United States General Accounting Office

GAO

Testimony

Before the Subcommittee on International Economic Policy and Trade, Committee on International Relations, House of Representatives

For Release on Delivery
Expected at
2 p.m.
Tuesday,
June 29, 1999

YEAR 2000 COMPUTING CRISIS

Customs Is Making Good Progress

Statement of Jack L. Brock, Jr.
Director, Governmentwide and Defense Information Systems
Accounting and Information Management Division

GAO/T-AIMD-99-225

Madam Chair and Members of the Subcommittee:

Thank you for inviting me to participate in today's hearing on "Y2K, Customs Flows, and Global Trade." I will specifically discuss the challenges faced by the U.S. Customs Service in responding to the century date problem. If this problem is not addressed in time, key automated systems affecting trillions of dollars in trade between the United States and other countries could malfunction, resulting in delayed trade processing, lost trade revenue, and increased illegal activities, such as narcotics smuggling, money laundering, and commercial fraud. Fortunately, Customs has made good progress to date addressing its Year 2000 problem, thanks in large part to the effective Year 2000 program management structures and processes that it has in place for doing so. Nevertheless, Customs faces certain Year 2000 challenges, such as completing end-to-end testing, before it will be ready to cross into the new millenium.

As you know, however, Customs is only one player in a complex web of suppliers and customers who have absolute dependence on governmental and private infrastructure support systems involving transportation and distribution, financing, telecommunications, and power supply. Year 2000-related failures in any of the infrastructure support systems or individual supplier systems and customer systems could also disrupt trade flow. Information on the status of public and private infrastructure is uneven and often unavailable. Further, information on customers and suppliers is even less available.

We do, however, have sufficient information about Customs to provide you a good overview of its Year 2000 status. My testimony today will `address these four key areas—progress to date, program management effectiveness, progress in leading a governmentwide effort to ensure the continuity of cross-border inspections, and future challenges facing the agency.

In preparing this testimony, we reviewed Customs' Year 2000 management and reporting structures and processes—including those relating to testing, contingency planning, risk management, and quality assurance—and

compared these to our Year 2000 Guidance[1] to determine whether key internal controls are in place and functioning as intended. We have also traced the reported status of selected system components back to supporting systems documentation to verify the reported information's accuracy. In addition, we developed an overview of Customs' efforts to coordinate and facilitate a governmentwide effort to ensure the continuity of cross-border inspections. Some of the results of our work were previously reported to the House Committee on Ways and Means.[2]

Customs Relies Extensively on Automated Systems

Addressing the Year 2000 problem in time is critical for the Customs Service because it relies extensively on information technology to help enforce trade laws and collect and account for duties, taxes, and fees on imports.[3] As the following illustrates, Customs has five mission-critical systems that contain over 20 million lines of application code and has thousands of users within Customs, other government agencies, and the trade community.

- The Automated Commercial System (ACS) tracks, controls, and processes all commercial goods imported into the United States. Over 97 percent of the data filed for imported cargo entries are sent through ACS, and more than 15,000 trade and other government agency users have access to this system.
- Customs' Treasury Enforcement Communications System (TECS) interfaces with the Federal Bureau of Investigation's National Crime Information Center and a number of other law enforcement systems and is the major automation component of the Interagency Border Inspection System, which serves as a clearinghouse for law enforcement data. Some 27,000 users, including Customs; Immigration and Naturalization Service; Internal Revenue Service; Bureau of Alcohol, Tobacco, and Firearms; and the State Department, rely on TECS.

[1]Year 2000 Computing Crisis: An Assessment Guide (GAO/AIMD-10.1.14, issued as an exposure draft in February 1997, issued final in September 1997); Year 2000 Computing Crisis: Business Continuity and Contingency Planning (GAO/AIMD-10.1.19, issued as an exposure draft in March 1998, issued final in August 1998); and Year 2000 Computing Crisis: A Testing Guide (GAO/AIMD-10.1.21, issued as an exposure draft in June 1998, issued final in November 1998).

[2]Year 2000 Computing Crisis: Customs Has Established Effective Year 2000 Program Controls (GAO/AIMD-99-37, March 29, 1999) and Year 2000 Computing Crisis: Customs Is Effectively Managing Its Year 2000 Program (GAO/T-AIMD-99-85, February 24, 1999).

[3]During 1997, Customs collected $22.1 billion in revenue at more than 300 ports of entry.

- The Seized Asset and Case Tracking System (SEACATS) processes and tracks activity associated with seizures for the initial law enforcement interest in the property to its final disposition. This system is used by more than 16,000 Customs employees, and it interfaces with the Justice Department and Internal Revenue Service systems.
- Customs' Automated Export System (AES) collects export-related data from exporters and carriers and is used to help target export violators. More than 28,000 users nationwide rely on this system.

ADMIN is Customs' primary administrative system supporting financial and human resource functions. It is composed of 40 separate systems that interface with each other and with ACS, AES, and TECS.

In addition to fixing and testing its systems, Customs must assess and remediate a wide range of telecommunications equipment and non-information technology (non-IT) assets installed in over 900 facilities. This non-IT equipment includes check-writers; scanners; optical readers; security systems such as badge readers, x-ray systems, cameras, secured doors, and safes; fire alarms; heating and air conditioning systems; planes; and automobiles.

Customs Is Making Good Progress in Addressing Its Year 2000 Problem

Customs reported that as of January 1999, it had met milestones recommended by the Office of Management and Budget (OMB) for renovating and validating most of its mission-critical systems.[4] Specifically, it reported that it had completed renovation, validation, and systems acceptance testing[5] of all five of its mission-critical systems. Moreover, Customs is currently conducting end-to-end tests[6] for these systems and plans to complete these tests by August 30, 1999.

Customs has also reported that it has renovated most of its telecommunications equipment. Specifically, Customs reported that it

[4]OMB requires that agencies complete renovation of their mission-critical systems by September 1998, validation by January 1999, and implementation by March 1999.

[5]The purpose of system acceptance testing is to verify that the complete system (i.e., the full complement of application software running on the target hardware and systems software infrastructure) satisfies specified requirements (functional, performance, and security) and is acceptable to end users.

[6]The purpose of end-to-end testing is to verify that a defined set of interrelated systems, which collectively support an organizational core business area or function, interoperate as intended in an operational environment, either actual or simulated.

- has assessed, renovated, validated, and implemented all of its national data center-related telecommunications;
- has assessed all telecommunications equipment in its field offices and completed needed renovations at all but one field site;[7] and
- has completed all needed work on its headquarters voice communications equipment and, as of June 1999, has completed about 93 percent of the work needed on field office voice communications equipment, including telephone and voice mail, and plans to complete the remaining 7 percent by the end of June 1999.

As of June 1999, Customs reported that it has assessed all of its mission-critical non-information technology products and that about 73 percent are compliant, about 15 percent require renovation or replacement, and about 11 percent are to be retired. Customs expects to complete this work by the end of June 1999.

To help ensure that the information it reports on Year 2000 progress is reliable, Customs has implemented sound reporting controls. For example, quality review teams review the information reported for (1) consistency (by comparing it to previously reported information), (2) completeness (by comparing it to reporting standards), and (3) accuracy (by validating it through observation, inquiry, or review of supporting documentation). Our review of quality review team results, as well as our independent review of the reliability of the information reported in selected system components, disclosed no discrepancies between what was being reported and what supporting system documentation showed actual progress to be.

Effective Management Structure and Processes Are Key to Customs' Success

Our Year 2000 Guides provide a framework for effective Year 2000 program management. Collectively, they define a comprehensive set of program management controls for planning, directing, monitoring, and reporting on Year 2000 efforts.

Customs' program management structures and processes are entirely consistent with our guidance, and Customs' good progress to date is largely attributable to this program management capability. Along these lines, Customs has done the following:

[7]Telecommunications equipment in the Ottawa, Canada, field site will be upgraded after an office move in October 1999.

- Established a Year 2000 Program Office and designated a Year 2000 Program Manager in May 1997 and charged the office with authority over and responsibility for agencywide Year 2000 efforts, including such functional areas as Year 2000 contracting, budgeting and planning, technical support to project teams, quality assurance, auditing, and reporting.
- Developed a Year 2000 Strategic Plan and Year 2000 Operational Program Management Plan in June 1998, which (1) identified organizational roles and responsibilities, (2) established schedules for completing each program phase and described the tasks to be completed under each phase, (3) established reporting requirements to track progress in the various phases, (4) defined performance measures, and (5) estimated and allocated resources for the tasks and system activities within these phases.
- Issued policies, guidelines, and procedures for managing and implementing the Year 2000 program, including guidance on quality assurance, configuration management, and testing, as well as business continuity and contingency planning.
- Most important, engaged its senior executives in the Year 2000 effort by charging the agency's Executive Council[8] with approving and overseeing the implementation of the Year 2000 strategy and resolving such issues as institutional Year 2000 priorities.

To ensure that the plans, policies, and guidelines are being implemented, the Year 2000 program manager is (1) holding weekly status meetings with the Year 2000 Program Office staff and the project teams, (2) tracking, prioritizing, and managing the risks associated with the IT and non-IT system conversion efforts, (3) overseeing and managing budget-related issues, and (4) conducting internal audit reviews to monitor and assess the implementation of established Year 2000 procedures. The Program Office is also tracking progress against plans and identifying issues that may affect its strategy by using a central database.

Structured and disciplined processes have also been implemented for the testing phase of Customs' Year 2000 effort. This is important since Customs' key mission-critical systems run hundreds of interdependent applications and must interface with thousands of external systems. In particular, Customs designated a Year 2000 test manager for

[8]The council is co-chaired by the Chief Information Officer and the Chief Financial Officer and includes the Year 2000 project managers as members.

mission-critical IT systems and assigned this manager authority and responsibility for key testing activities, such as defining exit criteria, designing and planning the tests, and executing the tests. It also provided an agencywide definition of Year 2000 compliance in its Year 2000 Application Testing Strategy and Plan, engaged an independent verification and validation (IV&V) agent to ensure that process standards have been followed and that software products perform as intended, provided for ensuring that vendor-supported IT and non-IT products have been tested and that they are Year 2000 compliant, and established a Year 2000 test environment. These controls and processes have enabled Customs to meet milestones recommended by OMB for renovating and validating mission-critical systems and to allow time to conduct end-to-end tests.

Finally, Customs has implemented sound management processes for developing business continuity and contingency plans that help Customs to mitigate the risks associated with unexpected internal and uncontrollable external failures. Specifically, Customs established a business continuity work group, developed a high-level business continuity planning strategy, developed a master schedule and milestones, implemented a risk management process and established a reporting system, and implemented quality assurance reviews. It then performed a business impact analysis to determine the effect that failures of mission-critical information systems have on the viability and effectiveness of agency core business processes. By defining disruption scenarios and assessing business, legal, and regulatory risks for major business processes, this analysis provided Customs the information needed to develop contingency plans for continuity of operations. Customs is now in the process of testing its contingency plans and it plans to complete contingency plan testing, including plans for non-IT systems, by October 1999.

Customs' Progress in Ensuring Continuity of Cross-Border Inspections

In April 1998, we recommended that the Chairman, President's Council on Year 2000 Conversion, select priority areas and designate a lead agency to be responsible for ensuring that end-to-end testing of the processes and systems supporting these areas occurs across organizational boundaries.[9] In response to our recommendation, on March 26, 1999, OMB issued a

[9] Year 2000 Computing Crisis: Potential for Widespread Disruption Calls for Strong Leadership and Partnerships (GAO/AIMD-98-85, April 30, 1998).

memorandum[10] to federal agencies designating lead agencies for the government's 42 high-impact programs.[11] Customs was designated as the lead agency for the cross-border inspection high-impact program, which Customs defines as its trade compliance, outbound, and passenger processes. According to Customs, these processes involve systems belonging to Customs, other government agencies, state governments, international governments, and the trade community.

OMB asked each lead agency to (1) identify its partners integral to program implementation, (2) take a leadership role in convening the partners, (3) ensure that each partner has an adequate Year 2000 plan and, if not, help each partner without one, and (4) develop a plan to ensure that the program will operate effectively. The plan may include testing data exchanges across partners, developing complementary business continuity and contingency plans, and sharing information on readiness with other partners and the public. In addition, OMB asked each lead agency to provide OMB with a schedule and milestones for the key activities in the plan by April 15, 1999, a monthly report of progress against that schedule, and a planned date for an event to inform the public that the program is Year 2000 ready.

In April 1999, Customs provided OMB with a plan, including a schedule and milestones, for ensuring compliance of the cross-border inspection high-impact area. Since then, Customs has provided OMB with monthly status reports showing its progress against these milestones. In implementing its plan, Customs reported that it has taken a number of steps to satisfy OMB's requirements and to help ensure the continuity of the cross-border inspection program.

- First, Customs has identified its external partners, including the trade community and other federal agencies (e.g., the Department of Agriculture and the Food and Drug Administration), responsible for implementing the cross-border inspection program.
- Second, Customs has tested or has plans to test its contingency plans for its trade compliance, passenger, and outbound process areas—those that Customs has determined make up the cross-border inspection services—jointly with its business partners in the trade community and

[10]OMB Memorandum 99-12, "Assuring the Year 2000 Readiness of High-Impact Federal Programs," March 26, 1999.

[11]OMB later added a 43rd high-impact program.

federal agencies. Customs reported that it has completed testing for its passenger process and is currently evaluating and documenting the test results. In addition, Customs' officials stated that Customs is currently testing its contingency plans for the trade compliance process area at two selected ports.

- Third, Customs officials stated that Customs has developed test plans and is conducting end-to-end tests with its business partners, including the trade community and federal agencies.
- Fourth, Customs plans to issue a press release to inform the public that the program is Year 2000 ready in mid-October.

Important Challenges Still Face Customs in Months to Come

Notwithstanding either Customs' good progress to date or the effectiveness of its program management controls, Customs still has very important and challenging tasks to complete to effectively reduce its chances of serious business disruptions. In particular, Customs still needs to conduct end-to-end testing of the systems that support important trade missions. These tests will be particularly challenging since Customs depends on hundreds of business partners and their respective systems. Additionally, Customs still needs to complete testing of contingency plans for ensuring continuity of its core business areas in the event of Year 2000-induced system failures. For Customs, this is especially challenging because it involves 42 distinct lines of business that cut across some 300 organization units located throughout the United States, each with its own unique and localized Year 2000 readiness issues.

Moreover, Customs, like most organizations, faces serious risks outside its control. For example, Customs depends on public infrastructure systems, such as those that provide power, water, transportation, and voice and data telecommunications. Given the number of Customs ports of entry throughout the United States, even localized disruptions in infrastructure-related services could seriously degrade Customs business operations. As Customs works to develop, test, and complete its contingency plans, it must ensure that these localized event scenarios are adequately addressed.

Finally, Madam Chair, as noted earlier, Customs readiness for Year 2000 does not provide assurance that U.S. trade interests will be unaffected. Uncertainties surrounding the readiness of suppliers, customers, distributors, and supporting infrastructure throughout the world limit our ability to predict the Year 2000 impact on global trade.

This concludes my statement. I would be glad to respond to any questions that you or other Members of the Subcommittee may have at this time.

Contact and Acknowledgements

For information about this testimony, please contact Jack L. Brock, Jr., at (202) 512-6240 or by email at *brockj.aimd@gao.gov*. Individuals making key contributions to this testimony included Cristina Chaplain and Deborah Davis.

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary, VISA and MasterCard credit cards are accepted, also.

Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 37050
Washington, DC 20013

or visit:

Room 1100
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000 or by using fax number (202) 512-6061, or TDD (202) 512-2537.

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

For information on how to access GAO reports on the INTERNET, send an e-mail message with "info" in the body to:

info@www.gao.gov

or visit GAO's World Wide Web Home Page at:

http://www.gao.gov

United States
General Accounting Office
Washington, D.C. 20548-0001

Official Business
Penalty for Private Use $300

Address Correction Requested

Bulk Mail
Postage & Fees Paid
GAO
Permit No. GI00