The Architecture Program at NIH

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Agenda

- What's happening at Headquarters?
- NIH Architecture
  - Where is it?
  - Where is the program going?

HHS Architecture Development

- April 2000 ITAG Report
- EAPT
  - High level business description
  - Release in September to support FY04 budget
- Managing partner for e-Grants
- Proceeding with the Unified Financial Management System
- Hiring new enterprise architect

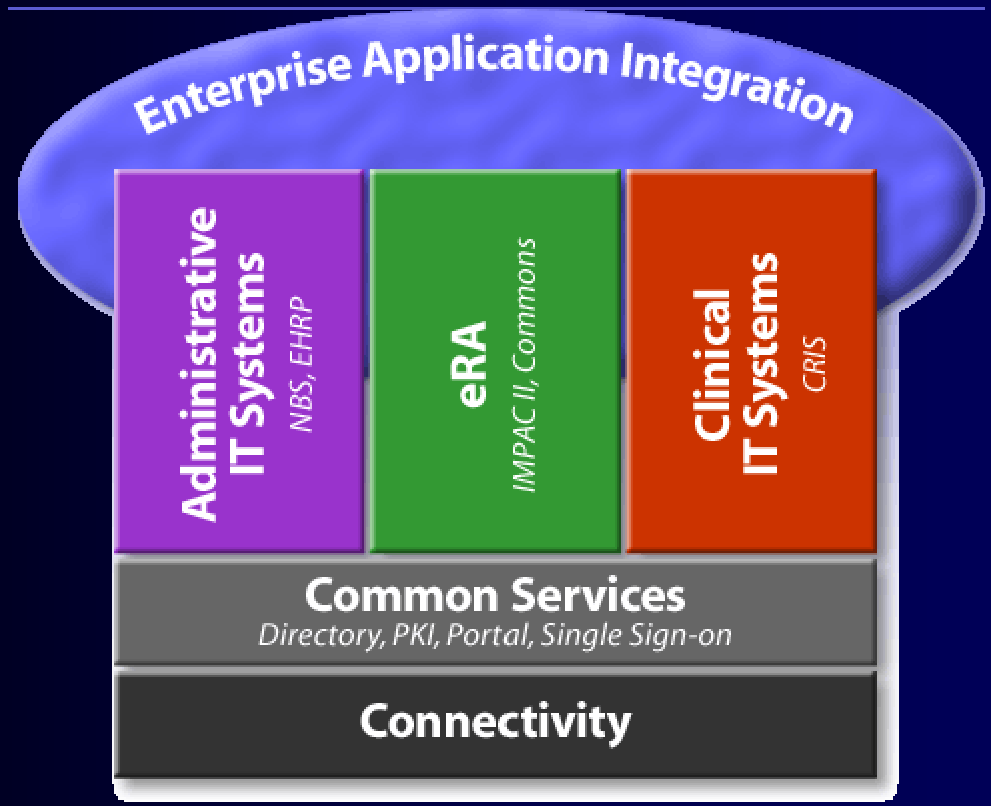
NIH Architecture Program

- The existing architecture
- Where is the program going
  - The baseline program
  - Current implementations
  - What's next?

What is "Information Technology Architecture"?

- **Treating the enterprise as a single information system and creating a conceptual design for information management**
- **Short Form:**
  - **A framework and set of guidelines to build new information systems.**
- **Long Form:**
  - **IT architecture is a series of principles, guidelines and design patterns used by an organization to direct the process of acquiring, building, modifying and interfacing IT resources throughout the organization. These resources can include equipment, software, interface protocols, communications, development methodologies, modeling tools, organizational structures and more.**

Today's NIH Enterprise IT Systems Architecture



SSO or Enterprise Authentication

- Leverages Active Directory as the most widely used authentication source at NIH
- Utilizes the NIH Enterprise (Meta)Directory capability (NED). NED provides consolidated information about members of the NIH community.

The eRA to NBS Interface

- Interface needs:
  - Funds commitment
  - Travel support
- Agreement to the need
- Meetings to explore the details
- Interface documentation?

Disclaimer

The following slides represent ideas under consideration. Your input on these ideas is actively sought.

What next for Architecture?

- Gartner task to support basic program
- Establish program structure and governance
- Examine NIH business model
- Creating a data model for NIH

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Why architecture?

- Difficulty in changing applications to meet changing mission needs
  - Redundant data
  - Redundant functionality
- Difficulty in accessing data
  - Lack of methods for sharing
  - Lack of infrastructure to support the methods

Possible Architecture Benefits

From the CIO Council's "A Practical Guide to Federal Enterprise Architecture"

- An EA offers tangible benefits to the enterprise and those responsible for evolving the enterprise. The EA can:
  - Capture facts about the mission, functions, and business foundation in an understandable manner to promote better planning and decision making
  - Improve communication among the business organizations and IT organizations within the enterprise through a standardized vocabulary
  - Provide architectural views that help communicate the complexity of large systems and facilitate management of extensive, complex environments
  - Focus on the strategic use of emerging technologies to better manage the enterprise's information and consistently insert those technologies into the enterprise
  - Improve consistency, accuracy, timeliness, integrity, quality, availability, access and sharing of IT-managed information across the enterprise
  - Support the CPIC processes by providing a tool for assessment of benefits, impacts, and capital investment measurements and supporting analyses of alternatives, risks, and tradeoffs
  - Highlight opportunities for building greater quality and flexibility into applications without increasing cost
  - Achieve economies of scale by providing mechanisms for sharing services across the enterprise
  - Expedite integration of legacy, migration, and new systems
  - Ensure legal and regulatory compliance.

The primary purpose of an EA is to inform, guide, and constrain the decisions for the enterprise, especially those related to IT investments.

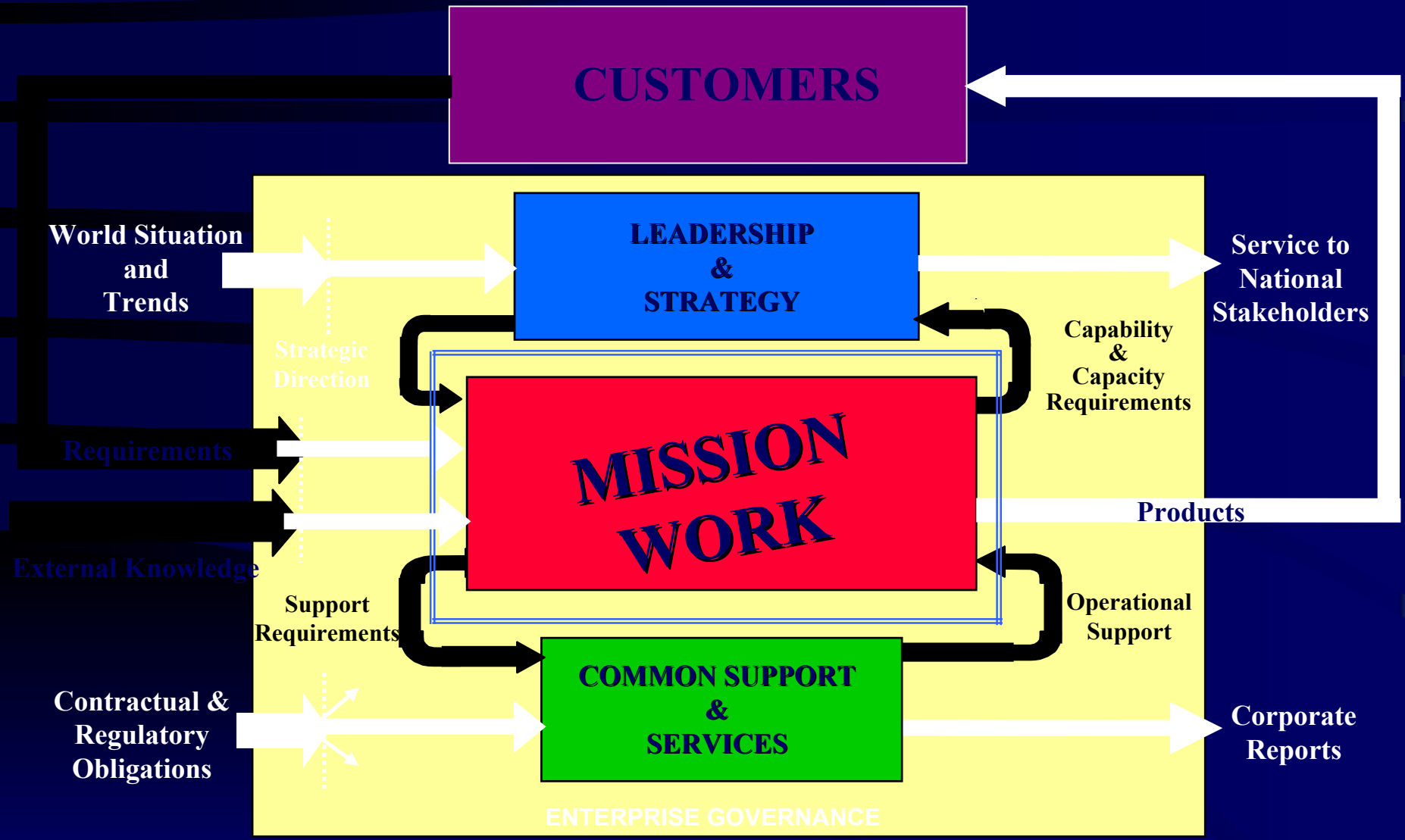
What Should Be Defined?

- Business Drivers
- Principles
- Reference Models, Patterns and Frameworks
- Domain Architectures
- Industry Standards
- Product Standards
- Implementation Guidelines
- Transition Plan
  - Requires current state assessment
- ???

Governance – the Process of Gaining Agreement across NIH

- Architecture Review Board
  - Representation from mission, administration, enterprise applications and infrastructure
  - A review process
  - An exception process
- Architecture focus teams – the subject matter experts who do the work
- An architecture Office that staffs the activity

A Business Model for NIH

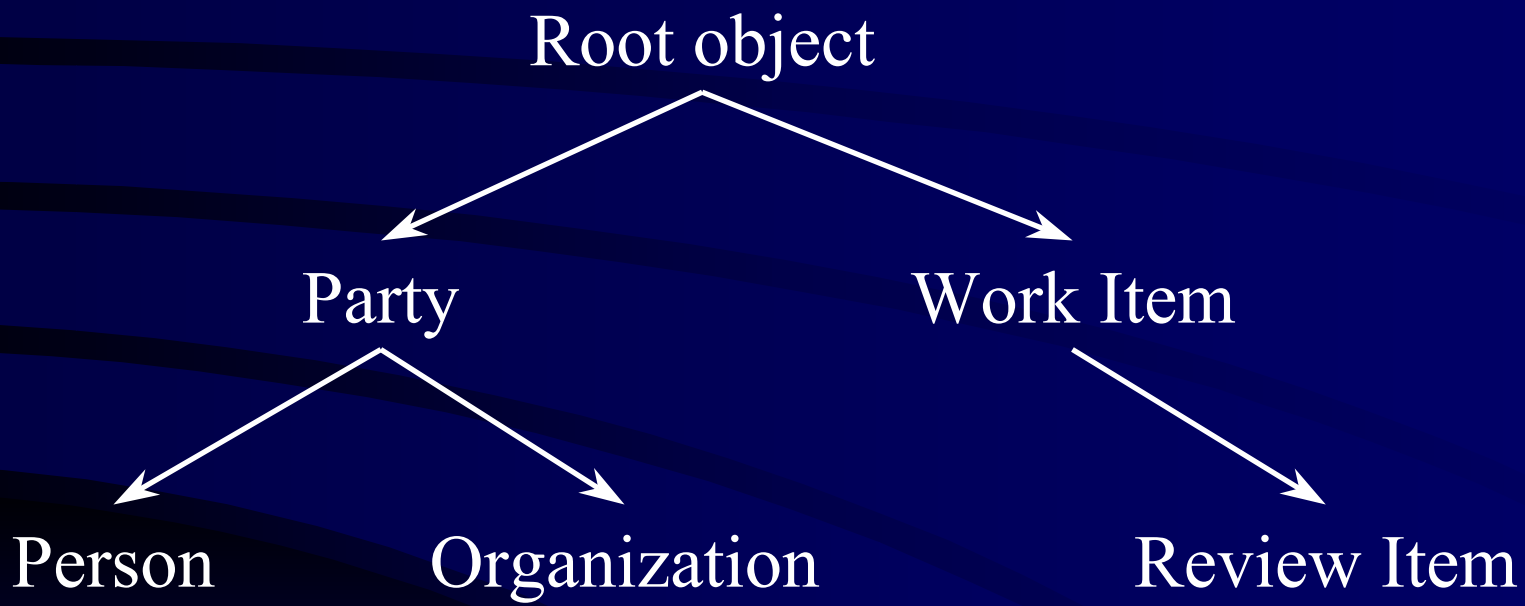


NIH Lines of Business

Data Architecture

- Should reflect the assets of the enterprise
- Reside with the function that principally creates it

Early Data Observations



Other Comments

- Your efforts to convert to J2EE are strongly encouraged
- Major changes in reporting coming for CRIS and NBS – should we look at options jointly?

Engagement – Where Architecture Takes Effect

- Architecture delivers a conceptual design for enterprise information
- Enterprise applications are the systems that implement the design
- How should the elements of the conceptual design be delivered to the applications and the supporting infrastructure?