

2015 Defense Health Information Technology Symposium

Health IT Research: From Concept to Development



“Medically Ready Force...Ready Medical Force”

DHA Vision



“A joint, integrated, premier system of health, supporting those who serve in the defense of our country.”



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Learning Objectives



- Dispel the Myths of Research and Development (R&D)
- Identify the R&D Process for Health IT (HIT)
- Define the Impact of a Long Range Technical Architecture (LRTA) to the HIT R&D Community
- Identify the Process for HIT Research Selection and Transition
- Describe the Joint Program Committee – 1's (JPC-1) role in HIT R&D

Agenda



- Bottom Line Up Front
- Technology Landscape of Health IT Research and Development
- Long-Term Plan for Health IT Research
- Data-Driven Decisions
- Enabling End-to-End Research
- Reaching the Warfighter
- Reengineering our approach to Health IT Research

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Bottom Line Up Front (BLUF)



To ensure HIT R&D is successful at DHA, the HIT Directorate's Innovation and Advanced Technology Development Division requires:

- Strategic Planning
- Relevant Research Proposals
- Validation of Enterprise Value
- Functional Representation to Support Project Selection
- Feedback Loop with Stakeholders

R&D work is directed toward the innovation, introduction and improvement of products and processes.

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Technology Landscape of HIT Research and Development



Addressing the Technology Landscape

Advanced Technology Development

- Driven by functional gaps and strategic priorities
- Map to HR CONOPS approved by JROC [Health Service Delivery (HSD), Health System Support (HSS), Force Health Protection (FHP)]

Meeting today's needs

Health IT Innovation

- Driven by ideas that seem disruptive and/or transformational
- Map to HIT Innovation buckets approved by ASD(HA) [Cognitive Analytics, Mobile Wars, Cloud Computing, Digital Engagement]

Meeting tomorrow's needs

TECHNOLOGY LANDSCAPE

One Year

Three

Five

Seven

Nine

Eleven

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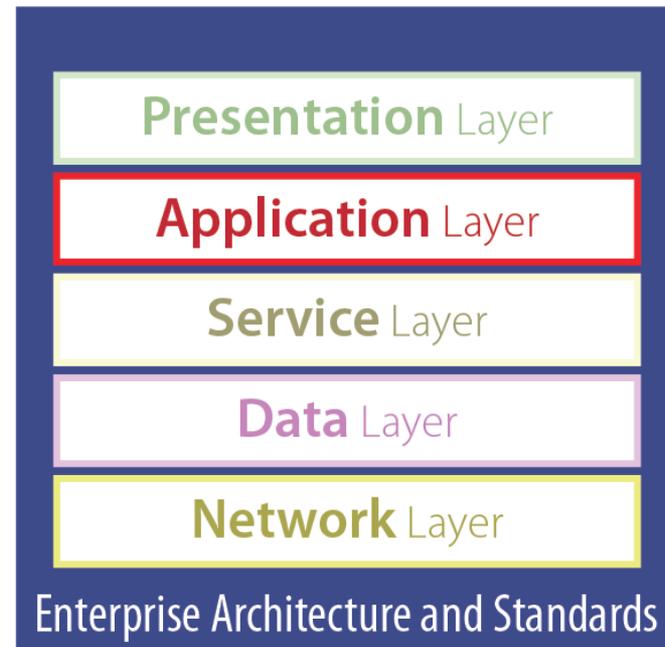
Leveraging a Long-Term Plan for HIT Research (1-3 Years)



Evolution of Technical Architecture

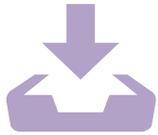
In order to support the enterprise's immediate needs the technical architecture must **enable portfolio rationalization and the ability to consolidate systems** while ensuring consistent communication.

The architecture must also **support interoperability** with external or new systems.

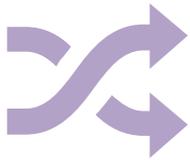


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1-3 Year Architectural Requirements



Data Federation: Provides a uniform, coherent, and integrated view of data that are distributed



Integration: Makes data from different systems available seamlessly through authorized functionalities



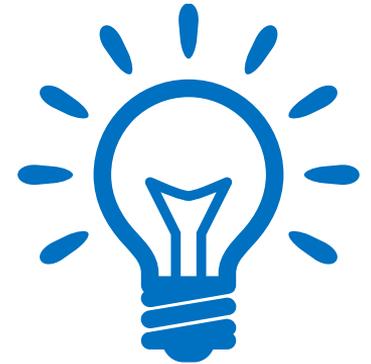
Interoperability: Allows different functionalities in various systems to seamlessly understand and operate upon the same data



Leveraging a Long-Term Plan for HIT Research (4-6 Years)

4-6 Years Architectural Requirements:

- Integrate individual data siloes
- Eliminate multiple versions of existing data to create a Single Source of Truth
- Apply more robust requirements across the IT landscape
- Increase interoperability between DHA and external systems
- Increase security for data at rest and in transit
- Provide an intelligent and adaptive user interface
- Insert a more efficient and complete data federation layer



Leveraging a Long-Term Plan for HIT Research (7-10 Years)

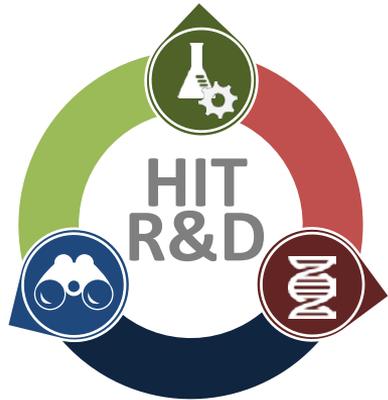
7-10 Year Architectural Requirements:

- Apply stringent communication standards to support complex event processing
- Implement a consistent and successful data integration tool suite to support analytics layers
- Ensure the data exchange and enterprise data control planes provide data in a timely, consistent, and standard manner
- Replace individual security applications with an integrated security layer



Data-Driven Decisions

Today the IATDD uses its own comprehensive methodology to analyze HIT R&D, both inside and outside the organization. This helps drive the most innovative and impactful solutions for the clinical and technical landscapes in the long and short-terms.



Innovation Sensing

Offering – An exhaustive collection and market analysis of R&D projects and the Organizations executing them.

Measurements – # of publications, citation hierarchy, vendor focus, tech maturity slope, directed partnering graphs

Market Qualifier – 5000 record prototype

Long Range Strategic Planning

Offering – A time series analysis of the impact that interdependent R&D topics impose on strategic objectives

Measurements – Tech maturity, benefit rating, division alignment, enablers.

Market Qualifier – Methodology used to create the OCTO Long Range Technical Architecture

R&D Project Set Valuation

Offering – Quantitative valuation of R&D projects at the single project and portfolio level.

Measurements – Enterprise Utility, Project Risk, Cost

Market Qualifier – \$63 Million in HIT R&D projects rationalized to support innovation investment through strategic and business value measurement

...helping identify market offerings duplicative of internal efforts, improving HIT R&D effectiveness

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Enabling End-to-End Research, Development, Test and Evaluation

The IATDD is equipped with an end-to-end coordinated process (seen below) for identifying impactful research opportunities, and ultimately transitioning successful research programs, pilots, and initiatives into a joint production environment. This process includes:

- Data driven analysis and decision making using data-driven analytics and decision support tools
- A vetted transition workflow
- Constant alignment with other HIT divisions, DHA directorates and external stakeholders



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Reaching the Warfighter through the IATDD's Research Transition Process



IATDD uses an approved transition process to help realize the benefits of allocated R&D dollars. The HIT IATDD Transition Workflow:



Socializes with all HIT Divisions for input to develop a comprehensive end-to-end process



Transitions RDT&E efforts in collaboration with Office of the Component Acquisition Executive, Portfolio Management and Program Offices for rapid deployment of new technology



Ensures rapid solution delivery to the Warfighter through a well-defined process

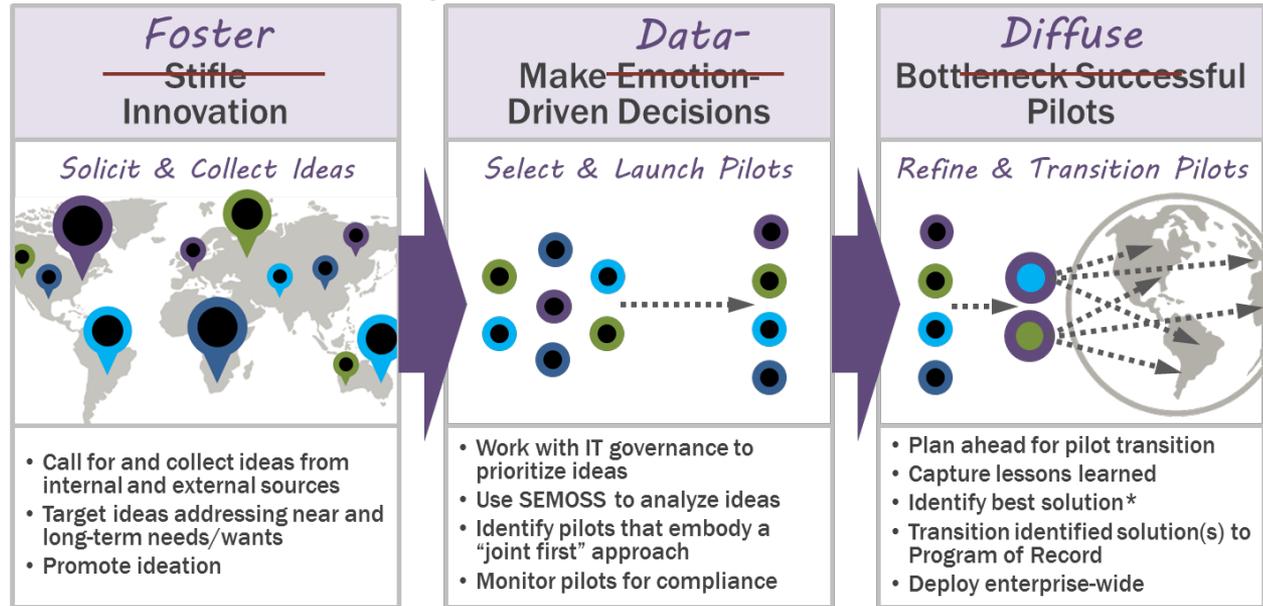
“DoD’s research and development efforts are conducted by government labs, non-profit research institutions, and defense companies. Innovation originates from all of these, but increasingly, comes from the commercial sector and overseas. Our ability to identify and utilize sources of innovation and technology effectively rests on the professionalism of our workforce.”

-Mr. Frank Kendall, Under Secretary of Defense for Acquisition, Technology, and Logistics, Better Buying Power 3.0 Memorandum

Reengineering our approach to Data-Driven Health IT Research

In the end, the IATDD's goal is to work with stakeholders to reengineer our approach to HIT research, to better address needs and utilize available research funds.

The New Way Forward for Joint, Health IT Research



*solution is being used to refer to knowledge, work products, concepts, tools, architectures, etc.

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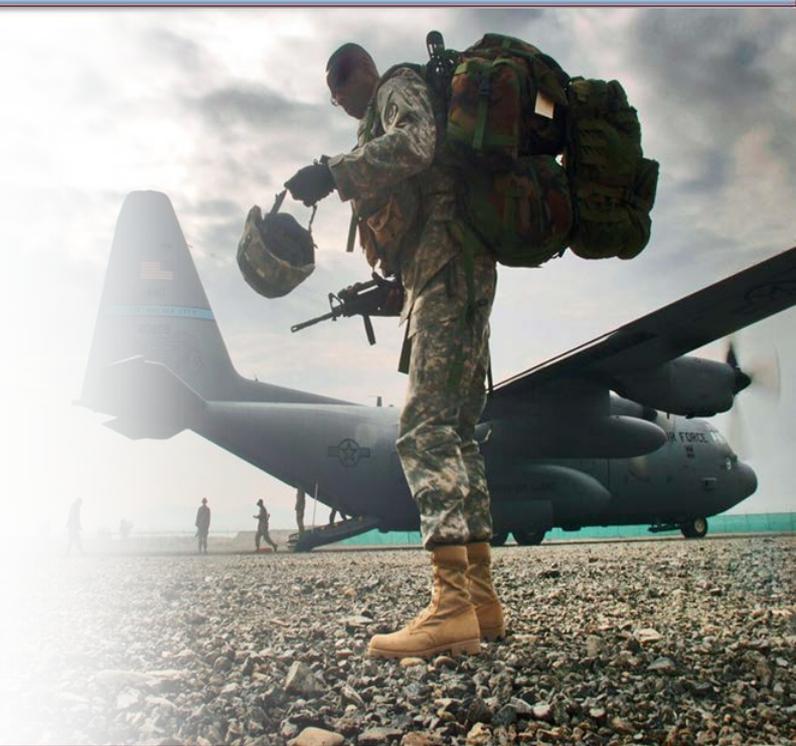
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Questions?

Share your research ideas with us at:
www.health.mil/ITideaChallenge



For more information please

- Stop By: **DHITS Exhibit Booth #317 Stations 1-4**
- Email: IATDD@dha.mil
- Visit: www.health.mil/IATDD

Please complete your evaluations