

Eclipse gives Agility to Nulogy's Operational Intelligence Systems



Communications technology has revolutionized virtually every aspect of life, and no industry or discipline, no matter how traditional, can afford not to change with it. Warehousing and distribution related disciplines like supply-chain management are no exceptions. With

“I think frameworks like Eclipse are really the future for software development.”



associated activities in real-time is essential for survival.

Nulogy Corporation of Toronto, Canada provides the Eclipse RCP-based Nulogy Profit Platform

(nuPP). A suite of modular components that

Shift Finished	Customer	Project Code	SKU Code	Units Produced	Labour Cost	Actual Ov...	Quote...	Invoice...	Actual Profit/Loss	Actual Profit/Loss Margin
2006-07-17	Libra Choco...	CP4	25600	490	\$0.00	\$0.00	\$1.00	\$490.00	\$490.00	100.00%
2006-07-17	Libra Choco...	CP1	25700	25	\$1.50	\$0.00	\$0.50	\$12.50	\$11.00	88.00%
2006-07-17	Libra Choco...	CP1	25700	50	\$0.25	\$0.00	\$0.50	\$25.00	\$24.75	99.00%
2006-07-17	Libra Choco...	CP4	25600	10	\$0.00	\$0.00	\$1.00	\$10.00	\$10.00	100.00%

Nulogy's PackMan Manager is part of the nuPP suite of inventory management products. Based on Eclipse's component model, nuPP's developers employ an agile approach.

companies handling billions of dollars worth of goods daily, managing inventories and

work with Logistics Service Providers' warehouse management systems, nuPP

helps some of the world's largest Consumer Packaged Goods companies, such as Unilever, as well as market-leading logistics service providers like Schenker DB Logistics of Germany, and the Thomson Group in Canada to respond quickly and flexibly to supply issues that could disrupt their operations. More than that, nuPP solves the age-old problem of understanding and controlling the costs of handling parts and products.

An Enterprise-ready Solution

Companies of Unilever's size have very high control standards; even a minor inefficiency multiplied over their huge volume of goods can cost millions of dollars.

The software includes a dedicated database that records detailed historical information. Sophisticated, patent pending algorithms analyze that data and help users to understand and control their costs per customer, per order picked and more.

Nulogy had some very high standards in mind when they evaluated various directions for the development of the platform. They needed to take a modular component approach that would allow them to tailor customer solutions for Windows, Linux, Unix, AS400 and potentially other operating systems. They also needed to provide a professional, native look and feel on each platform. Equally challenging, they needed to support a tight release cycle tied to their agile development model.

.Net's lack of support for non-Microsoft operating systems made it a poor choice. As Kevin Wong, Vice President of Operations and Marketing at Nulogy stated, "support for AS400 and UNIX, and increasingly Linux, is important for supply chain management software. Working in a strictly Microsoft world would have limited us."

They briefly considered developing the platform from scratch, but the cost and time to market were prohibitive.

Nulogy also spent some time looking at a Java/Swing combination, but it was slow and, as Wong points out, "unless you spend a lot of time polishing the UI components, they look non-standard and are harder for users to work with."

By contrast, the Eclipse Standard Widget Toolkit (SWT) in RCP is a thin layer of abstraction on top of each platform's windowing system. It gave Nulogy a cross-platform solution with the familiarity and speed of native UIs.

Also compelling in RCP was the concept of plug-ins and extension points, interfaces that allow plug-ins to be extended by other plug-ins. With RCP, Nulogy could take advantage of standard components like BIRT for business reporting, EMF for sophisticated data representation, Web Tools and JUnit. The same design philosophy allowed them to easily write their own code as reusable modules. Wong points out that two distinct products in the nuPP, PackMan and ClearBill, manage product SKUs, but in different contexts. By writing their SKU management functionality as an Eclipse plug-in, Nulogy's developers can share it as needed. Another critical factor in their choice of RCP was the sheer momentum behind it. With backers like IBM in its corner, they knew Eclipse had staying power.

Perhaps the greatest benefit of Eclipse was the natural fit between RCP and their agile development strategy, with its emphasis on short release cycles. Each release is a complete mini-iteration of software development, and allows Nulogy to respond to changes in the market very quickly. As Wong explains, agile development requires a very robust architectural footing. "RCP is a rock-solid architecture. It gives us the

freedom to respond to customers quickly without falling into any of the traps of poor coding. The clean plug-in interface of RCP is a great bonus.”

Eclipse tools like JUnit, which let them test each component in isolation, also helped make the agile approach practical.

Short Release Cycles aid Customer Collaboration

By enabling agile development, Eclipse had other benefits for Nulogy. Short, incremental development cycles allow them to work through customer requirements interactively, giving customers something to try out and provide feedback on. Wong explains that “the RCP framework gives us an advanced starting point for application development, allowing us to more quickly get customer feedback integrated into subsequent iterations.” This helps engender a shared understanding and guide new features toward the best solutions to real-world problems. This success is reflected in the enthusiasm of Nulogy’s customers. As Leonard Bayard, Manager of Third Party Warehousing from Unilever relates, “Unilever has been pleased with the accuracy and speed of invoicing since the introduction of Nulogy’s ClearBill software. The invoices generated by Nulogy’s ClearBill solution are detailed yet simple and easy to understand.”

Wong points to the rich feature set of the IDE as a great boon to their agile approach. “The built-in refactoring tools are extremely

important, and even features such as autocomplete increases the speed with which developers can learn and use the code of other developers.”

Also critical to successful agile development was the Eclipse Update Manager, which allows Nulogy to push frequent releases to customers without high administrative and financial costs. Patches and maintenance can be made quickly, and the Update Manager’s rollback feature allows them to recover in a hurry if an update introduces a conflict.

Nulogy’s developers had little trouble getting up to speed with RCP. They found the code samples and documentation to be excellent. Access to the source code meant that they could examine how things worked and submit patches. Having a common platform for all their applications also means that they don’t have to keep on relearning the nuances of the way a particular application was built, since it’s always the same.

The Eclipse Foundation’s commitment to providing roadmaps for future development means that Nulogy does not waste time adding features only to find the same functionality in the next version of RCP. Nulogy can start down a road knowing the route to their goals, and that means they can develop better software faster.

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