ARCHITECTURE EVALUATION IN PRACTICE

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1 minute Context Setting

Architecture evaluation work: SEI, Siemens, AT&T, Lucent, Avaya, etc.

Evaluation methods: (Architecture Tradeoff|Software Architecture|Cost Benefits) Analysis Method (ATAM, SAAM, CBAM)

Source: SEI
We spend a lot of money dealing with architectural problems
Development teams identify and mitigate architectural risk
Architecture evaluation theory is harder than it seems

Data from AT&T, Lucent and Avaya:
• More than 700 evaluations since 1988
• Estimated average savings of $1,000,000 per 100,000 LoC
  (IEEE Software, April-May 2005)
A few changes adapt the theory to the real world
Apply lessons learned to help ensure success
Most projects don't meet the pre-requisites for evaluation
Explain the evaluation's purpose, its deliverables, their involvement, the prerequisites.
Many assume that architecture evaluation means validating the technology choices
Uninformed stakeholders have unrealistic expectations
People commissioning architecture evaluation underestimate the level of stakeholder involvement.
Perform the preparatory work required to meet the pre-requisites
Great variance in architecture work
Poor understanding of the problem space
Projects fixate on quality goals disconnected from stakeholders' real needs.
Go beyond the IT department
The connection with the business is weak
The driver may be IT's desire to try out something new
Stakeholders are disconnected from the architecture
Identify and secure access to stakeholders
The architect doesn’t know who the stakeholders are.
Some stakeholders may be hard to reach
Sense whether the evaluation has been commissioned just for show
The evaluation justifies a decision already made
The evaluation has been commissioned to win an internal battle
Not everybody welcomes the evaluation team
Identify stakeholders with different agendas
Different agendas may hamper direct access to stakeholders
Some are uncomfortable with prioritization by stakeholders
Tools could place constraints on architecture evaluation
Keep the evaluation tool independent
Popular development tools do not support architecture evaluation.
Many teams have been blinded by tools or processes
Specific tools may be mandated to justify their purchase.
Adapt generic tools
All stakeholders can use Word, Excel; some could use Visio
Other generic tools are a good fit
Is the theory compatible with the realities of the front lines?
Applying the theory to identify and mitigate risk is harder than it seems.
Adapt evaluation methods to the realities of the practice
With adaptation the theory will help your projects
ADAPT THE ARCHITECTURE EVALUATION THEORY TO LEVERAGE ITS BENEFITS