Software Engineering Institute | Carnegie Mellon

Architecture Tradeoff Analysis Method (ATAM)

Further Reading

Categorizing Business Goals for Software Architectures
Rick Kazman & Len Bass
http://www.sei.cmu.edu/library/abstracts/reports/05tr021.cfm

Evaluating Software Architectures: Methods and Case Studies
Paul Clements, Rick Kazman, & Mark Klein
http://www.informit.com/store/product.aspx?isbn=020170482X

Integrating Software-Architecture-Centric Methods into Extreme Programming (XP)
Robert Nord, James Tomayko, & Rob Wojcik
http://www.sei.cmu.edu/library/abstracts/reports/04tn036.cfm

Risk Themes Discovered Through Architecture Evaluations
Len Bass, Robert Nord, William Wood, & David Zubrow
http://www.sei.cmu.edu/library/abstracts/reports/06tr012.cfm

Related Web Sites

www.sei.cmu.edu/architecture/tools/atam/index.cfm

For General Information

For information about the SEI and its products and services, contact
Customer Relations
Phone: 412-268-5800
FAX: 412-268-6257
info@sei.cmu.edu
www.sei.cmu.edu

The SEI Architecture Tradeoff Analysis Method (ATAM) is the leading method in the area of software architecture evaluation. An evaluation using the ATAM typically takes three to four days and gathers together a trained evaluation team, architects, and representatives of the architecture's various stakeholders. Proven benefits of the ATAM include

- clarified quality attribute requirements
- improved architecture documentation
- documented basis for architectural decisions
- identified risks early in the life cycle
- increased communication among stakeholders

Business drivers and the software architecture are elicited from project decision makers. These are refined into scenarios and the architectural decisions made in support of each one. Analysis of scenarios and decisions results in identification of risks, non-risks, sensitivity points, and tradeoff points in the architecture. Risks are synthesized into a set of risk themes, showing how each one threatens a business driver.

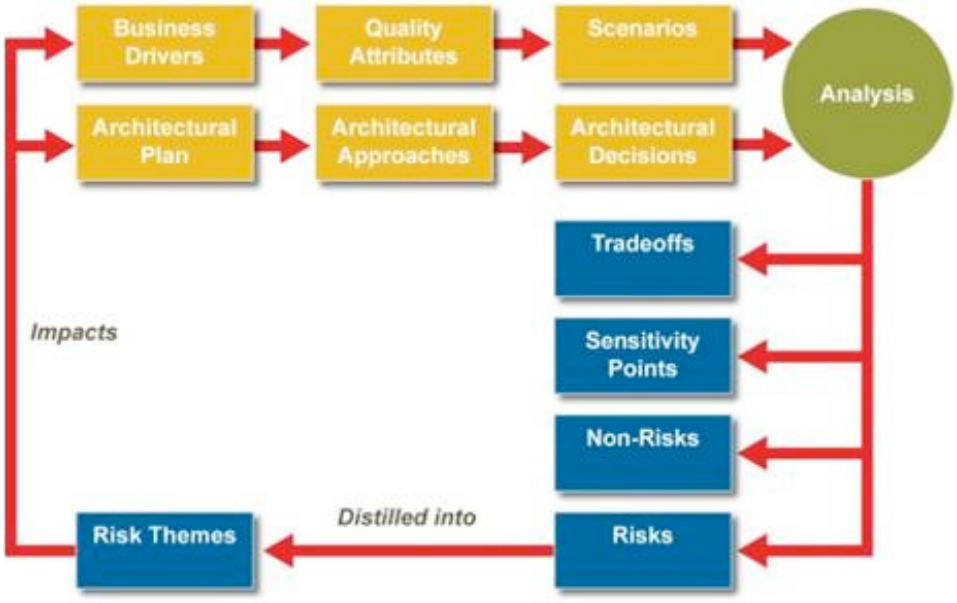
The most important results are improved architectures. The output of an ATAM is an out-brief presentation and/or a written report that includes the major findings of the evaluation. These are typically

- the architectural styles identified
- a "utility tree"— a hierarchic model of the driving architectural requirements
- the set of scenarios generated and the subset that were mapped onto the architecture
- a set of quality-attribute-specific questions that were applied to the architecture and the responses to these questions
- a set of identified risks
- a set of identified non-risks

Additional Information

For consulting information about ATAM, visit http://www.sei.cmu.edu/architecture/consulting/. Direct technical questions about ATAM to us using the contact information under "For General Information" below.

You can also become qualified to perform on ATAM evaluation teams or become certified to lead ATAM teams. For more information, visit http://www.sei.cmu.edu/training/certificates/architecture/atame or http://www.sei.cmu.edu/certification/architecture/atam/.



A Conceptual Flow of the ATAM