

## UPDATING *the* SYSTEM'S TECHNOLOGY

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The Philadelphia Fed converted a complex centralized system, which tracks more than \$1 trillion in collateral, to a web-based portal platform that has paved the way for portal technology to be implemented throughout the Federal Reserve System.

A team from the Philadelphia Fed was selected to modernize the Collateral Management System (CMS) because of Philadelphia's long-standing expertise in managing the Fed's collateral activities. The team re-engineered the CMS infrastructure, streamlining an elaborate set of monitoring tools used to record securities, commercial paper, and customer notes for financial institutions nationwide. Furthermore, the system's portal technology enables users to access multiple applications in one place, maximizing productivity and minimizing maintenance. CMS is designed to meet the collateral management requirements not only of the Federal Reserve but also of specific programs for the U.S. Treasury.

CMS uses sophisticated methodologies to calculate accurate values for each asset pledged as collateral based on current market prices and characteristics such as asset type, duration, time to maturity, interest rate, and investment grade. Collateral values change regularly based on market conditions, and CMS allows every Reserve Bank from San Francisco to Boston to value collateral based on District-unique circumstances. Analysts can query CMS at any time

to review an institution's collateral portfolio. If institutions pledge securities without market prices, such as customer notes, CMS performs calculations using valuation models that are updated frequently.

Completed in July 2006, this strategic initiative was a three-year undertaking that replaced outdated technology with a web-based platform that enhanced functionality for Federal Reserve users and financial institutions. The project's success can be attributed to the collaboration among Philadelphia's talented team, the Federal Reserve's credit and risk management group, and external partners that were involved in the project from the start.

Thanks to the overhaul of CMS, financial institutions now have an automated system that eliminates manual review and processing of collateral transactions originating through the Depository Trust Company (DTC). CMS has a new electronic link between DTC and the Federal Reserve, which improves Reserve Banks' ability to accept and process pledges of securities other than Treasuries. This is a critical feature of the new system and fulfills a long-standing request from our financial institutions. The Bank's partnership with DTC in establishing this link was one key to the success of the overall project.

"We now offer banks the capability to pledge as much collateral as they need to manage their portfolio. The entire CMS project, especially the DTC interface, is an enormous accomplishment for the Bank and the Federal Reserve System. It is a testa-

ment to the extraordinary working relationship of the business and development teams,” said John D. Ackley, assistant vice president, Treasury Services.

One primary object of the redesigned system was to ensure that it was flexible enough to accommodate changing business needs while supporting current needs. That’s why the team worked closely with all the Reserve Banks to define critical business needs. User groups were involved every step of the way and determined what functions were needed. They also helped to document system requirements, including workflows, screen displays, and report designs.

The Bank conducted extensive testing to keep problems to a minimum. “We executed more than 1,000 test scripts, during many testing phases, to ensure the application met business requirements,” Ackley said.

Users played an integral role in the testing, and representatives from each Federal Reserve participated in the user-acceptance test phase. During the final testing phase, Philadelphia offered on-site and computer-based training to all Reserve Bank users.

The Philadelphia team is responsible for the day-to-day operations of CMS, including management of the application, customer

help desk support, and testing enhancements. However, it is important to recognize that the Philadelphia Fed has a history of expertise in building technology to support collateral management dating back to the 1980s. Then, Philadelphia managed the largest customer safekeeping service in the Federal Reserve System. In the early 1990s, Philadelphia developed a PC-based local area network application to update the older mainframe technology and has continued to take on increasingly extensive leadership roles in the collateral management business line.

But in spite of the project’s success, one thing is certain: Collateral management is a constantly evolving process. Consequently, the Philadelphia team will continue to enhance its reputation as the primary provider of collateral management information to the U.S. Treasury and the Federal Reserve’s credit and risk management community.



Pictured left to right: John Ackley, Assistant Vice President; Marie Tkaczyk, Assistant Vice President; Chris DeYoung, Group Manager, Systems Development; and Bob Mucerino, National Support Service Manager