



ARCHITECTURE EMPOWERMENT

"A Quality Attribute of Software Architecture Realm to Build Empowered Organizations"

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Saturn 2008
SEI Software Architecture Technology User Network Workshop
April 28-May 1, Pittsburgh, Pennsylvania, USA

Empowerment

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- Key to building effective teams
- Requires a framework that
 - ▣ provides effective knowledge at everyone's disposal
 - ▣ allows all to make and own congruent decisions
 - ▣ leverages everyone's skill for the common goal
- Implementation requires clear insight
- It's challenging!

Organizational empowerment is a key to success...

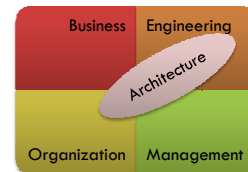
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Empowerment in Software Realm

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- Life is centered around
 - ▣ the facets : Engineering, Management, Business and Organization
 - ▣ and tenets of lifecycle: requirement analysis → maintenance
- Empowerment needs
 - ▣ deep knowledge of the problem(requirements) and solution (Architecture/Design)
 - ▣ methodologies which promote ownership at all levels
- Architecture and Architecture/Design Process are the keys to achieve empowerment

Software Realm



Architecture + Architecture/
Design Process =
Architecture Realm

Architecture Realm is a major
artery in Software Realm
and is the key to
empowerment...

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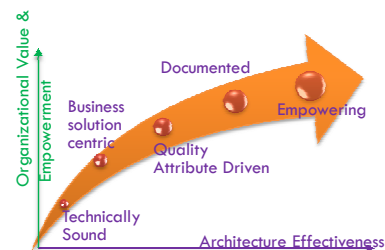
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- Architecture Realm is a glue that holds everything together – facets, system, participants and the process.
- Traditional architecture evaluation in terms of 'ility's focuses on the quality of the end solution – "blue print"
- To be effective, architecture realm needs to go way beyond the blue prints.



Higher the architecture effectiveness,
higher the maturity , better the
empowerment.

Empowering Architecture Realm can
play a major role in building successful
organizations....

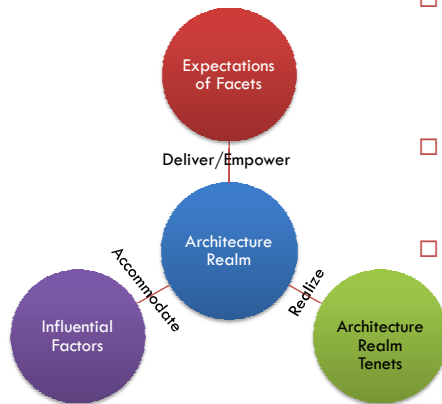
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Improving Architecture Realm's Effectiveness

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- Empower all facets of software realm with architecture
- Accommodate the constraints of the given environment
- Realize the tenets of architecture realm

Architecture is more of a social animal than generally perceived....

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Influential Factors on Architecture Realm

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- | | |
|--------------------------------|----------------------------------|
| □ Engineering Process * | □ "ility's" : quality attributes |
| □ Organizational Structure | □ Schedule, Scope and Resource |
| □ Team Distribution | □ Technology |
| □ Team Expertise/skills | □ Constraints |
| □ Business Domain | □ Patterns |
| □ Business Models | □ Tools |
| □ Solution Business Logic | □ ..etc. |
| □ Solution Size and Complexity | |

Architecture realm needs to be very adaptive to the environment. e.g. Architecting in Agile vs Waterfall process would differ considerably ...

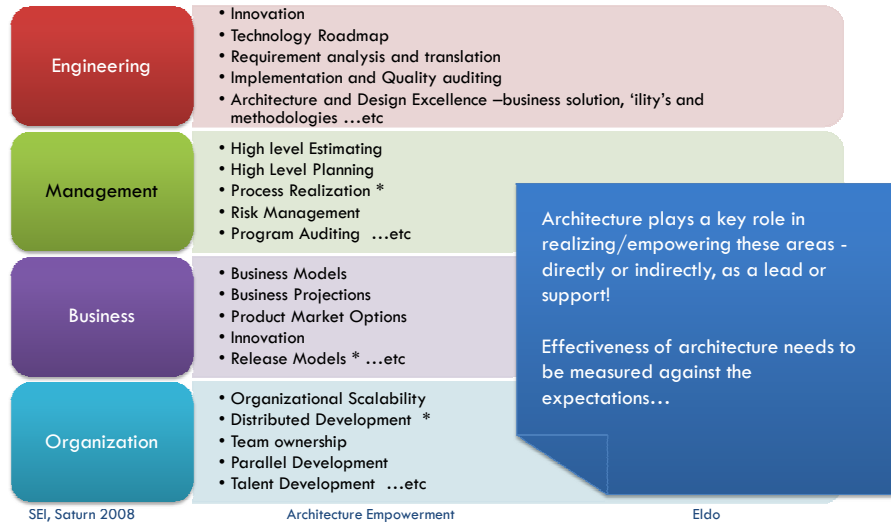
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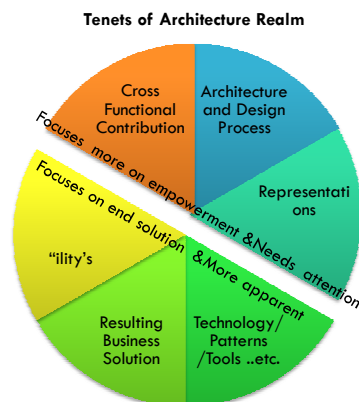
Expectations from Architecture Realm

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Tenets of Architecture Realm for Effectiveness

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- Some tenets are obvious and better measured than others
- More attention is called for empowering tenets

Architectural and Design Process, Architecture Representations and Cross Functional Contributions have a significant impact on architecture realm's effectiveness and success of organizations....

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Steps to Improve Architecture Effectiveness

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- Align Architecture Realm with the Facets
- Supplement Engineering Process with Architecture and Design Process
- Consumer Centric Architecture Representations
- Collaborative Architecture Modeling
- Architecture Driven Planning Framework
- Phased and Ownership-Centric Design Models
- Feature Based, Evolving Asset Architecture Modeling
- Testable Architecture

Environmental Factors will affect implementation of these steps in an organization. But these steps will take architecture realm in the right direction....

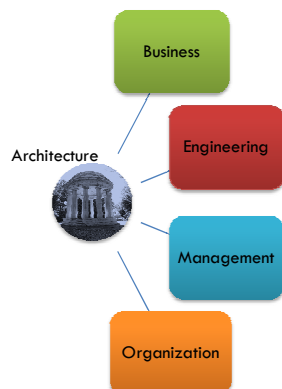
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Align Architecture with the Facets

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- Position architecture realm as an entity and an empowering contributor to all facets
- Identify and agree on interactions and collaboration points
 - ▣ Expectations
 - ▣ Roles
 - ▣ Responsibilities
 - ▣ Deliverables
 - ▣ Timelines

Create core competency which is focused on architecture.

Link architecture realm with all the facets...

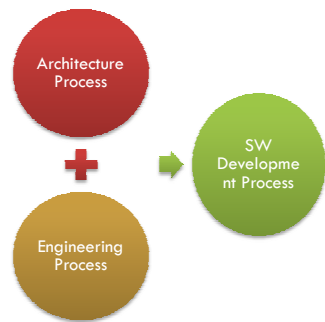
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Supplement Engineering Process with Architecture and Design Process

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- Each eng. process executes tenets of software engineering differently
- All eng. processes do not address architecture realm needs.
- Enhance eng. process with the needs of architecture realm

Dev process has big impact on architecture realm and in some cases adverse. Amend it with adjusted architecture processes which supports architecture/design goals...

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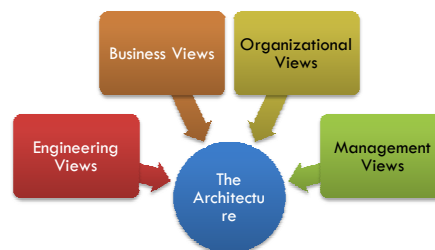
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Consumer Centered Architecture Representations

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- Architecture needs to empower a wide set of audience (from all facets) with different skill set and needs
- Its effectiveness is only as good as the understanding of the consumer – spectators to customers to developers



"Beauty is in the eye of the beholder"....

Documenting architecture in a way that consumers can understand is a key to effectiveness. There are many documenting guidance available, like the "4+1". Select views based on consumers ...

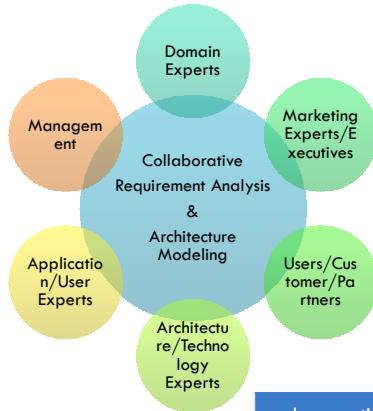
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Collaborative Architecture Modeling

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- Conceptualization phases are most crucial for success of projects (Standish Report)- so empower it.
- Architecture can contribute and benefit greatly by participating and empowering all stake holders.

Irrespective of software dev process, closely bind initial phases of software to architecture. Also channel all requirements via the same path....

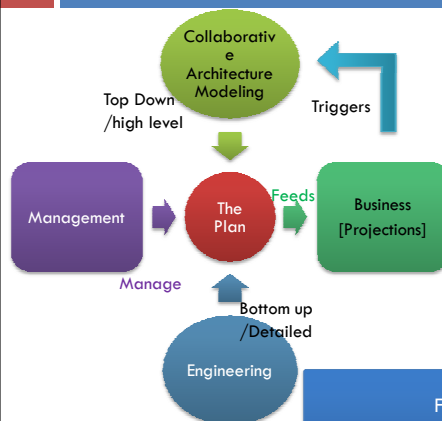
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Architecture Driven Planning Framework

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- Effective planning and business projection needs an evolving plan.
- Plan without logical structure and ability to build confidence is volatile – irrespective of dev process.
- Architecture and Plan, both benefit from each other

From "Pickle Barrel Analysis" to a high confidence plan, architecture can provide structure, estimates(time & resource), guidance, validation and mitigates risk to the plan....

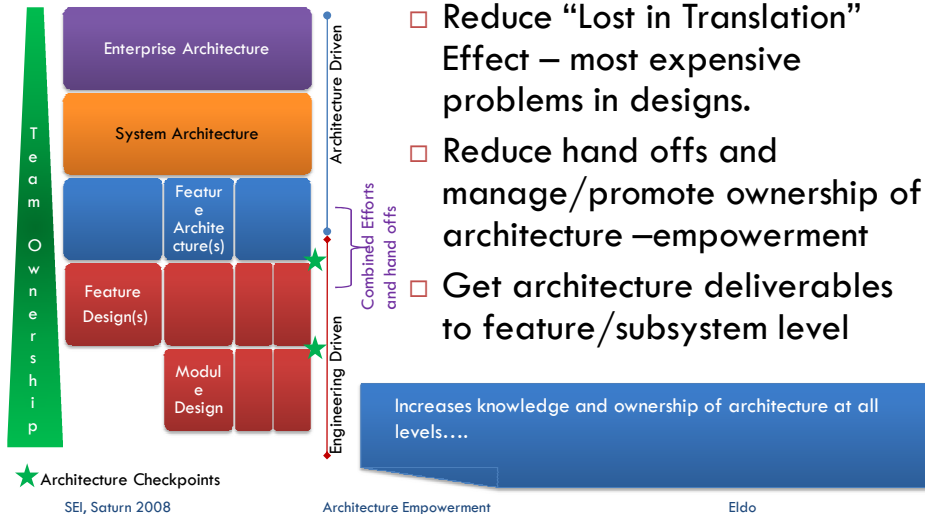
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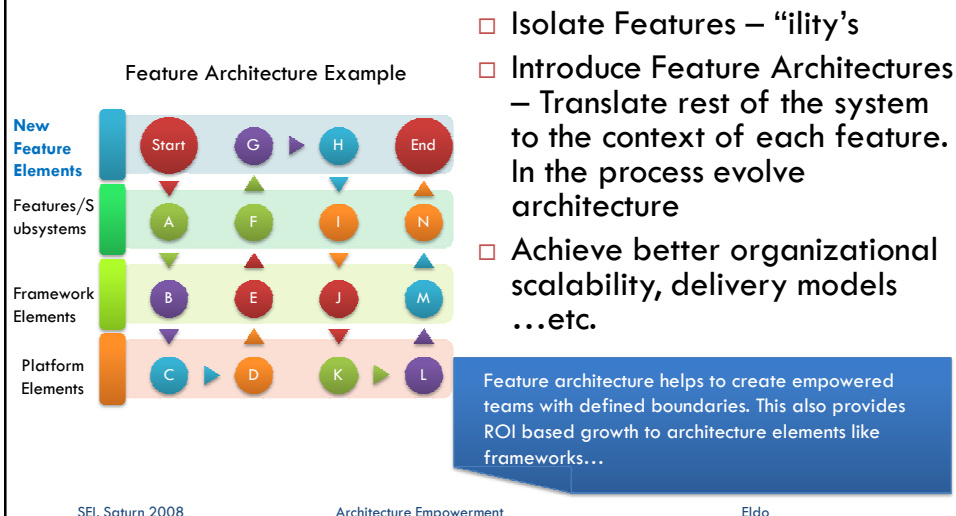
Phased/Ownership Centered Architecture/Design Process

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Feature Based, Evolving Asset Architecture Modeling

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Testable Architecture

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- Testability: a quality attribute
- Link architecture realm to validation of Architecture Centric test cases and execution

Since quality attributes are key architecture characteristics, validation of these needs an engaging architecture realm....

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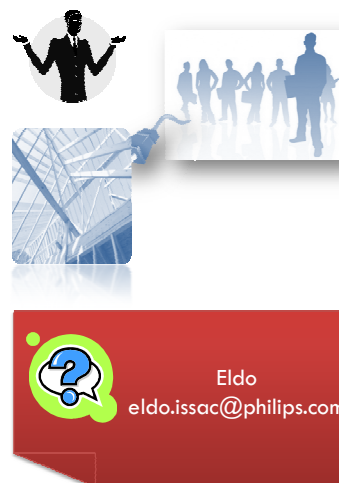
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Summary

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- Architecture is not just about the blue prints!
- Position architecture realm as a key to empower all facets of your organization
- Appraise architecture in terms of its effectiveness in an organization



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