



innovation
Inside the Fed
productivity

Mirroring the economy around us, investments in new technology and workplace innovations are changing the way we do business at the Federal Reserve Bank of San Francisco. New web technology in our check business and employee teams in cash operations are generating productivity solutions to support our role in the payments system and contribute to our bottom line. Technology solutions, the creation of knowledge resource centers, and new business processes in how we administer reserve requirements and supervise banks are addressing greater complexity in banking and supporting our role overseeing the safety and soundness of the financial system.



innovation
Technology
productivity

A winning strategy for any business is giving customers what they want at a competitive price. In 2000, following five years of significant growth from earlier investments in leading-edge imaging technology, the Twelfth District Retail Payments division experienced a declining customer base for its check imaging services. Facing fierce competition and the need to update its core technology, the Twelfth District and Reserve Banks across the country moved to a national web delivery platform for image services in 2003. “This bold investment by the Federal Reserve was part of an overall check modernization effort to update the

technology infrastructure for all of our check services,” says Drew Ellis, manager of the District’s Seattle-based Retail Product Group, responsible for check product development.

Prior to the implementation of the web platform, the District’s client banks waited 24 to 36 hours to receive a check image, a typical time frame for early generation image processing in the financial industry. Each Twelfth District office, similar to Reserve Banks around the country, had a self-contained image processing infrastructure: sorters with image cameras to capture pictures of a check; enough digital storage capacity on hard drives or optical disks to archive images for seven years; electronic equipment to create tapes or CDs to deliver images to customers; software to format, index, and track images; and, of course, the necessary staff dedicated to the process.

Under the former model, each office automatically imaged checks for client banks, retained the physical checks, and then transmitted an electronic file of the magnetic ink character recognition information contained on the check to the client bank.

Client banks in turn posted the electronic file to their customers’ accounts. If customers requested an electronic image of the check, the client bank requested the image from the local Reserve Bank, which delivered the image via fax or electronic media with a one- to two-day turnaround, depending on the time of the request.

Enter the ISS, or Image Services System. Transforming the self-contained system into a national process based on a standard, centrally managed platform, ISS improved productivity, boosted revenue, and most importantly,

enabled the delivery of images directly to customers when they need them over the web. With ISS, each of the Federal Reserve’s 40-plus image capture sites, including five in the Twelfth District, transmit and archive images at one of two regional archive sites in the Federal Reserve System. Using new FedImage software, client banks can access check images online through Fedline for the Web within two hours after capture—no matter where the check is processed. Their customers, in turn, can seamlessly view check images directly from the bank’s web site.

The reassignment of staff and the elimination of equipment, maintenance, and software associated with the former process have reduced costs in the District’s five offices. Lower costs resulted in lower prices for some check products. Additionally, rather than managing equipment and labor-intensive processes, staff now are free to focus on customer needs.

Customer feedback has been strong. Ellis says client banks appreciate the versatility of offering corporate and retail customers the options of viewing check images on a CD or online.

Ellis believes ISS and the other standard check services the Fed now is able to offer nationwide are positioning the Fed for a strong future as a business partner with banks. He says, “We have the ability to meet the needs of our local and national customers as banks expand their reach across state borders.” In concert with the national Retail Payments Office, Ellis says the Twelfth District also is developing Check 21 clearing products that use the ISS as a repository to facilitate image exchange.

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innovation
Employee Teams
productivity

Gone are the days when only one person in a department or a business focused on the future. Today companies are turning to employee teams to solve problems and to identify opportunities for innovation and growth. To improve productivity and to lower costs associated with processing increasing volumes of currency in Twelfth District cash vaults, Cash management turned to employee teams for solutions in 2003. The Virtual Processing Room Legacy Team, one of a number of teams

formed last year, consists of employees from cash operations around the Twelfth District who know the business from the inside out.

John Onuigbo, manager of High Speed Currency Processing for Los Angeles Cash operations, leads the team. “One of our challenges last year was to come up with workflow efficiencies that would lower costs in high-speed cash processing,” says Onuigbo. His team studied a virtual processing concept for \$1 notes that was conceived by a Federal Reserve System workgroup Onuigbo served on, adapting the concept for the Twelfth District. Where the System group evaluated the concept solely for \$1 notes, Onuigbo’s team expanded the focus to include larger denominations.

With approval from the U.S. Treasury, the Board of Governors, and the national Cash Product Office, which is headquartered at the San Francisco Reserve Bank, the virtual processing room concept was piloted with Los Angeles Cash employees with impressive results.

Los Angeles Cash operations, like the five other cash offices in the Twelfth District, processes cash received from commercial banks that store their excess money in Reserve Bank vaults. Upon delivery, the cash is processed using high-speed equipment to verify amounts, remove counterfeits, and destroy worn currency.

The Los Angeles virtual processing room pilot combined two processing rooms into one virtual room—with a single team of five employees sharing custody of notes processed on two separate machines. Adapting some traditional custody

controls made the process virtual. For example, the removal of a dividing wall allowed the team to move between processing rooms. A custody waiver increased the permissible number of team members assigned to a machine. The waiver allowed all five employees of the combined room to maintain custody of the currency for both machines.

The pilot was a success. The virtual concept enabled a smaller team to process currency in the two rooms, which lowered costs significantly. A second phase of the pilot is now under way. This phase will determine whether the three-room concept is equally feasible, as long as the more efficient \$1 note processing is included in the mix.

Onuigbo says Los Angeles Cash employees, who were at first reluctant to take on the additional workload, began to appreciate the increased flexibility and cohesive team environment of the new process. He says they also appreciate the greater returns from the gainsharing program, an incentive-based pay program launched in 2003, through which Cash employees are compensated for exceeding productivity targets. In the end, employees in the pilot contributed many of the ideas that make the virtual concept work.

Based on the success of the pilot and study results, the two- and three-room processing concepts will be implemented throughout the District in 2004. Onuigbo says as cash volumes grow, the Federal Reserve’s ability to manage the demand will depend on matching policies, new workflow efficiencies, and technology to lower costs—just as his Legacy team did with virtual processing.

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innovation **Knowledge Management** productivity

In late 2003, a large money-center bank started the first phase of its strategy to reduce the number of banks under its holding company by merging some of its affiliate banks. Months before the merger date, Reserve Bank staff in four Districts and at the Board of Governors prepared for the event to ensure the merger proceeded without disruption. At the Trading Desk of the Federal Reserve Bank of New York and within the Monetary Affairs section of the Board of Governors, analysts, economists, and statisticians carefully analyzed the data on reserve requirements and reserve position—a process known as reserve administration.

The merger typifies the complexity of the financial services industry that Federal Reserve staff grapple with when calculating and monitoring reserves. Over the past ten years, the rapid growth of mergers, interstate branching, and innovation and consolidation in banking has complicated reserve administration significantly. In response, the Federal Reserve System created new account structures and revised its operational procedures and organizational structure, but more was needed to keep pace with this changing landscape.

In October 2002, Carl Segall, the Twelfth District's director over Reserve Administration, approached senior staff at the Board of Governors with a proposal for a centralized reserve resource center. Board staff recognized the benefits of standardizing reserve processes and exploiting expertise across the System. So in 2003, the Board launched the new national Reserve Resource Center (RRC), selecting San Francisco as the headquarters. "The Board selected our District because of its strong reputation for reserve expertise and our cost-effective model for the RRC," says Mark Tanaka, assistant manager in Statistics and the lead responsible for oversight of the RRC.

Reserve requirements, the portion of each deposit that banks are required to hold, are an important monetary policy tool. Reserve administration requires a broad understanding of the linkages between reserve requirement concepts, monetary policy, regulatory reporting, banking regulations, and Federal Reserve operations. It also requires the ability to navigate the Federal Reserve's largest and most complex computer systems.

With all of these parameters, the process rarely is straightforward. "Reserve administration is uniquely challenging because it relies far more on exceptional analytical problem-solving skills, technical savvy, and sheer perseverance than formal procedures," says Tanaka. "Reserve issues can be unique events where routine procedures don't necessarily provide the correct result. Analysts must develop options, then select the most appropriate solution to achieve the correct outcome."

By providing a central point of contact, the RRC is eliminating previous barriers to sharing knowledge among Districts.

Analysts can contact the RRC for support with complex assignments. Soon they will be able to pull directly from expertise and skills from around the Federal Reserve System when the RRC completes its new communications web site. The web site will include a discussion forum for analysts to pose and resolve reserves issues and will serve as a central repository for reserves procedures, where analysts can look for best practices, standardized agreements, and merger procedures, for example. The web site will contribute to a primary goal of the RRC as well—helping to ensure that reserves are administered consistently across the Federal Reserve.

As the central point of contact, the RRC also will take the lead in developing Federal Reserve System-level training, resolving and documenting the most difficult policy and administration issues, and serving as a consultant for maintenance and development of software applications that support reserve administration.

Although the RRC is administered from a central Reserve office in San Francisco, collaboration among analysts from all twelve Districts is the cornerstone of the knowledge-intensive operation. The RRC relies heavily on the expertise of its Board of Consultants composed of the most experienced reserve analysts from each Reserve Bank and the Board of Governors. By leveraging this expertise to analyze and draft recommendations on technical and policy issues, the RRC can operate locally with a small staff. Although the RRC is still in its infancy, Tanaka says the move to a national center already is showing results through less duplication of effort, greater standardization, and increased reliance on expert knowledge through collaboration and the sharing of best practices around the System.

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innovation **Risk Management** productivity

Managing the risks associated with the banking industry today is complex. The traditional portfolio of ten years ago—where lending and taking deposits were the primary services—has expanded to include nontraditional activities such as securities underwriting, derivatives trading, and asset management. Mergers, expansion of banks across states and internationally, and greater volume and speed of transactions with technology heighten the potential for swift changes in risks associated with complex bank portfolios. Examiners need sophisticated tools and knowledge to assess credit, market, and operational risk in a bank's portfolio.

In 2003, Banking Supervision and Regulation (BS&R) consolidated all supervision activities into one group as part of a larger reorganization. The move is one of a number of business process and technology innovations BS&R implemented to ensure appropriate supervisory risk management programs and resources are in place. The change integrates the safety and soundness and consumer examination groups and brings together risk analysis, bank applications, and enforcement within the single supervisory function. "There is greater succession, depth, and knowledge sharing in our supervision staff with the change," says Portfolio Manager Paul Montelaro. Montelaro says the interdisciplinary approach provides a

more comprehensive view of a bank, one that highlights the interdependencies of bank operations and their associated risks. Additionally, there is greater flexibility to allocate supervisory resources in a manner that focuses on the most significant risks raised by the institutions.

Two other elements of the new process help reduce duplication of efforts and provide flexibility in the deployment of resources. Banks calling the Twelfth District soon will have a central point of contact, rather than having separate contacts for consumer compliance and financial exam matters. Integrating safety and soundness and compliance exams into a single exam for large banks is a long-range goal. “Integration is a major objective, but it is being done over time and is a matter of degree at any point in time, since the required frequency for each type of exam varies by statute,” says Laura Boughner, who will be one of the central points of contact for the Twelfth District.

The Risk Assessment Council, in place since early 2001, is a key risk management tool that is enhancing the sharing of information within the newly consolidated supervisory function. The council consists of management and staff from business areas including Economic Research, BS&R, and Law and risk coordinators from within BS&R who focus on operational, credit, market, and compliance risks. The council meets periodically to carry out a formal process for identifying and evaluating risks affecting banks in the Twelfth District. “The council’s broad-based membership enables us to pull together horizontally the risks and concerns seen across the District to develop a baseline risk profile and to spot emerging trends and issues,” says Gary Palmer, a manager within the Risk Monitoring and Analysis group. Palmer says consideration is given to events or scenarios that could result in safety and soundness problems at District banking institutions in the near to immediate future. The scenarios, such as a sharp

increase in interest rates or a decline in commercial real estate values, are tiered based on the likelihood of a given scenario and the overall impact on District banks if the event comes to pass. Based on its assessment of risk, the council recommends follow-up strategies with respect to supervised institutions.

“Today, we need to put our supervisory resources where the most risk is,” says Nancy di Sibio, the manager of Central Resource Management within the supervisory group. As the manager overseeing the deployment of examiners resources, di Sibio works with Evolve, a web-based resource scheduling platform adopted by all Federal Reserve Districts and the Board of Governors in 2003. The software tool, which provides a common language for defining examiner skills and a standard scheduling process, is enhancing the Federal Reserve’s ability to manage and deploy resources, no matter where they’re located. “Each Reserve Bank still maintains its own group of examiners, but now there is flexibility to move examiners to other regions when their expertise is needed,” says di Sibio. This is especially important in the new banking environment. Large bank exams often require multiple skill sets—credit and capital market experience and information technology expertise, for example. Foreign language skills are needed when supervising a foreign entity. Mergers also alter the demand for examiner resources across the country.

Reserve Banks are just beginning to explore the software’s capabilities. Business forecasting features will enhance the ability to coordinate resources with peaks and valleys in banking activity, such as during a merger. The software’s report features already have sped up processing so some reports that once took several days to compile are processed within five minutes. “The true measure of success is down the road—having a technology in place that helps put the best resources toward the most risky institutions, and geographical and Reserve Bank boundaries fall by the wayside,” says di Sibio.

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