# Architecture from a Manager's Perspective
# SATURN 2008

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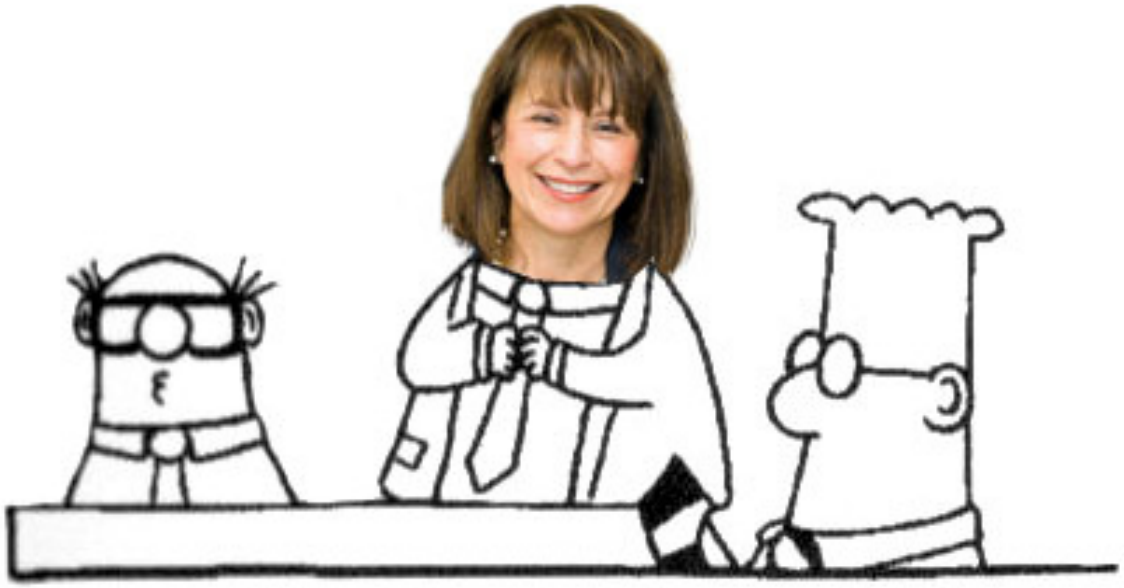
# Management Perspective

# From a Manager



# SEI Software Architecture Technology (SAT) Initiative's Focus

*Ensure that business and mission goals are predictably achieved throughout a system's lifetime by using effective architecture practices for systems of all scale.*

## "Axioms" Guiding Our Work

- Software architecture is the bridge between business and mission goals and a software-intensive system.
- Quality attribute requirements drive software architecture design.
- Software architecture drives software development throughout the life cycle.

# Architecture-Centric Activities

Architecture-centric activities include the following:

- creating the **business case** for the system
- understanding the **requirements**
- **creating and/or selecting** the architecture
- **documenting and communicating** the architecture
- **analyzing or evaluating** the architecture
- setting up the appropriate **tests and measures** against the architecture
- **implementing** the system based on the architecture
- ensuring that the implementation **conforms** to the architecture
- **evolving** the architecture so that it **continues to meet business and mission goals**

# Impediments To Architectural Success

**Lack of**

- adequate architectural talent, knowledge, skills, and/or experience
- time spent on architectural design and analysis
- disciplined and consistent use of architecture-centric practices

**Failure to**

- identify the key quality attributes [illegible] design for them
- properly [illegible] the architecture
- evalua[illegible]tecture
- understand that standards are not a substitute for a software architecture
- ensure that the architecture directs the implementation
- evolve the architecture and maintain documentation that is current
- understand that a software architecture does not come free with COTS or services or the DoDAF

# Managers: Often the Root of the Problem

Managers at technical and organizational levels are key to architectural success.

They need to

- understand the connection between architecture and business success (i.e., the value and role of software architecture in the design, operation, and evolution of software and software-intensive systems)
- and act accordingly!

When they don't

- The architecture is not a priority.
- Architecture practices are missing or ineffective.

People need to be incentivized and supported.

# What Managers Can/Should Do

Ensure

- ⇛ Mission and business goals are used to explicitly identify and characterize key quality attributes.
- ⇛ There is a chief architect and a competent architecture team.
- ⇛ A software architecture is designed that satisfies constraints, meets functional requirements, AND satisfies the key quality attributes.
- ⇛ The software architecture is documented in multiple views.
- = The software architecture is proactively evaluated and needed actions are taken.
- ⇛ There are processes and tools in place to ensure development according to the architecture.
- ⇛ The architecture and its documentation are evolved.
- ⇛ The appropriate stakeholders are involved throughout.
- ⇛ That the impact of technology decisions are understood.
- ⇛ Quality attributes are consistently addressed by the system and software architectures.

# Why Don't They?

Too few managers get it.

They are slow to change OR they don't have time.

Many focus exclusively on delivered features, which is what the users see.

Some don't see the value of software architecture.

Some don't understand the connection between business goals and architecture.

**This is a technology transition problem.**

# Some think…..

Technology transition is a contact sport

- requires discipline
- requires training
- requires interaction
- follows a plan
- is orderly

# The Truth:
# Technology Transition is a Collision Sport

# Contact Information

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