



Richer Internet Applications

Benefits Summary

- Excel-level grid function and a familiar user interface—in a web-based application
- Smooth development and version-up capabilities
- Low TCO through reduced development requirements, component reuse and flexible pricing
- Low server-side load
- Shortened maintenance times



Overview: The Search For Excel-Like Grid Computing Performance In A Web Application

Okamura Corporation manufactures and markets office furniture and public interiors (seating and equipment for theaters, stadiums, hotels and other large public facilities), and is also a global leader in material handling, industrial storage systems and store display equipment. With a strong presence across all these various industries and markets, Okamura maintains an enormous inventory of product offerings, and likewise serves a customer base that is both very large and highly diverse. Given the depth and breadth of its business, Okamura faced challenges generating estimates and price quotes for customers.

For many years Okamura executives and staff relied on a dedicated client/server application to generate quotes. This application sourced product data from the company's mainframe servers, and used a client-side application to process the data into usable quotes for presentation to customers. There were problems with this system, however, which got worse over time. First, as Okamura's business grew, the client application couldn't keep up. It didn't have the performance capabilities or features needed to handle the enormous data sets. For instance, a new stadium construction job can easily include thousands of individual line items, ranging from seats and railings to concession stand counters, tables and displays, with multiple specification fields applying to each.

Since the client application had trouble processing all this data in a timely fashion, Okamura sales executives and staff sought workarounds. The most common of these workarounds was to download the necessary data from the server, then use Microsoft Excel or Access to compile and process the work. Spreadsheets were the most common tool for processing quotes since they had the capacity to handle the hundreds of fields of product specifications required for most bids. But while Excel provided the kind of powerful grid computing needed to process Okamura's complex quotes, ad hoc data handling processes brought up a whole new set of problems. Katsumasa Ogasawara, planning manager with the information systems division at Okamura explains "The problem with using Excel or Access was that people would download and store product data on each client machine and they'd rely on that data even when it was no longer accurate, which lead to difficulties keeping data consistent across the company."

The Java Dead End

In the early days of Internet rich client applications, Okamura decision-makers saw a possible solution to their quote-generation problems, and attempted to adopt a Java applet as a unified interface for its estimating and sales quote activities. The objective was to implement a standardized system, one that could replace the ad hoc approach while providing a grid interface and processing functionality as powerful as or similar to Excel. Once the new the Java applet was implemented, however, it didn't live up to expectations for a number of reasons:

- HTML coding language couldn't accommodate Okamura's demanding user interface needs
- Applet start-up time was slow, which drew complaints from users
- New product development and maintenance was difficult, meaning that even the simplest system maintenance tasks required 1-2 weeks

“The applet took a long time to launch, the response on screen was slow,” explains Nobuhiko Takiguchi, head of Okamura’s information systems division “switching between the input management editor (IME) and other tools wasn’t smooth, the cursor didn’t respond to mouse commands—there were lots of problems like that. Basically, the applet couldn’t deliver the performance we needed.” End-users liked the spreadsheet-like grid layout, but there were performance issues with many basic functions.

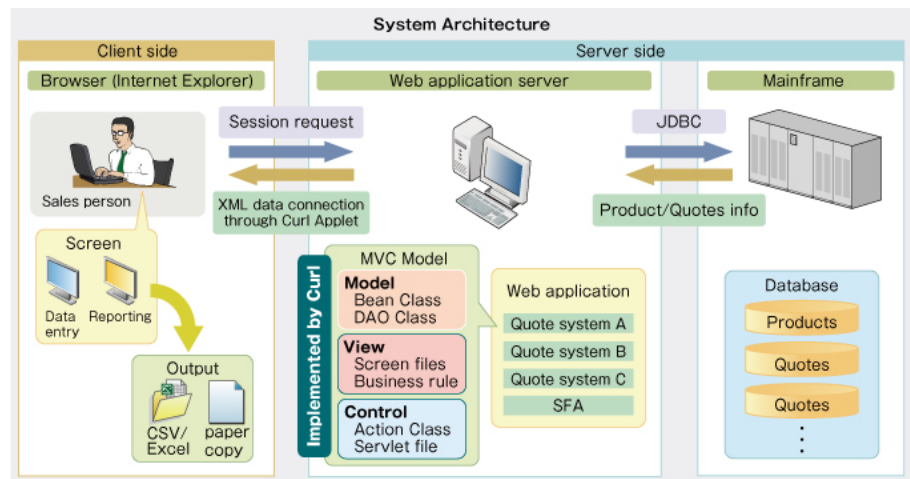
Finding Curl

Based on this feedback, Ogasawara, Takiguchi and the rest of the information systems division team began researching alternatives to Java. The preference was to stick with the web-based client-server model, but they weren’t sure this would be possible given the poor performance of the original Java applet. When the team reevaluated all of the rich Internet client technologies on the market, however, the Okamura team realized that the Curl rich Internet application environment could indeed provide a development environment for a powerful new kind of client-server web application. By nature of the powerful Curl run-time environment, developers can create client-side web applications with all of the features and functions usually associated only with fat-client desktop software.

Beginning in 2005, Okamura launched its first Curl-powered grid computing web application, and began shifting all its estimation and sales quote operations to the Curl platform shortly thereafter. The results were astoundingly positive. Takiguchi gives especially high marks to Curl’s grid function, one of the technology’s strengths. “Curl provided the most advanced grid functionality of all the rich client technologies we looked at, and that was a driver in our decision to adopt the platform,” he explains. “The performance and usability qualities with the Curl web application are equal to Excel, you really can’t tell any difference. When you’re working with a large complex quote, for instance, you can freeze the left-most column and scroll to the right to more easily view and compare data fields.”

Curl supports such powerful functionality because the platform enables developers to implement certain application logic on the client side, whereas other platforms would be able to support it on the server side. This was a crucial difference from, and advantage over, the Java applet. With that system, important functions like Okamura’s IME control and real-time validation check had to be server-side. Not so with Curl. Each was built right into the client application, greatly improving usability while also reducing the server load.

Additionally, Curl made it far easier for the Okamura team to build these kinds of features and functions into the quote application than it would have been with Java. As Takiguchi explains, “Curl provides a visual development tool that simplifies the development process in a variety of ways. This meant that the initial development process was very short, and we can respond to ongoing maintenance requests in a day. Also, Curl has ‘version-add’ capabilities, which allows existing versions to run while newer versions are in development. This eliminates a lot of the testing work usually required with version upgrades.”



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