Lessons Learned from Applying the Evolutionary Spiral Process

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Lisa Finneran
SVP and CTO

Agenda

- Consortium’s Evolutionary Spiral Process (ESP)
- ESP lessons learned
- ESP adoption - what worked and what didn’t
- Summary
Evolutionary Spiral Process

The Evolutionary Spiral Process is a comprehensive approach for managing engineering projects that emphasizes reducing risk and planning for change.

ESP Model

1. Understand Context
   - Identify Stakeholders
   - Objectives
   - Alternatives
   - Constraints

2. Analyze Risks
   - Identify Risks
   - Analyze Impact
   - Plan Risk Mitigation

3. Plan Increment Development
   - Mitigate Planning Risks
   - Select Development Strategy
   - Plan Development

4. Monitor Increment Development
   - Develop
   - Monitor
   - Verify and Validate

5. Manage and Plan
   - Baseline Product
   - Review Progress
   - Develop/Update Plans and Process

*Risk mitigation takes place in all the ESP steps*
Fundamental Concepts

Lessons Learned
ESP Lessons Learned

- Make sure your organization is prepared to deal with risks
- Management must be committed to ESP
- Stakeholders must be involved
- Be prepared to think both long range and short range
- Emphasize the process - not the documentation
- You can evolve to ESP

1. Make Sure Your Organization Is Prepared To Deal With Risks

- ESP is a risk driven management process
- Organizations that "shoot the messenger" have trouble adopting ESP
- Risk mitigation must be as important as product development
- Risk management must be planned and tracked
- In organizations that have used ESP for an extended period of time - risk management is almost automatic - a way of thinking
2. Management Commitment
- Management, practitioners and stakeholders must be trained
- An internal champion is essential
- An internal support organization is helpful
- Management must support ESP when the project is in trouble

3. Stakeholder Involvement
- Regular, planned stakeholder involvement is essential
- Surrogate stakeholders can be used when there are large stakeholder groups
- This is sometimes the hardest part of ESP
4. Think Both Long And Short Range

- Detailed near term planning is essential
  - Cycle lengths of 2-9 months seem to be normal
  - Short cycles cause too much overhead
  - Long cycles cause too much replanning
- Know the long range strategy and plan is key to getting to the objectives
- The plan cannot be "sacred"
- There must be stakeholder involvement in the planning

5. Emphasize The Process - Not The Documentation

- Some organizations seem to be document driven
  - The document is more important than the process
  - The document is written - so the job is done
- The project team must be involved in the process
6. You Can Evolve To ESP

- ESP can be adopted in steps
  - Risk Management
  - Adoption rate depends on CMM maturity level and organizations acceptance of change

ESP Adoption

What worked?
What didn’t work?
When ESP Worked

- Significant sponsor/champion buy in
- Most team members were trained
  - Mentoring from the Consortium
  - Tailoring the Consortium training to the environment
  - Setting up mentors inside the organization
  - Training all of the team
  - Training the other stakeholders
- Process was tailored to the environment

When ESP Did Not Work

- When we were asked to “do it for us”
- When the user believed that the documents were the process
- When risks were not allowed to be recognized
- When the initial plan could not be updated
Willingness to do good project management is essential

Adopting ESP is like other process improvement

The process must belong to the project