

# PEOPLE, PROCESS AND TECHNOLOGY

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# AGENDA

- I. History of the Adoption of EA and IT Management in the US Govt.
- II. Lessons Learned
- III. Recommendations

# CASE EXAMPLES

## Five Case Examples

1. Travel Document Issuance Bureau
2. Housing Services Agency
3. Financial Institution Oversight Agency
4. Cross-agency, Back-office Functions
  1. Payroll Processing Function
  2. Travel Voucher function

# HISTORY OF EA IN THE US GOVT.

## ◎ Clinger-Cohen Act 1996

- *Each agency CIO is responsible to develop, maintain and facilitate the implementation of a sound and integrated information technology architecture for the agency.*
- *Information Technology Architecture - “an integrated framework for evolving or maintaining existing information technology and acquiring new information technology to achieve the agency’s strategic goals and information resources management goals.”*

## ◎ E-Gov Act of 2001

- *Assigned responsibility to the Office of Management and Budget (OMB) to oversee the agencies’ implementations.*

# STATUS - FEB. 2013

- All agencies and most sub-agencies (bureaus) have developed enterprise architectures and are using them in some capacity to guide and inform their IT acquisition decisions.
- In most cases, the architectures document the current state and identify some of the consolidation and modernization initiatives in an agency.
- Very few architectures transcend the agency boundaries.

# HISTORY OF IT MANAGEMENT IN THE US GOVERNMENT

- 1992 - 2000 (Clinton/Gore)
  - National Partnership for Reinventing Government
  - The “Idea of the Week”
- 2000 - 2008 (Bush)
  - OMB’s Office of e-Gov
  - Consolidation of back office functions across agencies
- 2009 - 2010 (Obama/Kundra)
  - 25 Point Implementation Plan to Reform Federal IT Management
  - Light technology and shared solutions
  - Strengthen Program Management, especially of Large Programs
  - Improve Governance and Accountability
  - Increase Engagement with Industry

# HISTORY OF IT MANAGEMENT IN THE US GOVERNMENT

## 2010 - 2012 (Obama/Van Roekel)

- Building a 21<sup>st</sup> Century Government
  - Future Ready Workforce
  - Cloud
  - Transition to IPv6
- Maximizing Value
  - Data Center Consolidation
  - IT Shared Services
  - TechStat and PortfolioStat
  - IT Dashboard
- Cyber Security
  - Identity Management
  - Trusted Internet Connections
- National Initiatives
  - Business USA
  - Permitting Dashboard

# STATUS - FEB. 2013

- Almost 1,000 data centers have been closed and consolidated.
- Approximately, \$1B in IT projects has been saved by:
  - Stopping non-performing projects
  - Consolidating duplicative projects
  - Utilizing existing services
  - Negotiating better contracts under economies of scale
- Shared services strategy issued
  - Data.gov (data) and USA.gov (govt. services) established
  - Google Apps for Email/Collaboration/Storage
  - Implemented Salesforce.com as enterprise platform



# FIRST LESSON LEARNED

**Substantial change can be made across a large enterprise such as the U.S. Government. Substantial benefits can be realized.**

**Examples:**

- 1. Travel Voucher Function**
- 2. Payroll Function**

# CROSS-AGENCY COLLABORATION

## Travel Vouchers

- 26 primary agencies, each with its own travel voucher system.
- Using EA, determine functional duplication and identify the 4 best run agency travel operations .
- Shut down the other agencies' voucher operations and require them to purchase the service from the four. The four competed for the business.
- Consolidate all travel voucher processing into four , competing agencies.
- The Department of Labor (DOL), one of the first agencies to complete the implementation of E-Gov Travel Services, reported a decrease in cost per travel voucher from \$62.59 to \$24.75, more than 60%.
- Additionally, the time required to process vouchers at DOL decreased from seven to three business days.

# CROSS-AGENCY COLLABORATION

## Consolidation of Payroll

- ◉ 26 primary departments, each with its own payroll office. Cost: \$ 259 per employee /year
- ◉ Using EA, identify each agency's payroll function and its costs.
- ◉ Identify the 4 best payroll operations.
- ◉ Shut down all other payroll operations, and require them to buy the service from one of the 4; chosen competitively.
- ◉ Consolidate all payroll into 4 agencies.
- ◉ New cost: Dept of Health and Human Services with 65,000 employees: \$90 per employee/year; 65% reduction, saving \$11 million in the first year.

## SECOND LESSON LEARNED

**Whether in government services or in IT, the change must be driven from the top down. There is little incentive or motivation to institute change with peers in the organization. Payroll was a routine, back office function; still substantial resistance to change. Core citizen services are more difficult to change.**

Examples:

1. Travel Documents Issuance Bureau
2. Payroll Consolidation

# TRAVEL DOCUMENT ISSUANCE BUREAU

## ◉ Setting

### ■ Mission

- Visas
- Passports
- Overseas Citizen Services

### ■ IT shop

- 90 employees / 1,200 contractors
- \$360 million annual IT budget
- 270 overseas and 30 domestic locations
- 24/7/365

# TRAVEL DOCUMENT BUREAU (CONT.)

## ○ People

- Very strong, new, committed leader from the private sector
- Existing leadership team and staff used to little change; acquiesced to contractors
- A few, competent contractors

## ○ Process

- Systems development life cycle in place
- As-Is EA developed 3 years earlier, but not being used to make any decisions

## ○ Technology

- Varied, redundant and duplicative; costly to maintain; slow to changes in business needs; paper intensive

# TRAVEL DOCUMENT BUREAU (CONT.)

## ◎ Action

*[Note: All of this work did not include a true enterprise architecture because it was generated exclusively out of the IT shop, not in the line of business, therefore, it began with a technical architecture.]*

### Technology

1. **Consolidated the data.** Standardized the data so it conformed to the National Information Exchange Model; consolidated the data into one database, and ensured the data were configured around the concept of person, i.e., “person-centric”. Eliminated data marts and, therefore, the process of extraction, transformation and load (ETL).
2. **Tackle operational problems.** Consolidated service desks; reduced the number of servers and routers by simplifying and streamlining the physical lines of communication; standardized and modernized the technologies around the Oracle stack of products.

# TRAVEL DOCUMENT BUREAU (CONT.)

## ⦿ Action (cont.)

3. **Redesign the Technical Architecture** - Move from a traditional stovepipe design where the data, applications and technology platforms were specialized to particular business functions or lines of business, e.g., data, applications and technology for immigrant visas were separate from the data, applications and technology platform for non-immigrant visa processing. To a three-tiered design consisting of a consolidated data warehouse, a defined services layer and a common presentation layer which faced the user.
4. **Enterprise Service Bus** - Installed an ESB between the application layer and the data layer. Standardized the data calls.



# TRAVEL DOCUMENT BUREAU (CONT.)

## Process

### 1. Instituted governance bodies

- Quarterly IT meetings with business leadership to monitor progress
- Senior Steering Group - senior business unit representatives conducting working level meetings regarding major initiatives
- Investment Review Board - provides approval for and ongoing oversight for all IT projects and initiatives
- Technical Architecture Working Group - supported by the EA Team, set technical direction and resolved enterprise-wide technical issues

### 2. Established a Program Management Office (PMO)

- Developed the forms and process for IT project approval and implementation
- Ensured project conformance with approved EA
- Maintained and enforced agency project schedule

### 3. Established ITIL as the IT Service Management Discipline

- It provides a practical, no-nonsense framework for identifying, planning, delivering and supporting IT services to the business.
- It was integrated with the established systems development lifecycle.

# TRAVEL DOCUMENT BUREAU (CONT.)

## People

### 1. Leaders

- Identified leaders and promoted them to senior positions
- Hired a new Chief Architect

### 2. Training

- Provided ITIL training and certification to interested staff
- Provided project management training and certification. 15% pay boost awarded to PMP certified staff
- Provided cross-agency and cross-sector (government and industry) leadership training to selected staff with potential to assume more responsibility

### 3. Releases

- Identified staff who did not want to embrace the changes and encouraged them to work elsewhere

# TRAVEL DOCUMENT BUREAU (CONT.)

## ○ Results

### 1. Cost Savings

- **Removal of unnecessary applications** led to elimination of 500 servers, including replacement costs, maintenance costs, support costs, shipping costs and energy consumption. Estimated savings: \$3.6M over 18 months.
- **Oracle Enterprise Licensing.** Joined with another office and negotiated a volume discount license. Savings: \$3.7M in 1<sup>st</sup> year and \$1.5M in annual maintenance costs.
- **Database Consolidation.** Standardized and consolidated all passport and visa data sources on a unified hardware and software platform. Est. savings: \$3.1M over 18 months.
- **New Server Architecture.** Standardized the server architecture enabling centralized purchasing and configuring, and installation by on-site personnel. Est. savings: \$2.0M over 4 years.
- **Enterprise Service Bus/Service Oriented Architecture.** Reduced system development time and subsequent costs by standardizing how applications interact with the database. It will also facilitate data exchanges with other agencies. Est. savings in annual development, maintenance and operational costs: \$1.4M annually.

# TRAVEL DOCUMENT BUREAU (CONT.)

## 1. Cost Savings (cont.)

- **Enterprise Development and Testing Environment.** Consolidated and standardized development and testing environment reducing programming errors and improving reliability of applications reducing deployment delays. Est. savings: \$3.8M over 4 years.
- **Authentication and Access Control / Single Sign-on.** Eliminate custom coding for various application suites. Est. savings: \$1.4M over 18 months.
- **Consolidation of Visa and Passport systems into one architecture.** Combine four visa systems and 2 passport systems and various support systems into a single “ConsularOne” system reducing development and support costs. Est. savings: \$2M annually.

## 2. Faster Business Processes

- **Validating Passport Number.** This process used to take our posts about 30 mins. to ensure a valid number. It now takes about 7 seconds.
- **Biometrics Validation.** This process used to take several hours. Now it takes less than 5 minutes.

## 3. People

- 45 staff are now ITIL trained and certified.
- 20 staff now have PMP certification
- 8 staff have received year long leadership training and recognition by outside bodies.
- 15 staff hired; 5 staff released.

**[Coda: The CIO was released and now projects are moving forward slowly.]**

# THIRD LESSON LEARNED

**In order to achieve successful buy-in from IT professionals and the lines of business personnel, change agents must be perceived as helping them meet their immediate needs, even in small ways. Such actions build trust and confidence which are crucial for any further changes.**

Example:

Financial Institution Regulatory Agency

# FINANCIAL INSTITUTION REGULATORY OVERSIGHT

## ◉ Setting

- Mission: To charter, regulate and supervise all national banks and thrift institutions and the federal branches of foreign banks in the US.
- Determine if banks are operating safely, soundly and meeting regulatory requirements.
- Protect consumers from misleading business practices.
- 2000 national banks & 50 federal branches of foreign banks. Constitutes  $\frac{3}{4}$  of all assets of US commercial banks. Approximately \$10T of total assets under supervision.

*[Unlike Japan with one bank regulatory agency, the US maintains separate securities, commodities and insurance regulatory agencies -- at the Federal and state levels.]*

# FINANCIAL INSTITUTION REGULATORY OVERSIGHT (CONT.)

- Banking regulation addresses privacy, disclosure, fraud prevention, money-laundering, anti-terrorism and anti-usury lending and the lending to low-income populations.
- Budget Authority for 2012: \$1.2B. The agency is funded by assessments of financial institutions.
- IT annual budget is about \$120M

## People

- 40% government staff; 60% contractor staff.
- Strong IT leadership

# FINANCIAL INSTITUTION REGULATORY OVERSIGHT (CONT.)

## Process

- In 2005, the EA was in place with the usual artifacts, i.e., technology standards and versions
- Needed a data architecture
- Governance processes included IT investment reviews, architectural review board and configuration management decisions.

## Technology

- In fairly good shape, but needed modernization.



# FINANCIAL INSTITUTION REGULATORY OVERSIGHT (CONT.)

## Action

### Processes

- The integration of current IT governance policy and procedures,
- The deployment of enterprise services focusing on information management services such as document, content, records and knowledge management.
- Employing experience data more specifically for decision making

### Technology

- The conversion of the infrastructure from mainframe to file servers.
- Create a single data architecture which is NIEM compliant

### People

- Realign agency staff profile, training and skills with its target architecture and the IT roadmap creating an agile interface.

# FINANCIAL INSTITUTION REGULATORY OVERSIGHT (CONT.)

## Results

- ◉ IT Staff and business people are beginning to request assistance from Architects prior to planning
- ◉ Too early to quantify outcomes.

# FOURTH LESSON LEARNED

**People, process and technology are all necessary for successful change, but people are the most important.**

Examples:

1. Travel Document Issuance Bureau
2. Housing Services Agency (Failure)

# TRAVEL DOCUMENT BUREAU (CONT.)

## People

### 1. Leaders

- Identified leaders and promoted them to senior positions
- Hired a new Chief Architect

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- Provided ITIL training and certification to interested staff
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# HOUSING SERVICES AGENCY

## ○ Setting

- Mission: To assist low and moderate income homebuyers, renters and homeless to secure housing, and to rehabilitate depressed areas of cities where these people live.
- \$35Billion budget authority for 2012.
- 10,000 employees
- 270 IT employees
- 200+ IT systems
- Infrastructure outsourced to private contractors

## People

- Weak IT leadership which perpetuates division of IT around organizational lines
- Long-term, entrenched senior staff
- Demoralized staff
- Overbearing Chief Architect

# HOUSING SERVICES AGENCY (CONT.)

## Process

- A strong project management process with appropriate gates for decision making. IT staff inadequate to assist organization compliance.
- A complete As-Is architecture, and a partial Future Architecture with business elements in architecture well-mapped by function
- Technical Architecture incomplete
- Good configuration management process, but due to outsourced infrastructure there are no insights into configurations. Unable to determine the state of the configuration.
- Funding available for major transformation

## Technology

- Outsourced infrastructure
- Outdated application technologies

# HOUSING SERVICES AGENCY (CONT.)

## ○ Action

- Secured Congressional authority to organize IT budget around important initiatives
- Failed to standardize or consolidate agency data
- Failed to consolidate servers or other hardware
- Appointed a agency Chief Technology Officer
- Identified and promoted some cross-agency initiatives, such as, a single business intelligence tool and a common geographic information system.
- Secured an Oracle stack of products with an enterprise license, but it was not used by all agency business elements.
- One or two agency elements upgraded and modernized its IT portfolio, but this was not leveraged across the agency.

# HOUSING SERVICES AGENCY (CONT.)

## ○ Results

- Major projects are severely delayed or substantially over budget with potential loss of funding.
- Competent senior IT staff abandoning the agency.



# FIFTH LESSON LEARNED

**Advances in technology offer far more opportunities for significant change than organizations' capacity to incorporate.**

Example:

Travel Document Issuance Bureau

# TRAVEL DOCUMENT BUREAU (CONT.)

## ◎ Action

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# SIXTH LESSON LEARNED

**The adoption and integration of meaningful processes contributes to the sustainability of the changes once initiated.**

Example:

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2. Housing Services Agency

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## Technology

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- Outdated application technologies

# SEVENTH LESSON LEARNED

**To be effective, change agents must be empowered and fully supported at the highest levels of the organization.**

## Example

1. Travel Document Issuance Bureau - Failure
2. Travel Voucher Consolidation



# TRAVEL DOCUMENT BUREAU (CONT.)

## 1. Cost Savings (cont.)

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# EIGHTH LESSON LEARNED

## **Perseverance is Vital**

### Example

1. Travel Document Issuance Bureau - Failure
2. Payroll Consolidation

# RECOMMENDATION

In order to achieve substantial change in a shorter timeframe than in the US, I highly recommend the Japanese Government consider:

1. Developing a discreet set of uniform actions and techniques for consolidating and simplifying the technical architecture within the ministries, and
2. establishing a small cadre of change agents, “Yodas”, perhaps only 12, with knowledge of EA, but more importantly knowledge of achieving meaningful change both within and across the ministries.