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Commercial T&E Approach

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Overview

• Customs and Border Protection mission
• Office of Technology Innovation and Acquisition (OTIA) mission
• Systems analysis
• Commercial test and evaluation approach
CBP’s Dual Missions

**Security**
- Stop terrorism
- Prevent illegal entry
- Block drug & human smuggling
- Prevent agricultural disease
- Secure national events
- Assist with disaster relief

**Facilitation**
- Collect customs revenue
- Process incoming travelers
- Inspect imports
- Stop counterfeits
Protecting the Border Is An Immense Job

Every day, CBP deploys more than 42,000 frontline personnel to protect nearly 7,000 miles of land border and 327 ports of entry.
In FY 2009, CBP processed $1.7 trillion in commercial imports.
Recent Border Protection Successes

- 361.2 million travelers inspected at ports of entry
- 556,000 illegitimate entrants stopped along border
- 224,000 inadmissible aliens turned away at ports of entry
- 1.5 million prohibited animal or plant products kept out
- 166,727 agricultural pests blocked
- 39,000 suspected criminals arrested
- 9,500 wanted criminals arrested

FY 2009 data
Office of Technology Innovation and Acquisition (OTIA) Mission

- Ensure all technology efforts are properly focused on mission and are well integrated across CBP

- Strengthening expertise and effectiveness in acquisition and program management of contractor-delivered products and services

- OTIA Assistant Commissioner will also serve as CBP’s Component Acquisition Executive
• Serves as CBP’s Component Acquisition Executive
  • CBP Level 3 and DHS-delegated Level 1 and 2 programs
• Authority to review and approve key acquisition decisions
• Represent CBP on Acquisition Review Boards (ARBs) for Level 1 and 2 programs
• Provide oversight that all programs progress through the Acquisition Review Process
  • Level 1, 2 & 3
  • Other CBP acquisitions
  • IT and non IT programs
OTIA Acquisition Focus

- Rapid fielding of capability to CBP officers and agents
- Complex developmental systems not current focus for OTIA procurement – longer term option
- Immediate focus on commercial procurement items
  - COTS, GOTS, NDI systems greatly preferred
  - Fielding systems that work quickly and affordably
  - Capabilities based
  - Vendor integration
### CBP Technology Interest Areas*

<table>
<thead>
<tr>
<th>Common operating pictures</th>
<th>Improved UGS</th>
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<tr>
<td>Ultra-light detection</td>
<td>High resolution cameras</td>
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<td>Tunnel detection</td>
<td>Predictive intelligence</td>
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<td>Wide-area surveillance</td>
<td>Automated target recognition</td>
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<td>Open Architecture</td>
<td>Insider threat detection</td>
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<td>Broadband/wireless</td>
<td>Foliage penetration</td>
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<td>Radiation Portal Monitors</td>
<td>IP-addressable sensors</td>
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<td>Chemical identification</td>
<td>Synthetic aperture radars</td>
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*Not a comprehensive list*
System Analysis Application

- SELC Activities
- T&E Approach
- Support
- Risk Management
- CM
- PMP
- LCCE, etc.

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System Acquisition Proposed Approach

System Acquisition Decision

System Acquisition

Least Complex / Most Programs

Most Complex / Few Programs
Systems Engineering ‘V’

MNS – Mission Needs Statement
CONOPS – Concept of Operations
ORD – Operational Requirements Document
FRD – Functional Requirements Document
SRD – System Requirements Document

RTM – Requirements Traceability Matrix
SRTM – Security Requirements Traceability Matrix
IRS – Interface Requirements Specification
ICD – Interface Control Document
SSS – System/Sub-System Specification
SRS – Software Requirements Specification

Vee is still applied for commercial products
Test Event Planning/Executing/Reporting

The T&E ‘V’ Process

- Capabilities/Requirements
- Measures/Parameters/Conditions
- Data Elements
- Test Procedures
- Analysis by Capability/Requirement
- Analysis by Measure/Parameter
- Data Validation
- Procedure Execution
- Requirements Assessed
- Performance Measured
- Data Validated

TEMP

Test Plan

Execute

Evaluate & Report

T&E Report
Relationship Between SE ‘V’ and T&E ‘V’

T&E ‘V’ – Implemented at Every Level of SE ‘V’
• **Vendor Interface**
  – Explicit T&E scope, expectations and roles outlines in RFPs
  – Close interface with vendors and vendor testing
  – Synergy in government witnessed contractor testing
  – System Qualification Tests typically based on vendor stated capability vice firm government requirements
  – Tightly coupled following contractor testing

• **User Interface**
  – SAT integrated with OT for cost, schedule and performance gains

**Agile T&E process**
Testing Synergy

DHS Acquisition Lifecycle

DEVELOPMENTAL TEST & EVALUATION

Contractor Testing

SQT

Production Tests

INTEGRATED T&E

OPERATIONAL TEST & EVALUATION

EOA

OA

IOT&E

FOT&E

Tech Demos

Technical Focus (vendor)

Technical Focus (gov)

Operational Focus (gov)
Commercial T&E Challenges

• Potential for multiple vendor selections
  – Different down-selected vendor approaches
  – Same requested capability

• Conditions, planning, procedures, analysis vary vendor to vendor

• Understanding the system under test

• Lack of understanding of test capabilities of vendors

• Lack of insight into vendor capabilities early in the acquisition process

Fidelity of T&E scope and definition in the RFP is critical with commercial procurement focus
Commercial T&E Optimization

• Developed T&E RFI Questions Guide
  – Focused Market Research on vendor commercial testing history, capabilities, and environments
• Developed T&E RFP Questions Guide
  – Vendor to define their commercial capabilities and T&E strategy, integration, execution
  – Enabler for PM to optimized AS & IMS for multiple vendors
• Developed TEMP Review Guidebook
  – Focused review on the critical commercial T&E, acceptance testing, qualification testing, and interfaces with vendor(s) and OT
• Developed Test Plan Template
  – Allows flexible inputs that accommodates commercial T&E practices as lead or as oversight
• Early demonstrations (bid sample) of vendor systems prior to acquisition
• Early user inputs to T&E and user input to programmatic decisions
OTIA Review T&E Process

• OTIA provides end-to-end test event planning/review process for all OTIA programs

• Process includes lines of responsibility and periodic gate reviews with entrance and exit criteria to ensure proposed and planned tests successfully progress

• Process may be tailored for individual test events

• Supports DHS Acquisition Directive 102-01

• Process is repeatable, adaptable, and scalable

Enclose in RFP -- ensures linkage of Test Events
OTIA T&E: Tailorable / Scalable

Small Project

TEGR 0
Test Event Initiation
T-1 mo

TEGR 1/2
Interim Combined Review
T-2 wks

TEGR 3
Final TRR
T-1 wk

TEGR 4
Quick Look Brief
T+1 wk

TEGR 5
Final Test Brief
T+1 mo

Large Program

TEGR 0
Test Event Initiation
T-6 mo

TEGR 1
Initial Test Development
T-3 mo

TEGR 2
Interim Review
T-1 mo

TEGR 3
Final TRR
T-1 day

TEGR 4
Quick Look Brief
T+1 Mo

TEGR 5
Final Test Brief
T+3 mo

Execute Test

Final Test Report

Time line is scalable
Gate Reviews are tailorable
Process is repeatable
Conclusions

• DHS is leveraging commercial acquisition approach to balance cost and schedule while maintaining critical capabilities

• SE is using agile systems analysis approach to focus engineering efforts on key areas

• DT&E is gaining synergy with vendors and Operational testing to improve:
  – Speed, scope, and completeness
  – Quality to program office decisions and capability to the Border Patrol

• Aggressively pursuing artifacts and processes to improve commercial-based T&E for CBP
Questions
• OTIA acquires systems that are comprised of elements that may be commercially sourced or may require development
  – Commercial/Non-Developmental Item (Coml/NDI)
  – Adapted (from Coml/NDI)
  – Development

• Acquisition, technical and business approaches and insights differ for each system element type
  – Coml/NDI – no design, no development, acceptance testing, vendor CM, and high cost certainty
  – Adapted – no design, ECP, limited DT, vendor CM, and medium cost certainty
  – Development – design, development, integration, test, full CM, and low cost certainty

One Size Does Not Fit All
Trade Security

- 108.5 million conveyance vehicles inspected
- 56,000 foreign examinations of cargo
- 2,500 security validations in 90 countries

FY 2009 data
Drug Seizures

- 1.5 million pounds of drugs seized at ports of entry
- 1.3 million pounds of marijuana and cocaine seized by Air and Marine agents
- Significant increases over FY 2008:
  - Heroin seizures rose 316% along the border
  - Cocaine seizures rose 53% at ports of entry, 18% along the border
  - Marijuana seizures rose 19% at ports of entry, 58% along the border

FY 2009 data; *measured by kilos of weight seized