



Stingray™ Solutions

Johnson & Johnson - *Intranet Approvals System*

Company information

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Intranet Approvals
Johnson & Johnson
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Johnson & Johnson, with over 91,000 employees, is the world's most comprehensive and broadly based manufacturer of health care products, as well as a provider of related services, for the consumer, pharmaceutical and professional markets. J&J has more than 180 operating companies in 51 countries around the world, selling products in more than 175 countries.

Project information

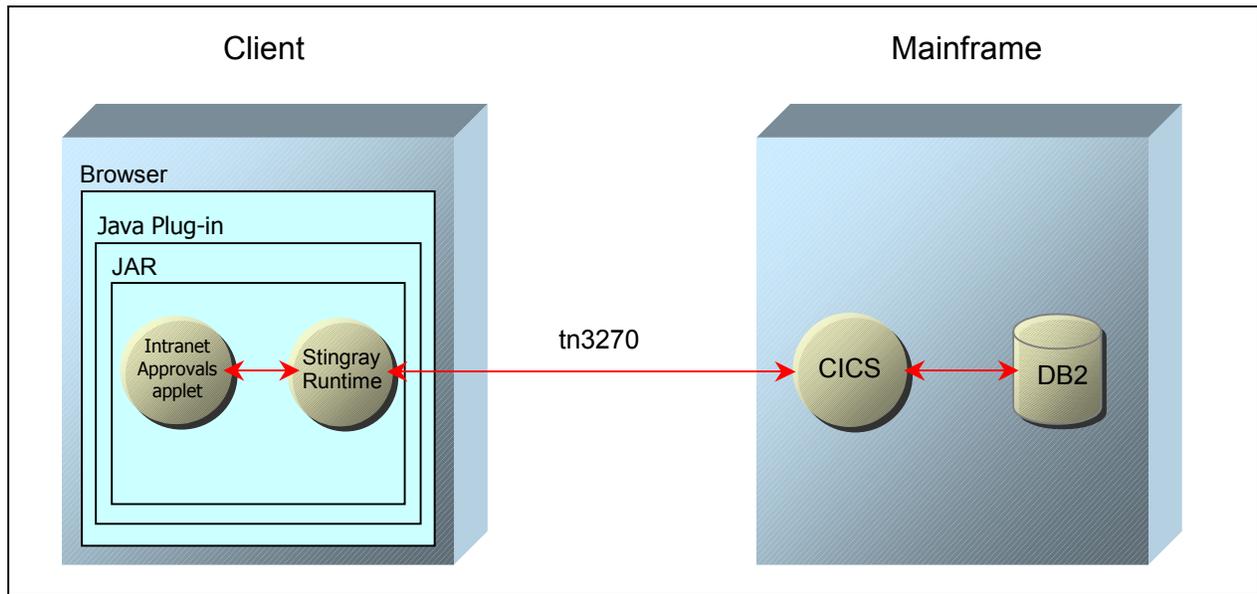
Business Problem

Johnson & Johnson companies in the United States use an integrated Purchasing/Accounts Payable application for electronic requisitioning and approval. This system, called Intranet Approvals, connects a DB2/CICS application on a mainframe to a client machine through Java technology.

A user on this system needing budget approval creates a requisition that will go through one to many layers of authorization, and therefore management, depending upon the dollar amount involved. As the request is created directly on the mainframe, a 3270 screen was the interface that was sent through the pipeline to the appropriate personnel for approval. Many of the managers involved in the approval process found the 3270 screens difficult to work with. Data was scattered across different screens; one could not run multiple transactions, but had to go through each requisition separately. The screen scraper they had been using varied in performance across platforms and had to be installed on each client machine at fifteen different sites separately. This in itself was a maintenance and distribution nightmare. What J&J needed was a centralized, streamlined approval system whose front end was more useful, intuitive, and interactive. Moreover, they wanted a Java solution, which is what they found in Red Oak's Stingray product.

Early in their quest for a solution, developers at J&J commissioned Delta Corporate Services (DCS), a consulting firm based in Richardson, TX, to help them build an updated and versatile requisitioning system. DCS decided to utilize the Stingray 3270 SDK as their ultimate solution. One of the main reasons DCS chose Stingray was that competitive products offered only HTML solutions, while Stingray offered among other things Java code generation. The developers built an Intranet Approvals applet using this feature of the SDK; the system could now be deployed from one location across many platforms.

Intranet Approvals architecture



A manager using the Intranet Approvals system will first run the Intranet Approvals applet on their client machine. The applet is a front-end to CICS: it sends information to and gathers information from the mainframe screens through Stingray's runtime components. The Stingray Runtime handles actual communications to and from the mainframe, and is bundled with the applet so that anyone running Intranet Approvals will automatically have navigation and 3270 capabilities built-in.

The first panel of the applet displays logon fields and buttons giving the user the option to either approve/reject requisitions or to designate other personnel for the task. When the user enters their data, the applet sends logon and navigation information to CICS, which returns 3270 screens appropriate to the user's choice. These screens are dynamically translated by the applet into a GUI that resembles a Windows Explorer interface.

A manager choosing to authorize requisitions will next receive the approvals/rejections panel. On the left side of the interface are "folders" that represent different queue, or document types. (A queue comprises all the requisition documents awaiting action. These reside on the mainframe in DB2 tables, which contain the documents specific to each user). On the right is a list view displaying various details of the documents in queue: date created, author, etc. A manager will choose one or more documents from this list view and from there can either get the full details of the requisition (via a "details" button), or approve or reject the requisition. If approved, the requisition goes to the appropriate supplier. If rejected, it is sent back to the requisitioner.

A manager may alternatively choose to designate his or her authority to approve requisitions to other personnel of their choosing. This is done from the logon screen. After logon, the user sees a panel displaying a list of employees to whom they have designated authority in the past. They can choose from this list or search for someone entirely different. When the designee is chosen, all requisitions awaiting action will show up in the designee's queue when they log on to the Intranet Approvals system.

A few notes about the role of Stingray 3270 SDK in the Intranet Approvals project. As stated above, Stingray Runtime handles core communications to and from the mainframe. But that is not the only capacity in which the SDK was integral to this project's success.

When a user logs on through the Intranet Approvals applet, automatic navigation to his or her 3270 screens on the mainframe was made possible using code generated from Stingray Recorder. Developers from DCS opened 3270 connections to all manager accounts in one terminal session using Stingray. The Stingray Recorder then generated pure Java code from this session that implements these connections (or a subset thereof) when a user logs on through

the Intranet Approvals applet. In this way the terminal session is reduced to one logon panel; Stingray takes care of the detailed underlying complexity of the legacy application connection.

Requisitions, however, are still created directly on the mainframe through a 3270 screen. Only the approval portion of the requisitioning process has been updated using Stingray.

Development of Intranet Approvals at DCS was completed; the Intranet Approvals system was pilot tested and the application rolled out to the entire company and its subsidiaries.

The project was targeted for those J&J managers who approve a requisition at any stage in the process, and who were using the screen scraper previously in place. In most cases, this was usually team or department managers. This application solution is but one example of how Stingray can be used to update and increase the usability of legacy applications. The majority of J&J US companies are using this application today.

How Stingray has benefited Johnson & Johnson

Stingray provided Johnson & Johnson with an intranet requisition approval system that saves managers time, money, and headaches. First, the initial investment required was minimal. Developers simply needed Stingray 3270 SDK: no other software was necessary. And the applet created with Stingray runs in a web browser, an environment that is already in place on each desktop.

The new approval system also consolidates dispersed pieces of data in two key areas:

- ✓ Information pertinent to each requisition, and the requisition documents themselves, are now contained in one Windows Explorer-like graphical interface. Previously a manager had to use character-based 3270 screens and could access only one requisition document at a time. Information on any given document was scattered throughout several 3270 screens. Now, the user has one familiar interface through which he or she can not only access multiple data sets stored on the mainframe, but also take action on that information.
- ✓ This project exploits the true power of Java technology. One applet encapsulates the “behind-the-scenes” code, and is deployed on many client machines at many different sites from one location – an NT/Web server on site at J&J. Any maintenance or modifications are performed just once. In the non-web based, pre-Stingray architecture, the screen scraper utilized had to be loaded on the desktops of all clients involved in the approval process, which made maintenance and upgrades a time-consuming, expensive undertaking for IT managers at the various sites. Performance varied based on what version of terminal emulator the client used (there were 14 different versions of emulator) and on platform. DCS and Blue Lobster Software’s efforts removed these obstacles to efficiency, saving the company time and money.

Finally, the new Intranet Approvals system satisfies the need for a visually appealing, easy to use front-end. Stingray helped breathe new life into J&J’s existing legacy systems.