Architecture Competency

SATURN 2006 Working Session
Software Engineering Institute

DRAFT – Work in Progress
This summary is meant to convey preliminary ideas for the purpose of getting feedback. It does not necessarily represent the consensus of the members of the session.
Topics of interest to the group - 1

• How do you certify software engineers? How do you map architecture to early lifecycle activities?
• Companies are weak in organizational improvement. How do we develop a roadmap to architectural nirvana? What goes on in architectural organizations?
• Many organization hire smart people to be architects without defining a set of skill and/or expectations. Then they wonder why their expectations are not met.
• Would like to know how to objectively judge talent.
Topics of interest to the group - 2

• Would like to compare how other companies gauge architectural competence. Would like to have common level of understanding of architecture.
• Mechanisms for skills or certification. What do architects do from day to day, or project to project? How does one become a competent architect? How does an architect mentor others to become competent? How does one introduce architectural tactics to development?
• How do you instill knowledge in senior level people? 10 yrs+ experience?
• How can one assess a team’s architectural competency?
Duties of an architect

Problem solving
Planning
Establish architecture and design
Develop processes and procedures
Proposal writing
Put together platforms (forward looking planning)
Create architecture
Translate stakeholder needs to requirements
Help business folks understand each others needs
Architecture enforcement
Skills of an architect

Organized
Communication, must be able to understand business goals
Political skills
Overall view of:
  • Product
  • Organization
  • Mission and goals
Must have experience to draw from to make decisions
Negotiation skills
Leadership abilities and technical depth
Long term view (visionary)
Teaching and mentoring
Must know how to disseminate between what is architectural and what is not.
Must be persuasive because they will not have complete authority
  • May not be able to fire
  • May not be able to control budget
  • May not select the appropriate resources
**Skill set vs roles**

One organization distinguished between the skill sets an individual has:

- Developer
- Software Engineer
- Senior Software Engineer
- Software Architect

and the roles needed by a project. Enables matching people to projects
Organizational Competence

Architectures should be created within a defined process for:
• Configuration management,
• naming conventions,
• coding style,
• Architectural reviews

Architecture design and evaluation should be incorporated into development processes and plans.

Program plans and schedules should reflect the use or architecture as an organizing factor during development, integration, test, and sustainment.

An architect or architects should be assigned to each project.

There should be a training program for developers and other stakeholders to educate them on the role of architecture