



U.S. Customs and
Border Protection

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

Program Overview and Technical Aspects

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U.S. CBP – What We Do

- ▶ 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?

Since 9/11, CBP has been addressing terrorist threats 24 hours a day by using various strategies and employing the latest in technology.

CBP has extended the zone of security beyond our physical borders through the use of bilateral and private sector partnerships, targeting and scrutinizing advanced information on people and products coming into the United States.

- ▶ 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 Information Sharing
and Analysis



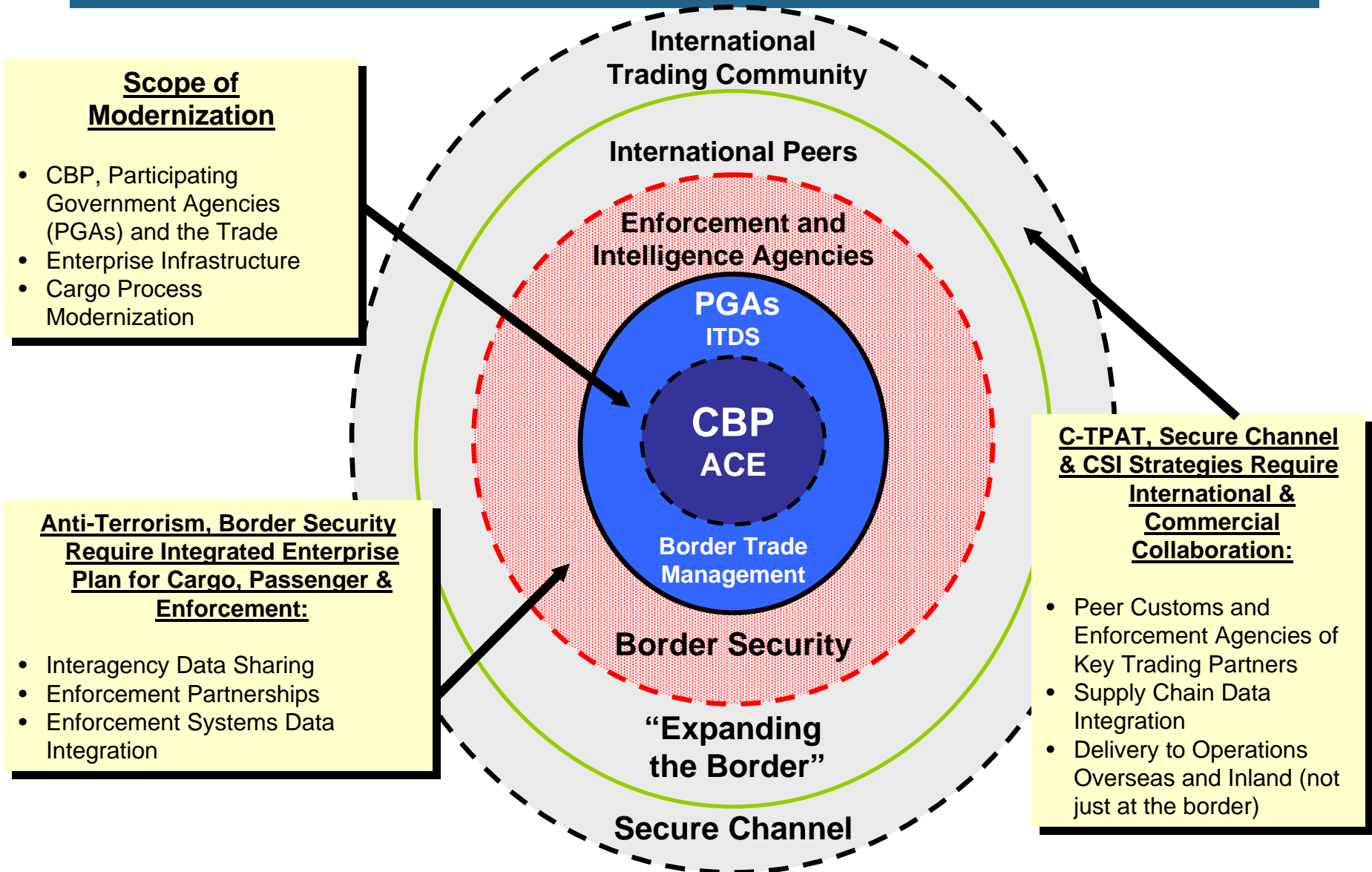
Enhance Technology



Comply with Legislative Mandates



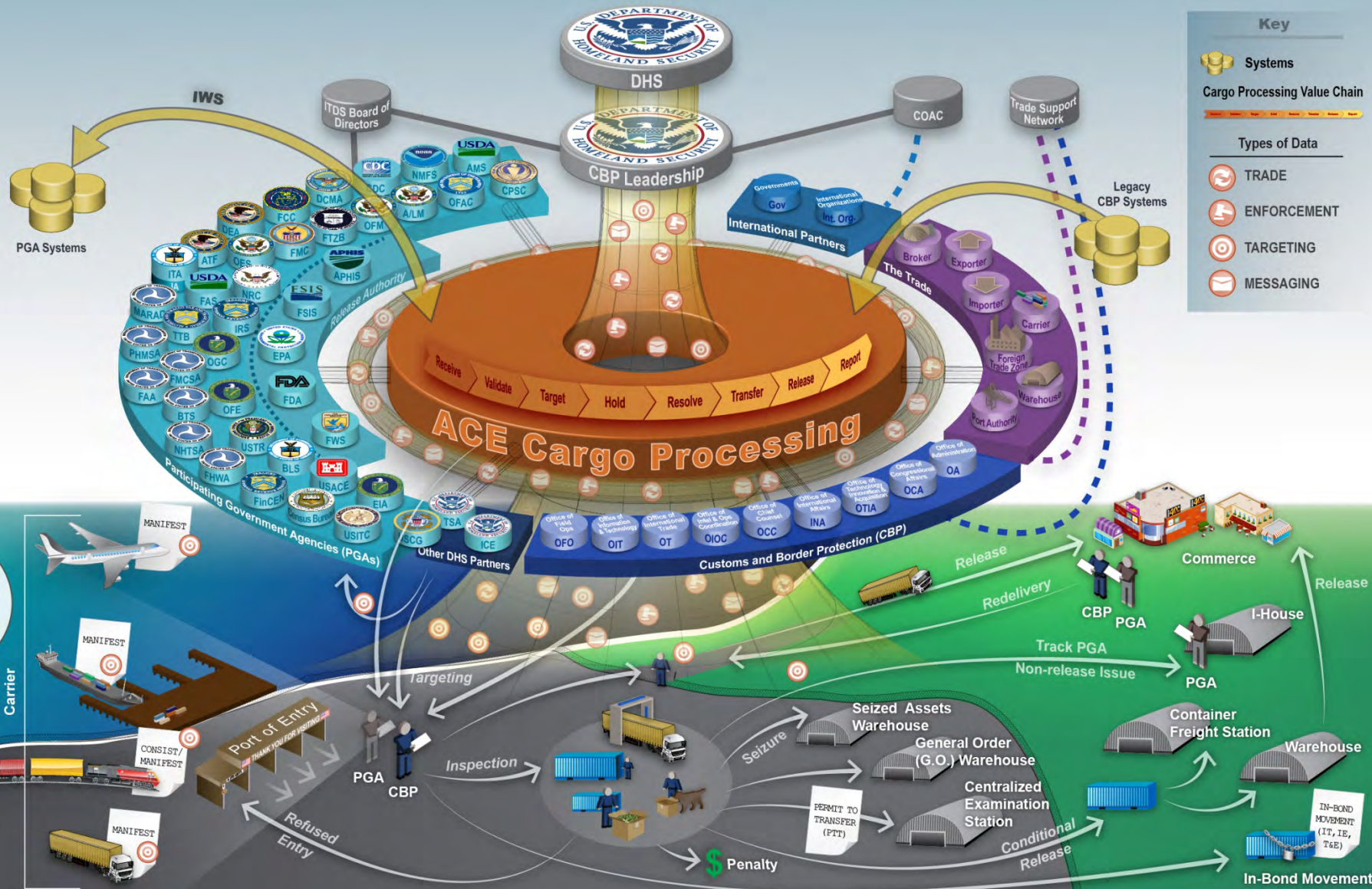
ACE Communities of Interest





U.S. Customs and Border Protection

ACE Cargo Processing

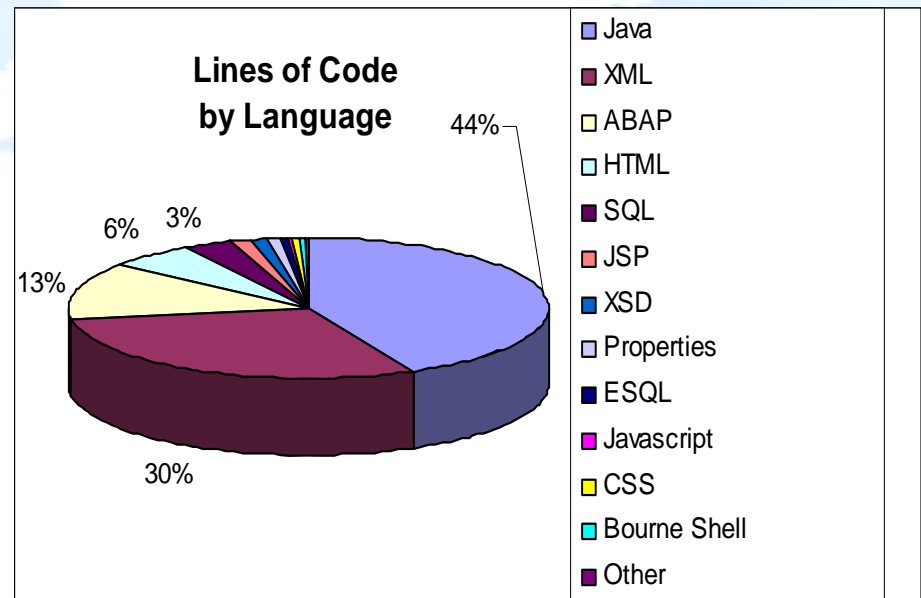




ACE Application Environment

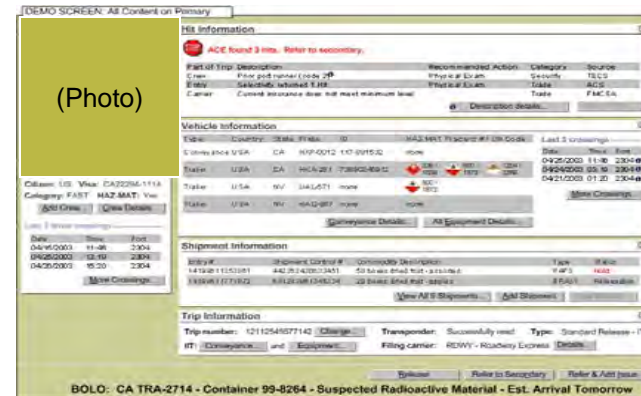
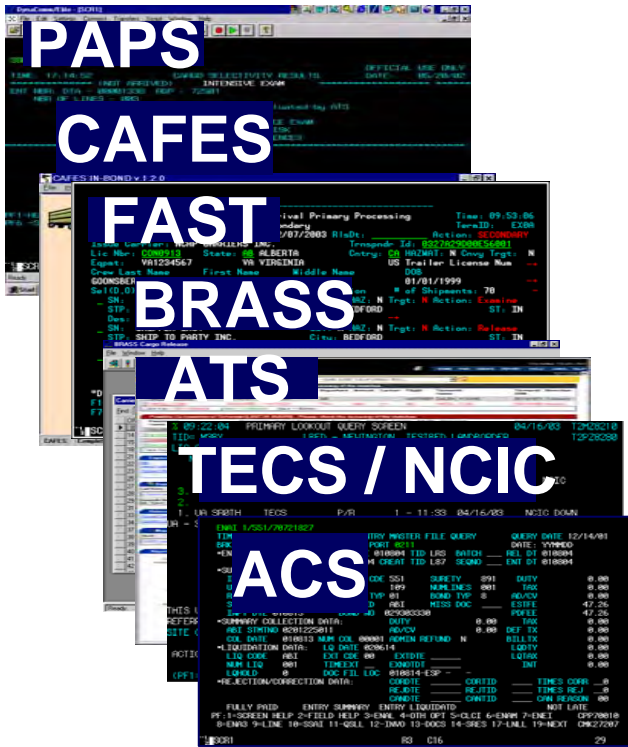
▶ Automated Commercial Environment

- 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





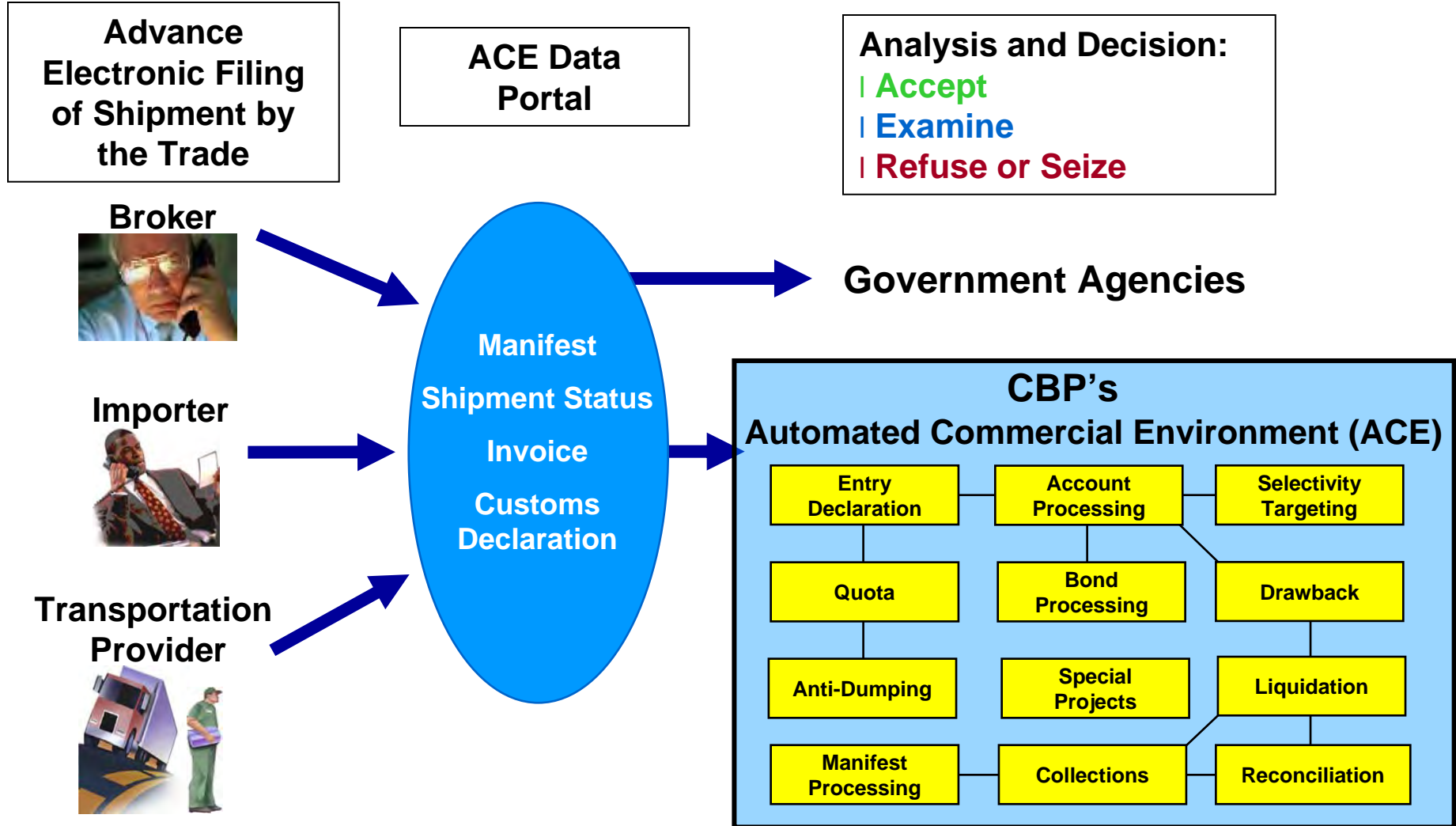
ACE Data Portal: CBP's New Smart Tool



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

Enables Decisions Prior to Arrival





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

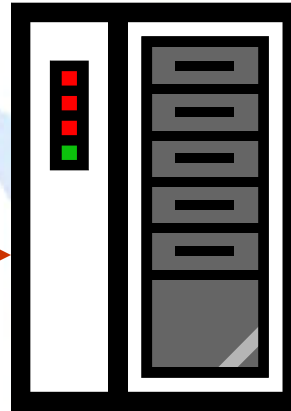
▶ Status:

- **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



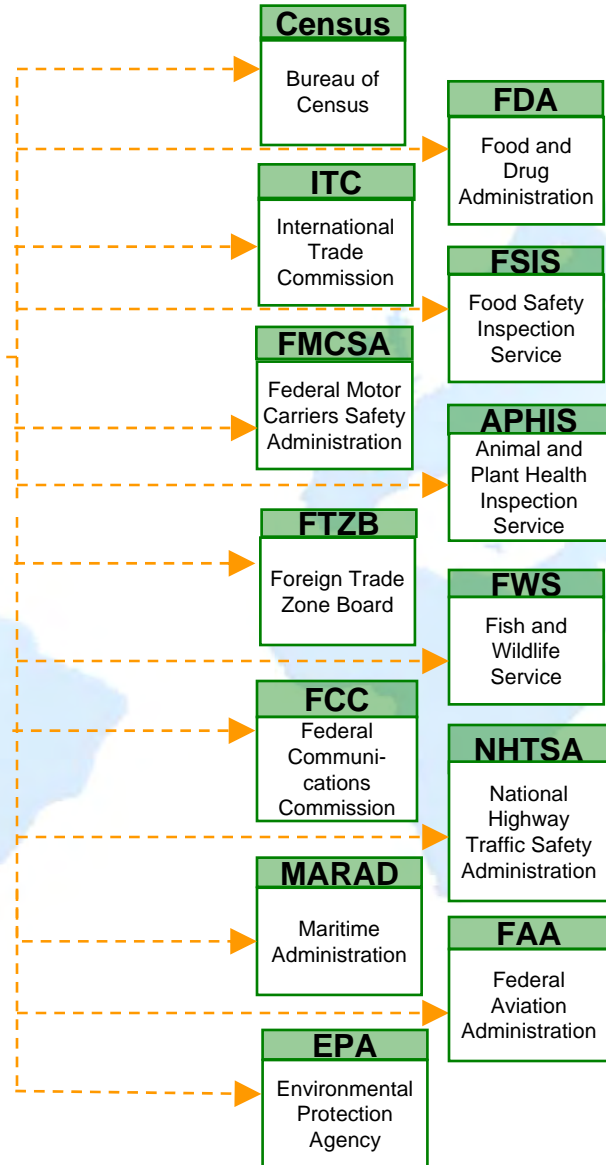


Single Window to the U.S. Government



ACE

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



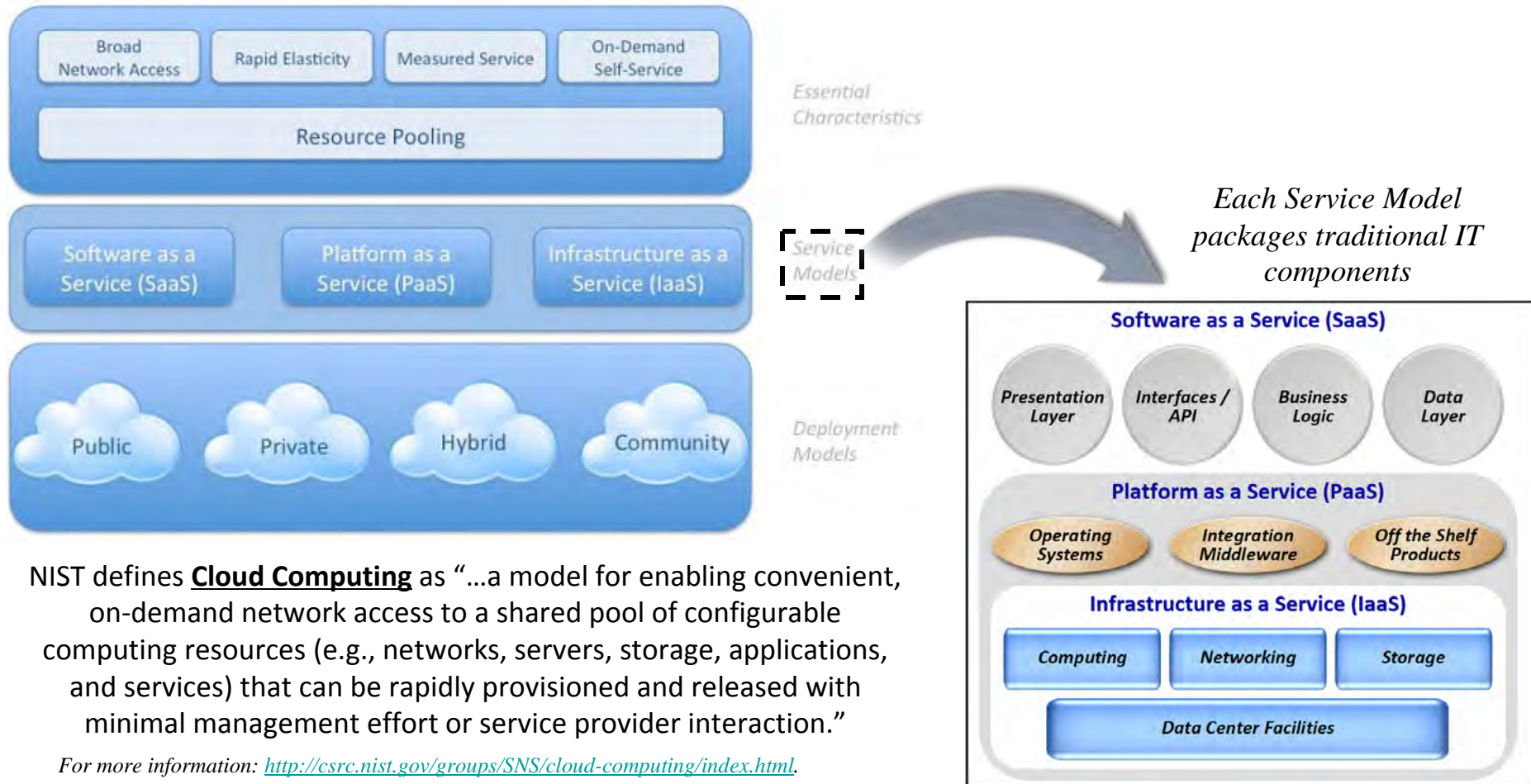
Differing Cloud Interpretations

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.



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).



ACE Tech Talk (continued)

- ▶ 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.cbpcspo@dhs.gov

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



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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