Architecting an On Demand Enterprise with the Federal Enterprise Architecture (FEA)

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Agenda

- What is driving organizations toward an On Demand Enterprise?
- The Federal Enterprise Architecture – Driving eGovernment Transformation
- On Demand Organizational Transformation
  - Characteristics of an On Demand Enterprise
- Defining the On Demand Operating Environment
- Leveraging the FEA to drive the On Demand transformation of the federal government
- Questions
Constantly Changing Environment

technology

- Open Movement
- Commoditization
- Autonomic Computing
- Grids
- Clusters
- Blades
- Virtualization
- Web Services
- Standards
### Constantly Changing Environment

Requires constant improvement in business design and business process

<table>
<thead>
<tr>
<th>Productivity</th>
<th>Governance</th>
<th>Economy</th>
<th>Capital and Asset Utilization</th>
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<tbody>
<tr>
<td>Security</td>
<td>Pricing</td>
<td>Customer</td>
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<td>Threats</td>
<td>Pressures</td>
<td>Preferences</td>
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Constantly Changing Environment

- Productivity
- Governance
- Economy
- Capital and Asset Utilization
- Security Threats
- Pricing Pressures
- Customer Preferences

business

on demand business

technology

Open Movement
- Autonomic Computing
- Clusters

Commoditization
- Grids
- Virtualization
- Standards

Financial Models

Delivery Options

Financial Models
Business Transformation
Driving Competitive Advantage

- Improved customer services
- More agile, responsive business
- Faster return on investment
- Higher returns and multiples

On demand Business

External Collaboration

Horizontal Process Integration

Static Enterprise Model

Functional optimization

Improved customer services
- More agile, responsive business
- Faster return on investment
- Higher returns and multiples
Federal Enterprise Architecture
U.S. Federal Government is using the FEA as a driver for e-government transformation

- **Business Reference Model (BRM)**
  - Lines of Business
  - Agencies, Customers, Partners

- **Service Component Reference Model (SRM)**
  - Capabilities and Functionality
  - Services and Access Channels

- **Performance Reference Model (PRM)**
  - Government-wide Performance Measures & Outcomes
  - Line of Business-Specific Performance Measures & Outcomes

- **Data Reference Model (DRM)**
  - Business-focused data standardization
  - Cross-Agency Information exchanges

- **Technical Reference Model (TRM)**
  - IT Services, Service Component Interfaces
  - Technologies, Recommendations

Codifies the U.S. Federal Government Agencies Structures and Missions
Service Components Link to Business Objectives

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Reference Model for Services Provided Aligned to the BRM
FEA Technical Architecture Layers

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Ontology for describing Data Models and Technical Architecture
Performance Reference Model Links Measurement

A conceptual depiction of the interrelationships between the FEA Reference Models. This integrated approach will serve as the foundation of Component-Based Architecture design.
On demand is the next step in e-business adoption…

- Basic HR newsletters / portals
- Publishing dynamic content internally and externally
- Simple (consumer focused) procurement systems
- E-mail added to customer service

- Employee intranets
- Limited integration procurement systems
- Custom EDI over VPN and preliminary XML linkages with customers
- Web-based customer service

- Personalized portals (employees, customers, partners, suppliers)
- Integrated, open-standards based supply chains
- Real-time decision making with full customer visibility on all customer interactions
Organizational productivity means that business operations must shift from a vertical to horizontal focus…

**Access digital information**

Processes are bounded by functions

- Functions lead business
- Traditional business applications – limited integration

**Integration:**

Processes led by functions, integrated across functions

- Core processes defined, functions still lead business
- Integration is “reactive”
- Enterprise applications are integrated
- Middleware exploits the internet

**on demand:**

Processes led by business, extended to value nets

- Planned process integration leads the business activity
- Adaptive, integrated enterprise applications
- Processes linked with partners and suppliers

**Develop Services & Products**

**Provide Financial Management**

**Manage Supply & Logistics**
Transitioning Government to an On Demand Organization

? PRM and BRM need to be dynamic in nature.
  – Best Practice Driven
  – Feedback and Oversight Drives Changes to Cross Agency Organization
  – Cross Agency Business Functions are consolidated and coordinated
  – Business Process drives Organization
  – Cross Agency Collaboration Driven by Presidential Initiatives
    – For example, 21 eGov Initiatives
## Attributes of an On Demand Enterprise

<table>
<thead>
<tr>
<th>Attributes of on-demand business</th>
<th>Business requirements</th>
<th>IT environment requirements</th>
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</thead>
</table>
| **Responsive**                  | **Insight-driven decision making**  
? Industry insight and best practice  
? Increased responsiveness to customers  
? Faster deployment against new opportunities | **Integrated**  
? Transaction and process integration across the enterprise  
? Connection to partners, suppliers and customers  
? Active data mining and decision support |
| **Variable**                    | **Return on investment**  
? Reduced or variabilized business costs  
? Reduced capital investment requirements  
? Improved process productivity | **Utility-like**  
? Lower cost of ownership  
? Usage-based pricing  
? Leverage of existing technology investments |
| **Focused**                     | **Outsource non-core**  
? Focus on key value-added processes  
? Cross-functional integration  
? Leverage of third party scale and efficiency | **Open standards**  
? Integration with legacy systems  
? Adaptability to technology environment change  
? Modularity to leverage range of ISV offerings |
| **Resilient**                   | **Risk reduction**  
? Reduced operational risk  
? Robust security and privacy  
? Increased business availability | **Autonomic**  
? Self-diagnosis and self-healing  
? Remote monitoring and management  
? Embedded security and privacy capabilities |
Transform or Become Marginalized/Irrelevant

Static

- Siloed operations and decision making
- Hierarchical organizational structure
- Long product life cycles
- Independent processes and infrastructure
- Passive operational risk management
- Fixed costs
- Proprietary systems
- Labor intensive maintenance

On Demand

- Collaborative and integrated value nets
- Dynamic, adaptive, and learning organizations
- Rapid innovation and flexible lifecycles
- Integrated processes and infrastructure
- Proactive risk management
- Variable costs
- Open and integrated systems
- Self-healing, self-managing systems

Look For Cross Agency Collaboration Opportunities
Transforming to an on demand business requires substantial organizational change

### Adapt Organization

<table>
<thead>
<tr>
<th>FROM</th>
<th>TO</th>
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<tbody>
<tr>
<td><strong>Organizational Infrastructure</strong></td>
<td>? Stable, departmental reporting relationships</td>
</tr>
<tr>
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<td>? Strong orientation toward department results</td>
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<tr>
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<td>? Vendor, contractually-driven relationships</td>
</tr>
<tr>
<td></td>
<td>? Competency specialization</td>
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<tr>
<td><strong>Governance</strong></td>
<td>? Rigid, vertical control systems</td>
</tr>
<tr>
<td></td>
<td>? Metrics that favor “tried and true” endeavors</td>
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<td></td>
<td>? Top-down, limited authority levels</td>
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<tr>
<td><strong>Change Management</strong></td>
<td>? Narrow groups of largely uninvolved sponsors</td>
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<td>? Change management via consultants</td>
</tr>
<tr>
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<td>? Training as needed for new requirements</td>
</tr>
<tr>
<td></td>
<td>? Projects are managed discretely</td>
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<td></td>
<td>? EA Inwardly focused only</td>
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On Demand Business
Requires an On Demand Operating Environment

Business Transformation

- Enable business flexibility and responsiveness
- Reduce cost
- Align IT processes with business priorities
- Improve asset utilization
- Address new business opportunities
On Demand Operating Environment

Open

Integrated

Virtualized

Autonomic

... an approachable, adaptive, integrated and reliable infrastructure delivering on demand services for on demand business operations ...
Integration of People – Process – Information
Anywhere, any time, from any device

Collaboration
Transactional Processes
Information Management

Application Development, Deployment & Maintenance

Policy-based Orchestration
Availability
Security
Optimization
Provisioning

Virtualization Engines
Servers
Storage
Distributed Systems
Network

Integration
Automation
Virtualization

On Demand Operating Environment

Open Standards-based

Business Objectives and Policies
Creating the Operating Environment
Based on an Evolving Set of Shared Components that Simplify Development, Deployment and Maintenance

**Virtualization Services**
- Dynamic hardware virtualization
  - Clusters
  - Blades
  - Networks
  - Storage

**Business Integration Services**
- Model driven design
- Solution mapping
- Solution Deployment
- Process Simulation
- Activity Management
- Process Management

**Common Runtime Services**
- Integrated System Console
- Security and Identity
- Transaction Coordination
- Data Persistence
- Workload Management
- Workflow
- Collaboration
- Application Connectivity

**Automation Services**
- Policy-based orchestration
- Event correlation
- Provisioning
Phases of Delivery

- Establish Leadership
- Use FEA as model for developing Road Map to On Demand
- Leverage Industry Best Practices

- Client discussion framework; Workshop
- Assessments, roadmaps, business cases
- Application infrastructure assessments
- Transformation Outsourcing Benchmarks

- Business process transformation
- Designated Industry Solutions
- Enterprise Application Integration
- Change, Organization & Culture
- Transformation Outsourcing
- Innovation services
FEA PRM & Proposed Control and Oversight Process

Strategic Outcomes

Mission and Business Results
- Services for Citizens
- Support Delivery of Services
- Management of Government Resources
- Financial

Customer Results
- Customer Satisfaction
- Service Coverage
- Timeliness & Responsiveness
- Service Quality
- Service Accessibility

Processes and Activities
- Financial
- Productivity and Efficiency
- Cycle and Resource Time
- Quality
- Management & Innovation

People
- Employee Satisfaction & Quality of Worklife
- Recruitment & Retention
- Employee Development
- Employee Ratios

Technology
- Financial
- Quality & Efficiency
- Information & Data
- Reliability & Availability
- User Satisfaction

Other Fixed Assets
- Financial
- Quality, Maintenance, & Efficiency
- Security & Safety
- Utilization

Must be Linked to
Cross Agency Collaboration

Executive
LOB Planning

Structure
And Control

Define
EA Process

FEA
Control & Oversight

Implement
EA

Maintain
EA

Budget
Spending

Develop
Target
EA

Develop
EA Baseline

Performance Reference Model

Must be linked to Performance Reference Model
Using FEA to Move to an On Demand Enterprise

- Understand on demand and the potential benefits
- Identify & assess potential opportunity areas
- Engage in transformative change

EA Life Cycle:
- Identify ‘as-is’ Business Processes
- Define Interim Steps
- Develop ‘to-be’ EA Spirals
- Identify Target ‘to-be’ EA
- Align Business Processes
- Define and Align Tech Arch
FEA Life Cycle Drives On Demand Reinvestment

On Demand Business

Business Transformation

Savings Reinvested

IT Transformation

Savings Reinvested

EA Life Cycle

Business Process Sophistication

IT Capabilities

Identify 'as-is' Business Processes

Refine and Align Business Processes

Identify Target 'to-be' EA

Define Interim Steps

Develop 'to-be' EA Spirals

Identify 'as-is' Tech Arch

Identify Target 'to-be' EA

Define Interim Steps

Develop 'to-be' EA Spirals

Identify 'as-is' Tech Arch
On Demand Government Transformation using the FEA

? Use e-Gov Initiatives to drive the On Demand Transformation
? Define Cross Agency Business Processes
  – Create Virtual Organizations
  – Empower cross agency collaborators
  – Drive changes into BRM
  – Measure success using PRM

? Create On Demand Road Maps
  – Define intermediate milestones for Agency Enterprise Architectures

? Enterprise Architecture is an Iterative Process
? Integrate New On Demand Capabilities into TRM and DRM Annually
  – Fast moving technology changes

? Transform your organization or – Become Marginalized
Thank You

business on demand

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