

*Remarks given at the ACS 20th Celebration
February 23, 2004*

*Office of Information and Technology
Customs and Border Protection
Department of Homeland Security*



“Supporting World Trade”

ACS 20th celebration, February 23, 2004
ACS - What an Evolution!

INTRODUCTION

- The history of what we know today as the Automated Commercial System (ACS) began in 1981 when the new Customs Commissioner William von Raab was briefed on the existing Customs merchandise automated processing system becoming ACS. He brought in an outside consultant (Gilmore S. Wheeler) to advise him on the feasibility of automating Customs commercial operations, including revenue collections. As a result, Commissioner von Raab judged that ACS was vital to Customs' mission and vowed to obtain adequate funding to commit modern Customs on an irreversible course leading to full automation.
- In the early 1980's, Customs was using a variety of automated systems. For example, there were the Independent Collection System (ICS), the Revenue Accounting System (RAS), the Automated Bond Information System (ABIS), and the Automated Merchandise Processing System/ Automated Broker Interface (AMPS/ABI). In addition, there were various regional ADP fiefdoms, such as the New York Region's General Order Automated Tracking System (GOATS) and their Bonded Warehouse Inventory Control System (BWICS). Unfortunately, these independent systems had little interaction. Various Customs' disciplines needed familiarity with each system to obtain needed data. Such specialization tended to further deplete scarce resources. What was needed was an integrated commercial system to handle a variety of needs.
- In the intervening 20 years since it became operational, ACS has evolved into one of the world's most sophisticated and integrated large-scale business oriented systems. On December 15, 2003, Computer Associates International (CAI) announced that "U.S. Customs and Border Protection has taken first place in workload, OLTP (online transaction processed) systems, in Winter Corporation's worldwide scalability competition* with a system built on CA's Advantage CA-Datcom." In the press release, it was further reported that "the CBP system processes more than two billion online and batch database requests daily against more than four terabytes of data. With peak activity of more than 51,000 transactions per second, the system was found to be more than 13 times faster than the second-place finisher. In addition to processing border-crossing information for tens of thousands of people each day, CBP processes more than 100,000 daily batch jobs representing billions of dollars of trade shipments entering and leaving the United States."

*The Winter Top-Ten Program identifies the world's leading database implementations based on database size, most rows/records and highest workload achieved. The program recognizes the database practitioners whose accomplishments are advancing the boundaries of database size and power.

- Originally designed for a 15-year life cycle, ACS in 2004 is the comprehensive system used by CBP to track, control and process all commercial goods imported into the United States. The system has facilitated dramatic advances in productivity, selectivity and enforcement, transporting with ever-evolving automation innovation the Customs Service through markedly different eras.
- When first launched, ACS brought the trade community on board by providing new functionality that delivered compelling benefits.
- In more recent years, ACS ushered Customs into the 21st Century through a remarkably seamless Year 2000 transition. Since entering the new millennium, ACS has successfully navigated the trials of brown-outs and hardware shortages, and has implemented a Life Support program to maintain an outstanding performance record of over 99% system scheduled uptime.
- On this 20th anniversary occasion, ACS continues to support the fundamental principles of the Customs and Border Protection Trade Strategy, as announced in August 2003 by Commissioner Bonner on behalf of the Department of Homeland Security. ACS plays a key role in the Agency's ability to sharpen the focus on risk, to ensure revenue collection, to enhance national oversight and multi-office (and multi-government agency) cooperation, and to support a broad organizational transformation for modernization.

A DAY IN THE LIFE

- On any given day, CBP processes 1.13 million passengers and pedestrians, 92,600 trucks and containers, 70,000 entries, 327,500 vehicles, 1,900 aircraft, and collects \$67 million.
- ACS facilitates merchandise handling for the nation's imports, now valued annually at \$1.2 trillion, through electronic data interchange (EDI), enforcing 400 trade laws for nearly 50 government agencies, reducing paperwork and providing annual cost avoidance savings in excess of \$250 million for both the trade community and the government.
- Every year since 1993, import workload has been at least double that of ten years earlier, while resources have remained static. For example, in FY 1993, ACS handled 12.8 million entries, and ten years later the comparable number for FY 2003 was 26.18 million entries.
- Computer hardware resources have significantly increased over the life of ACS. The system is currently running on state-of-the-art IBM model 2064-109's, consisting of 9 CPU's with a capacity of 1,600 million instructions per second (MIPS).
- CBP does business with 3,900 trade parties, representing brokers, importers, air, sea and rail carriers, and service vendors/bureaus, and an additional 650 Automated Export System (AES) filers. To put some perspective on these user counts, over 550,000 importers are represented

by ACS merchandise processing filers and approximately 112,000 unique exporting companies or individuals are represented by AES users.

- In addition, just in the last 18-months with the implementation of the 24-hour rule for ocean cargo in December 2002, the number of trade parties assigned to Customs client representatives within the ACS Sea Automated Manifest System (AMS) increased by 775 Non-Vessel operating Common Carriers (NVOCC's).
- From one certified ACS/ABI broker (Maher) in early February 1984, ACS now receives data electronically from 2,700 brokers or direct filing importers, processes manifest data from 145 sea carriers, 60 air carriers and 7 rail carriers, involving 48 seaports, 30 airports and 20 border rail locations.
- Electronic receipt of import data into ACS now accounts for over 99% of submitted entry data on imported merchandise, 85% of total sea bill volume (31,000 sea bills of lading per day) and 98% of loaded sea container traffic (47,000 containers per day) through Sea AMS, 90% of total rail bills of lading (5,200 rail bills per day, 6,000 loaded rail cars daily) through Rail AMS, approximately 50% of total airwaybills (56,000 airwaybills per day, 1,800 flights daily) through Air AMS, and 85% of AES Shipper Export Declarations (31,000 per day).

ACS EVOLVES INTO A SEAMLESS CUSTOMS AUTOMATION RESOURCE

- ACS really began as "PS-1", and evolved through AMPS to eventually become ACS as we know it today. PS-1 was a systems concept, developed by Booz-Allen and Hamilton during 1967-1969. It was commonly referred to by its assigned Customs procurement number for the RFP, which was jointly written by Al Bazemore and Al De Angelus. The study looked at three automation alternatives, primarily from a cost and benefit viewpoint for the Customs. It is interesting, now in 2004, to recall two of the study's several conclusions: First, "... Customs should not undertake an encompassing conversational real-time system initially . . . and, secondly, . . . I have grave doubts, about attempting to implement a commercial language for brokers." (statements of Dr. Allen Benn, UNCO Inc., addressed to Dr. Laurence C. Rosenberg, Director, Office of Plans and Research, February 16, 1970.)
- Automation development by Customs continued throughout the 1970's, leading to the Early Implementation System (EIS), which was first deployed in Philadelphia in 1975 and eventually spread to nine locations by early 1978. This was followed by the development of the Automated Merchandise Processing System (AMPS), which was a much more comprehensive approach for entry, cargo release and revenue collection. Meanwhile, a nation-wide Independent Collection System (ICS) became operational in the second half of the 1970's, supported by a single IBM 3081 mainframe installed at the newly opened Franconia Data Center in Northern Virginia.

- In 1982, Commissioner von Raab and Deputy Commissioner De Angelus carried out a campaign to brief Treasury, OMB, Congress, the international trade community, and various other interested parties on the benefits to be derived from full automation and to obtain funding for at least incremental subsystem implementation. This resulted in commitment at all levels to the successful implementation of ACS.
- ACS was implemented on December 5, 1983 in New Orleans and in 12 additional locations in January 1984. At these ports, identical data was processed in both ICS and ACS, permitting Customs to ensure file integrity prior to national ACS implementation.
- On February 1, 1984, Commissioner von Raab announced that ACS-Phase I was operational throughout the country. The initial system functions included collections, entry processing, automated broker interface, warehouse, fines, penalties and forfeitures.
- Broker/filer C. J. Tower (Buffalo NY office) transmitted the first actual ABI transmission in ACS on February 11, 1984.
- ACS-Phase II followed shortly after, featuring selectivity, bonds, additional ABI features and manifest.
- Additional modules included immediate delivery, quota, a redesigned revenue accounting system and interchange of automated data with other government agencies, initially with the Bureau of the Census.
- In February 1984, the Deputy Commissioner made a policy decision that ACS/ABI would be opened to all participants who meet qualifications. This opened the way for full trade endorsement and eventual acceptance by the broker's association. Accordingly, the growth of ABI clients grew rapidly, from 22 in January 1985 to over 1,000 just six-years later.
- ACS client growth increased throughout the 1990's, so that today's 2,700 brokers and importers represent over 12,200 separate office-sites.
- The largest 10 entry filers account for over 51% of all summary volume, with the top 200 representing 85% of total volume.
- In FY 1984, ACS processed 6.43 million entries, and last year handled 26.18 million.
- In the past 20 years, ACS has processed a total of 297 million entries, with 32% of that number in the first 10 years, 68% in the most recent ten years. The annualized compound growth rate in entry volume since 1984 is approximately 7.3%, while the overall growth in entry volume for the past 20 years is 307%.
- Similarly, for collections, in FY 1984 they totaled \$9.78 billion, and in FY 2004 the same statistic was \$24.94 billion. In the past 20 years, ACS has collected \$394 billion in duties, taxes and fees, with 40% coming in the first 10 years, and 60% of the total in the last ten years. The annualized compound growth rate for Customs ACS collections since 1984 is approximately 4.8%, while the overall growth in collections for the 20-year period is 152%.

- As would be expected, there have been innumerable milestones along the way for ACS, including accommodating what was commonly referred to as "The Customs Modernization and Informed Compliance" Act of 1993*, countless trade act legislation, and ever evolving automation initiatives.
- Of the many Customs automation initiatives implemented through ACS, two representative examples which have benefited both the trade and Customs are:

(1) National paperless release: a key recommendation of the McKinsey report of 1988 was the elimination of the paper backup for the CF 3461. On August 8, 1988, paperless release became national, with Texas Instruments the first to use it. Paperless handling expanded to the entry summary shortly thereafter, and has been so popular with the trade that today 76% of all formal summaries and 90% of informal summaries are system designated for paperless processing.

(2) Automated Clearinghouse (ACH): Customs offered electronic funds transfer to qualified ABI filers in January 1990. On January 2nd, the first day that ACH payment transactions were received, ACH collections totaled \$45. Today, nearly \$60 million is received each day in this way, accounting for 93% of total ACS collections. Programming and development costs for this particular system enhancement were approximately \$150,000. Meanwhile, annual revenue gains for the public sector, from the more rapid collection of funds owed, were estimated to exceed \$8 million. Not surprisingly, the ACH program has been considered an unqualified ACS automation success.

THE EVOLVED LEGACY OF ACS

- For the past 20 years, ACS has:
 - permitted importers, brokers and carriers to electronically transmit import data directly to Customs. Today, over 99.1% of all ACS entry data is received by direct electronic submission. For perspective, at the time of initial design of the broker interface in the early 1980's, 80% was considered an achievable but also the ultimate goal.
 - expedited Customs processing by electronically transmitting, confirming, correcting and paying entries. From a total of 35,000 entries in its first full month of operation in 1984, ACS in January 2004 processed 1.98 million entries.
 - communicated the status of entry processing, quota and visa requirements, and cargo release to ACS users of all types. ACS currently handles 580 million database of these types of requests daily.
 - permitted the electronic payment of duties, fees and taxes through ACH. Over 92% of all entry summaries are paid via ACH.

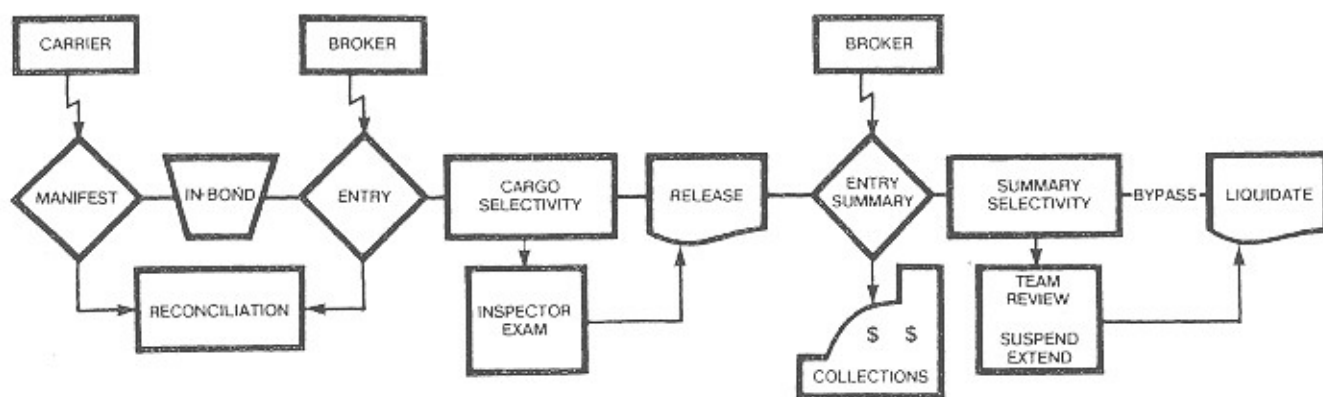
*Subtitle B-National Customs Automation Program, Title VI-Customs Modernization, Public Law 103-183, North American Free Trade Agreement, 107 Stat. 2057, December 8, 1993.

- enabled all import trade statistics for the Census Bureau to be collected through ACS. The ACS/Census interface was the first of the initial five major other government agency interfaces.
- enhanced the Customs enforcement mission, with electronic review of all import entries, and associated manifest information, to identify high-risk shipments to be examined by inspectors. Electronic data from ACS is used by Customs advanced targeting systems to identify smuggling trends and potential contraband threats.
- used direct interfaces with other federal agencies that have responsibility for import processing. Some key interface examples are:
 - 6 million entries annually require review by the Food and Drug Administration. ACS sends data to the FDA's processing system, which, in turn, communicates with ACS, informing Customs if the shipment should be held for examination by FDA inspectors. Most recently, the ACS/FDA interface played a key role in providing FDA with the means to comply with the BTA (Bio Terrorism Act), which now requires prior notice on all imported food product imports.
 - with the ACS/APHIS interface, the Department of Agriculture's Animal, Plant Health Inspection Service enters screening criteria directly into ACS. These edits serve to selectively identify imports that require review by APHIS personnel.
 - ACS sends data directly to the Bureau of the Census for updating the nation's balance of trade statistics on a weekly basis.
 - 'batched' import data is sent to other federal agencies with an interest in trade statistics. The International Trade Commission, the Consumer Product Safety Commission, the Department of Transportation, and the Army Corps of Engineers all receive data from ACS to support their import-related missions.

- In one of the first ACS publications to be issued by the Department of the Treasury, titled "ACS – Manager's Overview", put out by the Office of Automated Commercial System Operations" in November 1986, Commissioner of Customs William von Raab's introduction on page 1 included these words:

"ACS was conceived as the comprehensive tracking system of the U.S. Customs Service. Anyone who moves or releases cargo, makes entries, files protests, incurs penalties, faces a seizure, pays or obtains refunds on duties, or conducts any other international business, may interface with ACS. The high priority given ACS is based upon Custom's determination to capture this type data and share it among appropriate ACS users."
- Since its introduction to the trade community twenty-years ago, ACS has been faithful to this original vision. It has been ably supported by all Customs Commissioners since that time, and today in 2004 represents the finest example of a partnership approach for all users, private and public, as well as making this agency as the most facilitative Customs Service in the world.

MAJOR ACS PROCESSES



*From back cover of "ACS - Manager's Overview"
Office of Automated Commercial Systems Operations
U.S. Customs Service
November 1986*