



Software Performance Systems, Inc.

CASE STUDY

Joint Automated Booking System (JABS)

Situation

The U.S. Department of Justice's (DOJ) law enforcement agencies need to book criminal offenders. A single arrest may involve as many as three agencies, during which the arresting agency, then the detaining agency, then the incarcerating agency may, for the same offender, photograph, fingerprint, and record biographical data.

Prior to JABS, booking data were captured on paper and in systems accessible by only one agency, making it difficult to share information among federal law enforcement components. In USDOJ Components without a data system for recording bookings, storing, managing, and retrieving such information was inefficient. For example, information sent to the Federal Bureau of Investigation (FBI) for identification purposes was sent by mail on hard-copy forms, and the response from the FBI could take several weeks.

A client-server version of JABS was implemented and initially deployed in 1999. The success of JABS resulted in over 800 deployed sites across the country by 2004. However, the technical architecture of a client-server implementation came with inherent drawbacks. The JABS PMO

quickly realized that the effort and cost associated with deploying and maintaining so many sites was prohibitive.

SPS – Problem Solved.

DOJ awarded SPS a competitive contract to design, develop, and deploy a web-based JABS architecture, including a web browser-based booking station capability, to serve as the platform for future improvements. The new architecture was to allow changes to be made to the JABS application from a server site, rather than having to make changes to several client sites.

SPS implemented a 3-tier software architecture that divided the application into three tiers: Presentation or User Interface Tier, Business Logic Tier, and Database Manipulation Tier using a Model-View-Controller (MVC) design pattern. A JABS ABS workstation was designed and developed using the Aware Accuscan, NISTPack Sequence Check, and Accuprint developer toolkits in combination with internally developed web pages and client software to interface to and integrate with COTS components. SPS developed a data administration sub-system to manage user access and audits, and a query sub-system to provide extensive search capability functions to all participating agencies.

Methodology

Development methodology followed the DOJ System Development Life Cycle processes and standards, appropriately modified in consultation with the JABS program management office. The SDLC emphasizes artifact preparation and quality control as embedded activities, greatly facilitating clear linkage between

CASE FACTS

Sector

Federal Government

Organization

U.S. Department of Justice

Customer Profile

The “largest law firm in the world,” consists of legal business units and non-litigating organizations.

Business Challenge

Design, build, and deploy a LiveScan Fingerprint System capable of capturing rolled/flat fingerprints and palm prints, transmitting them to the DOJ's Integrated Automated Fingerprint Identification System (IAFIS) site for processing.

Solution

Implement a J2EE 3-tier architect solution that serves as a platform for future JABS system improvements. Design, develop, and deploy a web browser-based booking station capability and a web browser based application to perform data administration.



requirements and implementations, and effective client review and guidance.

SPS designed and developed the system using a component-based design and J2EE session beans to set the foundation for a service-oriented architecture. The advantage of this approach is that a component can interface with other J2EE components using the J2EE protocols and not incur the overhead of SOAP and XML processing, and at the same time be loosely integrated with external systems using XML. This also reduces redundant code without comprising performance.

Lessons Learned

A comprehensive integrated development environment, including system configurations closely matching systems to be deployed, substantially reduced changes late in the development cycle. Deployed systems were essentially error free.

Cooperative and productive interactions with other JABS contractors requires a substantial degree of formalism and “bi-partisan” commitment to mutual success.

Results

The JABS migration was accomplished within schedule, budget, and technical strategy set forward in the Statement of Work.

The new web-based version, JABS 3-Tier Version 3.0, received certification and accreditation to operate in June 2004. By spring 2004, the Bureau of Alcohol, Tobacco and Firearms (ATF) had requested that workstations be installed in an estimated 146 offices, and by November 2004, the ATF had 37 sites connected to JABS.

“JABS is something that I am very proud of. I think it has been a huge success here at the Department of Justice. It is a perfect example of what I like to give when I talk about common solutions, which is what we’re trying to achieve in a lot of different areas.”

—Vance Hitch, DOJ CIO, May 20 2004
“Ask the CIO” interview



Client Benefits

The client now has a system that demonstrates a highly secure, flexible, and scalable Java information technology solution with interfaces to peripherals and hardware, capable of capturing biometric information requirements.

ABOUT SPS

Software Performance Systems, Inc. (SPS), a small business based in Northern Virginia, is a privately held information technology services provider. Established in 1995, SPS specializes in the design and integration of large web-based solutions for Federal, State, and Local Governments and commercial clients worldwide. SPS has been honored with many national awards, including: #10 ranking in the Computerworld Top 100 Best Places to Work in IT, Deloitte's Virginia Technology Fast 50 and North America Technology Fast 500, and as a SBA Exporter of the Year. More importantly, SPS solutions helped our clients win prestigious awards, including the Grace Hopper Federal Government Technology Leadership Award, the E-Gov Pioneer Award, the Excellence.gov Grand Prize Award, and the Government IT Agency Award for Excellence in Government. **SPS...proven over time.**