

	What you KNOW	What you DO	What you ARE
Leader			
Consultant			
Politician			
Strategist			
Technologist			

## What it Takes to be Great in the Role of Enterprise Architect

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## Introduction



- Organizing Models and Insights into the Role of the Enterprise Architect
  - Enterprise Architecture
  - Architectural Decisions
  - Value Contribution
  - Architecting Process
- Competencies of Great Architects
- Competency Development for Architects

# Architecture

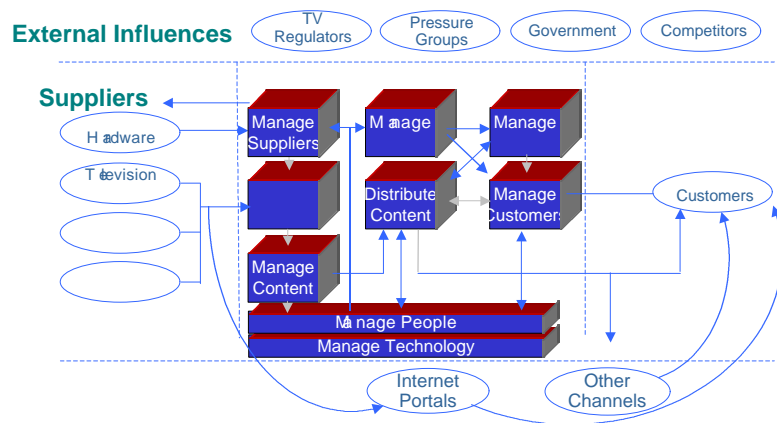
## General Concepts



- Architecture is
    - the organizing structure of the system, comprised of the building blocks of the system, their externally visible properties, and their relationships to each other and the environment
    - purposely designed so that the system has integrity and the system structure enables the desired capabilities of the system
      - enables system functionality
      - addresses cross-cutting concerns or system-wide properties
- The people who do this are called *architects*

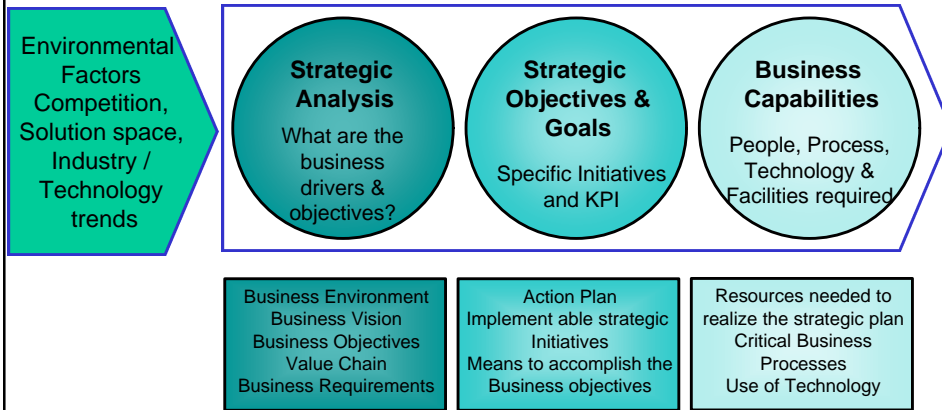
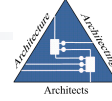
# Enterprise Architecture

## Building Blocks: Business Capabilities



# Business Capabilities

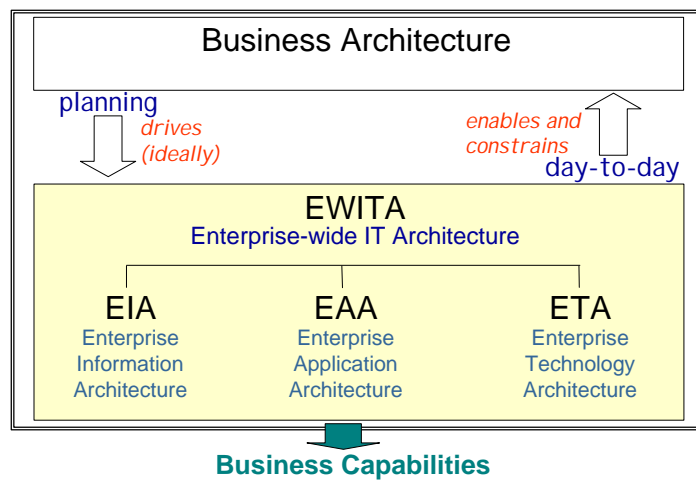
## Connecting Enterprise Architecture to Strategy



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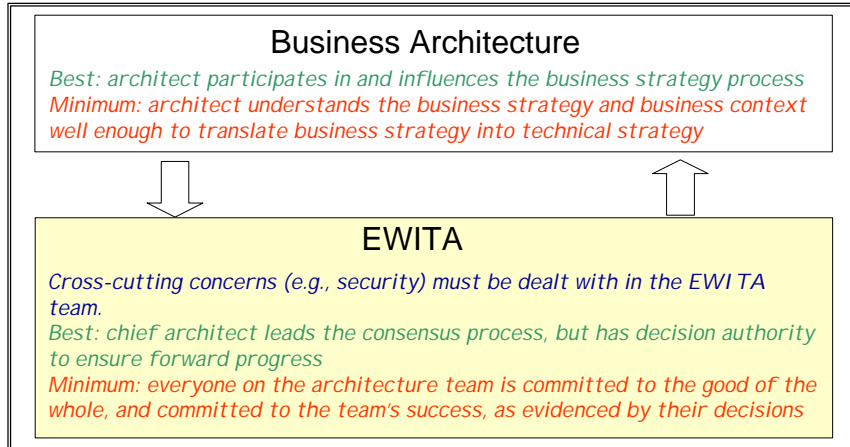
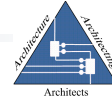
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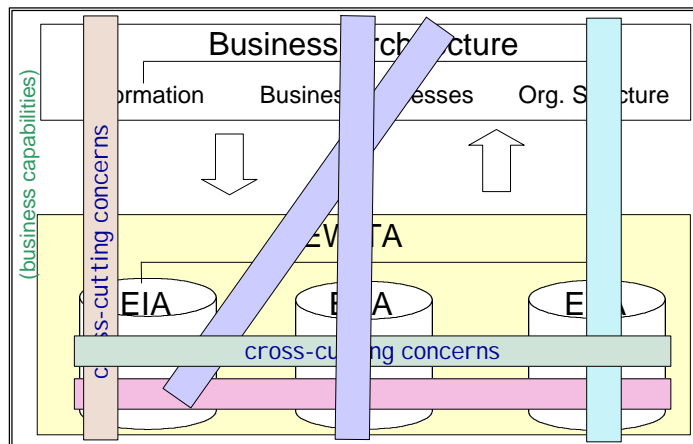
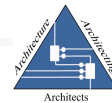
# Enterprise Architecture Implications for the Architect



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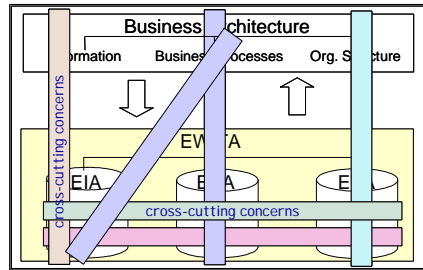
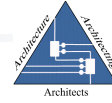
# Enterprise Architecture System Perspective



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# System Perspective Implications for the Architect

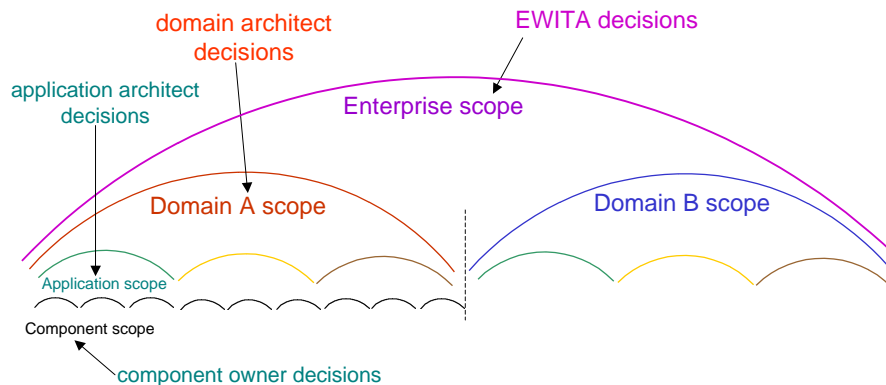
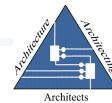


- Architect needs to be good at
  - seeing the big-picture, abstracting
  - dealing with ambiguity
  - setting priorities
  - dealing with conflicting priorities, making compromises
  - analyzing tradeoffs
  - working across disciplines
  - leading, following and getting out of the way
  - persuading others
  - mediating conflicts

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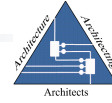
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# Architectural Decisions A matter of scope

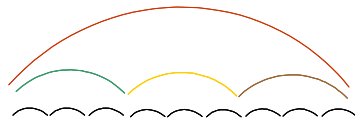


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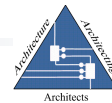


## Implications for the Architect



"I often describe the life of a software architect as a long and rapid succession of suboptimal design decisions taken  
Kruchten, 2001

- Architect needs to be credible and knowledgeable about areas within her decision scope
  - applications/products, technologies, market
  - at the global system level
  - building consensus



## Architecture Decision Model

### Architectural Strategy

- nical direction for the enterprise; establishes architectural vision, principles, philosophy
- *Focus: high-level decisions that will strongly influence the architecture of the system; rules certain choices out, and guides selection decisions and tradeoffs among others*

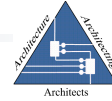
### Architecture

- Structures and relationships; described in various views; documents assumptions and rationale
- *Focus: provide overall enterprise system views, showing system building-blocks and their interrelationships; address cross-cutting concerns, taking an enterprise-wide view in setting priorities and making tradeoffs*

### Architectural Guidelines, Policies and Standards

- Use model and guidelines on applying the architecture; policies, mandates and standards to address architecture objectives; recommendations
- *Focus: guide engineers in creating designs that maintain the integrity of the architecture; guide procurers in purchasing technologies and solutions*

# Architectural Decisions Implications for the Architect



<p><b>Architectural Strategy</b></p> <ul style="list-style-type: none"> <li>• Translates business strategy to architecture strategy; sets technical direction for the enterprise; establishes architectural vision, principles, philosophy and objectives</li> <li>• Focus: high-level decisions that will strongly influence the architecture of the system; rules certain choices out, and guides selection decisions and tradeoffs among others</li> </ul>
<p><b>Architecture</b></p> <ul style="list-style-type: none"> <li>• Structures and relationships; described in various views; documents assumptions and rationale</li> <li>• Focus: provide overall enterprise system views, showing system building-blocks and their interrelationships; address cross-cutting concerns, taking an enterprise-wide view in setting priorities and making tradeoffs</li> </ul>
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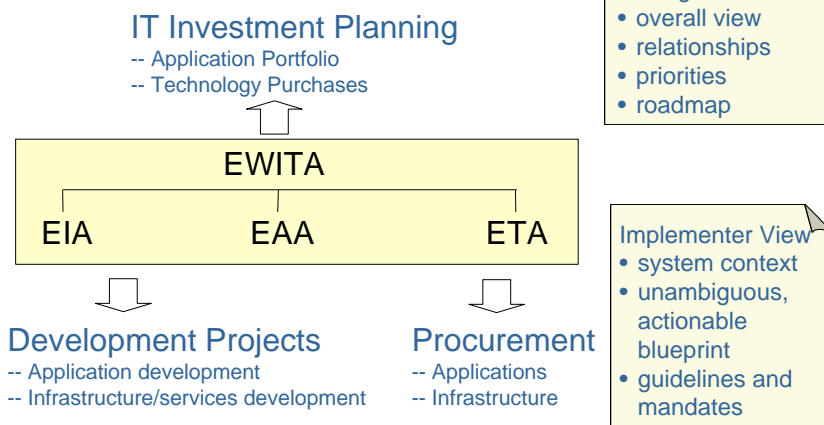
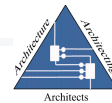


Initial EA efforts often start here, to lay the necessary foundation to

- address complexity in the IT environment
- ease system integration
- allow shared information access
- reduce costs

- Architect needs to
  - work at a high level of abstraction, yet go into detail where necessary
  - be good at modeling, rigorous in documenting decisions, and good at communicating them to various audiences
  - use different views to show how the architecture addresses various stakeholders' concerns

# Enterprise Architecture “Consumers”



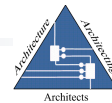


## Processes the Architect Leads

Process	System Envisioning	Architecting	Architecture Evolution
Goal	Find new business/ product opportunities	Create a new architecture	Evolve an existing architecture
Brief overview of process	Activities include: • Conduct industry, market, customer and user analyses • Create technology roadmaps • Assess legal implications • Envision new applications • Select, model and prototype	Activities include: • Gain sponsorship and buy-in • Capture architectural requirements • Create architectural models and evaluate alternatives • Validate architecture against requirements	Activities include: • Update architecture documentation • Update requirements • Assess architecture against requirements (impact analysis) • Restructure architecture
Primary outputs	<div style="border: 1px solid black; padding: 5px;"> <b>System Vision</b>            • system concept            • value proposition,            distinctive contribution            • models and            descriptions            • prototypes         </div>	<div style="border: 1px solid black; padding: 5px;"> <b>Architecture</b>            • architectural            requirements            • architecture models            • component            specifications            • architecture            guidelines and            standards         </div>	<div style="border: 1px solid black; padding: 5px;"> <b>Updated Architecture</b>            • updated            requirements            • impact analysis            results            • revised architecture            models         </div>

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## Visual Architecting Process Objectives

- Create an architecture that is
  - *Good*: technically sound, well documented
  - **Right**: meets its stakeholder needs (business, customers, developers, managers, etc.)
  - **SUCCESSFUL**: actually used in building systems

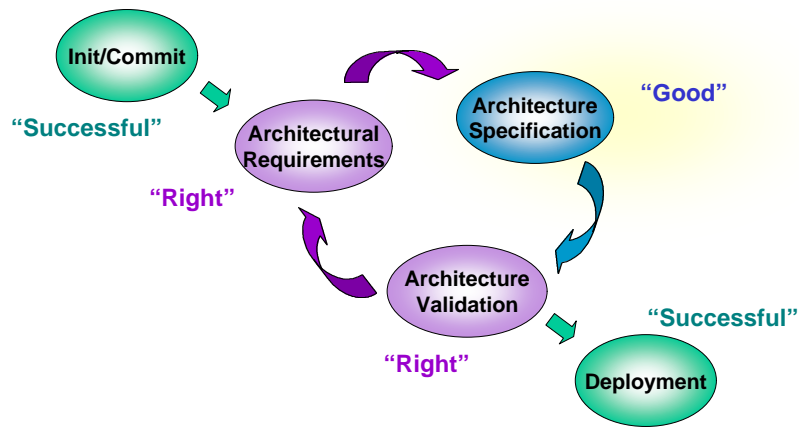
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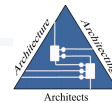


## Visual Architecting Process

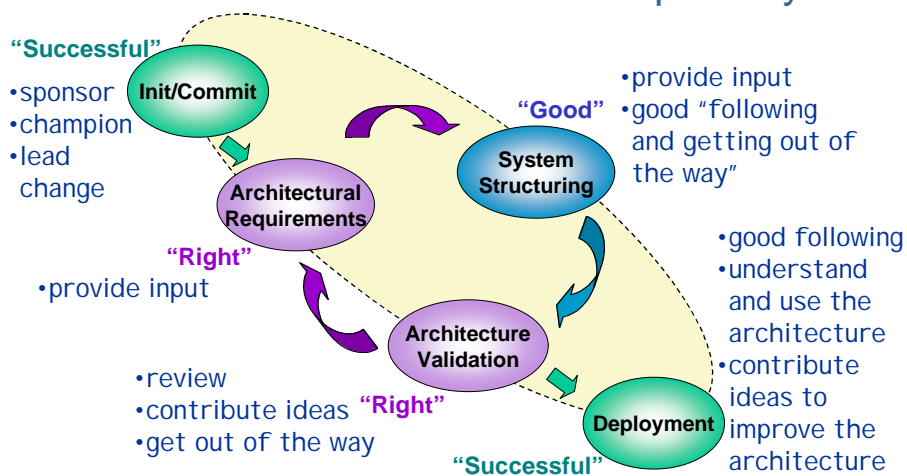


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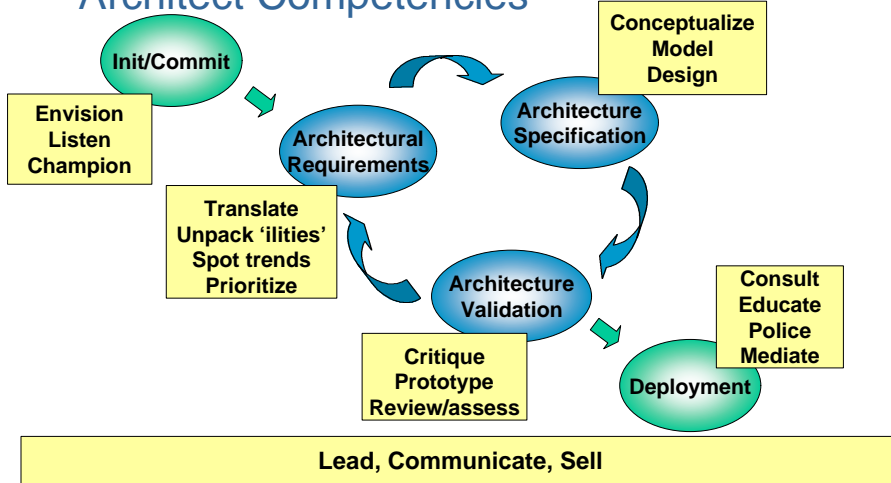
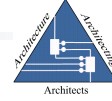
## Good, Right and Successful! Architecture as *Business* Competency



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# Good, Right and Successful! Architect Competencies



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# Architect Competency Framework

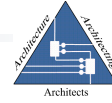


	What you KNOW	What you DO	What you ARE
<b>Leadership</b>			
<b>Consulting</b>			
<b>Organizational Politics</b>			
<b>Business Strategy</b>			
<b>Technology</b>			

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## Domains of Competency Technology



### What you KNOW

In depth understanding of the domain and pertinent technologies

Understand what technical issues are key to success

Development methods and modeling techniques

### What you DO

Modeling

Tradeoff analysis

Prototype / experiment / simulate

Prepare architectural documents and presentations

Technology trend analysis / roadmaps

Take a system viewpoint

### What you ARE

Creative

Investigative

Practical / Pragmatic

Insightful

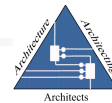
Tolerant of ambiguity, willing to backtrack, seek multiple solutions

Good at working at an abstract level

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## Domains of Competency Business Strategy



### What you KNOW

Your organization's business strategy and rationale

Your competition (products, strategies, processes)

Your organization's business practices

### What you DO

Influence business strategy

Translate business strategy into technical vision and strategy

Understand customer and market trends

Capture customer, organizational and business requirements on architecture

### What you ARE

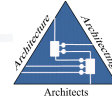
Visionary

Entrepreneurial

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## Domains of Competency Organizational Politics



### What you KNOW

Who the key players are in your organization

What they want, both business and personal

### What you DO

Communicate, communicate, communicate!

Listen, network, influence

Sell the vision, keep the vision alive

Take and retake the pulse of all critical influencers of the architecture project

### What you ARE

Able to see from and sell to multiple viewpoints

Confident and articulate

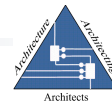
Ambitious and driven

Patient and not

Resilient

Sensitive to where power is and how it flows in your organization

## Domains of Competency Consulting



### What you KNOW

Elicitation techniques

Consulting frameworks

### What you DO

Build 'trusted advisor' relationships

Understand what developers want and need from the architecture

Help developers see the value of the architecture and understand how to use it successfully

Mentor junior architects

### What you ARE

Committed to others' success

Empathic, approachable

A effective change agent, process savvy

A good mentor, teacher

# Domains of Competency Leadership



**What you KNOW**  
Yourself

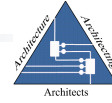
**What you DO**  
Set team context (vision)  
  
Make decisions (stick)  
  
Build teams  
  
Motivate

**What you ARE**  
You and others see you as a leader  
  
Charismatic and credible  
  
You believe it can and should be done, and that you can lead the effort  
  
You are committed, dedicated, passionate  
  
You see the entire effort in a broader business and personal context

# Domains of Competency Framework

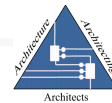


	What you KNOW	What you DO	What you ARE
Leadership			
Consulting			
Organizational Politics			
Business Strategy			
Technology			



## Risks/Rewards of the Role

- Risks
  - you don't enjoy the non-technical work
  - more responsibility / less control
  - insufficient drive to overcome resistance
  - poor odds of success
  - everyone has a better idea
- Rewards
  - more interesting and complex problems
  - career advancement and recognition
  - greater scope of activities, influence, contribution

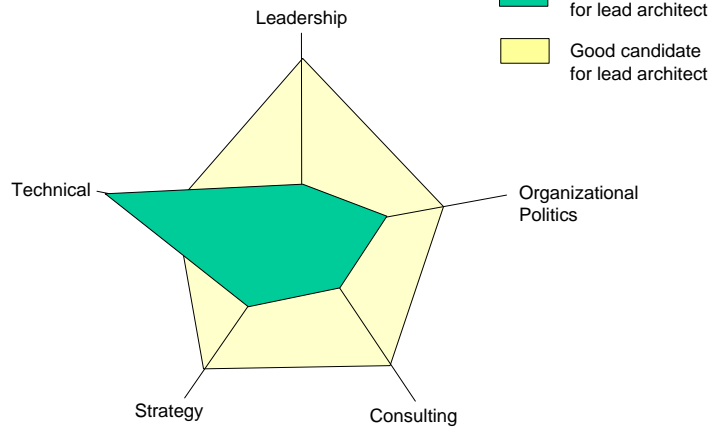
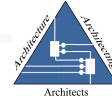


## Self Assessment How I am Perceived

- How am I perceived
  - By management?
  - By architect peers?
  - By developers?
- For each group, ask
  - Am I credible?
  - Do they think I'm in touch with their problems?
  - Am I influential?



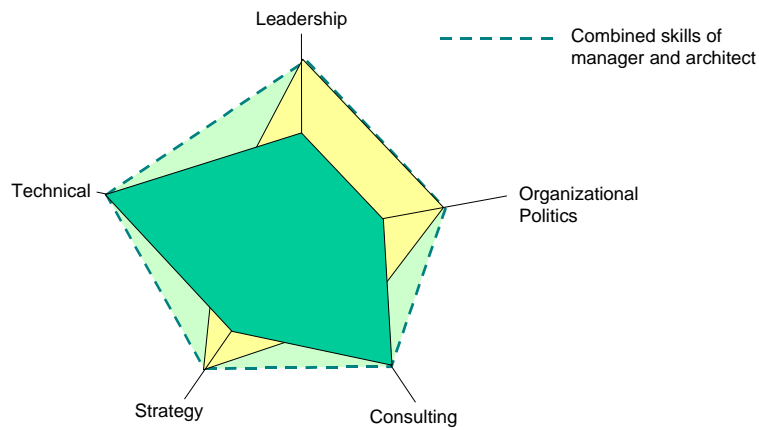
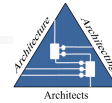
# Self Assessment Talents and Skills



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# Manager/Lead Architect Team Assessment

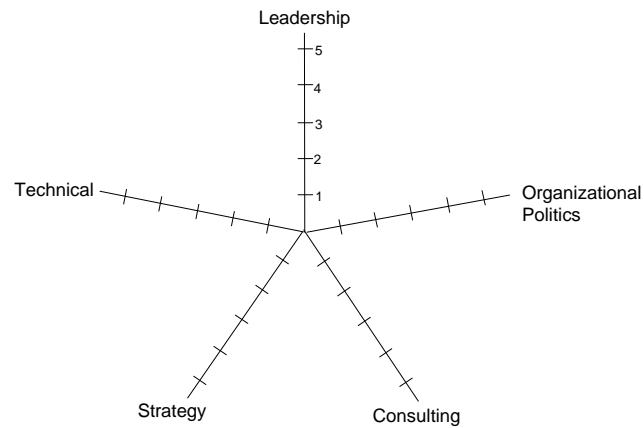


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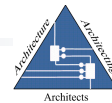


## Self Assessment Worksheet



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## Competency Elaboration

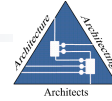
- Goal: provide an objective set of levels to assess competencies and guidance on developing targeted competencies
  - To be used for:
    - Establishing architect career path
    - Architect candidate selection
      - interviews and hiring
      - promotion to architect, or up the architect career ladder
    - Performance evaluation
    - Self-assessment to steer personal development objectives

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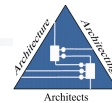


## Competency Elaboration Structure

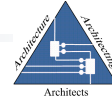


- Context and Motivation
- Competency Levels
  - What You Know/Do/Are
- Assessment Questions
- Development Guidance
  - On-the-job
  - Training
  - Reading and other resources

## Politics: What You Know



<b>Level I</b>	<b>Level II</b>	<b>Level III</b>	<b>Level IV</b>
Recognizes the need for buy-in and support for decisions.	Understands processes for getting results. Understands stakeholder concerns and values. Responds appropriately to political situations and issues.	Understands that politics, not technology, establishes the limits on what can be achieved. Knows that the best engineering solutions are not necessarily the best political solutions. Knows who to influence and when.	Understands the political process and the networks of influence across the business. Knows who the key players are, and what they care about. Understands the organization's culture and core values. Recognizes where power is focused and how it flows in the organization.



## Politics: What You Do

### Level I

Establishes good working relationships.  
Keeps relevant people informed of actions, decisions and progress.

### Level II

Proactively builds a network of relationships.  
Provides timely information on progress and issues.  
Effectively communicates the value of the architecture to stakeholders.

### Level III

Listens and networks; builds relationships across groups.  
Works well across groups, achieving support for broader goals.  
Influences without authority.  
Actively and effectively "sells" the architecture to multiple groups.

### Level IV

Builds internal/external coalitions to work on shared outcomes.  
Takes and retakes the "pulse" of the critical influencers who can impact the success of the architecture.  
Influences business leaders at the highest level in the organization.



## Politics: What You Are

### Level I

Sees what needs to be done and does it without being told.

### Level II

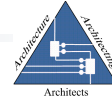
Displays drive, energy and initiative.  
Is good at technical communication.  
Has strong writing skills.

### Level III

Insightful into people dynamics.  
Intuitively grasps practical implications.  
Has strong interpersonal skills, and is able to gain support and get things done.  
Is comfortable and skillful working with diverse stakeholder groups.

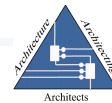
### Level IV

Sees a bigger outcome for the organization, and is passionate about it.  
Is a role model, upholding high standards of personal and technical integrity.  
Perceptive and shrewd, with a good sense of what, practically, can be achieved.



## Find Out More

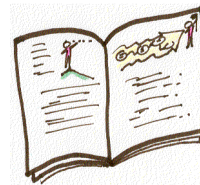
- The following Competency Elaborations are available at <http://www.bredemeyer.com/papers.htm>
  - Architecture Strategy
  - Organizational Politics
  - Leadership
- Others will be added in the next week or so
- We welcome feedback and input



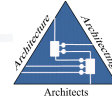
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- SEI web site: [www.sei.cmu.edu/technology/architecture](http://www.sei.cmu.edu/technology/architecture)



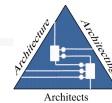
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