



Veterans Health Administration | Office of Health Information



# Interagency Electronic Health Record System Interoperability

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# Two Electronic Health Record (EHR) Systems

## ·A Quick Historical Recap/Stage-Setter...

- The Veterans Health Administration (VHA) and the Department of Defense Military Health Services (DoD/MHS) have been working electronic health record IT issues TOGETHER for decades
- The VA/VHA currently uses Veterans Health Information Systems and Technology Architecture (Vista)/Computerized Patient Record System (CPRS), and the DoD/MHS uses Armed Forces Health Longitudinal Technology Application (AHLTA)/Composite Health Care System (CHCS)
- Both Departments have come to rely on their own Electronic Health Record Systems and utilize them everyday, and have some elements of their systems, in some areas of the Nation working together
- This “working together” effort has resulted in products such as the Bi-Directional Health Information Exchange (BHIE), and the Clinical and Health Data Repositories (CHDR), and has resulted in full interoperability for healthcare delivery between the two Departments

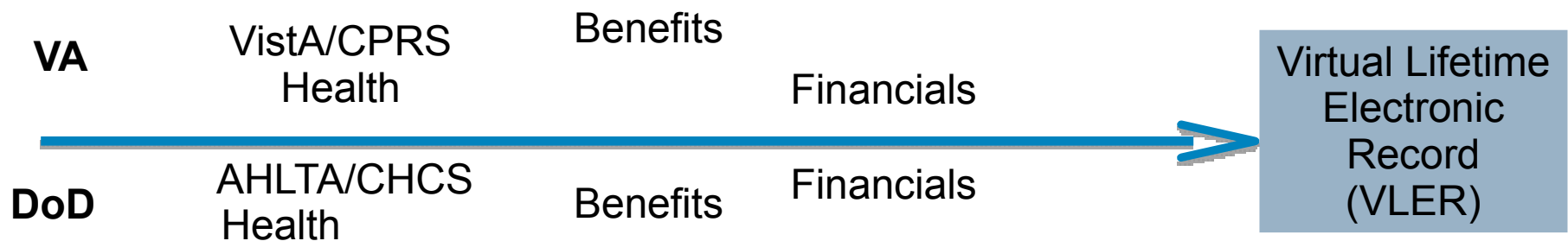
# Where We Are...

- Currently, the VHA and the DoD/MHS are working most closely to open the James A Lovell Federal Health Care Center (FHCC) in North Chicago, IL together
- The FHCC Opens on 1 October, with possible “proof-of-concept” EHR project interoperability efforts
- This Inter-agency effort brings together Architecture, Capabilities, and Projects to further patient-centric care



# Where We're Going...

- New end-state, as envisioned by the President, will be the Virtual Lifetime Electronic Record (VLER) for VA and DoD together
- This requires not just Health Interoperability, but also Personnel, Benefits, Financial Records, and not only between VA and DoD, but also with the private sector
- The “way ahead” requires VA-DoD System Interoperability...



# Veterans Health Care for the Future

**Secure/Patient-Centered  
Open Architecture—High Quality Data**

**Build on VistA and  
Clinician Interface**

**State-of-the-Art  
Business Architecture**

**Enhance Patient/  
Clinician Partnership**

**Health\_eVet**

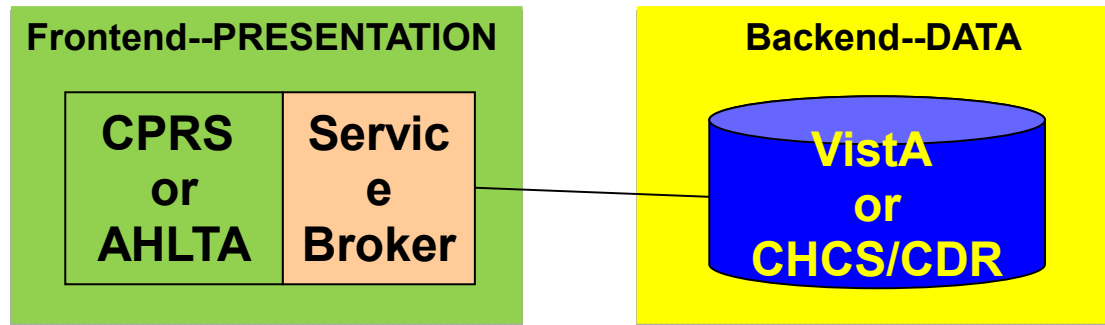
**Device Independent**

**Open Architecture**

**Web Based/  
Operating System Independent**

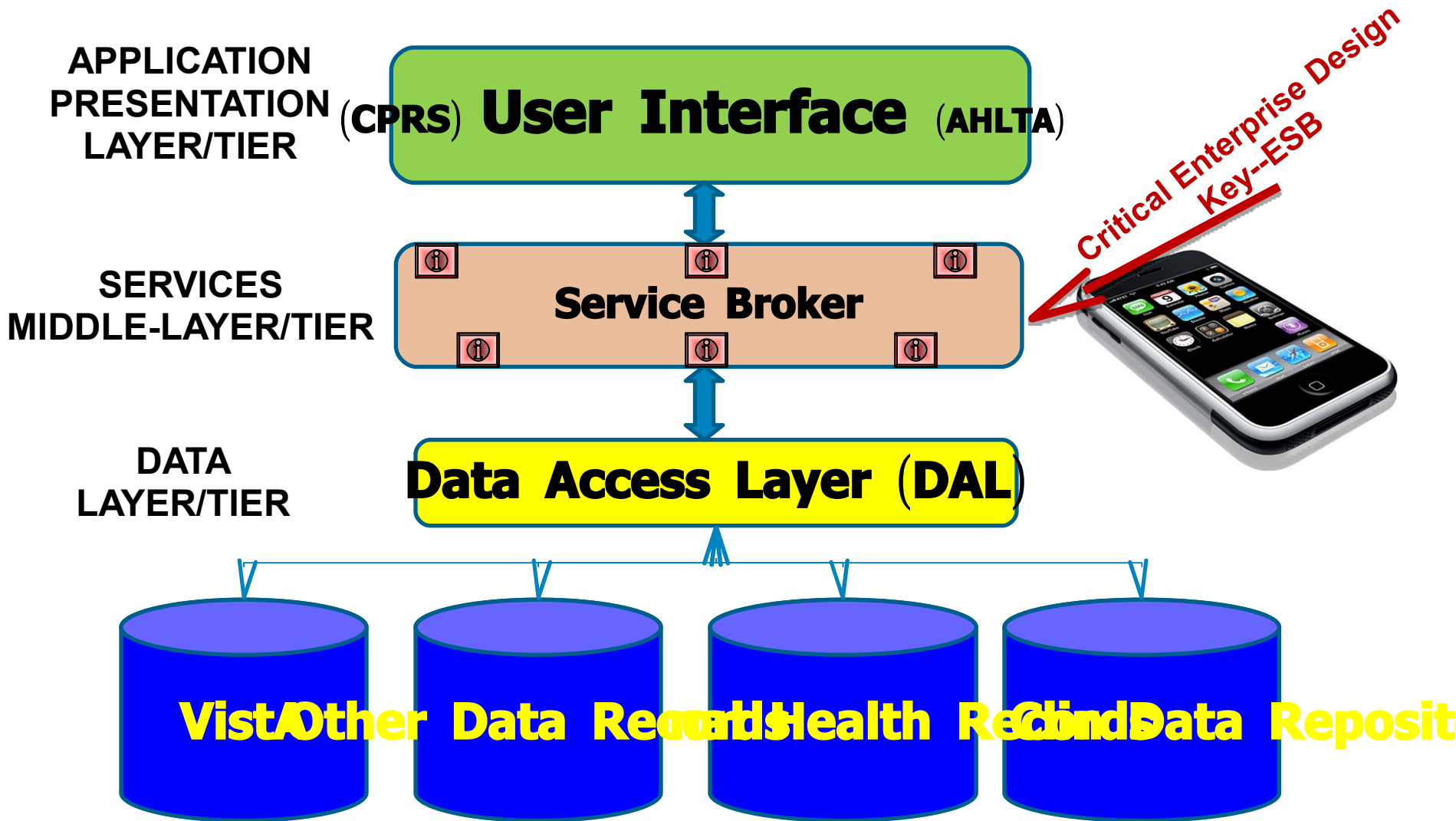
**Build on  
VistA Excellence**

# The Problem: Legacy System Architecture



- 
- An example of Legacy Architecture —“Tightly - Coupled” with only two layers:
  - The frontend--the presentation-layer user interface: CPRS for Vista system, and AHLTA presentation
  - The backend--the data source: in this case a single Vista system, or in AHLTA , the CHCS Clinical Data Repository (CDR)

# The Solution: Simplified Multi-Tiered/layered, "De-coupled" Architecture



# A “Transition Architecture” – What It Is

- Provides a methodology to systematically transition Legacy/2-Tiered to Multi-Tiered, modular architecture
- Web-based, open architecture viewer
  - Fix once, deploy everywhere, like iPhone apps
- Maintains functionality and enhances VistA and AHLTA
  - Provides seamless access to existing VistA/AHLTA data and functionality
  - Minimal training required





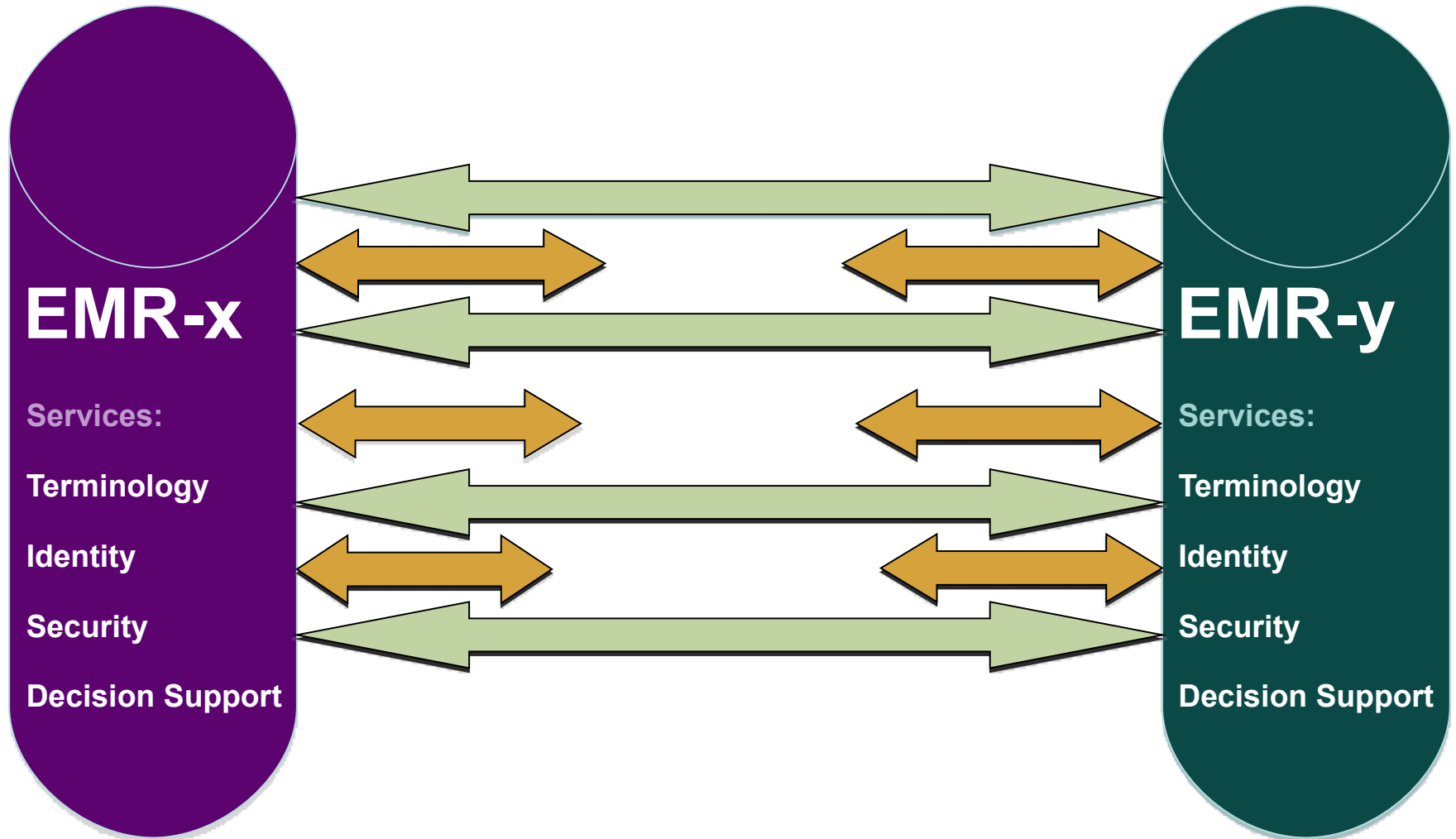


## 1st Transition

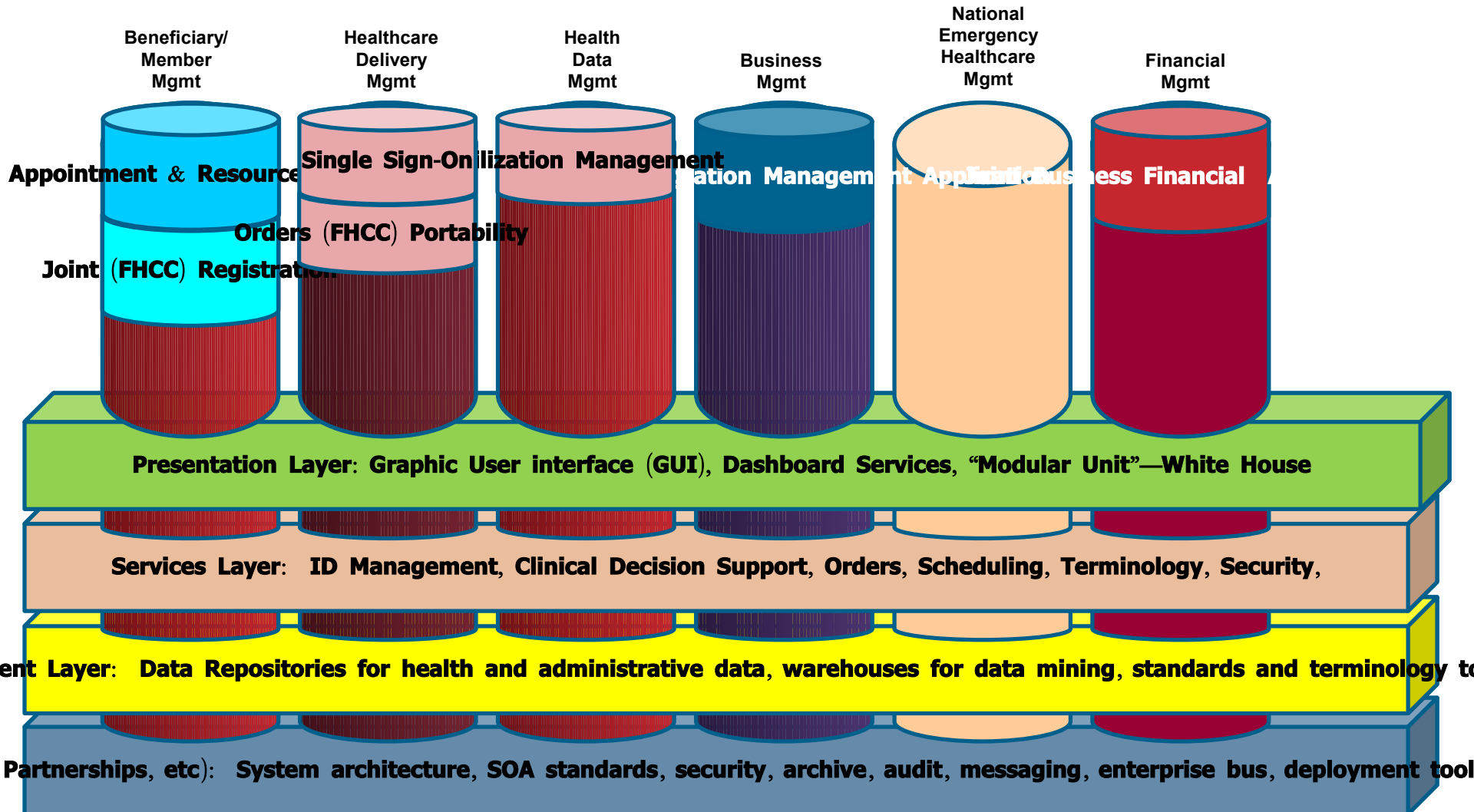
TIME



# Approach: Business Services Orchestration



# Project/Enterprise Functionality Fitted onto Transition Framework Architecture (Build-out to ESB)

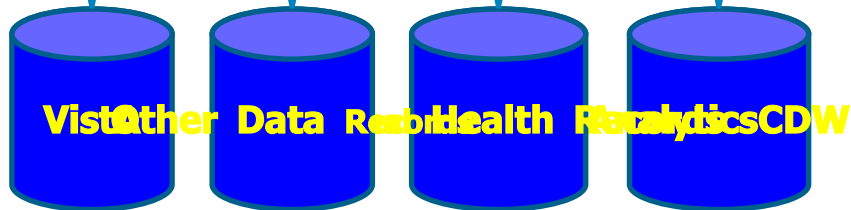


# The Interagency Solution: ESBs through NHIN



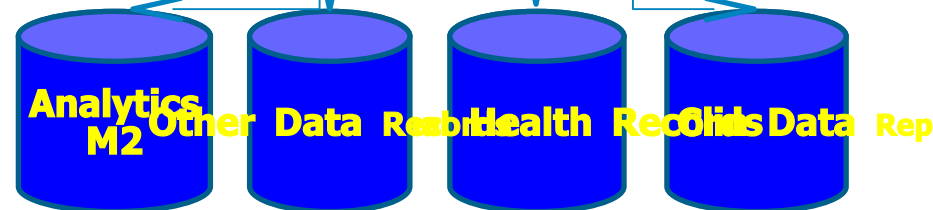
APPLICATION  
PRESENTATION  
LAYER

VAVHA



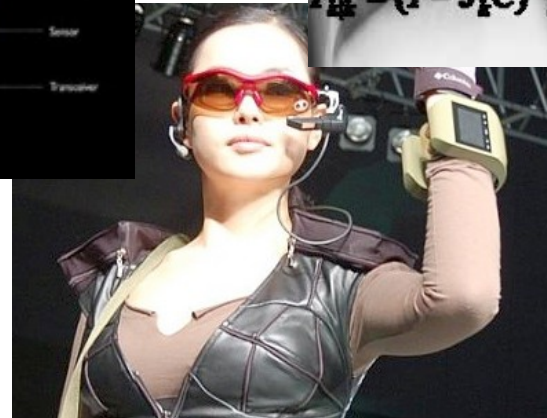
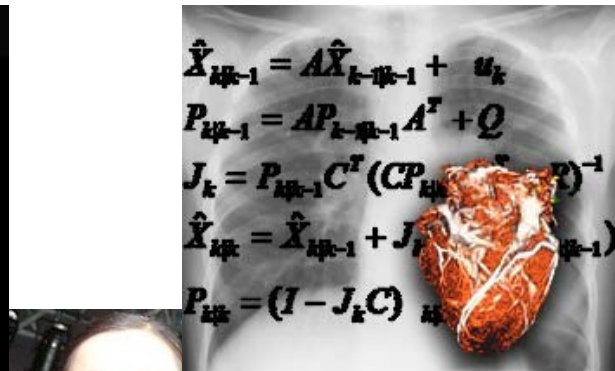
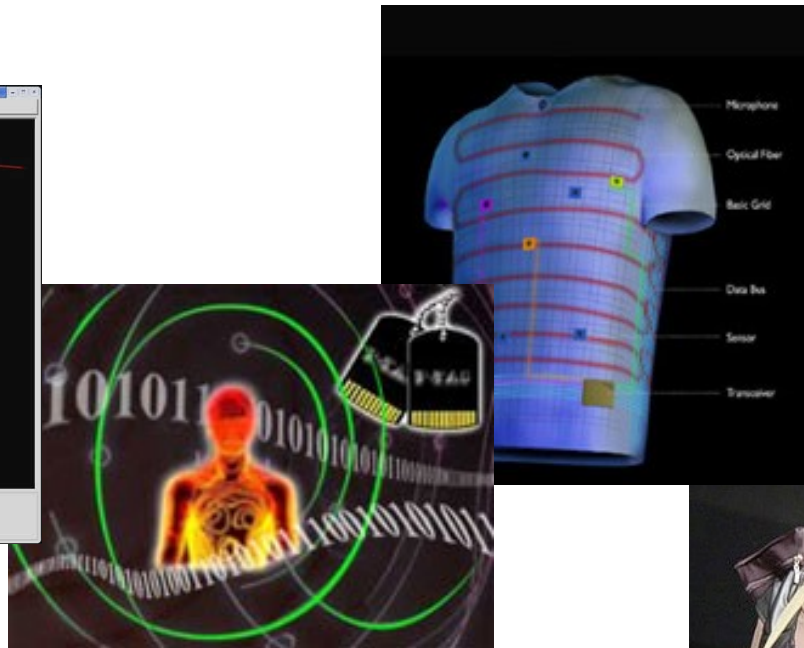
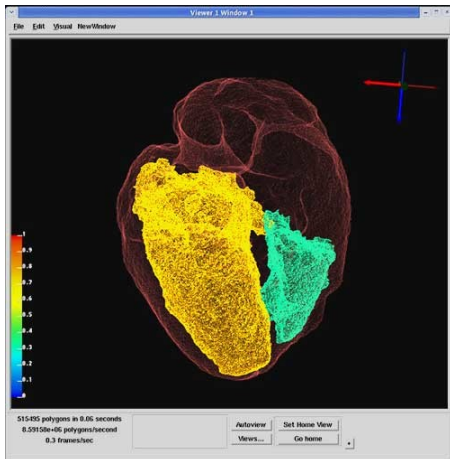
**Critical Enterprise Design  
Key--ESB**

DoD/MHS



# Future Capabilities

- Clinical Decision Support (standard guideline support)
- Device Interoperability (System s Context)
- Wearable “agents” monitoring sensors (shirts and pda’s)
- Predictive Modeling (analytics across clinical risks)
- Artificial Intelligence (means make the computer work for you)



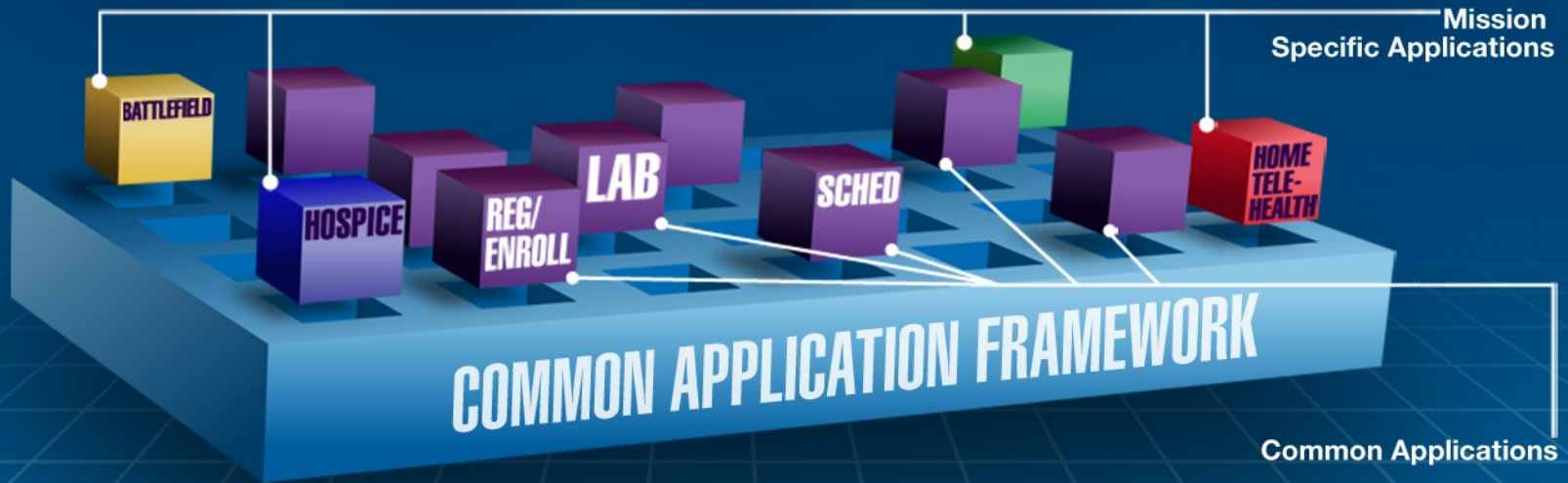
# Common VA/DoD Record

PRESENTATION



A Variety of Devices (Web/Applications/User Interfaces)

APPLICATION



DATA



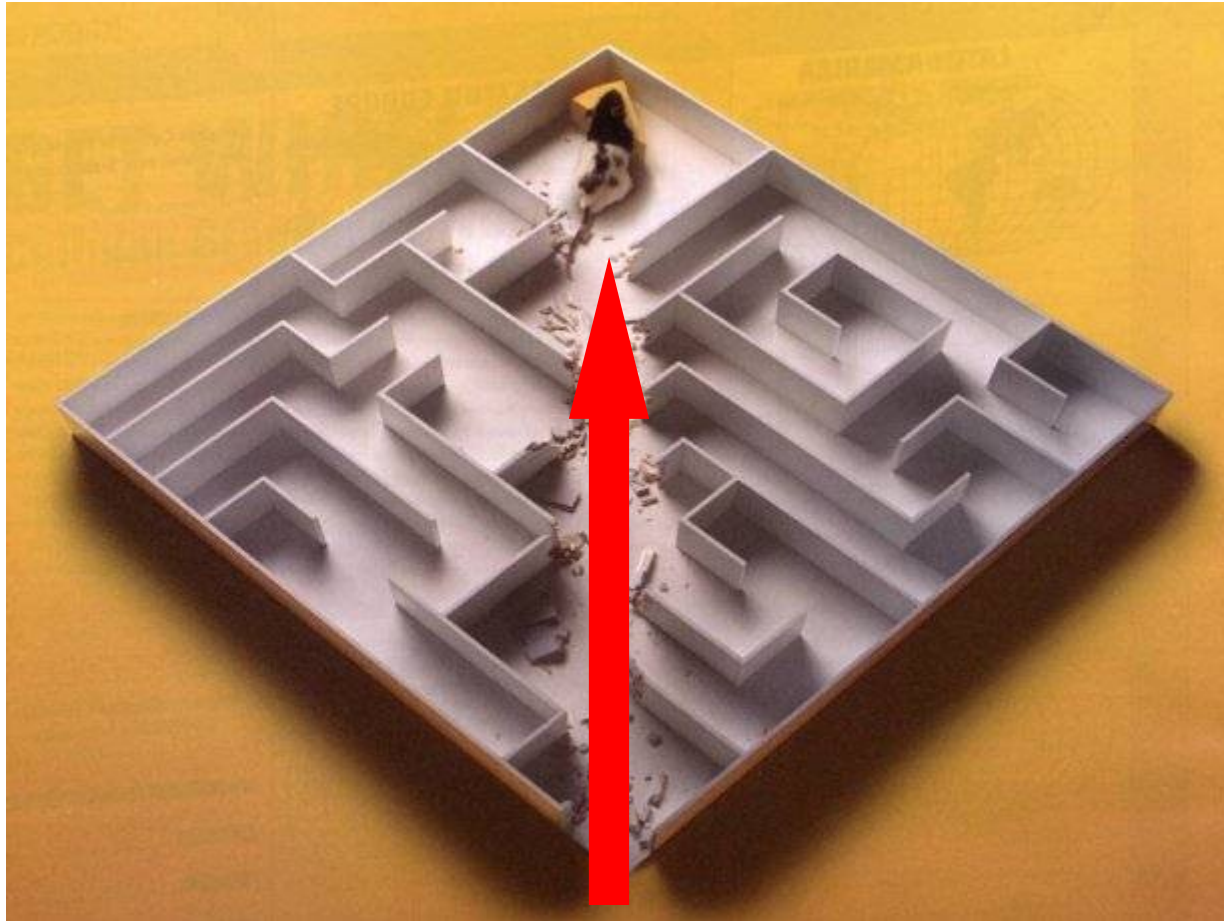
# Summary/Conclusion

## · **BOTTOMLINE – We CAN and ARE doing this!**

- Solid, well-organized IM/IT Program Management Accountability System based project effort between VA partnering successfully with DoD, making the Nation's first Federal Health Care Center a reality
- Bringing the Legacy Systems of VA VistA/CPRS, AHLTA/CHCS, and “Middle-Tier”/Services Layer Architecture TOGETHER for the best benefits for all Veterans, Servicemembers and their beneficiaries, and in-use for Veterans Health Administration, Veterans Benefits Administration, National Cemetery Administration and all DoD Military Services
- Smart/Agile/Positive interagency relationships, breaking apart old architectures, improving business processes, and focused, joint/dual-agency development make it possible ...
- *“It’s ALL ABOUT what’s best for OUR VETERANS!”*



## Federal Health IT Interoperability



**VHA OHI ESM—TEAM JIV**