

Army Training Information System(ATIS) Industry Day

**Program Executive Office
Enterprise Information Systems**

2 September 2014

Agenda

12:30-13:00

- Opening Remarks

Mr. Douglas Wiltsie

13:00-13:30

- ATIS Overview

Mr. Joel Phillips

13:30-14:00

- Existing System Overview

Mr. Roderick Hutchinson

14:00-14:30

- High Level Architectural Approaches

Mr. Aaron Hunter

14:30-16:00

- Discussion of Challenges

ATIS Panel

Opening Remarks

Mr. Douglas Wiltsie
Program Executive Officer
Enterprise Information Systems

ATIS Overview

Mr. Joel Phillips
ATIS Project Lead PEO EIS

ATIS Problem Statement

- No centralized system provides Army Commanders, leaders, Soldiers or civilians with situational awareness, a Common Operating Picture (COP), of the Training Environment (TE) to enable effective planning, preparation, execution, and training assessment
 - Current Training Information Systems lack enterprise visibility, accessibility, governance and security, and may not be located in authoritative data sources
 - Current training systems are not integrated and do not provide trusted, normalized, accurate data to users

AS – IS

Disparate System-Centric Data
No Common Standards
Limited Data Sharing
Limited Integration Across Systems
User Access Not Optimized
Redundant Information
One-off Solutions Developed Outside Governance
User Performance Data Not Shared


Gaps Assessment

Six Training Roles

Requirements, Policy, and Resourcing
Organization, Doctrine, and Training Development
The Army School System
Training in Units
The Training Support System
The Quality Assurance Program

- In 2008 TRADOC completed a Capabilities Based Analysis to identify the Functional Needs and Solutions Analysis.

- The CBA was intended to create an Initial Capabilities Document
- Revalidated as a part of 2013 Business Process Reengineering



16 Capability
Gaps Identified

Capability Gaps (ATIS CBA, Jan 2008)

Priority	Gap #	Description
1	11	Make the education and training data/information Net-Centric compliant. This means it is: Visible; Accessible; Institutionalized; Understandable; Trusted; Interoperable; Responsive to user needs.
2	8	Make the education and training data/information sharable, manageable, and synchronizable (time stamped) for effective sharing between users.
3	7	Make the education and training data/information available anytime, anywhere. This means even when the user is not connected to a network.
4	6	Capture education and training data/information using specified data that is defined according to certain standards, such as those expressed in the DoD Net-Centric Data Strategy.
5	10	Make the education and training data/information modifiable only by the appropriate owner (training proponent).
6	2	Provide authorized users the capability to store, search, and retrieve education and training data/information. This also implies that the information is platform-independent.
7	16	Make it possible for an authorized user to create or modify education and training products or materials.
8	1	Provide authorized users of education and training data/information connectivity to acquire/see that material. In other words, the information (and the user) are net-ready.
9	5	Provide the capability to deliver training products and materials to authorized users when and where needed. The latency of delivery must be acceptable to the user.
10	15	Make it possible for the user seeing the information to retrieve more training information
11	13	Make the person seeing the information able to process the data/information for the right context.
12	14	Make the education and training data/information actionable.
13	12	Make the training information usable to the person seeing it, according to the user's particular role.
14	4	Provide the capability to control access to education and training data/information.
15	9	Make the education and training data/information viewable, visible, and displayable according to the user's needs and capabilities.
16	3	Maintain security of education and training data/information. It must be segregated by classification, and it must be "un-seeable" by those who should not see it.

Re-evaluated and validated as a part of 2013 BPR

Business Process Reengineering (BPR)“To-Be”

- Initial BPR conducted Nov 2013

SMP/DoD Goal or Objective	HLO Title	HLO Description
Build Agile and Secure Information Capabilities	Implement Sharing of Training Data, Information, and Services	Enables a secure sharing environment that supports war fighting, business, intelligence, and enterprise information environment for Army training
Re-engineer/Use End-to-End Business Processes	Streamline the Army Training Business Mission Area (BMA) Portfolio	Streamlines Army BMA portfolio of training systems that (currently) provides the (objective) five ATIS core capabilities while reducing amount of dollars currently being spent



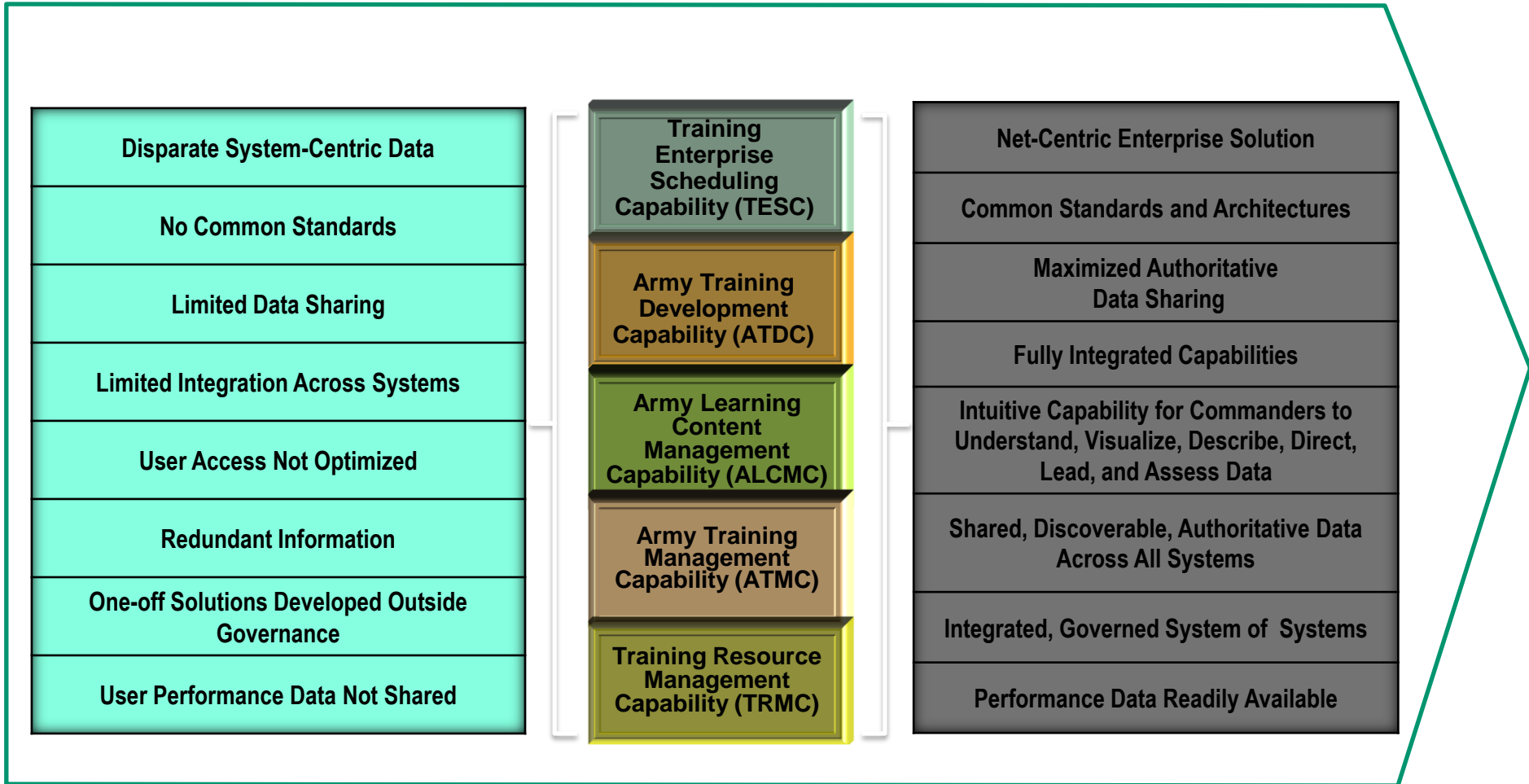
HLO Title	Business Outcome
Implement Sharing of Training Data, Information, and Services	Establish a DoD Data-Sharing Compliant Army Training Information System
Streamline the BMA Portfolio	Establish a Training Enterprise Scheduling Capability
	Establish an Army Training Development Capability
	Establish an Army Training Learning Management Capability
	Establish an Army Training Management Capability
	Establish a Training Resource Management Capability



To – Be

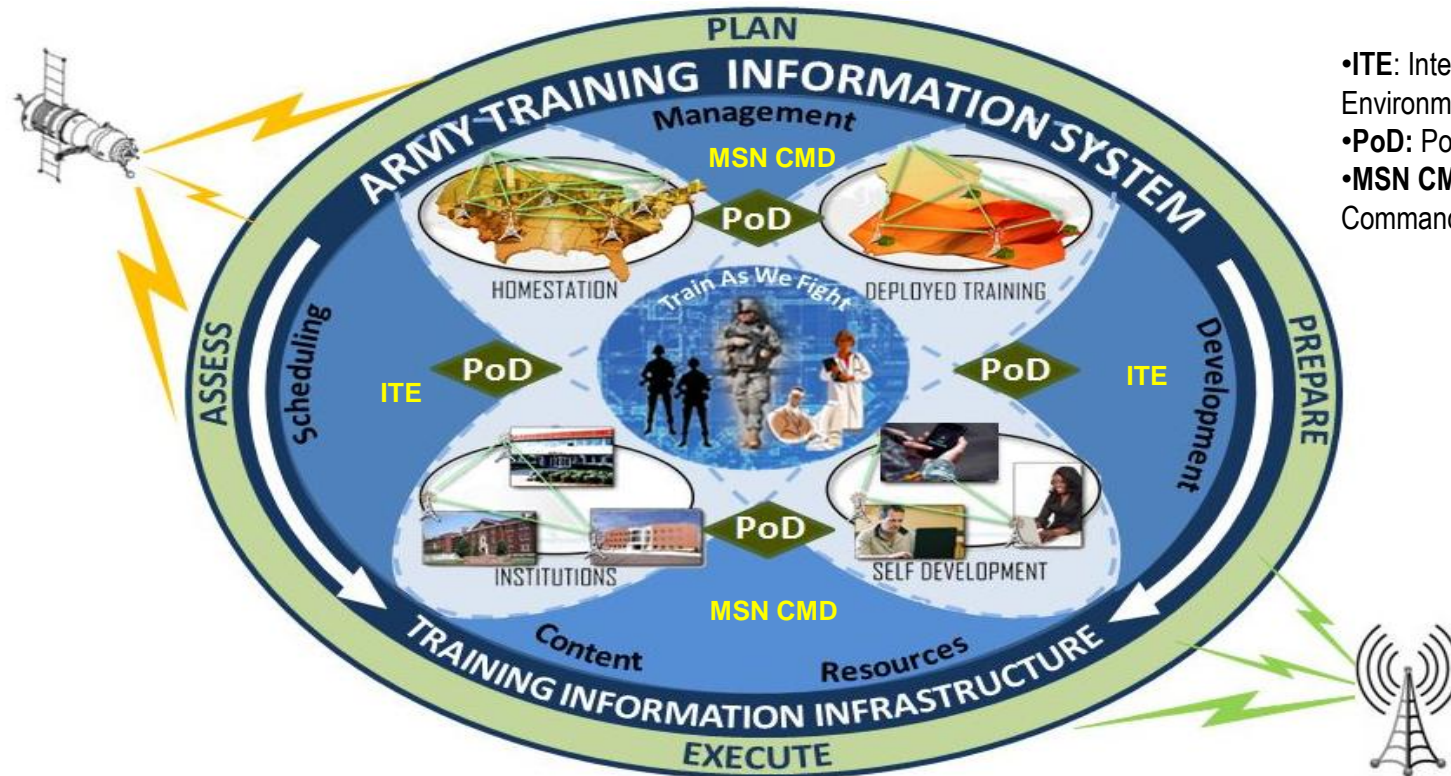
Net-Centric Enterprise Solution
Common Standards and Architectures
Maximized Authoritative Data Sharing
Fully Integrated Capabilities
Intuitive Capability for Commanders to Understand, Visualize, Describe, Direct, Lead, and Assess Data
Shared, Discoverable, Authoritative Data Across All Systems
Integrated, Governed System of Systems
Performance Data Readily Available

ATIS Vision



Providing Centralized, Seamless, Persistent Access to Training and Education Information and a Common Operating Picture of the Training Environment for Users

ATIS Concept of Operations



- ITE: Integrated Training Environment
- PoD: Point of Delivery
- MSN CMD: Mission Command

ATIS provides a role-based, Common Operational Picture (COP) for the training environment, similar to the joint warfighting force, to more efficiently produce, manage, and disseminate Army training information.

ATIS OV-1



Program Overview

Program Description

ATIS will deliver an Army enterprise capability to enable the Training Environment with a single system for scheduling, development, learning content management, training management and resource management for all individual and collective training and education. As this system is fielded, the Army will reduce the overall cost of the training environment by retiring the duplicative, stove piped systems and improve performance with a net centric, governed and architecturally compliant system.

Funding Estimates

- Life Cycle ROM estimate is approximately \$450M
- This is a gross estimate used for government initial planning purposes only

Recent Milestones or Events

- Jan 2014 – Submitted POM 16-20 requirements
- 21 Feb 2014 - Completed 3-Star ABC brief of Problem Statement
- 31 Mar 2014 – Received DCS G-3 Cost Affordability Target 1 July 2014 - Problem Statement approved by the IRB
- 29 July 2014, ASA (ALT) Hon. Ms. Shyu Approved MDD

Near Term Milestones or Events

- Aug 2014-Mar 2015: Perform Analysis of Alternatives (AoA)
 - Continue Market Research
 - Identify, Assess Technical alternatives
 - Recommend ATIS Technical alternative
- Mar 2015-Jul 2015: Develop Milestone A Documentation
 - Complete Regulatory Documentation
 - Complete Acquisition Business Case
 - Staff Documentation for Approval
- Aug 2015: Milestone-A Decision


Affordability Constraints

■ Approved by G-3/5/7 DAMO-TR, BG Johnson on 31 March 2014

- The Training (TT) Program Evaluation Group (PEG) Affordability
- Constraint Goal is \$489.414M across FY15-31:

■ Key Assumptions:

- ATIS critical requirements will be funded by the Training Program Evaluation Group
- Systems migration/incremental development timeframe starts no earlier than FY16
- As ATIS capabilities are fielded, legacy systems will be retired
- ATIS Program will consist of five key capabilities that support Operational, Institutional and Self-development training
- A Program Manager (from PEO EIS) will be assigned

	<p>DEPARTMENT OF THE ARMY OFFICE OF THE DEPUTY CHIEF OF STAFF, G-3/5/7 400 ARMY PENTAGON WASHINGTON, DC 20310-0400</p>	<p>MAR 31 2014</p>
<p>REPLY TO: ATTENTION OF: DAMO-TR</p>		
<p>MEMORANDUM FOR Army Capabilities Integration Center (ARCIC) Analysis & Integration Directorate (A&ID) (Attn: COL Thomas Dillingham)</p>		
<p>SUBJECT: Recommended Affordability Constraint Target for the Army Training Information System (ATIS) Program of Record (POR)</p>		
<p>1. References.</p> <p>a. Memorandum, Army Capabilities Integration Center, ATFC-RA, 25 Apr 13, subject: Affordability Targets.</p> <p>b. Memorandum, Deputy Chief of Staff, G-8, 17 May 13, subject: Reference memorandum: Affordability Targets, dated: 25 April 2013.</p>		
<p>2. ATIS POR will provide centralized, seamless, and persistent access to Training and Education information, and a common operational picture of the Training Environment for users. It will integrate and synchronize existing/evolving training information systems, ensuring they interoperate seamlessly and effectively, eliminating redundancies, and creating cost savings and operational efficiencies. ATIS technology will provide functional solutions to 21 of the 26 Required Capability Gaps in the <i>Training and Education Capabilities-Based Assessment (Sep 2011)</i>. In addition, the Institutional Education and Training Reforms findings (Dr. Braverman Study) identified a need to develop a Common Operational View (COV) of the Army's training systems, and specifically recommended the implementation of ATIS to meet this need.</p>		
<p>3. In keeping with Affordability Targets discussed at references (a) and (b), we developed an Affordability Constraint Goal to identify required funding to support the system migration/incremental development; procurement; and annual operation and sustainment of the ATIS POR. We recognize that the ATIS Analysis of Alternatives may explore greater or less expensive implementation alternatives.</p>		
<p>4. Current plan is for system design in FY16-17, development in FY17-21, and sustainment beginning in FY22. The TT PEG Affordability Constraint Goal totals \$489.414M across FY15-31.</p>		

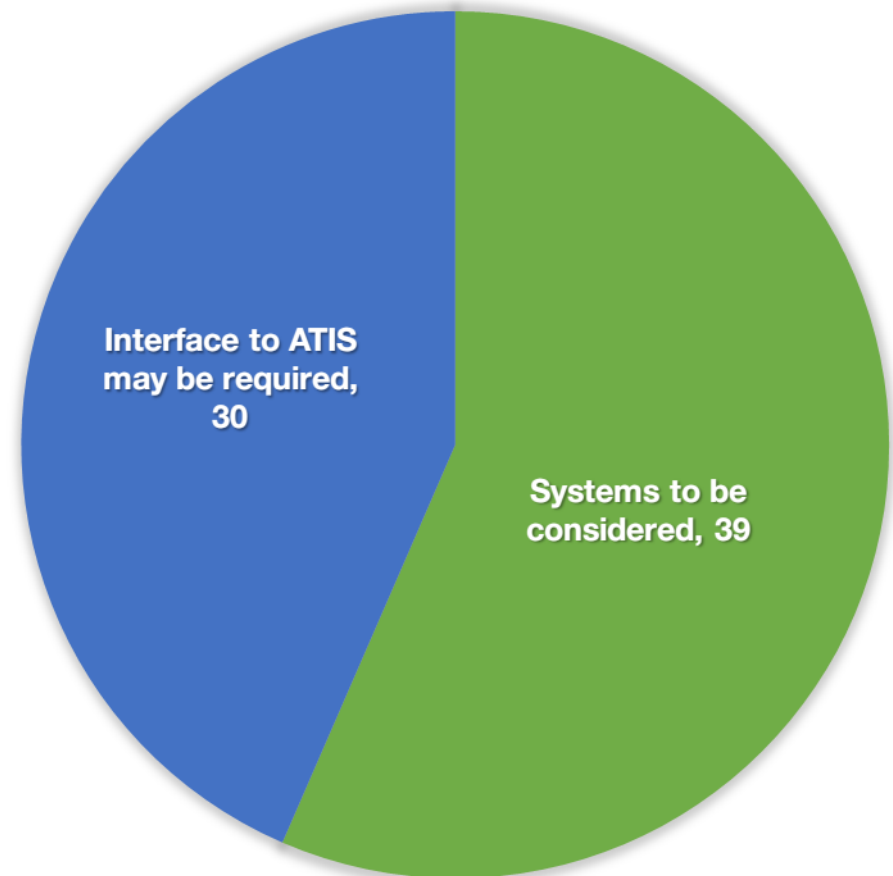
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JOHN P. JOHNSON
Brigadier General, GS
Director of Training

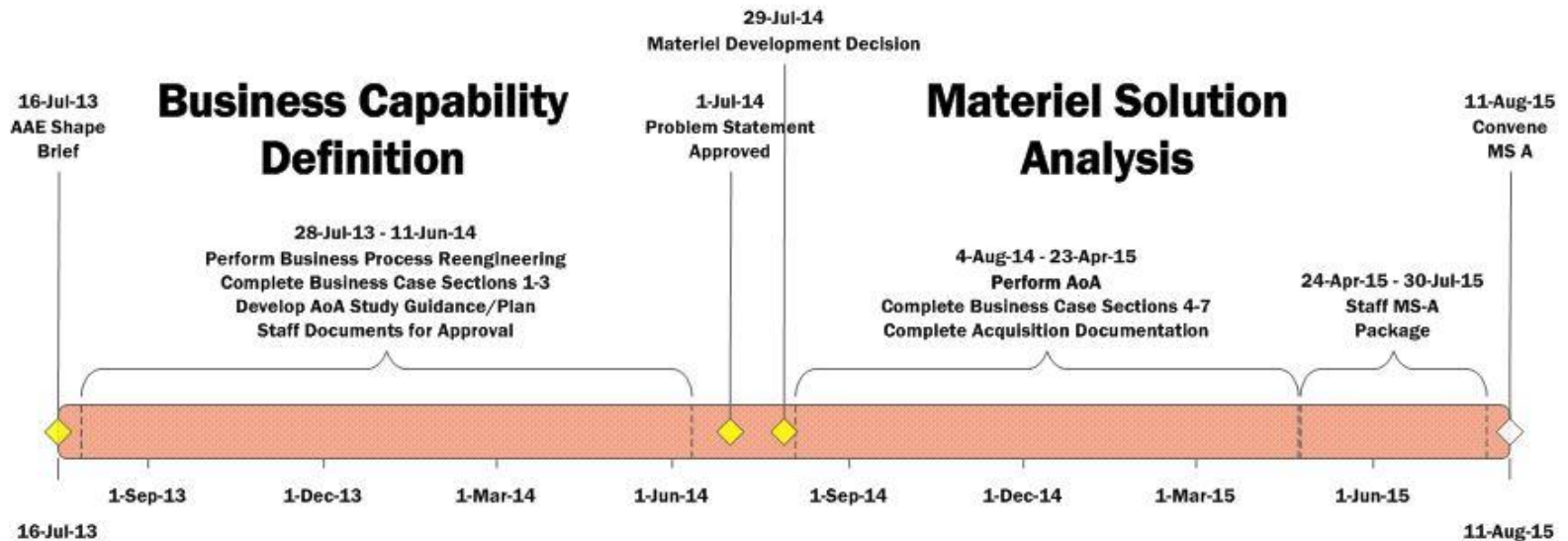
Initial Training Systems Analysis Summary

- 208 training systems in the Army Portfolio Management Solution (APMS) were analyzed (161 reside in WMA; 47 in BMA)
 - 69 of the 208 training systems assessed to have some potential ATIS applicability
 - 39 of the 69 systems are marked for further analysis for potential ATIS incorporation
 - 30 of the 69 systems are marked for further analysis as potential ATIS interfaces
- Prior to MS A - Technical/Functional Surveys will be released to further analyze the 69 systems of interest:
 - Surveys will:
 - Identify Authoritative data
 - Validate interfaces
 - Increase fidelity of legacy system capability and functionality



Schedule

Army Training Information System



Existing System Overview

Mr. Roderick Hutchinson
Deputy TCM-ATIS

TCM ATIS Role – Legacy Systems

- TCM ATIS: Initial charter signed 15 December 2009; Current charter signed 15 June 2014
- Maintains nine legacy systems:
 - ATIA: Army Training Information Architecture. Includes three applications:
 - **CAR: Central Army Registry**
 - **MT2: My Training Tab**
 - **SIS: System Interface Service**
 - ESC: Enterprise Scheduling Capability (Interim)
 - IDMS: Inventory and Distribution Management System
 - LLC: Lifelong Learning Center
 - RECBASS: Reception Battalion Automated Support System
 - RITMS: Resident Individual Training Management System
 - SWT: STRAP Writing Tool
 - TDC: Training Development Capability
 - TS-MATS: Training Support Materiel Armywide Tracking System

TCM ATIS Role - ATIS

- Ensure the integration and synchronization of DOTMLPF requirements
- Provide intensive and centralized capability management
- Represent the user throughout the capability/system life cycle
- Review and in some cases develop, staff, and gain approval for capability documents and any other TRADOC DOTMLPF products
- Ensure all aspects of DOTMLPF are synchronized with the fielding of new systems and/or capabilities
- Participate in the materiel developers' system concept, cost performance trade-off, and cost as an independent variable analyses
- Provide membership to Integrated Concept Development Teams
- Serve as the CG, TRADOC representative to the Program Executive Office and/or program manager for those capabilities for which the TCM is responsible
- Work with CDIDs and appropriate capability developer divisions to review requests for proposals and statements of work prior to being released for competition in order to ensure the program manager is correctly describing the required performance and other DOTMLPF attributes

- Source: TRADOC Regulation 71-12, U.S. Army Training and Doctrine Command Capability Management, 3 OCT 12

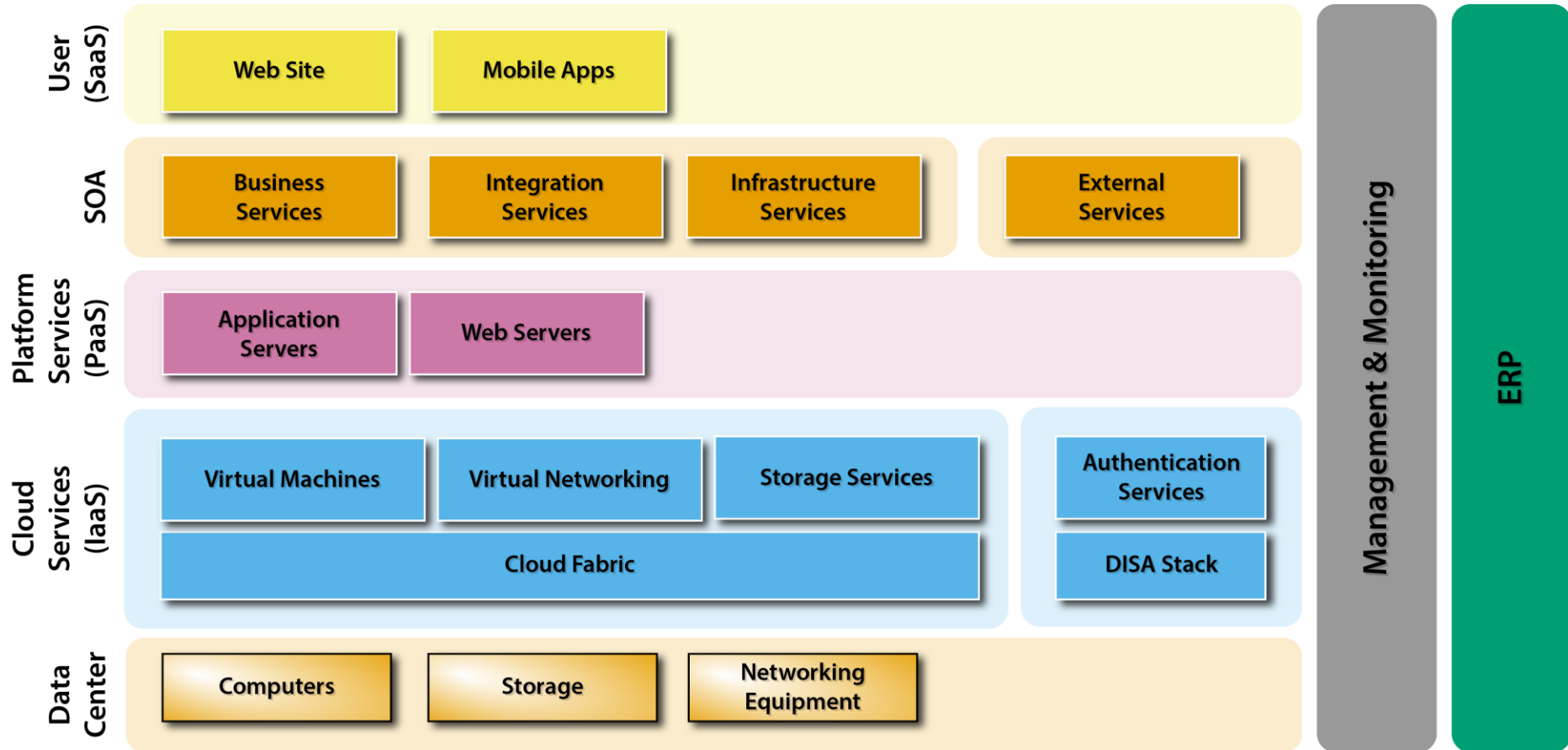
High Level Architectural Approaches

Mr. Aaron Hunter
MITRE Lead System Engineer

Purpose

- Describe the high level architectural approaches that the ATIS Study Team will examine.

Architectural Services Model



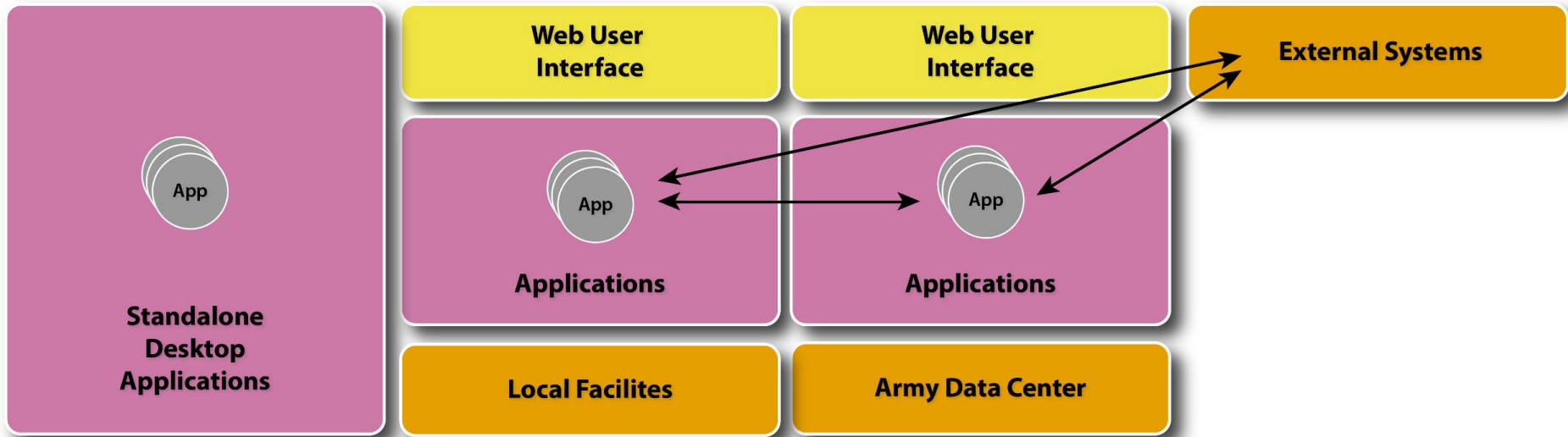
Common Architectural Requirements

- Provide a web-based user interface
- Provide a mobile device interface for end-users
- Provide integration services to enable machine-to-machine interfaces with external systems
- Use the DoD PKI for user authentication
- Be hosted at a DISA approved data center
 - Compliant with the Army COE Data Center guidelines
 - Compliant with the Army Private Cloud guidelines
 - Compliant with DISA JIE guidelines
- Use a data center certified to DISA Cloud Security Level 3/4

Discriminators

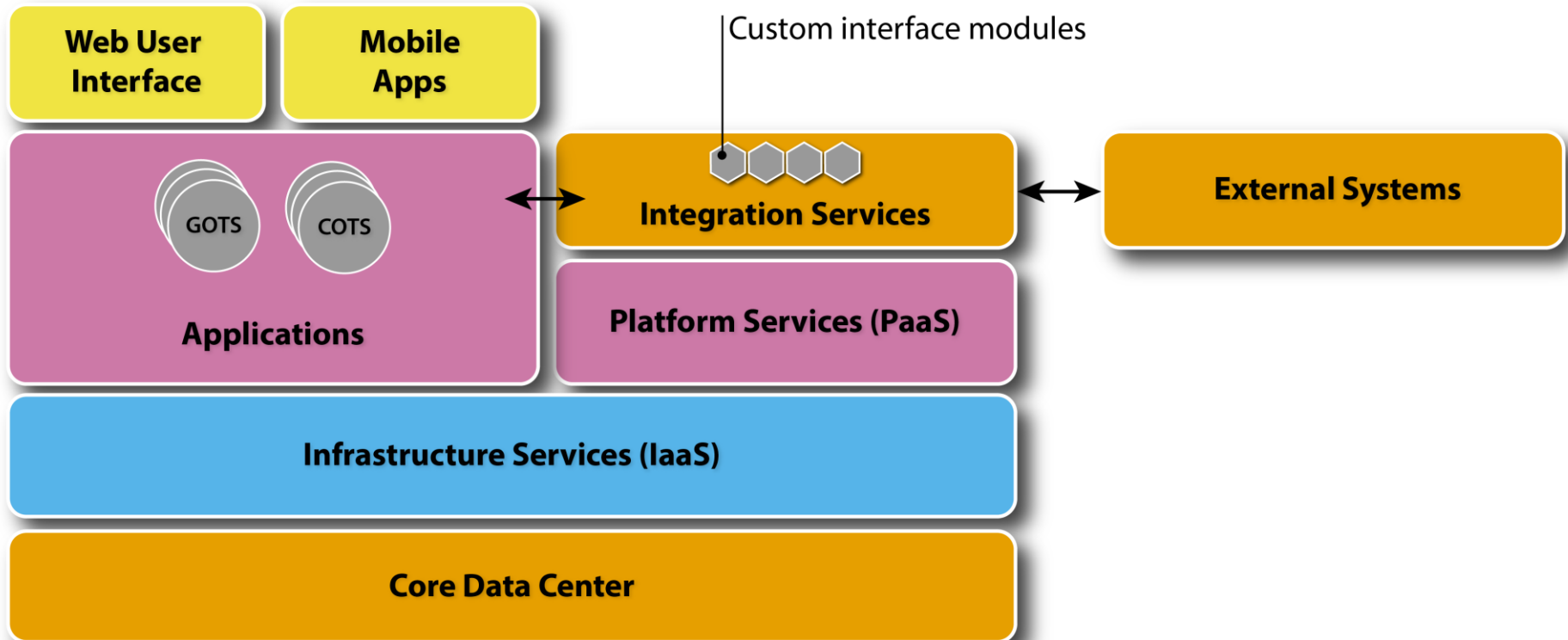
- Each approach varies by its high-level architectural strategy and by these discriminators
- One or more core software products
 - COTS or GOTS
 - These must be hosted in a DISA approved data center (except for the ERP)
 - Number of core products depends on the approach
- Custom configuration
 - Creation of RICE objects such as web pages and reports
 - Amount of custom configuration depends on the approach
- Custom development
 - Custom plug-in and services that extend the functionality of the core products
 - May be business or integration services
 - Will be required to interface with existing systems
 - Amount of custom development depends on the approach

Approach 1: Status Quo



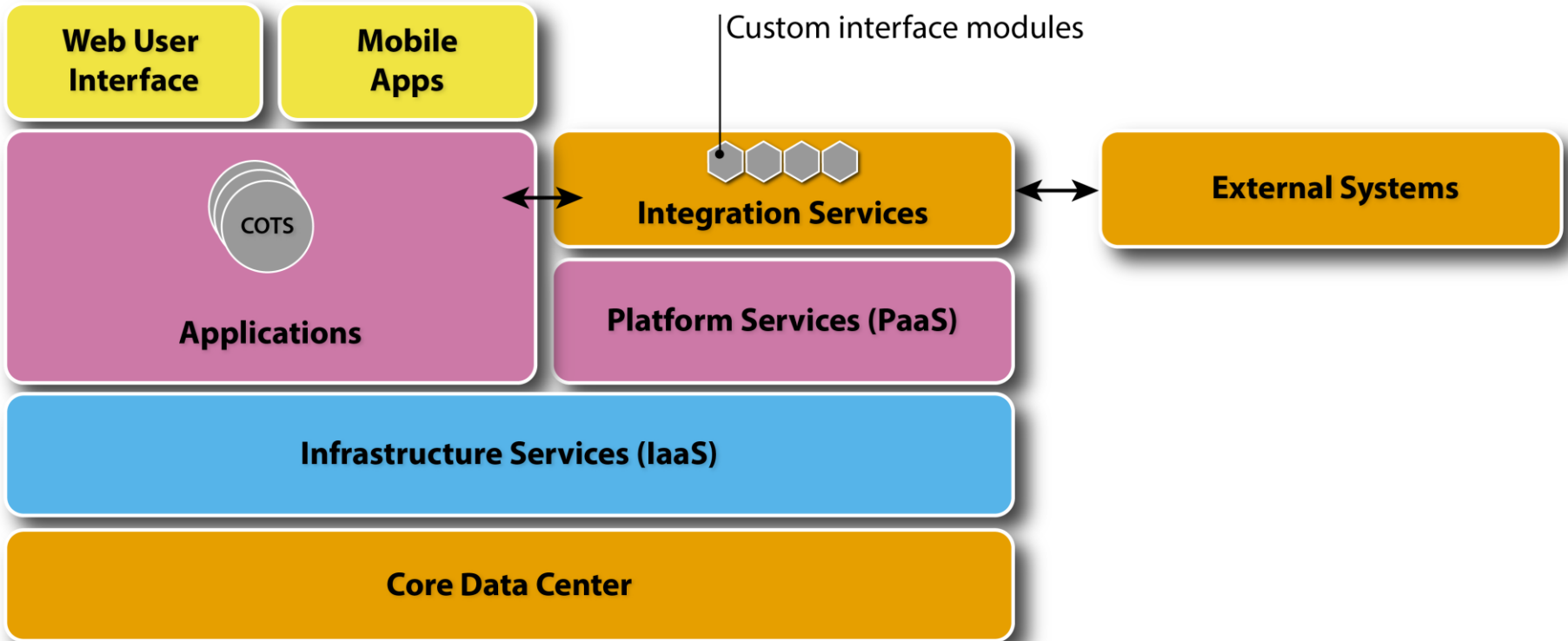
Continue use of Army's current training information systems and databases.

Approach 2: GOTS/COTS Mix Hybrid



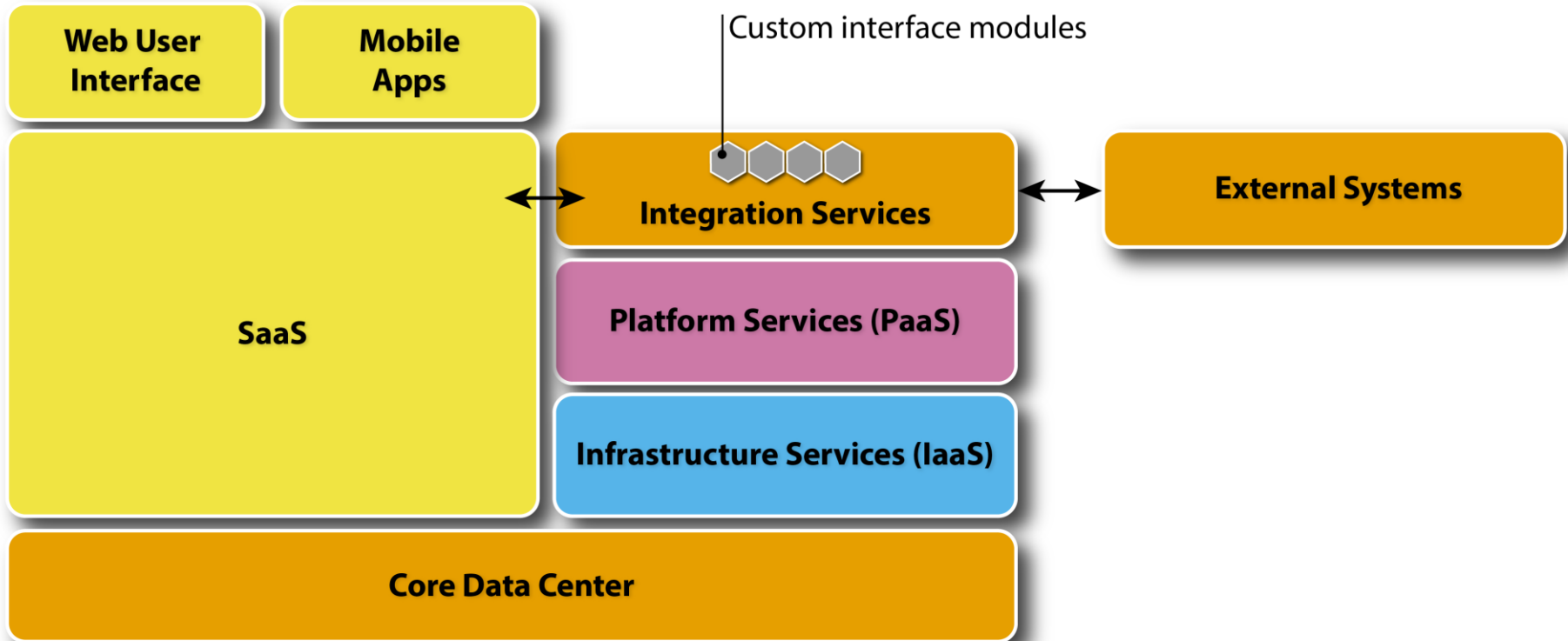
Best of breed from the existing systems/GOTS, commercial applications/COTS and new development as needed. Host the system in an Army Private Cloud compliant environment.

Approach 3: Integrated COTS



Best of Breed COTS As A Total Integrated Solution

Approach 4: Software as a Service (SaaS)



Industry partner delivers all required applications, services, interfaces and infrastructure. Provides web and mobile access according to the terms negotiated in a Service Level Agreement. *The acquisition approach is for services, not development or purchase of SW/HW.*

DISA Cloud Security Model

Impact Level	Max Data Type & C-I-A	FedRAMP Secure Repository+ Federal ATO+ JAB Provisional Authorization	CNSSI 1253	Ongoing Assessment	C2 & NetOps/ CND Integration	Architectural Integration	Policy, Guidance, Operational Constraints
1	U-Public NA-L-x	L	Tailored Set with equivalency in addition to FedRAMP Low	IAW FedRAMP: 3 rd party report for DoD review	IAW FedRAMP: Incident Rpts., Vulnblty Scans, POA&Ms, FedRAMP package updates, network arch updates, config updates, outage notifications; Limited bidirectional comms between CSPs & CND Tier II to include warnings and notifications	Two factor authentication for Sys Admins	Selective STIGs/SRGs/Other measures or equiv; Law Enforcement access; Official notifications; Data locations; Data spills; Data disposition; Storage Hardware disposition
2	U-Limited Access L-M-x	M	Tailored Set with equivalency in addition to FedRAMP Moderate	+ Limited ECSB assessments	+ User Level Intrusion Incidents	+ DoDI 8500.2 Passwords	+ Additional selective STIGs/SRGs/Other
3	CUI L-M-x	M	+ CUI-specific Tailored Set with equivalency	+ At least Annual 3 rd party / DoD Red Teams + Red Team of significant changes	+ Non-Compliance Incidents + Rx Unclassified Threat Info + NIST ARF/ASR formats for SCM + Rx Security Policy (signatures, filters)	+ DoD PKI + DIBNet-U + NIPRnet Only	+ All STIG/CTO or equiv + DoD Community Clouds only
4	CUI M-M-x	M	Same as Level 3	Same as Level 3	+ Credible Attempt Incidents + Rx Classified Directives + Rx Classified Threat Info	+ DIBNet-S	Same as Level 3
5	CUI H-H-x	M	Tailored Set for High Impact Data with equivalency	+ As often as Quarterly 3 rd party / DoD Red Teams	+ Reconnaissance Incidents	Same as Level 4	Same as Level 3
6	Classified H-H-x	M	Same as Level 5	Same as Level 5	Same as Level 5	+ SIPR HW Token	+ All STIG/CTO with exception

Green: Unclassified Information not deemed CUI

Orange: Controlled Unclassified Information

Red: Classified up to and including Secret Information

The + sign indicates an incremental increase in requirements from the previous lower Impact Level

Discussion of Challenges

Mr. Aaron Hunter
MITRE, Lead System Engineer

Background

- An initial RFI was published on FEDBIZOPs in May 2014
- The PEO received 30 responses
- The RFI responses provided extensive information about commercial products in the training domain
- In this RFI the PEO is requesting specific information about adapting commercial methods, processes, and application to the Army environment
 - The PEO is not requesting a list of commercial products for ATIS since it was received in the last RFI

Key Technical Challenges

1. Data Center/Cloud Hosting
2. Software as a Service (SaaS)
3. Agile Development
4. Mobile Computing
5. Usability
6. Performance and Scalability
7. Architecture Governance and Change Management
8. Security
9. Data Standardization and Migration
10. Develop life cycle cost estimates for candidate alternatives

Data Center/Cloud Hosting

DoD policy requires that ATIS be hosted at a DISA-approved core data center certified at security level 3 (FOUO data). Furthermore, ATIS Applications and operating systems must run on x86 hardware. The applications must be capable of running in a virtualized environment. The approved operating systems are: Windows Server, Red Hat Linux 6.x, and Solaris x86.

Questions for industry:

- What current or potential Level 3 certified cloud providers would you recommend and why?
- What strategy do you recommend for migrating existing systems (if necessary) to this cloud provider?
- What business continuity strategy do you recommend to provide 24/7 service and high availability?
- What cloud framework do you recommend?

Software as a Service (SaaS)

ATIS capabilities will be delivered to end users primarily via the web. ATIS is interested in SaaS as a means of delivering these capabilities.

Questions for industry:

- What SaaS options do you recommend that would be compliant with the DISA requirement?
- What external machine-to-machine integration capabilities does this SaaS option provide?
- What automated Service Level Agreement (SLA) monitoring strategy would you recommend?

Agile Development

ATIS is considering the DoDI 5000.02 Model 3 increment build and deployment process. Model 3 allows ATIS to follow an agile development process.

Questions for industry:

- What agile development methodologies have you had success with in the DoD or Industry?
- What agile development methodology would you recommend for cloud based systems?

Mobile Computing

ATIS is considering providing e capabilities to end users on DoD approved mobile devices.

Questions for industry:

- Given the current state of mobile devices in the DoD, what mobile capability roll-out strategy would you recommend?
- What application development strategy would you recommend (for example, native apps versus HTML based apps)?

Usability

Usability is one of the core ISO 9126 software quality metrics. Ensuring high usability is critical to ATIS because it will be used by all Army Soldiers and civilians who will have minimal training on the system. Ensuring usability requires formal, empirical testing with actual users.

Questions for industry:

- What empirical usability testing process do you recommend?

Performance and Scalability

ATIS must be capable of supporting the active, reserve, guard, and civilian components of the Army. ATIS must also be able to support large data along with custom reporting, analysis, and queries. The ATIS web site must be responsive for users whether they are at home station or forward deployed.

Questions for industry:

- What scalable and robust data reporting and analysis capability do you recommend?
- What architecture design patterns do you recommend to help ATIS reach its scalability and responsiveness goals?
- What DoD compliant content staging strategy do you recommend?

Architecture Governance and Change Management

As a large and complex system ATIS will face many governance and change management challenges. The incremental (agile) deployment approach ATIS intends to use increases the need for strong and effective governance and change management.

Questions for industry:

- What architectural governance and change management approach do you recommend for cloud based, agile systems?

Security

ATIS has an obligation to protect its system and user data from unauthorized and malicious access. ATIS must integrate with the DoD Public Key Infrastructure (PKI) and provide its users with single sign-on.

Questions for industry:

- What approach do you recommend for enterprise, cloud based security?
- What approach do you recommend for mobile application security?
- What approach do you recommend for integrating with the DoD PKI to provide centralized authentication and single sign-on?
- Are you familiar with any instances where combining Unclassified, FOUO data resulted in a need for Secret classification change? If so please provide details.

Data Standardization and Migration

ATIS faces two challenges with its data: 1) migrating data from existing system to ATIS, and 2) standardizing data schemas within ATIS.

Questions for industry:

- What data migration tools and approaches do you recommend for importing and cleansing existing system data to minimize cost and schedule impact to the program?
- What training domain data schemas do you recommend ATIS adopt for internal and external interoperability?

Life Cycle Cost Estimate

Developing Cost Estimates.

Questions for industry:

- If you were in charge of developing Life Cycle Cost Estimates for ATIS candidate alternatives what tools or methodologies would you use?
- What data would you require to create the cost estimates?

Conclusion

Thank You for attending ATIS Industry Day!