Using EAI in the Defense Integrated Military Human Resources System

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DEPARTMENT OF DEFENSE

UNITED STATES OF AMERICA

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Agenda

- DIMHRS Background
- Technical and Management Challenges
- Opportunities
- Our Approach to Standards
- Architecture Strategy
- Products of our E-Business Efforts
- Conclusions
- Questions

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What is DIMHRS (Pers/Pay)?

- A *fully-integrated* military personnel and pay system for *all Components* of the Military Services
- Will address major deficiencies in the delivery of military personnel and pay services at all levels, field through headquarters
- Will comply with the DoD Defense Information Infrastructure (DII), technical Common Operating Environment (COE), and Joint Technical Architecture (JTA) guidelines
- Based on the Personnel Life-Cycle and major functional requirements as validated by the Service Components
- First IT Program directed by OMB to follow Clinger-Cohen Act (CCA) & OMB Circular A-11

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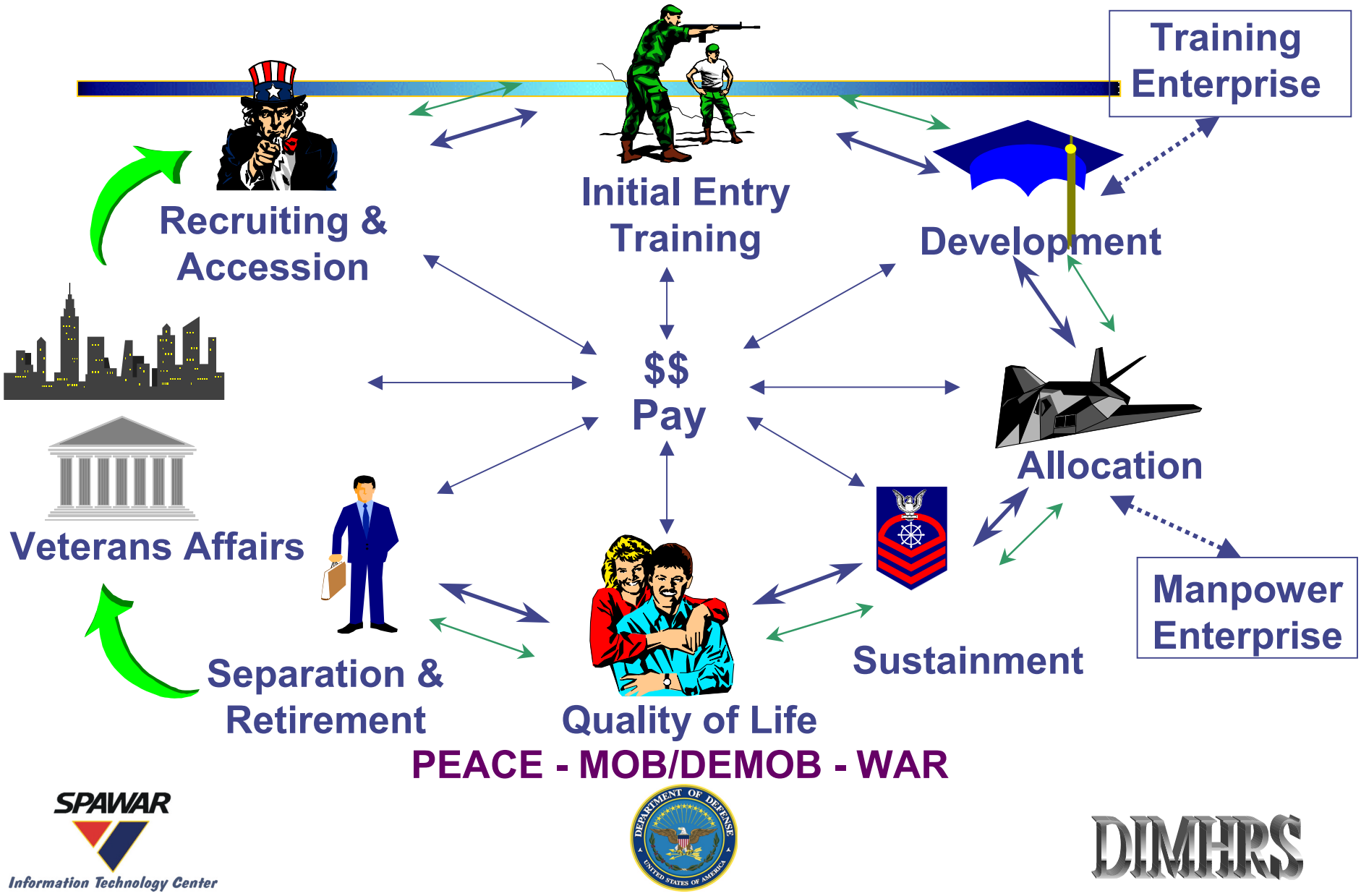
Military Personnel Life-Cycle



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DIMHRS Requirements

- Provide CINCs/OSD/Services/Components accurate and timely data on personnel assets
- Provide OSD/Joint commanders/other users with standard data for comparisons across Services and Components
- Properly track Reservists for both pay and service credit
- Track Active Duty personnel (and reservists) into and around the theater
- Provide common linkages to personnel and pay functions among the Services/Components

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DIMHRS Goals and Objectives

- The overall goal for DIMHRS (Pers/Pay) is to provide fully integrated military personnel and pay capability for all Components of the Military Services of the Department of Defense with an initial operating capability by 2003
- The program's major objective is to enhance mission support to the war fighter and Service Departments by eliminating or reducing data collection burdens, solving operational problems, conserving resources, improving delivery of services, and enhancing readiness

DIMHRS Goals and Objectives

- The highest priority of DIMHRS (Pers/Pay) should be to provide timely, accurate, and easily understood functional information for the Service members, commanders in the field, and Service headquarters
- The system should be a knowledge-based system and incorporate business rules that assist the user in properly applying personnel and pay policy

Technical Challenges

- Scale
- Number of legacy systems replaced
- Geographical distribution
- Quality of service
- Disconnected modes
- Adapting COTS within the military HR environment

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Management Challenges

- Ability to integrate Military Service HR Personnel and Pay systems into a single system
- Ability to extend COTS best business practices to meet Military HR business needs
- Ability to implement COTS HR business functions
- Ability to provide a single authoritative source for personnel and pay data

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Opportunities

- Military HR is still HR
- The use of COTS enables more effective BPR by providing a proven set of best practices
- Military participation in HR standards bodies can help improve fit of COTS
- Unification of requirements among the world's military can improve the business case for COTS vendors
- Use of EAI can provide the integration technology needed to succeed

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Our Approach to Standards

- We are active in DISA (DoD), HR-XML, OMG and observe TOG, OAG, OASIS, ebXML
  - DIMHRS believes that Military standards can be extensions of commercial standards
  - We participate in the actual development of commercial standards
  - Jointly with standards bodies, we are developing a conceptual reference model for HR
  - The DIMHRS architecture is based on TOGAF

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Our Approach to Standards

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Architecture Strategy

- Systems of the scale and scope of DIMHRS require an open, distributed, component-based architecture
- The architecture provides the context for the integration of the COTS HR product, custom components and external system interfaces
- We follow a separation of architectural viewpoints based on RM-ODP, the DoD Architecture Framework and TOGAF

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Architecture Strategy

- The Joint Technical Architecture provides a set of approved standards for architecture services to ensure interoperability with other DoD systems
- The architecture is described and driven by UML models
  - We have strong interest in the OMG's Model Driven Architecture initiative
  - We develop and apply our architecture through an architecture-centric system development process, with a focus on the final deliverable: DIMHRS

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Separation of Viewpoints

- Models and other artifacts are organized following the RM-ODP Viewpoints
  - Enterprise Viewpoint: business roles and interactions, policies, regulations – described by use cases and process models
  - Information Viewpoint: fully attributed business object model

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Separation of Viewpoints

- Computational Viewpoint: tiered, layered, service-oriented component model
- Engineering Viewpoint: node profiles, distribution functions
- Technology Selection: products and standards subject to the JTA and the Defense Infrastructure Common Operating Environment

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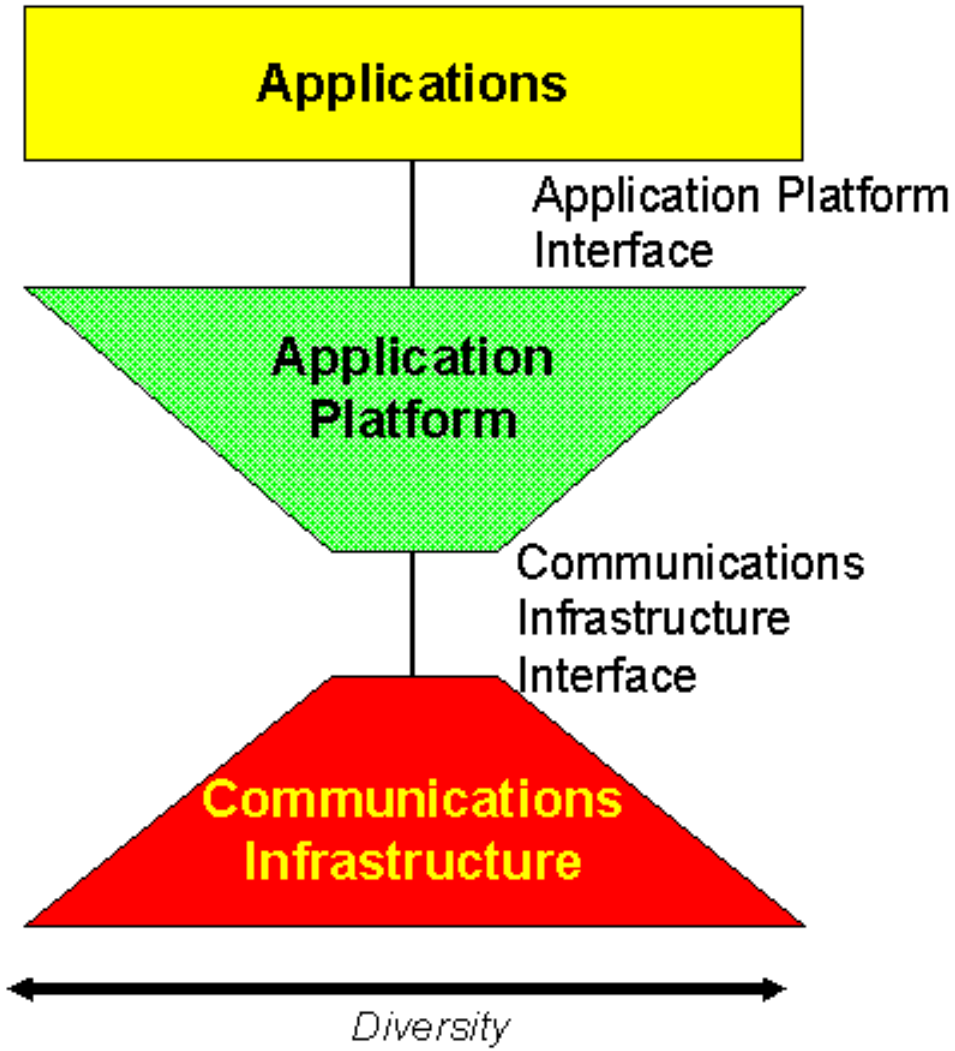
Layering of Computational Services: High-Level View (TOGAF)



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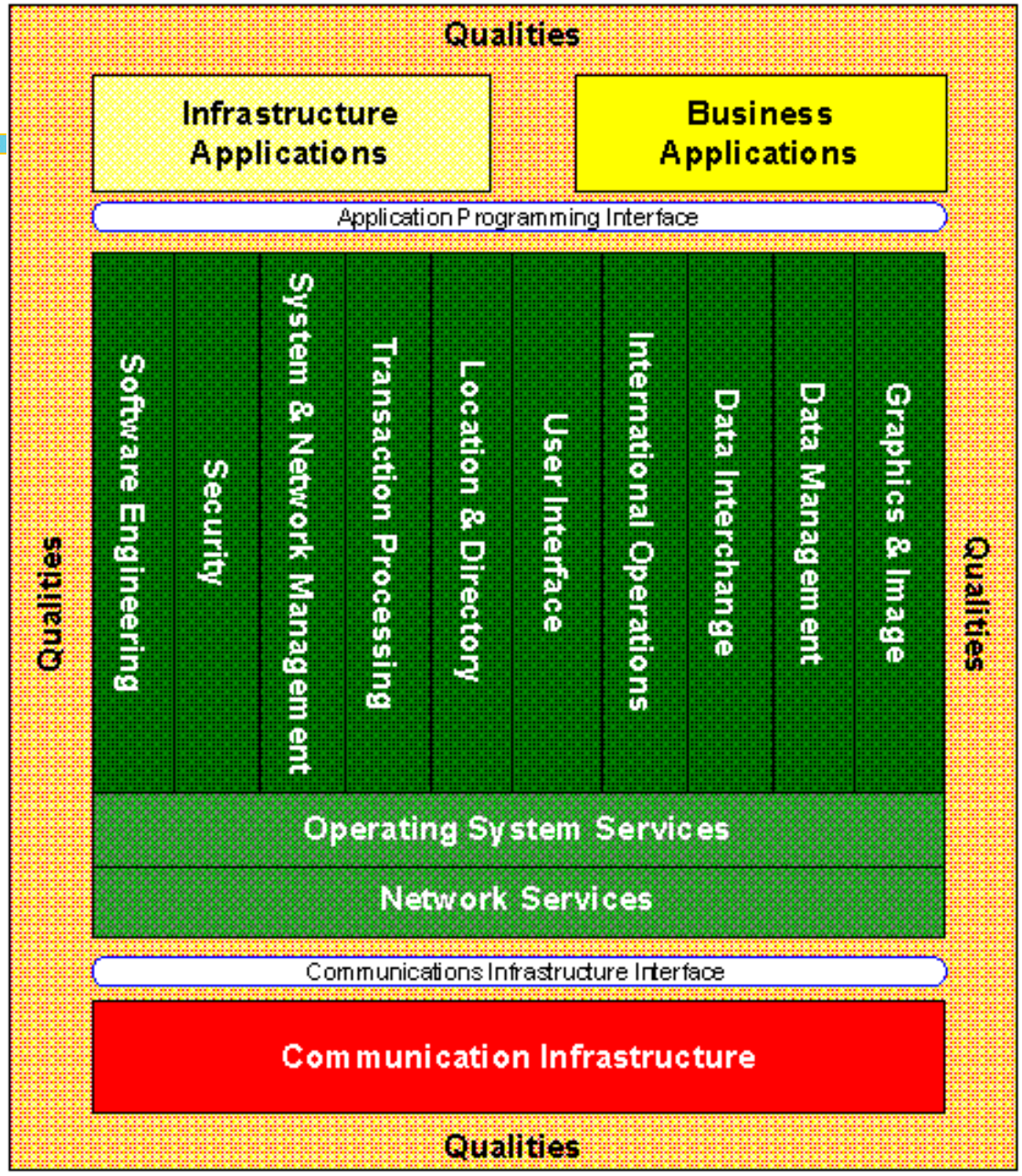
Computational Services: Detail (TOGAF)



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Component Model

- The Computational Viewpoint is organized around the three-tiered Enterprise Java Beans component model
  - Application level components built using entity and session components
  - We will use a COTS EJB server with enhancements as needed (e.g., hardening the security service)

Three-Tiered Organization

- Presentation: web servers and browsers, light- and medium-weight clients
- Object-based application server: business rules, business services, transaction processing, role-based security, location, lifecycle, load balancing
- Back-end databases: persistence

Integration of COTS

- The COTS product can be understood in terms of the architecture:
  - The product has (perhaps implicitly) an object model, a process model, business rules, and a data model
  - The product is based on specific technologies and standards

Integration of COTS

- The product has a tiered, layered service organization
  - The product provides a set of business services
  - The product provides a set of more general computational services
  - The product provides a back-end database
- We intend to integrate the product through an EJB adapter

The Product of our E-Business Efforts

- Integration of Military HR into a single system
- Delivery of an open, distributed, web-based system meeting the required transaction processing volumes and response times
- Support of disconnected operation of clients
- Provision of role-based access and security
- Seamless integration of an HR COTS package
- Offer of self-service HR over the web

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The Product of our E-Business Efforts

- Alignment of Military HR business processes and models with standard commercial HR
- Interfaces with other systems using an ebXML-based "trading partner" approach
  - Use industry standards for interoperability, in particular HR-XML standards
- Use data warehousing, data marts and OLAP
- Use of smart cards
- A flexible, extensible, interoperable component-based system based on EJB

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Conclusions

- DIMHRS can be a modern, responsive system as a result of E-Business AI
- DIMHRS will challenge the scalability of EAI
- Through our participation in standards bodies, we are setting new precedents in the collaboration and cooperation of customers and vendors
- We are here to share EAI best practices and experiences, to improve the quality of EAI systems

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Questions

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