleBeans from Redwood saves them significant development time and complexity, enables faster time to market and delivers more flexible customer solutions.



As a leading provider of software development and Internet solutions for a select market of worldwide healthcare and retail organizations, DSI is an experienced developer of highly stable and performant enterprise IT systems. DSI has implemented Java based high volume transaction applications for a number of US health insurance companies, one of which services 39 independent insurance companies, 140,000 health providers and 46 million subscribers.

Providing customized Enterprise Insurance solutions like Billing, Electronic Enrolment and Underwriting systems required DSI to deliver the high performance necessary to process millions of claims daily. DSI needed to speed up development time, increase solution flexibility and cost effectiveness to support a growing customer base. The decision to replace their client's legacy

mainframe COBOL based system in favor of a lightweight Java architecture was made.

This platform did not mean that the need for high throughput asynchronous processing had changed. "Even when building solutions in Java, we have to think

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**John Murphy**  
Director of Operations, DSI

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with a background processing mindset” comments John Murphy, Director of Operations at DSI. “Our clients have an exceptionally high throughput requirement to process the required workload outside on-line hours, whatever the platform.”

## Build or Buy?

Jason Barry, DSI’s Performance Architect explains the decision to embed a bought in background processing solution rather than build one in house; “It’s possible to construct a Java scheduler but we quickly realized that this was not practical. Open Source solutions did not have the sophistication required for complex processing dependencies. So we looked at the solutions available from specialists like Redwood Software”.

CronacleBeans enables event-driven automation of Java and non-Java processes, and stood out as the clear choice for DSI. Jason Barry continues, “In order to optimize application performance we had to be able to run our java processes in `-server` mode. A JVM (Java Virtual Machine) running in `-server` mode optimizes itself over a period of time. The VM looks at the most frequently run lines of application code, and converts this to platform specific machine code. For this to happen the JVM needs to be a long running process i.e. a single process that performs work on many different jobs over a long period of time. The start/stop nature of other scheduling solutions means that the application code would never reach its optimal performance level. Considering the long running nature of these types of processes, we needed a means by which we could ‘inject’ jobs into the JVM. CronacleBeans fit the bill perfectly; providing us with the ability to inject jobs into a CronacleBeans enabled JVM in an ad-hoc or scheduled manner”.

Barry adds, “We also wanted to have some control over what was going on under the hood, not a black box solution. CronacleBeans provided a complete API, allowing us to define and code Java job types and to code directly to our pre-

developed service interfaces. Couple that with the ability to integrate CronacleBeans into our IDEs (Integrated Development Environments) of choice, JDeveloper 10g and Eclipse, and you get a productive, streamlined development environment.”

“At the moment, CronacleBeans is managing the arrival of about 150 files a week, processing information on approximately 3.4 million patients and we know, based on our benchmarks, that we can push this even further,” Comments John Murphy. The DSI solution delivers performance and throughput that exceeds the previous mainframe environment.

CronacleBeans also supports Oracle, critical for integration with the DSI solutions. John Murphy continues; “By using CronacleBeans we got all our process automation requirements out of the box. We did not have to concern ourselves with the mechanics of scheduling and how to implement its concepts in the Java world. We could concentrate on our core business requirement: solving business problems for our customers.”

## A Flexible Customer Solution

The DSI solution framework is customized to meet the very specific needs of each customer, managing hundreds of thousands of background tasks within the overnight processing window. CronacleBeans, deployed inside the DSI application, automates submission of each job, observes dependencies between related tasks, automates recovery actions and provides notification of any failures.

The open platform provides customers with flexibility for growth. Jason Barry again; “CronacleBeans enables a very dynamic, ‘plug and run’ workload scheduling environment. We can pre-install the software and each server can come on-line and join the community when required. This grid approach, especially suited to rack mounted blade servers, provides DSI with a very cost effective development solution and

customers with a wide range of optimized hardware options”.

## Improving Time to Market

“We design and build best-in-class mission critical systems, so we’re always looking for solutions that most effectively deliver success to our clients. For DSI, the biggest business benefit of CronacleBeans is the ability to bring new solutions to market very quickly” concludes John Murphy. “Using CronacleBeans as a scheduling service at the heart of our solutions means that we can re-use almost all aspects of the process automation capability we develop. Solutions handling background processes are now developed much faster, meaning that we can support more customers and focus on our clients’ core business requirements”.

This service oriented approach means that the complexity associated with developing special process automation functions is removed and replaced by common, re-usable components. With plans to further exploit the features provided by CronacleBeans such as dynamic load balancing to optimize server resource utilization, DSI can remain focused on developing industry specific, high performance and reliable enterprise insurance claims solutions.

## About DSI

DeCare Systems Ireland (DSI) provides software development and Internet solutions for health care and retail organizations. Established in 1998 to support the IT needs of DeCare International, one of the largest dental insurance management companies in the United States, DSI’s customer-centered focus and expertise in delivering solutions across a number of platforms leads to a flexible approach in building mission critical applications for clients. Since its inception, DSI has become a sought after IT partner, building its success mainly on a history of recommendations from satisfied clients such as Amazon, Expedia and Avon Products Inc. and MasterCard.