ITA: Changing for the Future

Thomas M. Sasala
Chief Technology Officer
US Army Information Technology Agency

30 JAN 2013

This briefing is:
UNCLASSIFIED

POC: Thomas M. Sasala, 571-256-4550
Agenda

• Overview of Pentagon and ITA

• Department and Industry Trends

• Strategic Initiatives for Future State
Information Technology Agency

- **Established** under DoD Directive 8220.1 in 1995 as the “single agency manager” for the Pentagon Reservation

- **Serving** primarily the DoD community in the Pentagon and NCR

- **Transforming** to meet the growing needs of customers through best practices and leading technology
US Army Information Technology Agency

Mission
Enable our customers' mission success by understanding their requirements and providing premier information technology services within the NCR DoD community

Vision
Effective and efficient delivery of IT services
ITA by the Numbers

- **Customers:** ~151
- **Employees:** ~350
- **Contractors:** ~800

- 14 server rooms spread across 46K sq/feet
- ~900 telecommunication closets
- ~9500 network devices
- ~2700 physical servers
- ~5600 workloads
- ~432,000GB/Day » ~77,142 CD’s per day
- 14,700,000 KW Hr / year
- >7 Petabytes of storage
Video

• Shift Happens
  – http://www.youtube.com/watch?v=XVQ1ULfQawk

• Social Media:
  – http://www.youtube.com/watch?v=0eUeL3n7fDs

• Changing Workforce:
  – http://www.youtube.com/watch?v=2XIQkDldpmI
ITA’s Journey

Legacy State

- Constrained resources to achieve objectives
- Internal governance and standard processes need to be implemented
- Methodology for capital planning and investments need to be defined
- Limited analysis of customer groups and needs to proactively offer technology solutions

Horizon 1

Lead Flexible, Customer-Centric IT Modernization for Pentagon Enterprise Solutions

- More agile, nimble, able to respond to customer expectations
- Establish cost model to scale offerings and execute contracts efficiently
- Infrastructure in place to deliver agile solutions, such as a Common Operating Environment
- Anticipates customers’ greatest needs using analytics

Horizon 2

Enable Enhanced Secure Collaboration

- Greater visibility by serving a broader customer base
- Pacesetter in consolidation and creating efficiencies
- Leverage existing cloud solutions to enable greater mobility
- Bundled solutions to enable customers’ mission

Horizon 3

Deliver Enterprise IT to Enable an Integrated Mobile Workforce

- Design and deliver hyper-converged network to maximize cost savings
- Provide fully agile, scalable products and services to a fully mobile customer
- Dedicated mission partnerships within the DoD

Future State

- Design and deliver customer experience delivered
- Valued Mission Partner
- Advanced technology that satisfies customers’ greatest needs
- Platform to provide greater mission capabilities
DoD and Industry Strategic IT Trends

DoD and private sector IT strategic objectives are focused on improving collaboration, security, information access, and efficiency.

**Future IT Development**

**DoD IT Trends**

**Deliver and Enable Efficiencies, Reducing Waste**
Consolidation of networks and increased use of enterprise solutions.

**Modernize IT**
Emerging solutions such as cloud computing and virtualization will allow greater information sharing and collaboration for end users, especially with IT users in the battlefield.

**Facilitate Information Sharing**
Greater synchronization and integration of intelligence is needed by military decision makers.

**Improve Cybersecurity Posture**
It is essential to create secure collaborative environments, and protect networks, C2, and enterprise systems via a defense in depth strategy.

**Industry IT Trends**

**Context-based Services Through Data Analytics**
Use analytics to drive services that are specific to each individual user.

**Rebalancing Data Architecture to Manage Big Data**
Rebalance data architecture and infrastructure to maximize the benefits of old and new data management capabilities.

**Industrialized Data Services to Enable Holistic, Informed Decisions**
Develop data management policies that strike the right balance between security and data flow.

**Agility via Advanced Cloud Solutions**
Drive commoditization of infrastructure allowing focus on mission space with greater agility and gain quicker access to new markets.

**Orchestrated Analytical Security to Proactively Anticipate Threats**
Analytical security allows for real time data collection during an attack, providing for more agile adjustments.
Characteristics of Target State Environment

Customer Focused Features

- **Multiple End User Computing Devices**
  - Each device provides similar levels of service and capabilities

- **Bring Your Own Device**
  - Use personal device for official business
  - Secure “sandbox” within personal device

- **Full Mobility and Presence**
  - Users can move from place to place and retain capabilities and services
  - Infrastructure “knows” who’s “online” and using services

- **Self Service Ordering**
  - Customers can order services and capabilities without human interaction
  - Fully automated workflows and regular and routine services

- **Wide Range of “Single Use Applications”**
  - Highly specialized, single-purpose applications

Infrastructure Focused Features

- **Elastic Infrastructure**
  - Scales dynamically based on demand

- **Single Authoritative Digital Identity**
  - Master data management for identity data

- **Multiple Personas**
  - Credentials and attributes tied to personas
  - Variety of multi-factor authentication technologies
  - Master data management for persona attributes

- **Remote Administration**
  - “Lights Off”

- **Instrumented Infrastructure**
  - Automated alerting, metrics, reporting

- **Remote attestation**
  - Devices authenticate to the network and request services

- **Virtualized Infrastructure and Client Services**
  - Device agnostic client access
  - All services provided via dynamic provisioning
Information Technology “Stack”

Joint Architecture Reference Model

1. Facilities Infrastructure (P, S, & C)
2. Fiber/Cable Infrastructure (OSI Layer 1)
3. Networks (OSI Layers 2 & 3)
4. Computing and Storage Platforms (HW & CS)
5. Applications and Content Enabling Software
6. Frameworks and Content Structure
7. Applications and Content
8. Enterprise Activities and Operations
9. Threads and Scenarios
10. Operational Objectives & Policies

JARM 10 Layer Model is More Comprehensive
Objectives, Threads, and Activities

- Joint Information Environment
- Core Data Center
- Bring Your Own Device
- Unanticipated User / DoD Visitor
- Advance Persistent Threat
- Predictive Business Analytics
- Balanced Survivability Assessments
Applications and Content

- Hosting Applications
- Application Development
- Software as a Service
- Mobile Device Management
- Enterprise Service Desk
- Virtual Desktop Infrastructure
Frameworks and Content Structure

- Platform as a Service
- Web Development Kits
- Content Management Systems
- Knowledge Management
- Data and Metadata Standards
Applications and Content Enabling

- Web Services
- Data as a Service
- “Smart Data”
- Deep Session Inspection
- Information Access Protection
Computing and Storage Platforms

- Infrastructure as a Service
- Thin Provisioning
- Storage Virtualization
- Elastic Infrastructure
- Self Service Compute Services
Networks

- Network Virtualization
- Multiprotocol Label Switching
- Passive Optical Networking
- 1G, 10G, 40G, 100G
- MAN, WAN
Fiber and Cable Infrastructure

- Copper
- Fiber
- Dark Fiber
- Single/Multi-Mode Fiber
- Wireless
Facilities

- Physical Security
- Monitoring
- Access Control
- Identity and Access Management
- Smart Buildings
The Only Constant is Change

• Change Happens Everywhere
  – Things Change Around You Everyday
  – You Must Become the Agent of Change

• Change Requires Adaptation and Leadership
  – Innovation, consolidation, and modernization
  – Standardization, integration, and interoperability

• Change Forces Consolidation and Modernization
  – Drive efficiencies by commoditization of the infrastructure
  – Place “power” in hands of users, not IT organizations

• Change Makes Shift Happen
How can you help?

• Bring latest technology, focused on our core mission and strategic objectives to us

• Work with our partners to accelerate adoption

• Drive interoperability across solutions and markets

Who to contact?
• ITA Partner Engagement Team
• Phone: 571.256.4550
• Email: army.innovations@mail.mil
Questions?