



Our History in Milestones

Time Line of Key Events and Initiatives

1973 The Federal Reserve Cash Subcommittee charts a Special Project Office in Culpeper, Virginia, charged to research and implement currency processing systems. In the mid-70's the Project Office name changes to Currency Automation Program Office (CAPO).

Did you know?

The Culpeper facility, dedicated in 1969, was a department of the Federal Reserve Bank (Fed) of Richmond. Built underground due to the threat of nuclear attack, it served as a relocation site for key officials of the Board of Governors and the Richmond Fed. Culpeper housed the Communications and Records Center, the core of the Fed's nation-wide communications network and a formidable vault. The facility was closed in 1994.

1978 The first generation high-speed currency processor, Currency Verification Counter and Sorter (CVCS) machine, is installed in the Atlanta Fed. The Project Office is responsible for maintaining the operating environment for CVCS System-wide.

1984 In the 80's, the Project Office begins development efforts for the second generation automated currency-handling systems.

1989 To combat advanced counterfeits, CAPO introduces the first sophisticated counterfeit sensor, the triple detector.

1992 First production ISS 3000 system, second generation high-speed machine, which later becomes BPS 3000, is delivered to the New York Fed's East Rutherford Operations Center (EROC). The machine is manufactured by Giesecke and Devrient Systems (G & D) of Reston, Virginia, and averages more than 73,000 notes per hour. Through 1997, the Fed installs 133 ISS 3000 processors in its 37 cash operations nation-wide. CAPO's name changes to Currency Technology Office (CTO).

1993 CTO introduces the Universal Magnetic Authentication Detector (UMAD), to replace the triple detector.

Did you know?

By 1993, the Treasury has added a number of banknote design changes to all denominations except \$1 and \$2 dollar note. The changes, such as an embedded security thread and micro-printing, were aimed to protect against emerging counterfeiting threats. The CTO's sophisticated currency authentication sensors introduced in the 90's paralleled the Treasury's efforts to introduce new counterfeit deterrence features and allowed the Fed to support very strong counterfeit detection and deterrence capabilities.

1994 Due to the closure of the Culpeper facility, 24 CTO employees relocate from Culpeper to the Richmond Fed, and the CTO becomes a part of the Cash Fiscal Product Office, hosted by the Philadelphia Fed. In the same year, CTO implements the Reconciliation Station (RS) to improve reject handling, and the Universal Currency Authentication Sensor (UCAS), the first high level authentication system



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designed for the ISS 3000 Currency Processor and the RS.

1997

CTO begins the first set of upgrades that enhance ISS 3000s to BPS 3000s.

Did you know?

In 1996, the Fed began issuing the New Currency Design (NCD) \$100 notes, which was the first major redesign in nearly 70 years. CTO's sensor upgrades provided the capability to recognize both new and old design currency.

1998

CTO introduces the BPS 3000 Configurator Software, which allows modification of certain BPS 3000 software parameters and control of currency sorting independent of the vendor (G&D). Through 2003, CTO makes a series of improvements to the BPS 3000, including the release of Open Access in 1998 for data transfers, and \$1 note alternate processing software in 1999 for improved efficiencies.

Did you know?

By bringing ownership of parameter changes in-house, the Configurator yielded cost savings for the Fed and allowed more consistent fitness settings across Cash offices.

2000

The Federal Reserve Financial Services Policy Committee (FSPC) opens up bids for several of the Fed's product offices. The 12th District, Federal Reserve Bank of San Francisco, welcomes the opportunity to present its case and submits a written proposal to host the Federal Reserve's national Cash Product Office (CPO).

2001

In February, the FSPC selects the 12th District to host the CPO. The CPO is to be administered by a staff of twelve, nine of whom are based in Los Angeles, with others in San Francisco and Seattle. In its bid, the 12th District proposes to make it a priority to integrate CTO activities into CPO initiatives.

The new product office begins a number of key strategic Cash initiatives:

- Develops the Long-Term Cash initiative, which would later become the Recirculation Policy;
- Establishes the Strategic Inventory Location (SIL) program;
- Manages the nation-wide coin shortage and establishes a relationship with the US Mint to standardize distribution of coin.

CPO establishes the Customer Advisory Council (CAC), representing the Fed's largest commercial bank customers for Cash services nation-wide. The council helps establish a joint working relationship between the Fed and depository institutions and serves as a forum for the ongoing exchange of ideas, discussion of strategic direction, issues, actions and initiatives, and sharing of information. The CAC becomes instrumental in developing the Recirculation Policy and, later, the Mis-faced Notes Policy.

After years of district-specific Cash processing software, the Salt Lake City Fed is the first to convert to the Standard Cash Automation (SCA) system. CPO begins working with a Cleveland Fed-based automation group to introduce SCA to the rest



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of the system. The automation group, housed in the Cleveland Fed's Cash function, was responsible for SCA user testing, as well as testing and requirements for what became FedLine Web. SCA migration takes place over a number of years and is completed in 2004. The automation group is rebranded to the Cash Central Business Administration Function (CBAF) and becomes part of CPO, also supporting centrally hosted applications, including FedLine Web.

CTO introduces the Optical Currency Inspection Sensor (OCIS), capable of determining the fitness level of currency notes. Thanks to this sensor, the Fed was able to reduce the cost of printing new notes used to replace prematurely destroyed fit notes.

Did you know?

The introduction of OCIS facilitated the publication of the Federal Reserve Fitness Guidelines, fitness sampling, vendor quality calibration, and more accurate currency inventory planning in support of new currency orders from the BEP. The sensor, in part, enabled the implementation of the Recirculation Policy in 2006.

2003

CTO introduces the E-Material Authentication Sensor (EMAS), capable of authenticating US currency notes.

Cash CBAF rolls-out the National Cash Data Warehouse (NCDW), the Cash operations' core management information system, which allows Cash offices direct access to transactions data and machine data outside of the confines of the SCA and BPS 3000 reports, respectively.

Did you know?

The first application on the data warehouse was the Difference Analysis System (DAS), but it was limited to only a few districts that had transferred data to NCDW. The first System-wide application to roll out in the warehouse was the cross-shipping reporting and billing program, which went into production in 2006 / 2007.

2004

The West Coast office of the Cash CBAF opens for business in the San Francisco Fed, after System leadership recognizes that the Cash automation environment has grown increasingly complex. The San Francisco team assumes project management responsibility for web-based customer applications, such as FedLine Web. The Cash CBAF continues to manage applications hosted locally by Cash offices.

The depot program begins in late 2004, providing third-party collection points for currency deposits and distribution points for currency orders between depository institutions and Reserve Banks.

2005

CPO coordinates national response to Hurricane Katrina to restore cash services to impacted areas and establishes the Stem Run program. CPO also establishes a cleaning facility for coin contaminated by Katrina's flood waters.

CTO begins a multi-year initiative to implement BPS 3000 upgrades. By 2010, all



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BPS 3000 systems are upgraded with significant hardware and software improvements intended to extend the BPS 3000's lifetime beyond 2017.

2006

CPO implements the Custodial Inventory Program, a component of the Recirculation Policy, aimed to reduce the overuse of cash services, thereby reducing societal costs and further confirming the Fed's wholesale role in the cash supply chain.

CPO implements the National Unprocessed Currency Management (NUCM) framework to manage unprocessed currency production across districts to improve overall processing efficiency for the Cash business.

2007

Cash CBAF in Cleveland is operating with nine employees and supports seven applications. Following a decision to move to a new information technology platform, Cash CBAF develops the Future Cash Automation Project (FCAP), which later evolves into the CashForward program, one of the largest technical efforts in the System to modernize the Fed's cash infrastructure and standardize its operating practices. Cash CBAF is renamed to National Cash Automation (NCA). The National Business Experts (NBEs) group is formed and becomes part of NCA in support of FCAP.

CPO completes the implementation of the Recirculation Policy with the introduction of a fee to depository institutions on cross-shipped currency of \$10s and \$20s above a certain exemption.

2008

CPO initiates the development of an ongoing coordinated market intelligence program to support Cash Services.

NCA completes requirements for the FCAP initiative and begins development of the replacement solution for the current Cash automation system by launching the Currency and Coin Handling Environment (CACHE) Program.

2009

CPO implements the National Coin Inventory Management (NCIM), a coin inventory management program that provides a consistent methodology and approach for managing coin at both the local and national levels, using a coin demand forecasting tool.

2010

NCA initiates the CashForward Program, a new multi-year multi-phase application development strategy for developing and implementing a centrally-hosted suite of applications. The program continues until present time.

CTO begins a multi-year initiative to replace the UCAS sensor with the second generation sensor, UCAS2, which provides enhanced authentication capabilities.

2011

CPO begins the Long-term Strategic Framework Program, a multi-year program to assess the forces influencing the evolution of the cash supply chain and their implications for the Fed's ability to continue to fulfill its mission in cash services in the future.



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By year-end 2011, there are 10 contracted Cash depots in the Federal Reserve System.

CTO renegotiates the maintenance terms for the BPS 3000 to extend the term to 2022. The new terms ensure a planned transition to the next generation of processing equipment.

2012

CTO initiates a multi-year program to seek and implement improvements and optimization of the high-speed currency processing environment post-BPS 3000 upgrade and prepare for the transition to the third generation of currency processing equipment.

CPO charts the Armored Carrier Forum (ACF), representing the largest national and regional armored carrier operators in the US, to promote strategic and operational dialogue among the Fed and key members of the armored carrier industry, broaden perspectives and enhance the efficiency and effectiveness of the cash supply chain.

CPO also creates the Cash Industry Partners Program to build collaboration among the Cash Advisory Group (CAG), the Customer Advisory Council (CAC), and the Armored Carrier Forum (ACF), and for all three groups to partner to improve the cash supply chain. The collaboration between these groups initiates a number of key projects to improve the efficiency and resilience of the cash supply chain.

***2013-
present***

CPO concludes the LTSF program and initiates “Adapting Operations to an Evolving Environment,” a multi-year program to test and implement strategies to improve the Reserve Banks’ capabilities to respond to a changing business environment in a flexible and cost-effective manner, as well as approaches to improving the efficiency of the cash supply chain overall.

NCA deploys the Systems Integration Manager (SIM), a centralized interface utility solution aimed to facilitate the implementation and support for subsequent CashForward application development projects, including the Standard Cash Application (SCA) replacement system.

Today, the CPO employs about 160 professionals (not including contractors or interns) in three Federal Reserve Districts.