United States Environmental Protection Agency
Office of Environmental Information

Enterprise Architecture Use: Technology Impact Assessment From Business Analysis

ArchitecturePlus, June 30th, 2008
Life Cycle Management – an integrated process for architectural planning, investment management, security planning, and system development that ensures IT solutions align with business needs.

Life Cycle Management Framework

Legend
- C&A: Certification and Accreditation
- CPIC: Capital Planning and Investment Control
- EA: Enterprise Architecture
- SLCM: System Life Cycle Management

Note:
- Reporting requirements for Architecture, Security, CPIC, and Budget are calendar driven and occur annually.
- Specific system reporting requirements depend on the System Life Cycle Management phase.
EPA Business Lines (a.k.a. Segments)

- Environmental Management
  - Air Quality Management
  - Water Quality Management
  - Land Quality Management
  - Substances Management
  - Enforcement and Compliance
  - Emergency Management
  - Environmental Monitoring & Forecasting
  - Environmental Remediation
  - Pollution Prevention & Control

- Research and Science
- Geospatial Services
- Internal Risk Management & Mitigation
- Regulatory Development
- Public Affairs
- Legislative Relations

- Planning/Resource Allocation
- Strategic Planning/Performance Management
- Controls & Oversight
- General Government
- Revenue Collection

- Grants Management
- Financial Management
- Facilities Management
- Supply Chain Management
- Human Resources Management
- Acquisitions Management
- IT/IM Management
- Records Management

Management of Government Resources (Administrative Management)
We used a methodology to analyze the impacts of business changes that emphasized reuse of information.

We consulted many sources and worked with the programs, extracting data from business cases, transition milestones, and other sources.

| Strategic Goals | • Agency systems and organizational structures are well designed and work together to position and support EPA employees in accomplishing the Agency’s strategic goals
• Employees are highly capable and perform to their highest potential to support the Agency mission
• Teamwork and collaboration are practiced with internal & external partners | Source: Business Cases, EA Repository Information, Web Content (PART, GAO, Regulations), Performance Framework |
| Business Objectives | • Evolve EPA’s Human Capital Strategy to ensure EPA has people with the right skills, in the right place, at the right time to protect human health and the environment
• Evaluate the standardization of EPA Human Resource Operations using Shared Service Centers (HRSSC)
• Improve the effectiveness, efficiency, and customer service of agency human resources operations | Source: Business Cases, EA Repository Information, Solution Architecture |
| Tactics | • Reengineer Human Resources for greater efficiency through standardization
• Consolidate processing into 3 shared service centers
• Employee Information Automation – digital personnel file (OPF) | Source: EA Listening Campaign, Segment Review Meetings, PART/GAO/IG Assessments |
| Technical Changes | • Increased automation of paper-based functions
• Increased service level/availability requirements
• Increased WAN/LAN usage (employee transfers or new hires) traffic to Las Vegas, Cincinnati and RTP
• Telecom – changes to long distance
• # employees moving – desktop moves
• # new hires – desktop (assume many HQ folks will be placed elsewhere at HQ and not move)
• eOPF – hosted external to the Agency – external LAN Traffic (2010)
• HR Centers intensive use of the OPF – bandwidth demand
• Increased need for video conferencing/collaboration space (among the 3 new HR sites AND between the centers and EPA programs and regions) | Source: EA Segment Review Meetings, Business Cases, OEI Analysis |
| Technology Impacts | People | • Moving people to 3 shared service centers (Las Vegas/Cincinnati/RTP)
Processes | Source: Segment Review Meetings, Business Cases |
| | Technology | • Moves - Existing servers not required after move to externally-hosted tools for HR LoB; OPM’s EHRI e-Gov initiative external tools (eTraining, eOPF)
• Capacity - Additional transactional capacity for increased HR transactions after move to externally-hosted HR LoB system in 2010; increased storage capacity required to store and migrate 100% of Agency’s training data to PeoplePlus-HR
• New - PeoplePlus-HR will reengineer its interfaces to support OPM’s EHRI e-Gov initiative; PeoplePlus-HR will be reengineered to synchronize with OPM’s eTraining system; Plans to use HR LoB system beginning in 2010
• Retirement - PeoplePlus-HR is scheduled to retire in 2011 and EZHire will no longer be leased if functions are migrated to HRSSC; Other specific HR IT system potential retirements; Data migrations (FY09 & FY10) |
There are rollouts of new functionality, an increase in Enterprise Tool dependencies, more external sharing, and significant movement of systems.

There are 4 significant retirements by '09 (2 more by 2014)

- **Examples (2008-2009):**
  - Pesticides Registration System replacement – retires one, launches another internal system
  - Environmental Risk Management - retires one, launches another internal system

- **Examples (2010-2014):**
  - 2 systems within Waste Water Management Permitting retire with launch of new system

**Over 60 systems will be changing. We plotted the milestones on a graph and used key indicators to determine trends. Examples are shown below.**

**Moves**

Beginning in 2010, there are significant moves to Shared Service Centers

- HR processing and Time and Attendance Reporting move to HRLoB Shared Service Centers. Personnel files to be digitized and hosted at OPM
- EPA Grants Management System migrates to the Grants Management LoB at HHS
- Financial Management System will move offsite per the FMLoB
Technology Impact Assessment – Business Analysis
Technology Infrastructure Impact

With so many changes, we needed an impact assessment framework to understand the magnitude of impact both individually and across the Agency.

Framework
- Uses technology requirements from business area analysis, isolating those with important infrastructure impacts
- Performs a more detailed impact assessment on the top 2-3 requirements (per business area), assessing the following:
  1. User Environment
  2. Network/Telecommunications
  3. Application Hosting
  4. Security
- Uses a scale from -3 to 3 to indicate magnitude of impact
  NOTE: Negative numbers indicate a decrease in required capacity, number of devices, etc.

Results

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Objective: Results of this assessment are intended to inform budget decisions.