Automated Commercial Environment (ACE)/International Trade Data System (ITDS)

Program Overview and Technical Aspects

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On a typical day in 2010, CBP:

- **Processed** 965,167 passengers and pedestrians and 47,293 truck, rail and sea containers
- **Executed** 1,903 apprehensions at and between ports of entry for illegal entry and 75 arrests of criminals at ports of entry
- **Seized** 11,435 pounds of narcotics and 539 pests interception submitted to USDA at ports of entry
- **Protected more than** 5,000 miles of border with Canada, 1,900 miles of border with Mexico and 95,000 miles of shoreline
- **Facilitated the importation** of $5.4B worth of goods
- **Collected** $87M in duties and taxes
**What is ACE/ITDS?**

- Modernizes commercial trade processing systems with features designed to consolidate and automate border processing to include other federal agencies with a border presence.
- Provides a single centralized access point to connect CBP, Participating Government Agencies (PGAs), and the trade.
- Supports CBP border security and trade facilitation mission.
- Forms backbone of CBP trade processing and risk assessment capability with the Automated Targeting System (ATS).
- Interfaces with and consolidates information from various systems via the ACE Secure Data Portal.
- Facilitates collection and distribution of standard electronic import and export data required by all Federal agencies via International Trade Data System (ITDS) initiative.

*H.R. 4954 – Security and Accountability for Every Port (SAFE Port) Act*
Key Modernization Drivers

- Respond to Increase in Mission Requirements & Workload
- Enhance Technology
- Enhance Information Sharing and Analysis
- Comply with Legislative Mandates
ACE Communities of Interest

**Scope of Modernization**
- CBP, Participating Government Agencies (PGAs) and the Trade
- Enterprise Infrastructure
- Cargo Process Modernization

**Anti-Terrorism, Border Security Require Integrated Enterprise Plan for Cargo, Passenger & Enforcement:**
- Interagency Data Sharing
- Enforcement Partnerships
- Enforcement Systems Data Integration

**C-TPAT, Secure Channel & CSI Strategies Require International & Commercial Collaboration:**
- Peer Customs and Enforcement Agencies of Key Trading Partners
- Supply Chain Data Integration
- Delivery to Operations Overseas and Inland (not just at the border)

**Border Security**

**"Expanding the Border"**

**Secure Channel**

**International Peers**

**Enforcement and Intelligence Agencies**

**International Trading Community**

**CBP, ACE**

**PGAs ITDS**

**Border Trade Management**
ACE Application Environment

- Automated Commercial Environment
  - Heterogeneous distributed system based on DB2 and Unix
  - Primarily developed in Java but includes other coded
  - Approximately 4 million lines of code
  - In development since 2000
ACE Data Portal: CBP’s New Smart Tool

With ACE:
- Consolidates 7 separate systems
- One consolidated screen with single sign-on
- Point & click
- Multi-agency
- Instant alerts
- Facilitates enforcement, trade compliance, and multi-agency information sharing

(PHOTO)
Enables Decisions Prior to Arrival

Analysis and Decision:
- Accept
- Examine
- Refuse or Seize

Government Agencies

ACE Data Portal

Manifest
Shipment Status
Invoice
Customs Declaration

Advance
Electronic Filing
of Shipment by the Trade

Broker

Importer

Transportation Provider

CBP’s Automated Commercial Environment (ACE)

- Entry Declaration
- Account Processing
- Selectivity Targeting
- Quota
- Bond Processing
- Drawback
- Anti-Dumping
- Special Projects
- Liquidation
- Manifest Processing
- Collections
- Reconciliation
The ITDS Initiative

Vision:
- **Single window filing:** A single place for the trade community to submit data required by all Federal agencies for the clearance of cargo
- **Inter-agency data sharing:** Dissemination of international trade and transportation data to all federal agencies involved in import, export, and transportation-related decision making

Support:
- **The Security and Accountability for Every Port Act of 2006** officially established the ITDS initiative under the Department of the Treasury and mandated agencies involved in licensing and admissibility to join ITDS
- **Office of Management and Budget Directive M-07-23** mandated that agencies appoint senior executives to an interagency ITDS coordination team
- **President’s Management Agenda, E-Government Scorecard** mandated integration of agency operations and IT investments

Status:
- **46 Participating Government Agencies including:**
  - Consumer Product Safety Commission (CSPC)
  - Animal and Plant Health Inspection Service (APHIS)
  - Federal Motor Carrier Safety Administration (FMCSA)
  - U.S. Coast Guard (USCG)
- **More than 500 ACE end users:** Representing 25 PGAs
ACE is working to integrate information requirements for all federal agencies engaged in the import/export process. Through the ITDS process the mission needs of these Government agencies will be identified and merged with the implementation of ACE.
Deployed Capabilities and Remaining Scope

- **Deployed Capabilities**
  - ACE Secure Data Portal
  - Screening and Targeting enhancements
  - Periodic Monthly Statement
  - E-Manifest: Truck
  - Select Entry Summary Types

- **Remaining Scope**
  - E-Manifest: Rail, Sea and Air
  - Cargo Processing and Release (for other government agencies)
  - E-Manifest: Air
  - Remaining Entry Summary Types
ACE Tech Talk

Value of Cloud for ACE

Do more with less
Provide improved and/or new IT services and solutions while reducing costs

Deliver better quality services
Improve service quality to deliver improved availability, resiliency, and performance

Lower its risk
Ensure the right levels of access and security across all virtual environments, processes, and data

Achieve breakthrough agility
Deliver new capabilities quicker and with fewer barriers to implementation and operation
Differing Cloud Interpretations

ACE also recognizes that there are many different interpretations of Cloud, and offers its implementation as representative of Cloud principles.

One of the largest challenges organizations encounter is that executives, managers, and technical teams interpret Cloud Computing differently. This is not entirely unexpected because there does not seem to be a commonly accepted definition of the concept. The term “Cloud Computing” is constantly evolving and – at the time this was written – a quick Google search returns ‘About 15,300,000 results in 0.17 seconds’. Many of these are credible sources. Some provide theoretical discussion; some reference best practice methodologies; some promote product offerings; others highlight lessons learned from implementations…
ACE Follows the NIST Definition

ACE’s Cloud architecture and engineering design for consolidated and virtualized environments aligns with the NIST definition of Cloud.

NIST defines **Cloud Computing** as “...a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.”

ACE Cloud – Characteristics

ACE is currently implementing a ‘Private Cloud’ that aligns with the five NIST Cloud Essential Characteristics.

1. **Broad Network Access**: ACE Cloud capabilities are available over the internet and are accessible using thin clients (e.g., browser-based, accessible by desktops, laptops, and java-compliant mobile devices).

2. **Rapid Elasticity**: ACE Cloud capabilities are easily scalable and can be procured / consumed at any quantity at any time (e.g., addition of virtual environments). Quantity is constrained by total ACE cloud resources.

3. **Measured Service**: The resources supporting ACE Cloud capabilities leverage automated tools that facilitate optimal utilization (e.g., performance tuning, dynamic allocations, instrumentation, etc).

4. **On-Demand Self-Service**: ACE Cloud capabilities allow users to receive additional resources transparently depending on work volume (e.g., processing, bandwidth, storage, etc).

5. **Resource Pooling**: The resources supporting ACE Cloud capabilities are shared by multiple users and environments regardless of function (e.g., no dedicated hardware / software for M1, ESAR, PBE, ECOM, etc).
Product development strategy and approach:

- More use of Agile or iterative development models
- Tools, processes, techniques, training
- Just in time development, rapid deployments
- RAD/JAD methodologies
- Visualization and highly collaborative with customer

Using computing, security and other technology standards such as FIPS, NIEM and IEEE institutionalized for software development, testing and production environments
Alignment with the WCO Mission/Vision

- Enhance the efficiency and effectiveness of Member Customs administrations”
  - ACE makes maximum use of flexible system design characteristics and features.

- “…assisting them to contribute successfully to national development goals, particularly in the areas of trade facilitation, revenue collection, community protection and national security”
  - ACE supports and promotes the agency objectives of security, health and safety, trade facilitation and supply chain protection

- In summary, U.S. CBP will be ready for seamless system integration to support the WCO vision for a global solution for optimizing electronic data exchange.
Questions about ACE?

- Visit the ACE Web site at www.cbp.gov/modernization, or send an e-mail to CBP.cbpcspoor@dhs.gov

- Visit the ITDS Web site at www.itds.gov, or send an e-mail to askitds@cbp.dhs.gov
Talking Points

- ACE will never become obsolete
- Static approach when ACS was designed
  - In 1984, federal agencies bought large systems that were expected to last 10 to 15 years
  - No technology insertion process was available
- Dynamic approach with the new ACE design
  - ACE is designed to be flexible
    - It will support an ongoing process review of business needs
    - It will allow us to insert new technology as business requirements change
- Protect the health and safety of U.S. citizens
- Make better decisions earlier and faster
- Process imports more efficiently
- Automate time-consuming and labor-intensive transactions
- Provide national views of importer activity for compliance purposes
- Support better targeting and more efficient detection
- Keep pace with business requirements
Talking Points (continued)

- **Enhanced security**
  - **Features**
    - Relational databases
    - History of cargo, importers, ship, trucks, plane, and crews examined and analyzed before port arrival
    - Non-intrusive inspection (NII)
  - ACE will:
    - Support better targeting and more efficient detection
    - Provide a national perspective for enforcement violations
    - Support sharing of information nationwide among government resources
    - Enable high-quality inspection without danger to cargo

- **Enhanced connectivity to collect and deliver information**
  - Internet and frame relay
  - Wireless communications and mobile computing

- **Artificial Intelligence to process information**
  - Integrated databases and decision support tools
  - Data mining and mass storage devices
  - Non-intrusive inspection technology
  - Digital imaging and digital forensics