Integrating the Enterprise

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Purpose and Agenda

• Understand the key drivers for DoD Installations & Environment transformation

• Develop an understanding of the key activities and their outcomes affecting business practices

• Understand the transformed business processes, rules, and information
Complexity of DoD Real Property Portfolio

• Assets of $700B+ real property portfolio of varying types
  – Airports, wharves, warehouses and rail links
  – Barracks and housing
  – Cafeterias and restaurants
  – Offices
  – Recreational
  – Tank farms and storage facilities
  – Training ranges
  – Etc.

• Range in age from centuries-old to days-new

• Over 2.3M military and civilian employees who live and work at DoD bases and facilities

• Supported by over 450 management information systems

• Expenditures of <$13B for facilities>
  $54B+/year for supporting our Installations and Environment programs

DoD is a large and complex “enterprise”, with a real property portfolio to match.
DoD, like virtually all customer-centric businesses, is an “enterprise”.

Real property lifecycle management is a key component of DoD business management.

The “enterprise” is supported by:

- Information flows
- Processes
- Technologies
- Organization
Objective: “… assess the ability of DoD’s real property information systems… to provide the information…; required for programming and budgeting and financial reporting…”

Findings:
- Systems do not meet current and projected analytic and reporting requirements
- Inventory data is
  - Incompatible across Components
  - Inaccessible
  - Inaccurate and incomplete
- Shortcomings result in
  - Wasted money
  - Inconsistent analyses
  - Flawed decisions

Recommendations – DoD and its Components
- Establish, publish, and enforce real property inventory data standards
- Maintain a web-accessible and consolidated real property inventory database
- Create an incentive program for maintaining high-quality data
President’s Management Agenda
Executive Order 13327

• Signed February 4, 2004

• Promotes efficient and economical use of the Federal government’s real property assets

• Major provisions of the order include:
  – Establish the position of a Senior Real Property Officer (SRPO) at all major landholding agencies
  – Direct the Senior Real Property Officers to develop and implement agency asset management plans
  – Create interagency Federal Real Property Council (FRPC)
  – Authorize the development of a single and descriptive database of federal real properties

EO 13327 outcomes tightly align with real property inventory transformation initiatives
The Business Enterprise Priorities on the right address the top level responsibilities for the Department of Defense associated with each Core Business Mission Areas on the left.

**DoD Core Business Mission Areas**
- Human Resources Management
- Weapon System Lifecycle Management
- Materiel Supply & Service Management
- Real Property & Installations Lifecycle Management
- Financial Management

**DoD Business Enterprise Priorities (BEPs)**
- Personnel Visibility
- Common Supplier Engagement
- Acquisition Visibility
- Materiel Visibility
- Real Property Accountability
- Financial Visibility

**Required Integration**

<table>
<thead>
<tr>
<th>Components</th>
<th>Army</th>
<th>Navy-USMC</th>
<th>Air Force</th>
<th>Defense Agencies</th>
<th>Combatant Commands</th>
<th>OSD</th>
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Focus of the Core Business Mission Area (BMA)

• **Problem:** DoD lacks enterprise accountability and visibility of real property and environmental assets, and their supporting information

• **Establishment of DoD-wide business management modernization efforts**
  – Expanded transformational requirements for real property
  – Assured integration with other DoD business and warfighter processes
  – Established “Real Property Accountability” as a formal priority of DoD
  – Efforts are undertaken collaboratively across the Department

• **Outcomes**
  – Accountability and visibility to all real property and environmental asset information
    – Reliable
    – Available securely 24x7
  – Real property assets linked to personnel and personal property
  – Better use of limited resources; more value to the warfighter

• **Key initiatives**
  – Real Property Inventory Requirements (RPIR)
  – Real Property Unique Identifier Registry (RPUIR)
  – Real Property Acceptance Requirements (RPAR)
  – Real Property Construction in Progress Requirements (RPCIPR)
  – Environmental Liabilities Recognition, Valuation, and Reporting Requirements
  – Hazardous Materials Process Controls and Information Management Requirements
  – Defense Installation Spatial Data Infrastructure (DISDI)
How will we get there?

Enterprise Integration

...What is it?
No, not this “Enterprise”
I&EE Logical Data Model Integration

Explosives Safety Interest Area Information and Link with Property

Real Property Inventory Requirements

Construction in Progress

Environmental Liabilities

Product Hazard Data

Hazardous Process Authorization

Real Property Inventory

Real Property

Requirements

Inventory

Inventory

Inventory

Explosives Safety Interest Area

Explosives Safety Interest Area

Explosives Safety Interest Area

Requirements
Talk To Other Functional Communities
Current Data Environment for Real Property

- Independent and Disconnected Repositories of Information
- Lack of Integration, Enterprise Standards
- Limited Information Sharing
- Little Cross-Service and Agency Analysis

Lack of Enterprise Asset Visibility and Accountability, Resulting in Sub-optimal Corporate Decision Making
BEI Initiatives

• Business process, rules and data re-engineering activities
  – Real Property
    o Inventory Requirements
    o Site and Asset Unique Identification
    o Acceptance Requirements
    o Construction in Progress Requirements
  – Environment, Safety, and Occupational Health
    o Environmental Liabilities Recognition, Valuation, and Reporting Requirements
    o Hazardous Materials Process Controls and Information Management Requirements
    o Explosives Safety Management Requirements

• Ongoing operations
  – Operate the RP&ILM Investment Review Board (IRB)
  – Host new I&E enterprise capabilities
  – Lead Defense Installations Spatial Data Infrastructure (DISDI)
  – Collaborate with stakeholders
  – Pursue and prioritize new reengineering opportunities
Real Property Inventory Requirements

• **Problem:** DoD real property inventory information is incompatible across the Defense components and inaccessible to key users

• **Outcomes**
  – Accurate, authoritative, comprehensive, secure, and timely enterprise-wide real property information
  – Standard processes and data
  – Information available to support both financial and I&E communities

• **Key efforts**
  – Collaborative requirements development
  – Policy update to DoDI 4165.14
  – Change to FMR Volume 4, Chapter 6
  – Component implementation
Real Property Enterprise Systems

• **Real Property Unique Identifier Registry (RPUIR)**
  - Unifying disparate real property systems and DoD information needs through the use of a strong linking mechanism
    o The Real Property Unique Identifier (RPUID) becomes the key element in the real property inventory that distinctively and uniquely identifies a parcel of land, a building, or other real property improvements in which the Department of Defense (DoD) has a legal interest.
    o The RPUID allows related data from across the spectrum of DoD business areas to be linked to specific real property asset records.

• **Real Property Assets Database**
  - Central repository of DoD RPI data for OSD
  - Net-centric data warehouse with a multi-tiered SOA
  - Uses the Military Departments' and WHS’s authoritative RPI databases as its data sources and is used to populate a variety of real property resourcing predictive models
  - Make annual reports on agency real property inventory data to OMB and GSA
Real Property Unique Identifier Registry

• **Problem:** DoD can not fully associate real property to personnel, weapons systems, and related information

• **Outcomes**
  – Assignment of unique identifiers (UIDs) to all real property sites and assets
  – Enablement of linkage to personnel, personal property, and environmental systems
  – Reduced information asset management cost and increased productivity

• **Key efforts**
  – Site unique identification
    – Registry developed
    – Assignment of UID to all sites
    – Integration with component inventory systems
  – Asset unique identification
Tag With a Unique Identifier

- Area Number
- Group Number
- Serial Number

Social Security Card

QR Code

Website: http://en.wikipedia.org/wiki/Giessen
Context: Unique Identification (UID) — Integrated Situational Awareness of People, Places and Things

Yesterday – No UIDs

*No integrated planning or asset visibility*

To-Be State – UIDs

*Integrated planning & continuous visibility*

Questions

- Requirement: Capability to integrate planning
  - Who is available?
  - With what equipment?
  - Where are they now?
  - How long can we support them?

Answers

- People, things and property visible.
- Deployment and constitution options can be continuously evaluated.
- Required items identified, pre-positioned and tracked with radio frequency ID tags.
- People and things can be identified to sites and assets for rapid deployment response.

*What business doesn’t need these questions answered?*
Installation and Site Construct

**Installation**
- Composed of one or more sites
- Managed by a single Service
- A contiguous area of land

**Site**
- Composed of one or more Land Parcels and/or Facilities
- Over 3,700 sites worldwide (and probably much greater)

**Asset**
- Either individual facility (e.g., building, structure, linear structure) or land parcel
- Over 577K facilities on over 29M acres
- Approximately 2.38B square feet of building space
Target Data Environment

Real Property Information Model

Components

I&E

ACES

INFADS

RPUIR

Plan

Execute

WHS

Source/Acquire

Asset Lifecycle Support

Dispose/Relinquish

RPAD

IFS
Real Property Acceptance Requirements

• **Problem:** DoD has no standard processes for accepting real property and its associated information from a construction agent

• **Outcomes**
  – Standard processes and data for newly-acquired real property, generated accurately by the components’ construction agents
  – Consistent and auditable DoD real property financial information
  – Encourages participation of defense agencies in acceptance

• **Key efforts**
  – Collaboratively-generated requirements
  – Update of UFC 1-300-8, *Criteria for Transfer and Acceptance of Military Real Property*
Real Property Construction in Progress Requirements

• **Problem:** DoD lacks real-time construction in progress (CIP) information (e.g., project status, financial)

• **Outcomes**
  – Enterprise-wide visibility to accurate and timely CIP information
  – Consistent processes and data for CIP from construction agents to components
  – Encourages “sponsoring entity” participation in CIP and acceptance

• **Key efforts**
  – Collaborative development of requirements
  – Implementation by components and their construction agents
  – Update of UFC 1-300-8, *Criteria for Transfer and Acceptance of Military Real Property*
Environmental Liabilities Recognition, Valuation, and Reporting Requirements

- **Problem**: DoD is unable to provide auditable environmental liabilities (EL) information (a material weakness)

- **Outcomes**
  - Standard and auditable process and data model for recognizing, valuing, and reporting environmental liabilities
  - Complete, accurate, and visible inventory of environmental liabilities reconciled with asset records (includes real and some personal property)

- **Key efforts**
  - Collaborative development of standard processes and data in requirements document
  - Upgrade of *Financial Improvement Audit Readiness* (FIAR) Plan by Components
  - Incorporation by Components (in process)
RPI Parcel Mapping/EL Pilot

- **Objective:** Develop a department-wide EL reconciliation process and standards to enable the Components to demonstrate completeness of the EL site records at each installation

- **Approach:** The pilot will establish and test the technical approach and work flow for the acquisition of EL geospatial data for the reconciliation of EL sites to one or more real property assets (RPA), i.e., land parcels
  - 14 installations (approx.) will have their EL sites mapped
    - Leverage existing installation-level EL spatial data; use DoD Guidance for the Defense Environmental Restoration Program (DERP) and non-DERP program to determine site mapping rules
    - Populate with DERP and non-DERP site data, then assign draft "Environmental Interest Area Unique Identifiers" for follow-on reconciliation with land assets (parcels with RPUIDs)

- **Deliverables**
  - Manual on mapping and maintaining EL geospatial data which includes:
    - “To be” process model for mapping and maintaining EL geospatial data and reconciling with real property asset records
    - Quality assurance plan
    - Recommendations for Component implementation in a sustainable manner
Hazmat BPR Outcomes

• BPR Outcomes:
  – Common processes, terms, definitions, and business rules for the operations and sustainment (O&S) phase of the lifecycle
    ○ Focus on ESOH “operational control”
  – OSD-level policy integration
  – Component-level implementation planning
  – Development of the Hazmat Master Data Capability (Hazmat MDC)
  – Integrated Hazmat implementation objectives in the DISP

• Two important targets for Component-level implementation
  – IT systems
  – Environmental (and ESOH) management systems (EMS)
Hazmat Master Data Capability

• **What is it?**
  - Central repository for authoritative Hazmat data
  - Subset of the (Logistics) Master Data Capability, being developed by Defense Logistics Information Service (DLIS), and the “Master Data Fast Track” initiated by BTA
  - A key Component-level enabler for cost-effective implementation of requirements

• **Hazmat MDC:**
  - Collaborative effort: I&E, BTA, DLIS and the Departments
  - Execution:
    - Part 1- Chemical and regulatory reference data
    - Part 2 - Product-specific hazard data
  - Part 1 funded in FY06 (~$900K)
  - Unique opportunity to address, jointly, long-standing issues of Hazmat data quality and availability
  - Estimated cost avoidance of $10M annually when fully operational
What is the Defense Installation Spatial Data Infrastructure (DISDI)?

“A DoD mission capability comprised of those people, policies, and practices necessary to acquire, steward, and share installation, environmental, and range geospatial data assets for defense, federal, and national goals”
Key Milestones & Objectives

• Governance, Policy, & Guidance
  – NGA Partnership – Geospatial-Intelligence Working Group (GWG)
  – Quality Assurance for Mapping

• Standards
  – Support for Enhanced Geospatial Data Catalogs and Content
  – “Value-add” to NGA Capabilities via Data Alignment
  – Enhanced Metadata to Synchronize with the DoD Net-Centric Enterprise Strategy Goals

• Service Architecture
  – Mapping Portal to Leverage Component Source Data

• Inventory
  – Portfolio Management, Tracking, & Accountability

• Real Property & Installation Lifecycle Management (RP&ILM) Support
  – Real Property Inventory & Environmental Liability Mapping
System Investment Review


- **I&E guidance:** Systems must be compliant with RPIR, RPCIPR, RPAR, ELRV&RR, and HMPC&IMR as published in BEA v4.0

- **Demonstrating compliance**
  - **Artifacts**
    - System data base schema from production system
    - Data dictionary for all entities and attributes
    - Spreadsheet listing all attributes in data base schema, grouped by entity, and depicting relationship to properties in the RP&ILM information model
  - **Maturation (completed artifacts required at each stage)**
    - First Time Certification – Completed System Release Plan (30 days prior to IRB review) documenting current compliance and planned systems changes
    - Systems with Conditions – Updated System Release Plan (30 March 2007) documenting compliance, changes, and progress since prior review
    - Annual Review of Certified Systems – Updated System Release Plan (30 days prior to IRB review) documenting compliance, changes, and progress since prior review
  - **Support tools**
    - Memorandum by Mr. Phil Grone, DUSD(I&E) entitled *Instructions for Demonstrating Compliance with the Enterprise Transition Plan (ETP) and the DoD Business Enterprise Architecture (BEA)*, February 26, 2007
    - BEI-provided template describing planned system changes