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ARCHITECTURE EVALUATION IN PRACTICE

1 minute Context Setting

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

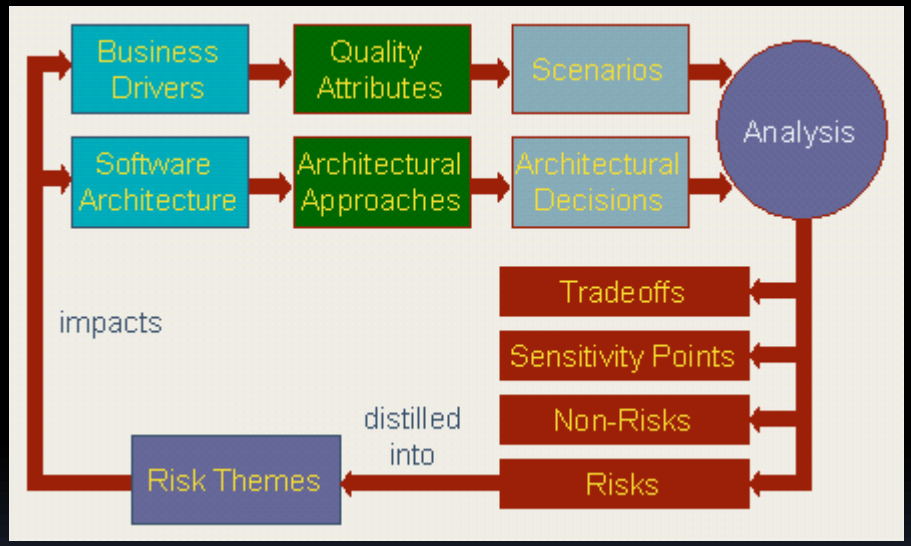
Evaluation methods:

(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

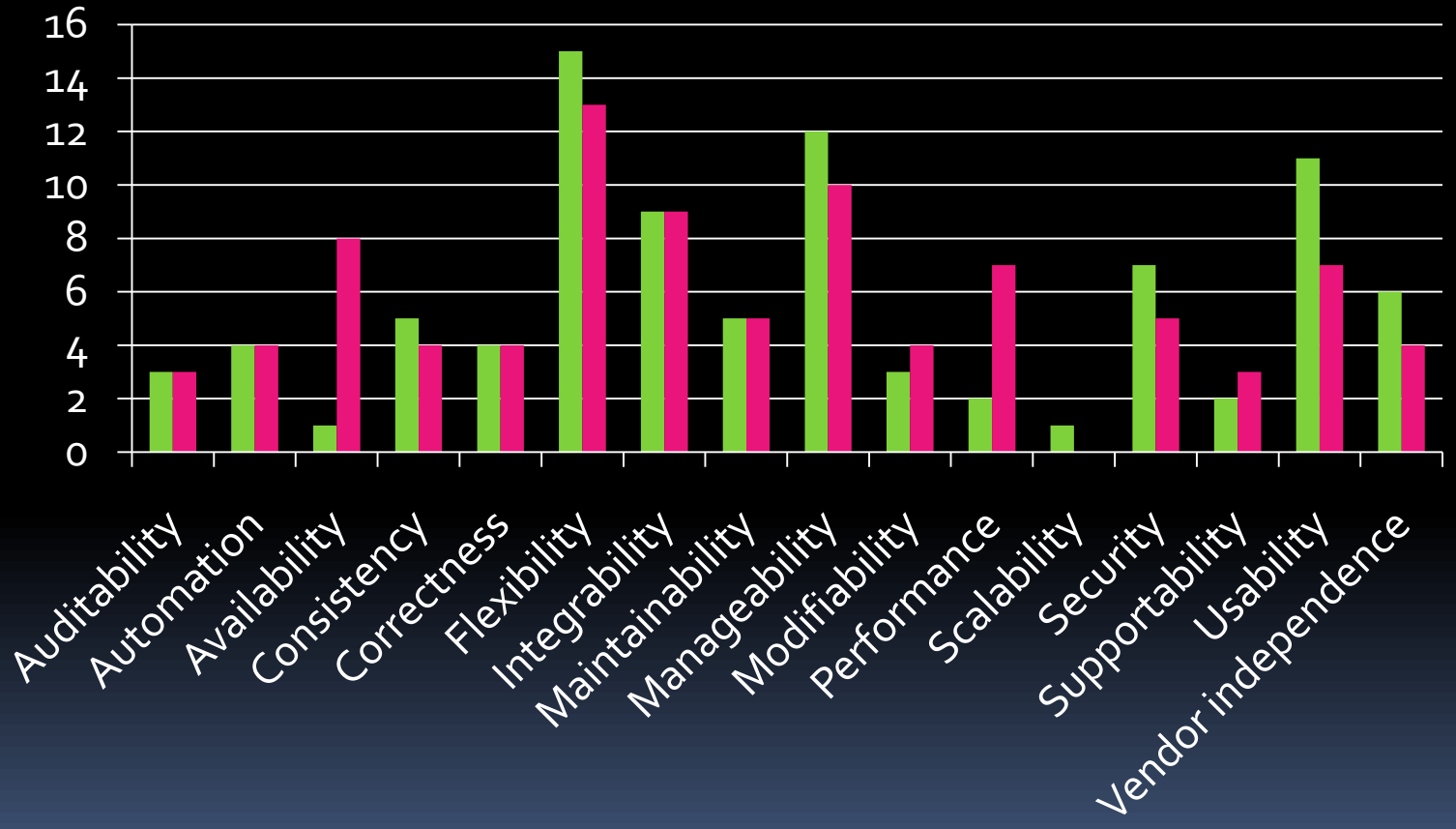
The evaluation has been commissioned to win an internal battle

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

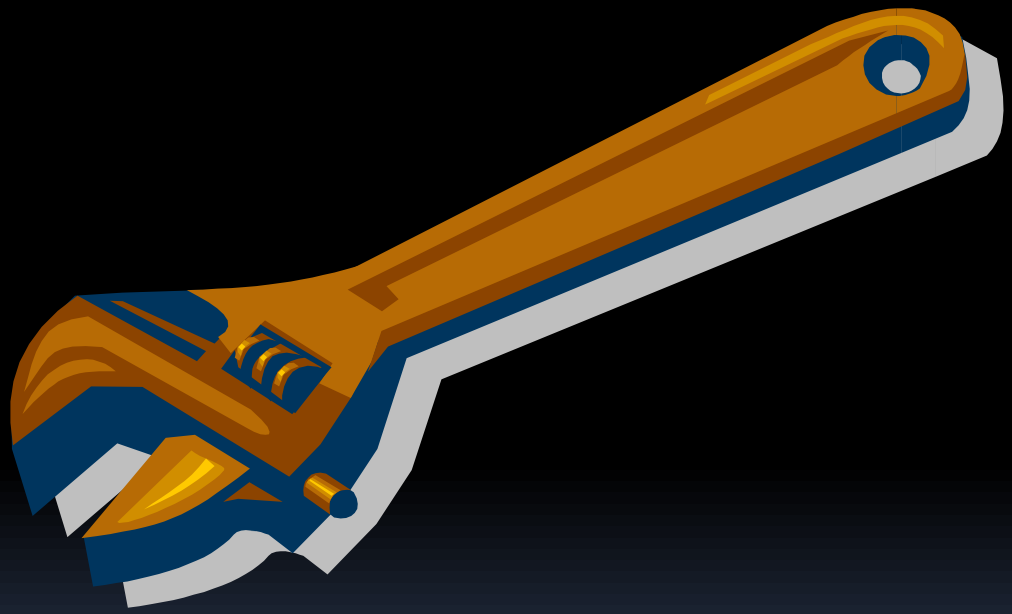
Keep the evaluation tool independent

Popular development tools do not support architecture evaluation

Many teams have been blinded by tools or processes

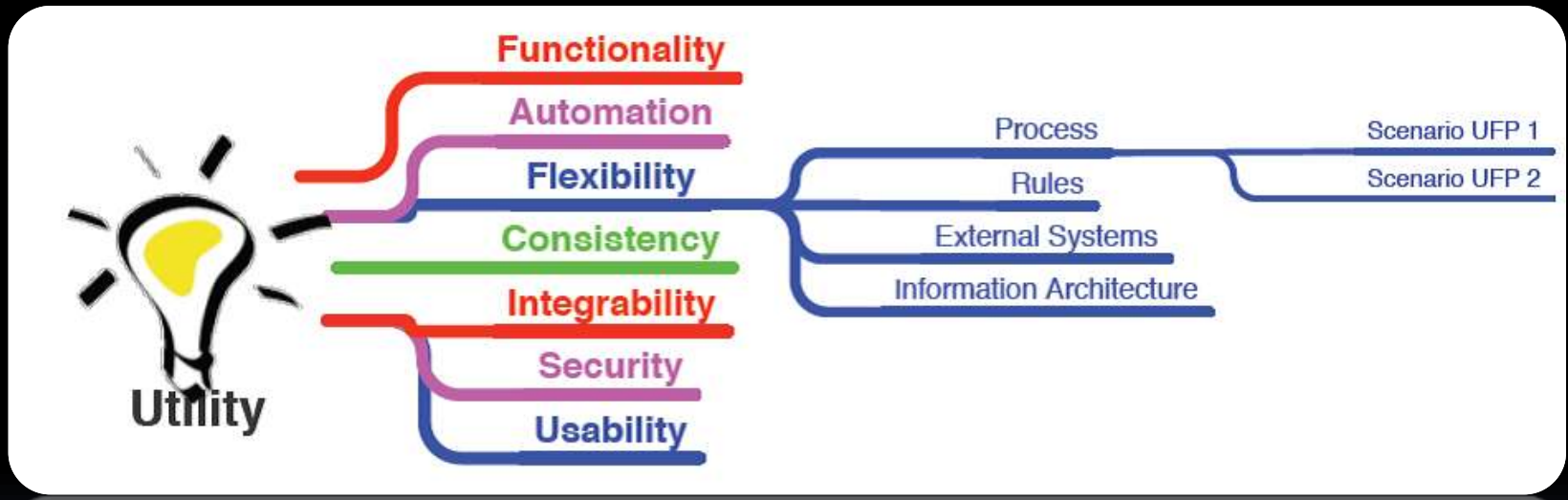
Specific tools may be mandated to justify their purchase

Adapt generic tools



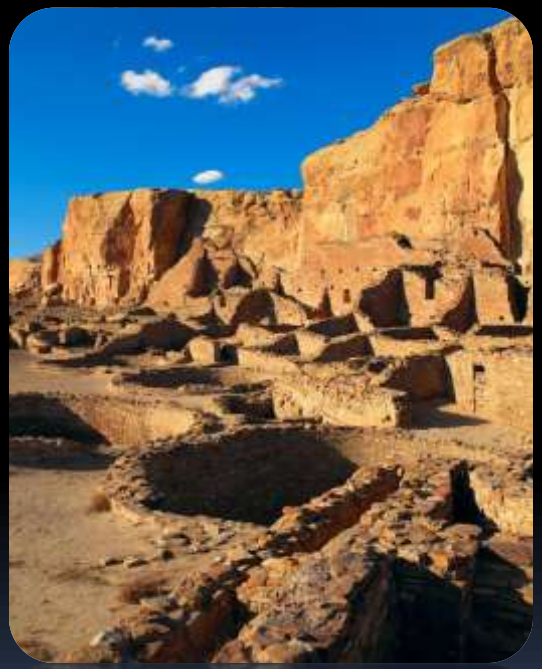
All stakeholders can use Word, Excel; some could use Visio

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