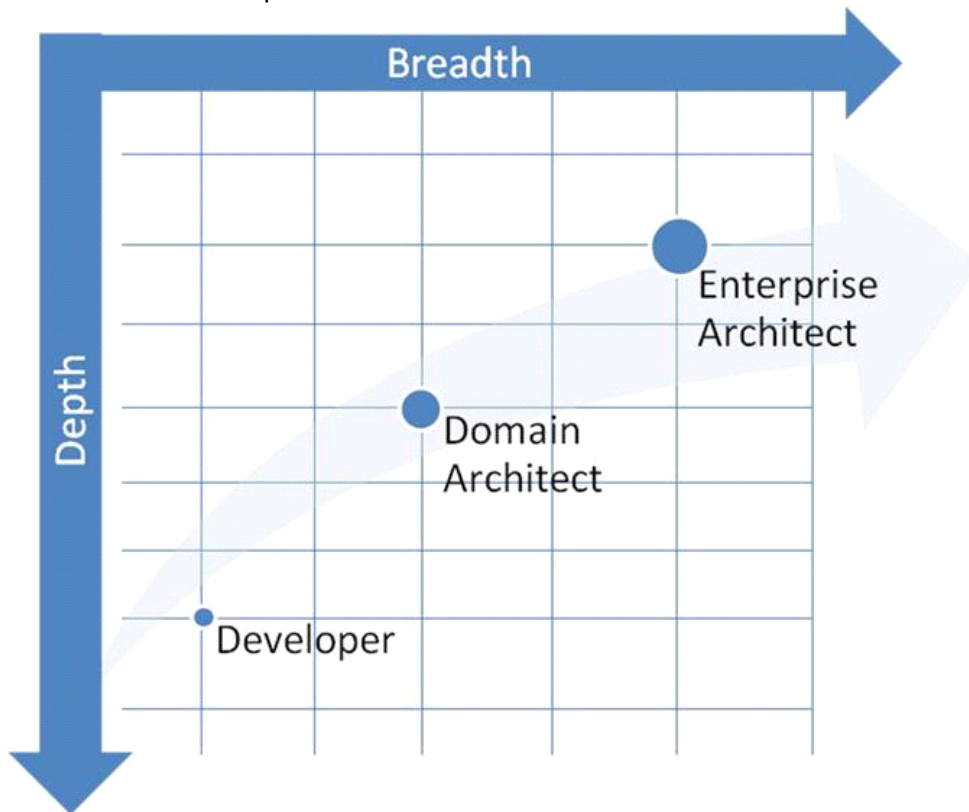


1/10/2017 Notes - Introduction to EA (Enterprise Architecture)

Tuesday, January 10, 2017 11:58 AM

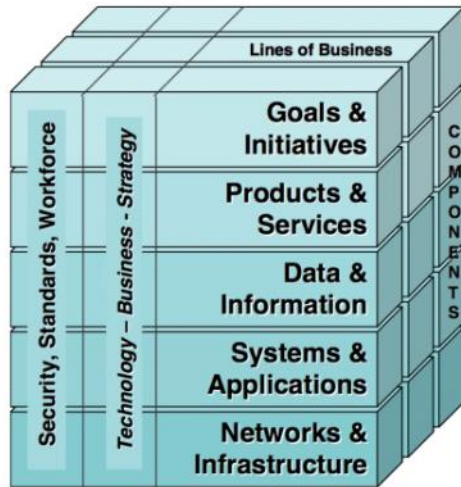
Where Does An Enterprise Architect Fit?



$$EA = S + B + T$$

Enterprise Architecture = Strategy + Business + Technology

ENTERPRISE ARCHITECTURE IS ABOUT THE WHOLE ORGANIZATION, NOT JUST IT



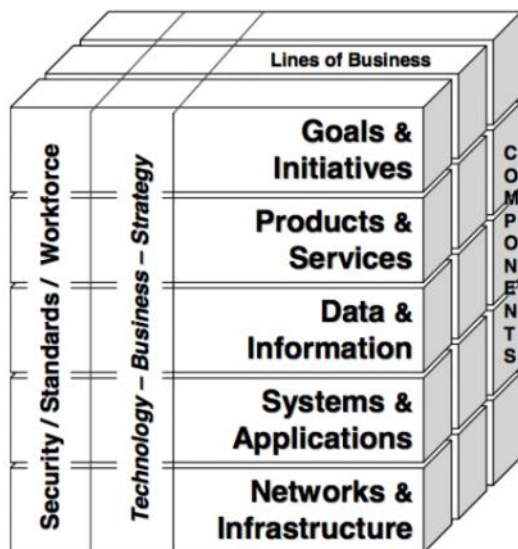
$$EA = S + B + T$$

S ← Strategic Planning

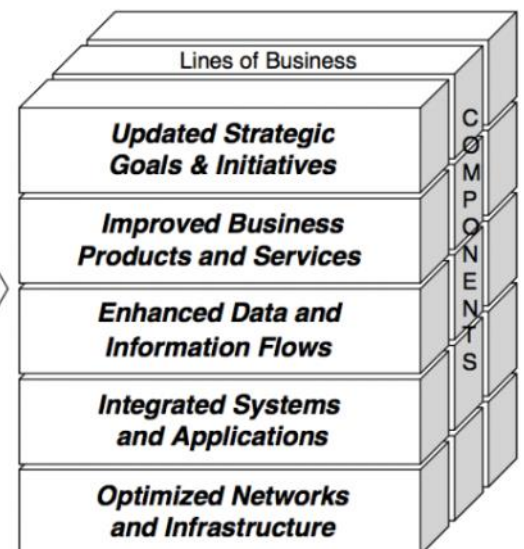
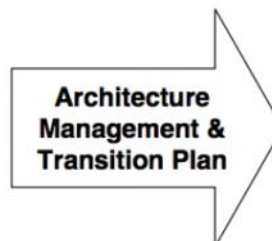
B ← Business

T ← Technology

WE WANT EA TO BE ACTIONABLE



**CURRENT
ARCHITECTURE**

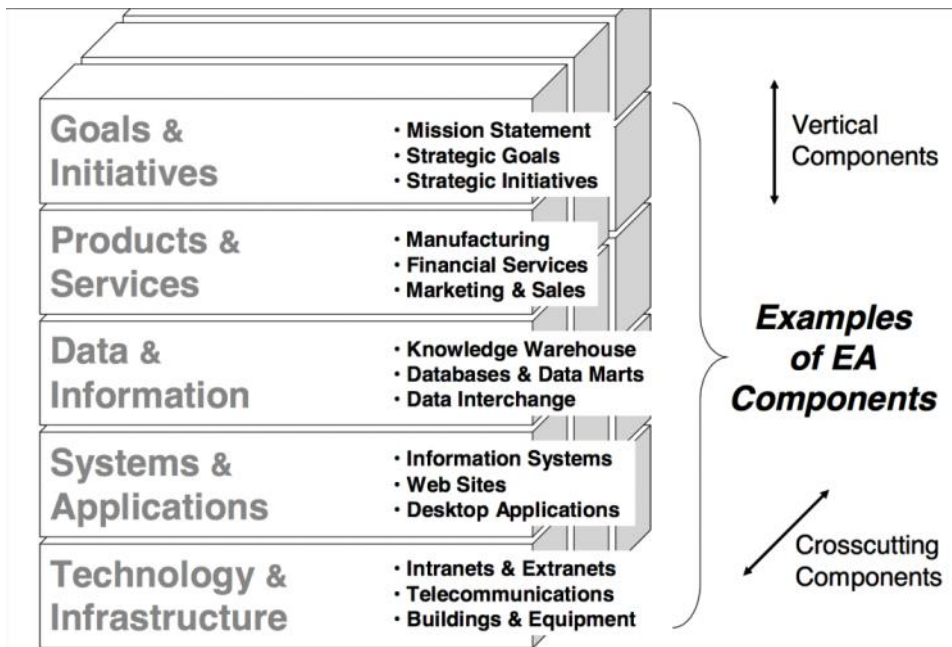


**FUTURE
ARCHITECTURE**

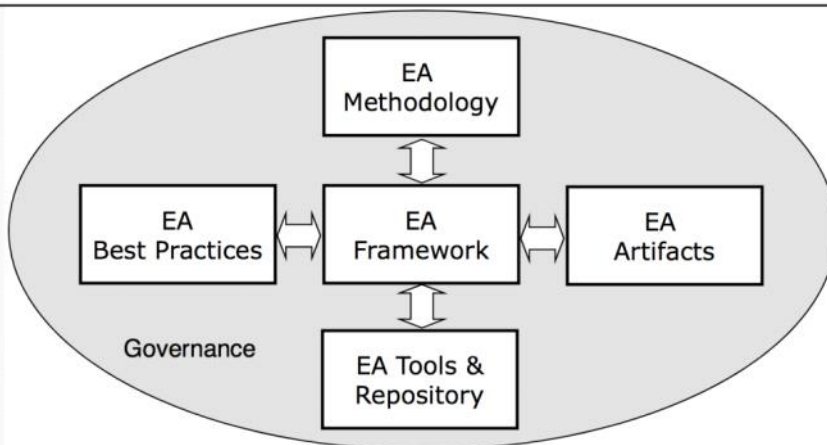
Key Term: EA(Enterprise Architecture) is a strategy and business-driven activity that supports management planning and decision-making by providing coordinated views of an entire enterprise.

Key Term: *Enterprise* An organization or sub-activity whose boundary is defined by commonly-held goals, processes, and resources. This includes whole organizations in the public, private, or non-profit sectors, part(s) of an organization such as business units, programs, and systems, or part(s) of multiple organizations such as consortia and supply chains.

Key Term: Enterprise Architecture The analysis and documentation of an enterprise in its current and future states from an integrated strategy, business, and technology perspective.



THE SIX ELEMENTS OF ENTERPRISE ARCHITECTURE



SO WHAT ARE SOME THINGS AN EA WILL DO AND PRODUCE?

They will do:

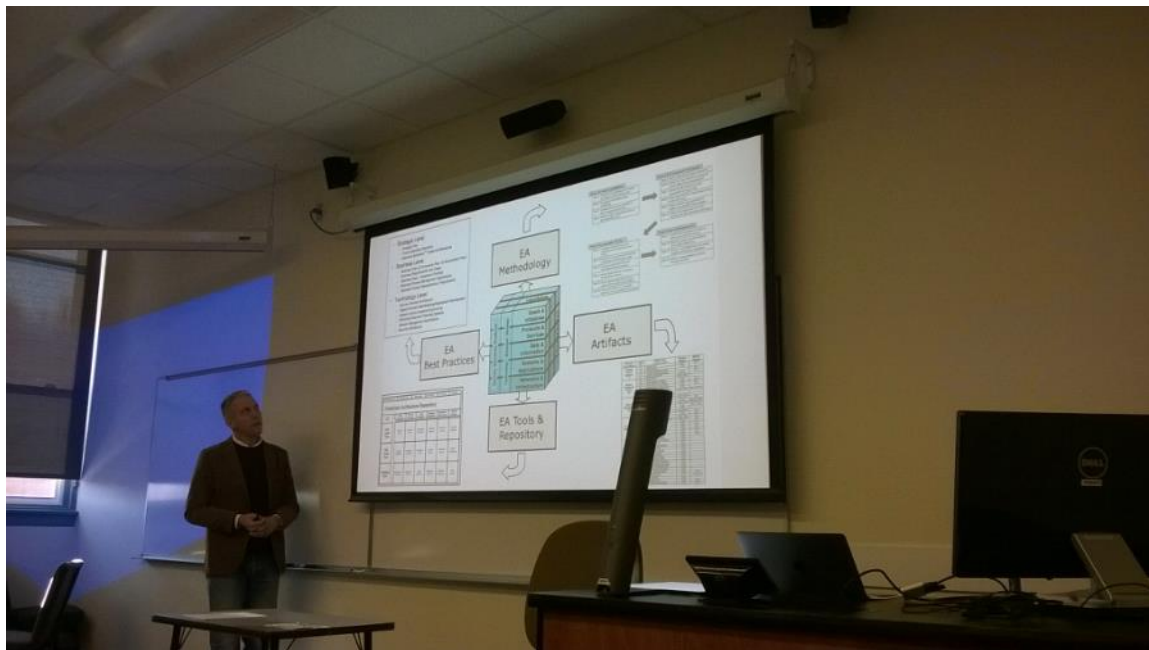
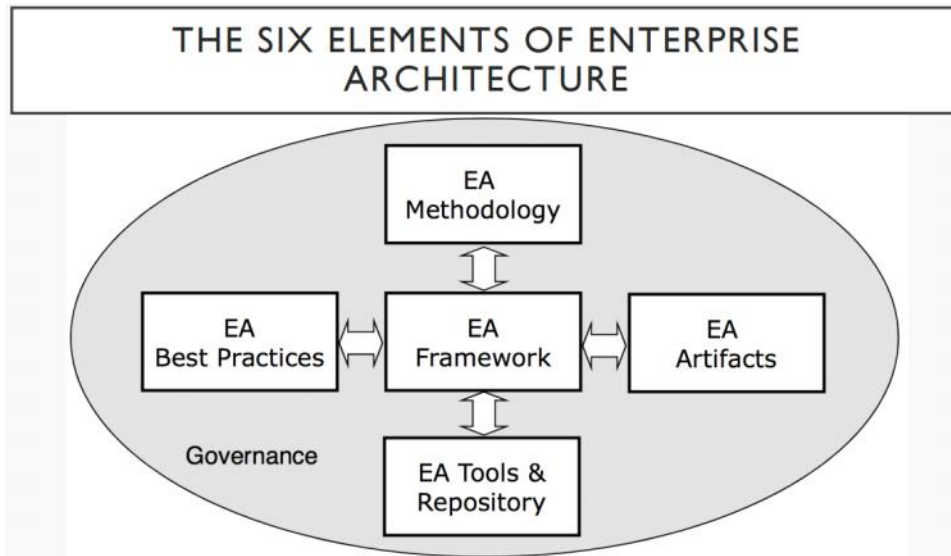
- Facilitate design, planning and strategy meetings
- Produce documents (artifacts) that describe process, policy, “big picture” design
- Answer important questions and document why they are giving a particular answer

They will produce:

- High level project plans
- Strategy presentations (for other IT folks as well as executive non-technical leadership)
- Roadmaps
- High level technical designs

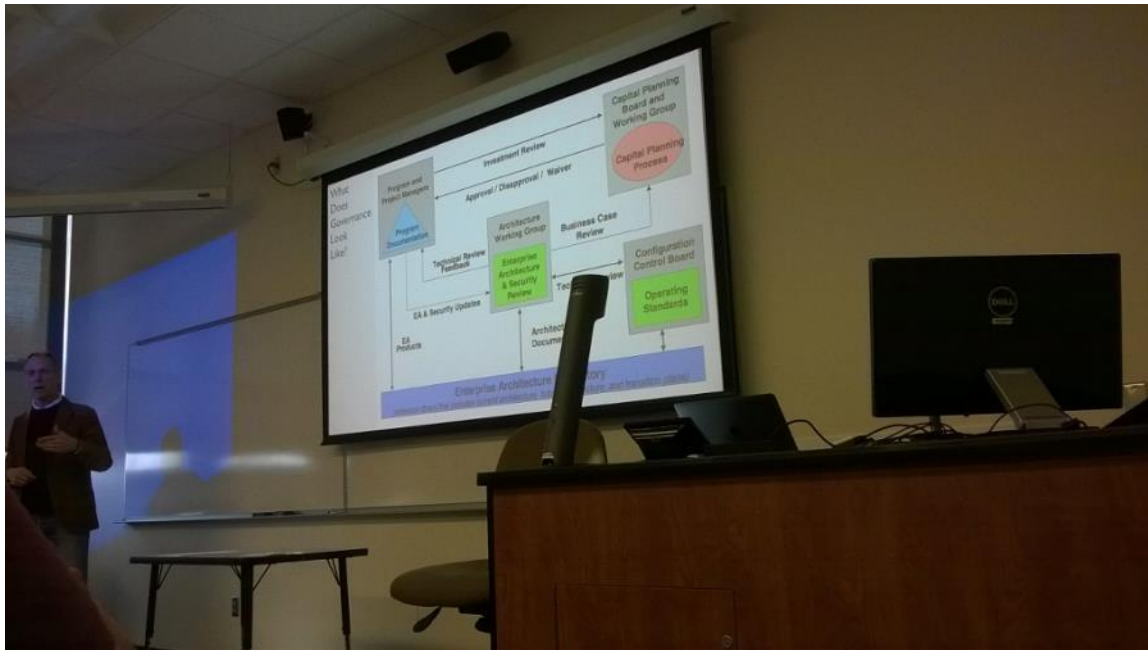
1/12/2017 Notes - The Six Elements of Enterprise Architecture

Thursday, January 12, 2017 11:50 AM

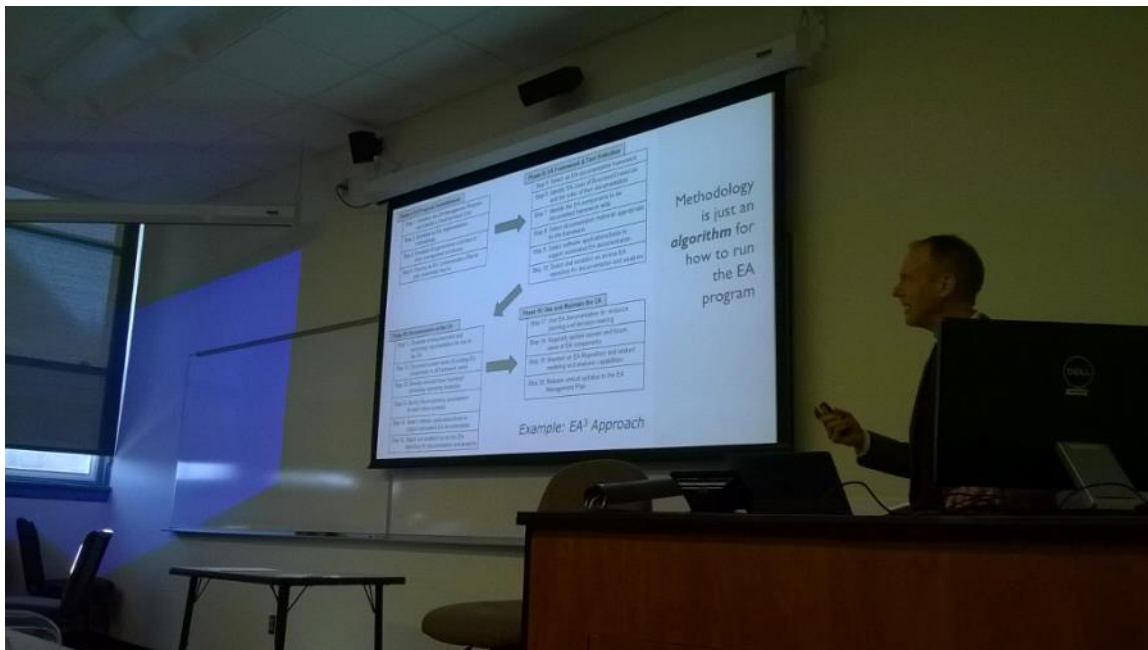


Governance Principal: The person who signs the checks should not be the person who opens the bank statements

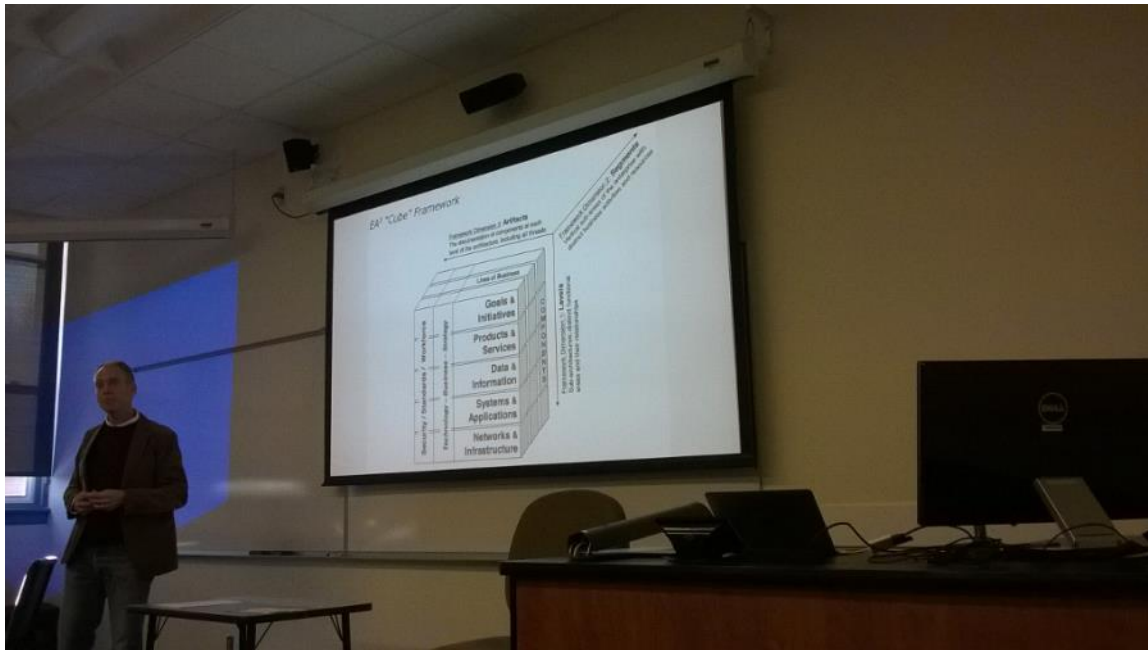
Governance Process



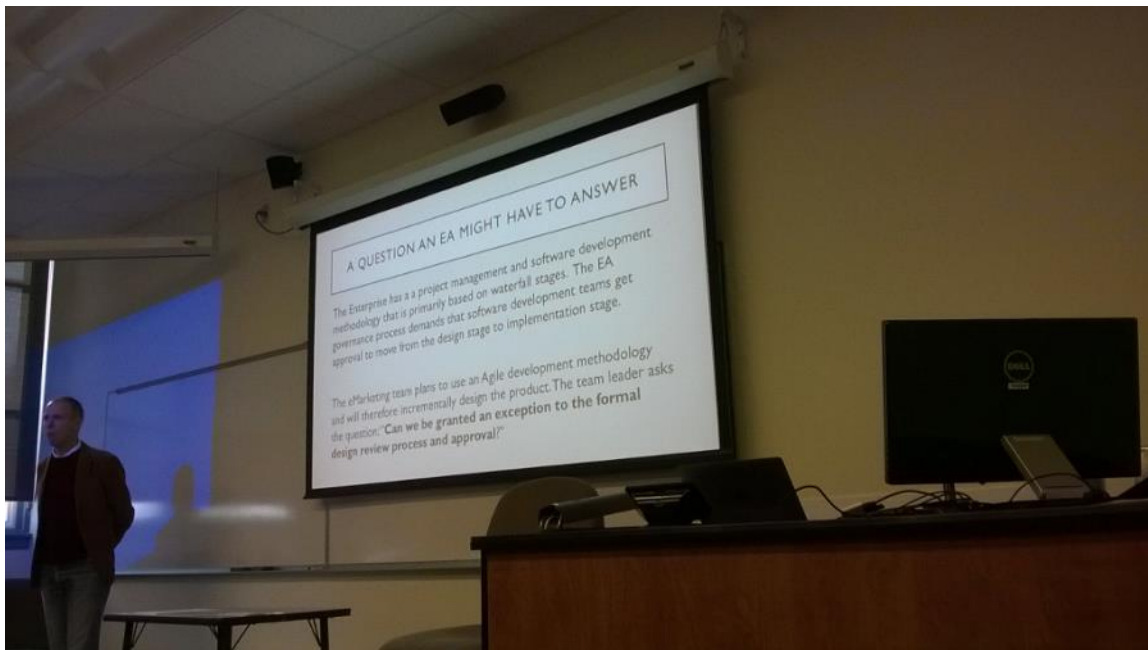
Methodology: An algorithm for how to run the EA program



EA³ "Cube" Framework



A Question An EA Might Have To Answer



1/12/2017 Notes - Organizations and Leadership, And The Value And Risk Of EA

Thursday, January 12, 2017 1:02 PM

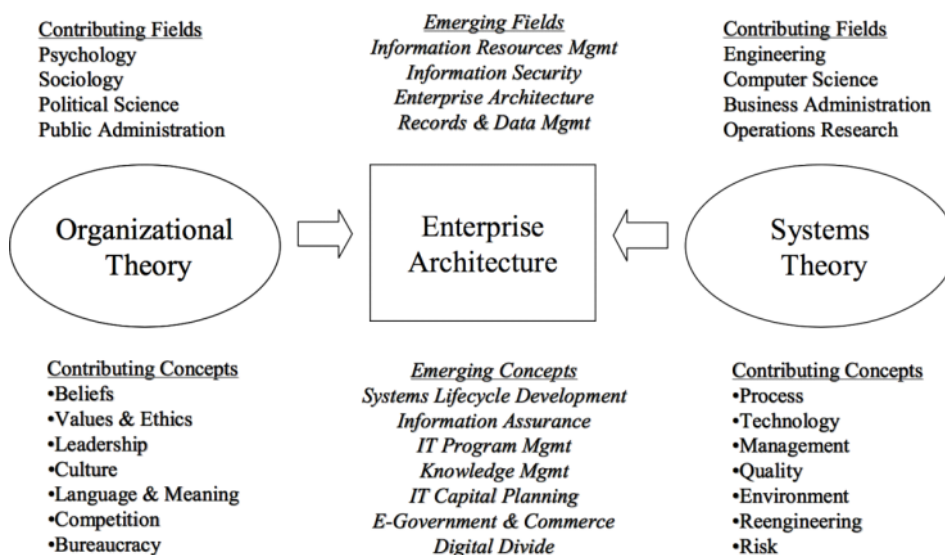
Key Term: Line of Business: A Line of Business (LOB) is a distinct area of activity within the enterprise. It may involve the manufacture of certain products, the provision of devices, or internal administrative functions.

Key Term: Architecture Segment: A Part of the Overall EA that documents one or more lines of business at all levels and threads. A segment can exist as a stand-alone part of the EA.

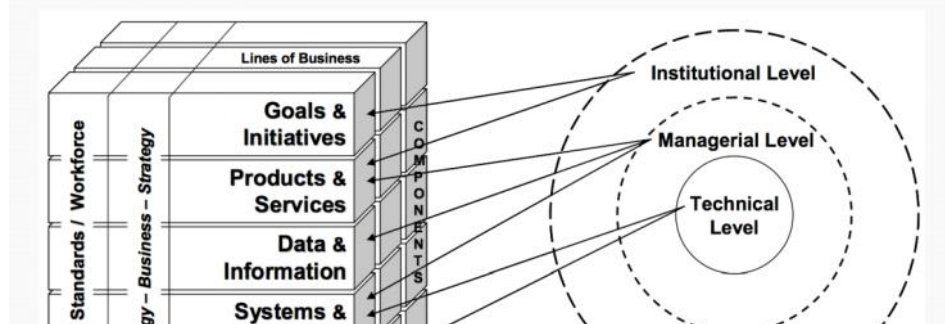
Key Term: Vertical Component: A vertical component is a changeable goal, process, program, or resource (equipment, systems, data, etc.) that serves one line of business

Key Term: Horizontal (crosscutting) component: A horizontal (or crosscutting) component is a changeable goal, process, program, or resource that service several lines of business. Examples include email and administrative support systems that serve the whole enterprise.

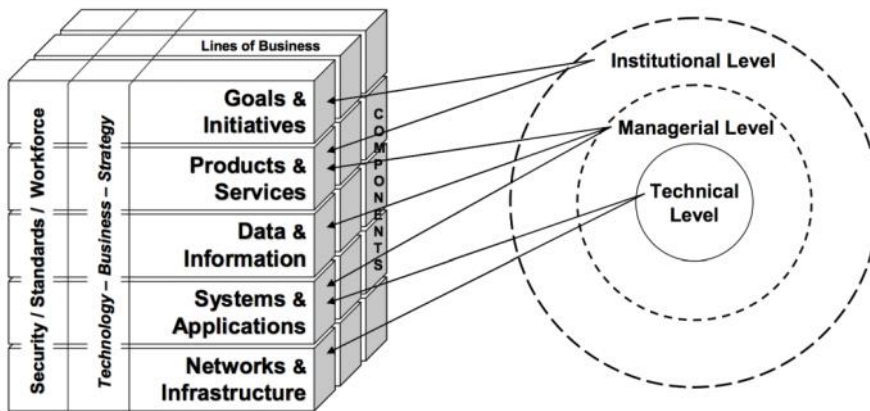
Key Term: Change Management: The process of setting expectations and involving stakeholders in how a process or activity will be changes, so that the stakeholders have some control over the change and therefore may be more accepting of the change



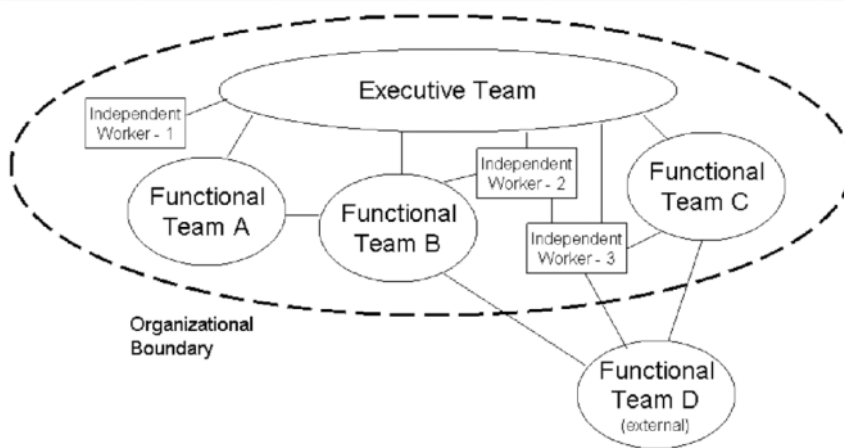
WHERE DOES THE EA3 CUBE MAP INTO ORGANIZATIONAL LEVELS?



WHERE DOES THE EA3 CUBE MAP INTO ORGANIZATIONAL LEVELS?

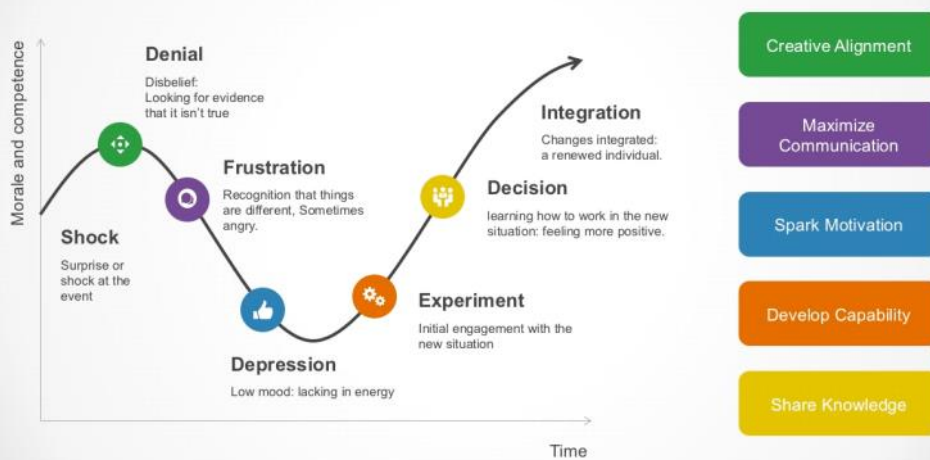


A NETWORK MODEL FOR ORGANIZATIONS



Change Curve

The Kübler-Ross Change Curve



SO... WHY DOES EA NEED TO INCORPORATE
PEOPLE AND HOW THEY FIT INTO THE
ORGANIZATION?

... Implementing Enterprise Architecture requires change management

... Sustaining Enterprise architecture requires change management

... The nature of enterprise initiatives like EA is that just telling people to get on board isn't enough.

→ They must be sold on the value and vision

→ They must be led to the promised land

1/17/2016 Notes - Organizations and Leadership, And The Value And Risk Of EA

Tuesday, January 17, 2017 12:01 PM

Sometimes, Enterprise architecture is overkill

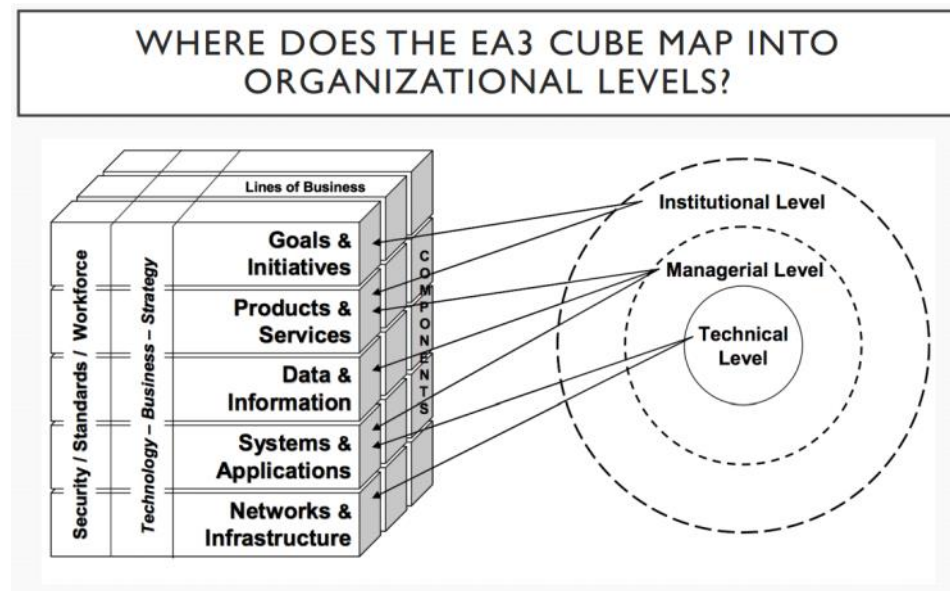
- It is work to be done, which consumes resources, time, and money
- The value it brings may not outweigh these costs

What sort of value can EA bring?

- Improved planning and coordination
- Improved (and maybe even streamlined) decision making
- Communication and enterprise awareness
- Risk Management

What are some of the risks EA can help manage (And even Avoid)

- Financial
- Lack of Acceptance
- Loss of Key Personnel
- Schedule Slips
- Documentation and shared knowledge
- Misalignment with corporate strategies and priorities



Modelling Activity

Tuesday, January 17, 2017 1:20 PM

- SITS:** Sales and Inventory Tracking System
- COO Kate Jarvis

Cost Accounting

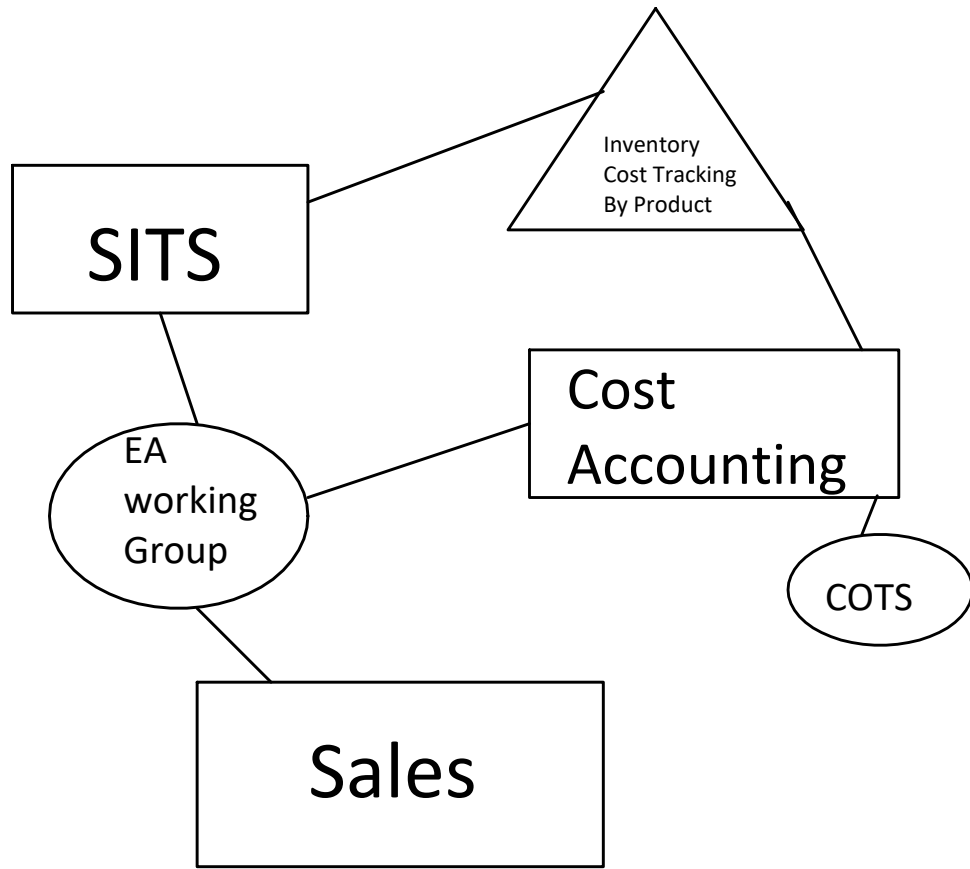
- COTS
 - o Commercial Off The Shelf
- CFO Jim Gorman

CIO Sam Young

Things to accomplish

- Inventory Current System & practices
- Identify Overlap

SITS	COMMON	CAS
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-



1/19/2017 Notes - EA: Implementation Methodology

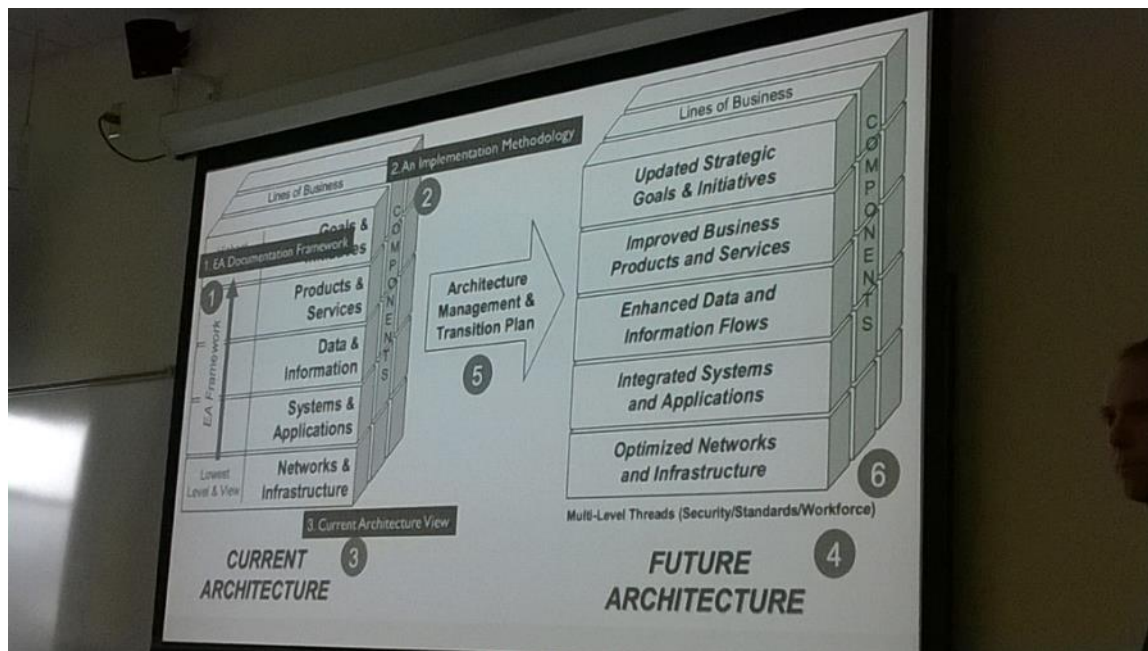
Thursday, January 19, 2017 11:58 AM

Key Term: *EA Framework*: The EA framework is a structure for organizing information that defines the scope of the architecture, what the EA program will document and the relationship of various areas of the architecture.

Key Term: *EA Methodology*: The EA methodology defines how the EA will be implemented and how documentation will be developed, archived, and used; including the selection of a framework, modeling tools, and on-line repository

Key Term: *Executive Sponsor*: The Executive who has decision-making authority over the EA program and who provides resources and senior leadership for the EA program

Key Term: *EA Artifact*: An EA artifact is a documentation product, such as a text document, system specification, application interface information, diagram, spreadsheet, briefing slides, and/or video clip



#6 Common Threads

What Are Our Initial Considerations?

- Which areas of the enterprise EA will cover (Scope)
- The approach to EA governance (e.g., centralized or decentralized)
- The types of EA documentation (known as artifacts) that will be needed to support business and technology resource planning and decision-making
- The EA documentation framework that best supports the needs of the enterprise.
- The methods and techniques for gathering or developing EA documentation
- The software modelling tools, web applications, and databases that will be needed to automate documentation techniques and enable future scenario modeling
- How EA users will access and share EA documentation
- How often EA documentation will be updated

Four phases, 20 steps

Phase 1 - EA Program Establishment

Step 1: Establish the EA Management Program and identify a Chief Architect

Step 2: Establish an EA implementation methodology

Step 3: Establish EA Governance and links to other management processes

Step 4: Develop an EA Communication Plan and gain stakeholder buy-in

Phase 2 - EA Framework and Tool Selection

- The methods and techniques for gathering or developing EA documentation
- The **software modeling tools**, web applications, and databases that will be needed to automate documentation techniques and enable future scenario modeling

Step 5: Select a EA documentation framework

Step 6: Identify the RA Lines of Business and Crosscuts and the order of their documentation (hence, the **verticals** and **horizontal**s)

Step 7: Identify the RA components to be documented

- These are specific components that we will address -- each of these live in the LOBs and crosscuts identified above

Step 8: Select documentation methods appropriate for the framework

- These are the specific methods and formats that will be used to document (and hence, communicate) each of the components

Step 9: Select Software applications/tools to support automated EA documentation

Step 10: Select and establish an on-line EA repository for documentation

Phase 3 - Documentation of the EA

Step 11: Evaluate existing business and technology documentation for use in the EA.

Step 12: Document current views of existing EA components in all framework areas (levels/threads). Store artifacts in the on-line repository.

Step 13: Develop several future business/technology operating scenarios.

Step 14: Identify future planning assumptions for each future scenario.

Step 15: Use the scenarios and other program/staff input to drive the documentation of future EA components in all framework areas. Store artifacts in the on-line EA repository. **Step 16:** Develop an EA Management Plan to sequence planned changes in the EA.

Phase 4 - Use and Maintain the EA

Step 17: Use EA information to support planning and decision-making.

Step 18: Regularly update current and future views of EA components.

Step 19: Maintain an EA Repository for modeling and analysis products.

Step 20: Release annual updates to the EA Management Plan.

Phase 3 - Documentation of the EA

Phase 4 - Use and maintain the EA

What are examples of "Documentation Methods"?

Strategic Level: Strategic Plan, Scenarios, Balanced Scorecard

Business Level: IDEF-0 Diagrams, Flowcharts, Swim Lane Charts

Information Level: Data Models, Object Diagrams, Data Dictionary

Services Level: System Diagrams, Web Services Models, APIs

Technology Level: Voice/Data/Video Network Diagrams/Documents

Vertical Threads: Security Diagrams, Standards, Workforce Skills

1/24/2017 - EA: Components and Artifacts

Tuesday, January 24, 2017 12:28 PM

Key Term: EA Artifact: An EA artifact is a documentation product, such as a text document, system specification, application interface information, diagram, spreadsheet, briefing slides, and/or video clip

Key Term: EA Component: EA components are those 'plug and play' changeable resources that provide capabilities at each level of the framework. Examples include strategic goals and initiatives, business services, information flows and data objects; information systems, web services, and software applications voice/data/video/mobile networks, cable plants, equipment, and buildings

1/31/2017

Tuesday, January 31, 2017 11:57 AM

What is the current view

- This is an "as-is" view of the EA
- Provides documentation of the current:
 - o Strategic Goals
 - o Business Services
 - o Information Flows,
 - o IT Systems services

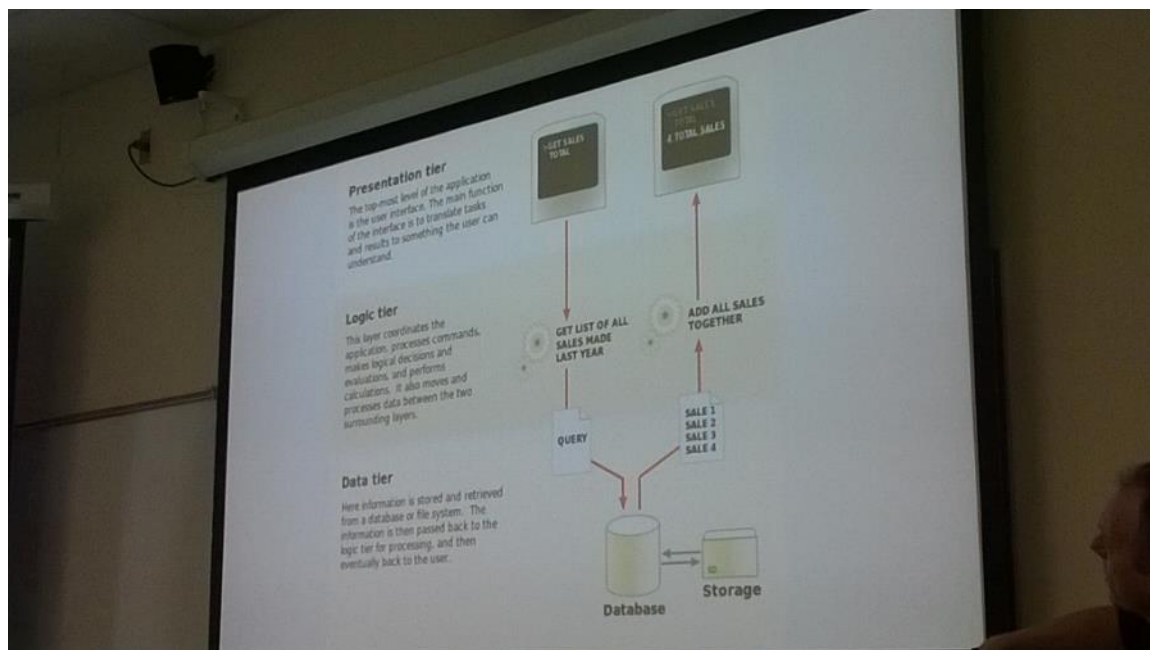
Project Management Artifacts

- Project Plan for projects in flight
 - o Business Cases
 - o Milestones
 - o Objectives

Information Level Artifacts

- ER Diagrams? Maybe... but will probably be "pruned" to show key binding elements across the enterprise
- More Likely to show logical or abstract data models that communicate how information flows or is bound across different systems

How do we talk about the dynamic interactions between systems?



Microservices Approach

A microservice approach segregates functionality into small autonomous services.

And scales out by **deploying independently** and replicating these services across servers/VMs/containers.

App 1 App 2

VS. Traditional Approach

A traditional application (Web app or large service) usually has most of its functionality within a single process (usually internally layered, though).

And scales by cloning the whole app on multiple servers/VMs/containers.

App 1

2/2/2017 -

Thursday, February 02, 2017 12:16 PM

Shouldn't "future" views look like... just an updated current view

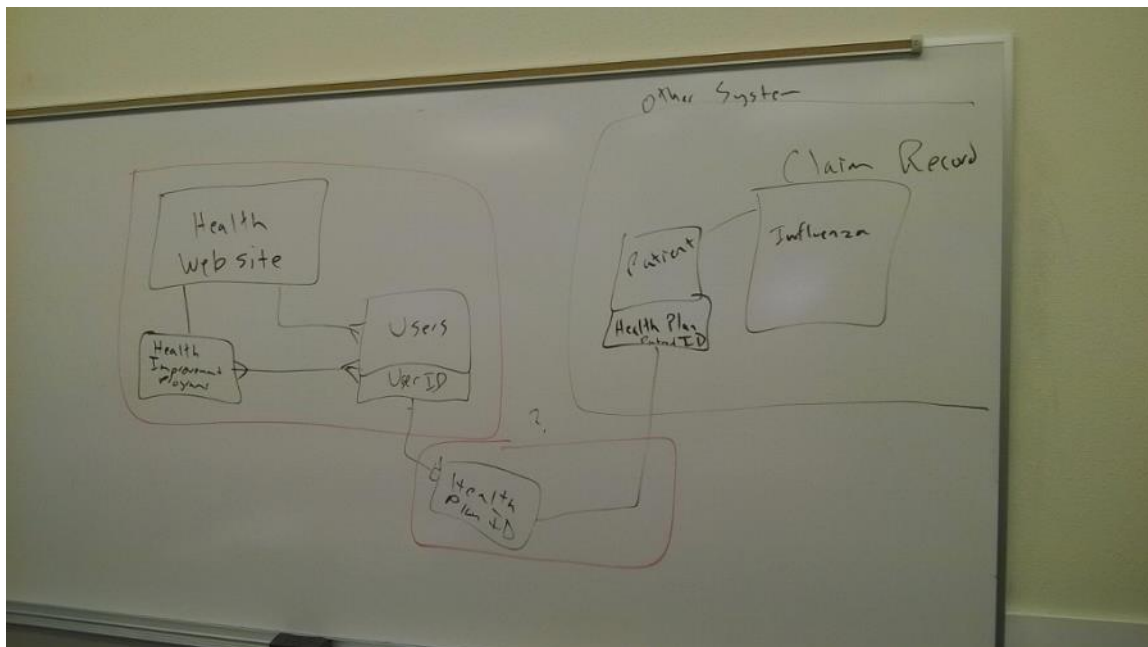
Sort of

- We will certainly use similar tools and diagrams as when we document current views
- Painting a picture of the future often requires more than just diagrams and words, however!
- Tools
 - o Stories
 - o Concept Drawings, videos, pictures

Use cases

Problem Statement 1

- We are building a platform to manage health and wellness programs for a wide range of people that have relationships with a wide range of customers (health plans, employers, maybe even state governments)
- Currently:
 - o Users enroll in our system creating their own unique user ID
 - o We don't import any data that the customer provides, so we essentially have a "walled garden" of users that greatly simplifies integration in our system
- Problem
 - o An important client wants us to import health claims data from their health plan, we want to solve not just this problem, but do it generically so that is might work for future clients that want the same capability



2/14/17

Tuesday, February 14, 2017 12:05 PM

How does PM connect to EA?

2/16/17 -

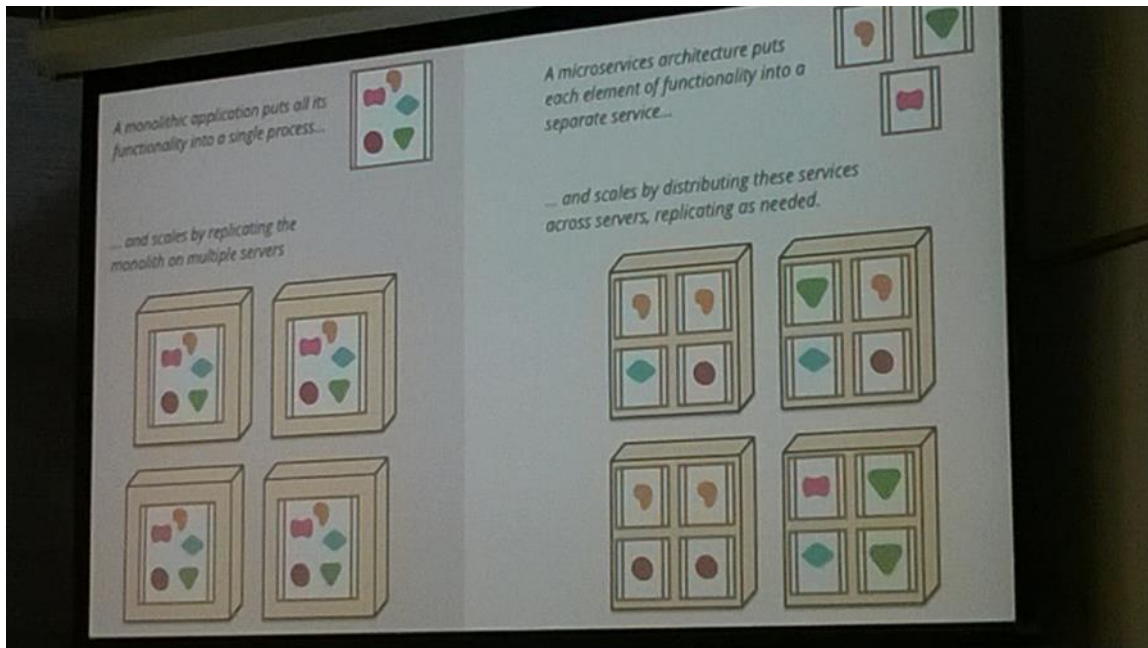
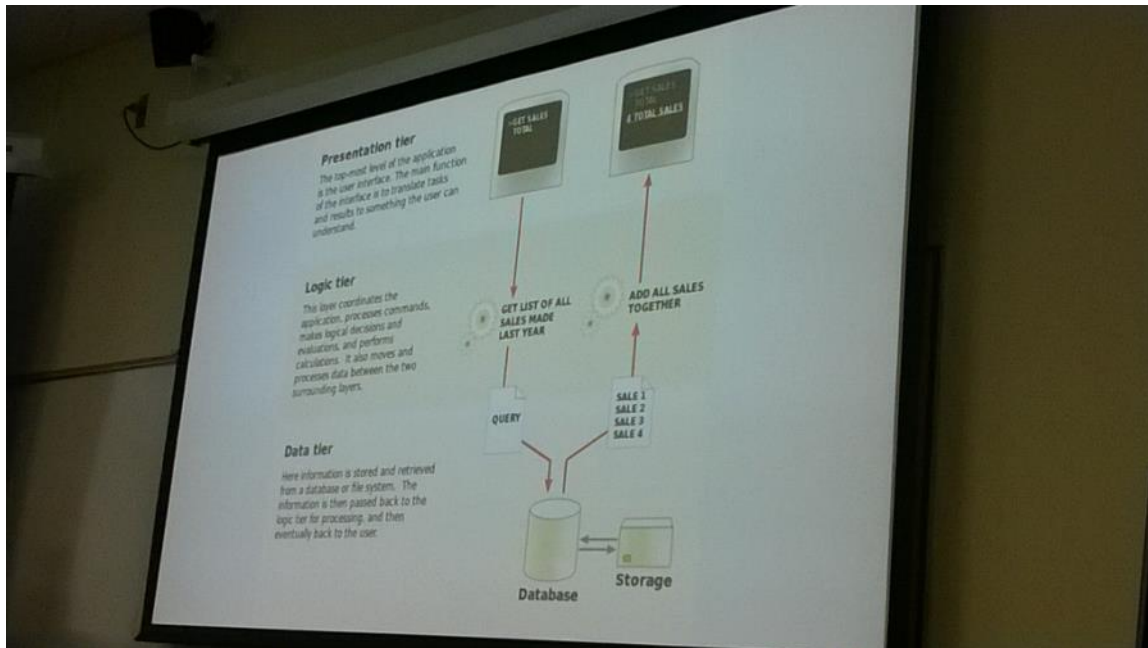
Thursday, February 16, 2017 12:15 PM

2/21/2017

Tuesday, February 21, 2017 12:16 PM

Microservices

Tuesday, February 21, 2017 12:16 PM



Characteristics of a Microservice Architecture

- Componentization Via (Web) Services
- Organized around Business Capabilities
- Products not Projects
- Smart Endpoints and dumb pipes
- Decentralized Governance
- Decentralized Data Management
- Infrastructure Automation
- Design for Failure

- Evolutionary Design

2/23/2017

Thursday, February 23, 2017 12:18 PM

2/28/2017 - Architecting The Cloud

28 February, 2017 12:03 PM

PaaS: Platform as a Service

3/7/2017

7 March, 2017 12:25

Element 1 - Information Security

- Design
- Assurance
- Authentication
- Access

Element 2 - Personnel

- User Authentication
- Awareness Training
- Procedures Training
 - o Incident simulation
 - o Disaster Test

Element 3 - Operations

- Risk Assessment
- Component Security Testing and Evaluation
- Vulnerability Remediation
- Component Certification and Accreditation
- Standard Operating Procedures
- Disaster Recovery
- Continuity of Operations

Element 4 - Physical Protection

- Building Security
- Network Operations Centers, Server Rooms, and wiring closets
- Cables Plants

There are myths and misperceptions about "data in the cloud"

- You lose control of information security
- You can't do HIPAA
- You can't do PCI compliance
- You can justify EU privacy laws

How much security is required?

- Target Industry
- Customer Expectations
- Sensitivity of data being stored
- Risk tolerance
- Maturity of Product
- Transmission boundaries