



# **A Simple and Flexible Specification for an Enterprise Architecture Practice**

**Developing architectures and architecture roadmaps  
for enterprise transformation and optimization**

**SATURN 2009**

**May 6, 2009**

**David Cuyler**

**Enterprise Architecture Technical Lead  
Sandia National Laboratories, Albuquerque, NM**



Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company,  
for the United States Department of Energy's National Nuclear Security Administration  
under contract DE-AC04-94AL85000.



## **EA at Sandia Labs The Journey, Thus Far**

---

- **Pre-1994: Transition from Mainframe to C/S**
- **~ 1994: Need to manage technology complexity**
- **~ 1997: Deployment of large ERP systems**
- **~ 2000: Need to manage business alignment**
- **~ 2003: Need to formulate repeatable practice**
- **~ 2006: New CIO w/ ambitious agenda**
- **~ 2009: SOA, BPM, other architecture initiatives**

**Still *trying* to levitate that X-Wing!**

- **"No," scolded Yoda. "Do, or do not. There is no try."**  
**Episode V: *The Empire Strikes Back***





## Whither Alice?



“Would you tell me, please,  
which way I ought to go  
from here?”

“I don't much care where  
...” said Alice.

“... so long as I get  
*somewhere*,” Alice  
added as an explanation.

“That depends a good deal  
on where you want to get  
to,” said the Cat.

“Then it doesn't matter  
which way you go,” said  
the Cat.

“Oh, you're sure to do that,”  
said the Cat, “if you only  
walk long enough.”

Lewis Carroll, *Alice's Adventures in Wonderland*, 1865



## Why Have a 'Simple and Flexible' EA Practice?

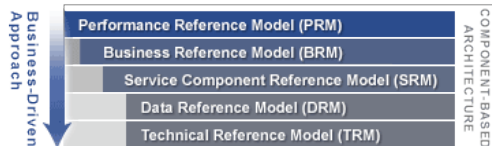
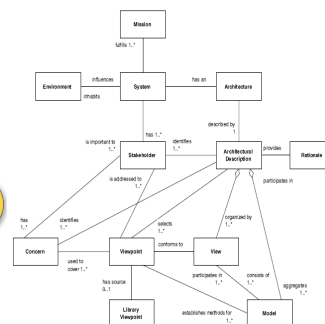
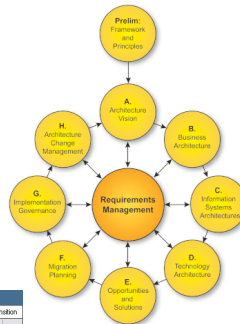
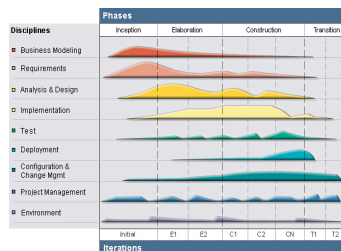
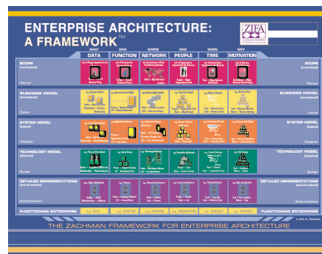
- Respond to known stakeholder concerns
- Define target and path to address concerns
- *Sufficient* understanding of existing conditions
- Effectively deliver strategic decision information
  - In time to make the decisions!
- Monitor progress toward the target
  - Deal with significant deviations
- Sustain EA information over time
- Adjust to change in time to avert undesirable impact

## Some Definitions

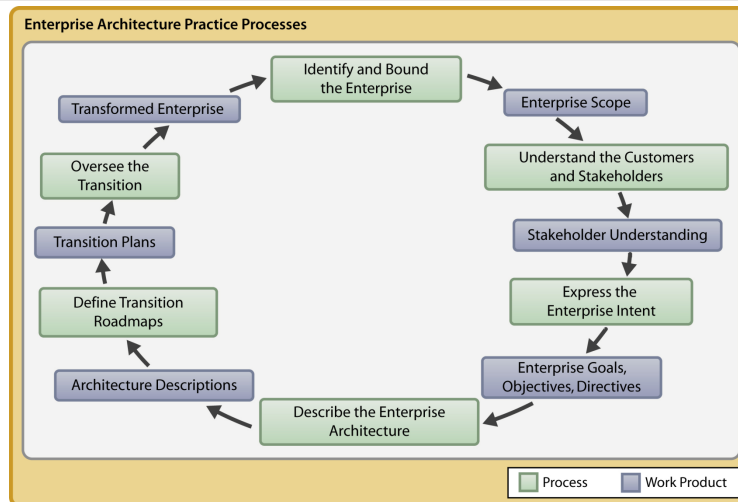
- **Enterprise:** “an undertaking of scope, complication, risk”
- **Architecture:** “the fundamental organization of ...”\*
- **Architecture Description:** “a collection of products ...”
- **Vision:** “a mental image produced by the imagination”
- **Intent:** “an anticipated outcome that guides actions”
- **Baseline:** “a minimum or starting point for comparisons”
- **Target:** “the goal intended to be attained”
- **Roadmap:** “a plan determining a course of action”



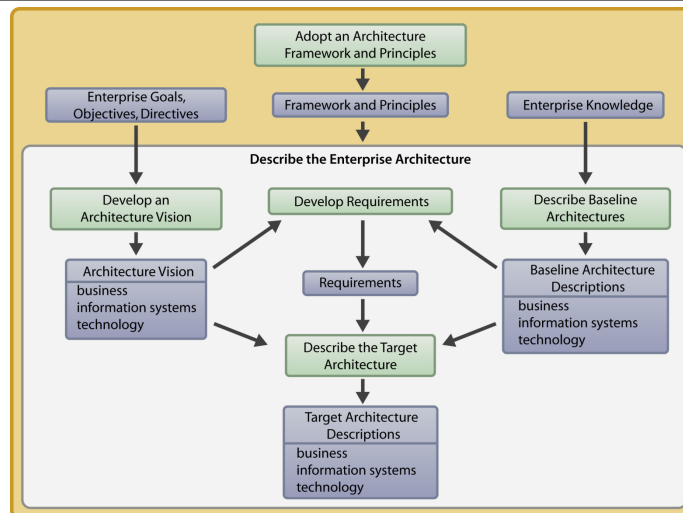
## Relevant Frameworks



## The Practice: Process Cycle



## Core Process: Describe the Enterprise Architecture





## Applying the Practice: Observations and Caveats

---

- Partial instantiation of the practice is the norm
  - Depends on the nature of the request and need
- You can start anywhere in the cycle
  - “finish-finish” ... not “finish-start” ... iterate!
- Avoid the TMI trap!
  - Goal: “Just Enough”
  - Favor too little over too much
- You’re never done ... situation keeps changing
- Be always mindful of scope
- Beware the p.83 problem!
  - *“Architecture is a result of the organization’s funding model” (Stevens 2002)\**




## Conclusions

---



- This will work if you keep it simple
- Address real concerns
- Start broad, not deep
- First trip through the practice should be a whirlwind – measured in weeks
  - It will trigger learning
  - It will deliver surprising value quickly
  - It will generate early course corrections
- Stay strategic






## Questions

---



## Backup Slides

---





## Enterprise Architecture

---

- **Sets the strategic context for projects**
  - Scope of EA is all projects, but no single project
  - Lays out the “landscape” within which projects need to operate
  - Depicts the intended target state ... “where you want to get to” ...
- **Goal: Collectively enterprise elements ...**
  - Add value (alignment)
  - Work together (integration)
  - Keep working (sustainability)
  - Adjust to conditions (agility)











## Components of Enterprise Architecture

---

- **Business Architecture**
  - Process, Information, Organization structure, Funding structure, etc.
- **Information Systems Architecture**
  - Applications architecture, Data architecture, Service component architecture, etc.
- **Technology Architecture**
  - Platforms, Networks, Middleware, Software servers, etc.



## If an Enterprise were a City ...

City Concept		Enterprise Concept
Urban Planning		Enterprise Architecture <i>(more than just IT)</i>
General Contractor		IT Project Manager
Construction Tools		Development Tools
Building Inspection		Verification Steps of Development Process
Building Architect		Application/Data Architect
Standard Components/ Hardware Store		Repository/Web Services/ Standard Desktop/...
Utilities/Infrastructure		Core Services/ Middleware/Infrastructure
Subdivision/Community		System-of-Systems



## Architecture Principles

- Business Principles
- Data Principles
- Application Principles
- Technology Principles





