

Standards and Architecture: How to Succeed



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Introduction

- Who am I?
 - Enterprise architect; elected member of OASIS Technical Advisory Board
 - Skilled at building standards from ideas to adoption
 - Business, marketing, and technical background
 - My personal analysis, opinions and suggestions
- Who are you?
- Why am I here?
- Why are you here?
- What do you expect?



Preliminaries

- Art not engineering
- Situational awareness
- Personal and business relationships may triumph over technical depth
- Social skills are important
- Persistence is a virtue (usually)

Questions You Need to Answer

1. What is being standardized — a system, a protocol, a vocabulary, a model?
2. Where is the technology in its lifecycle?
3. What is the time to market (of the standard, of products and technologies using it)?
4. What is the coverage of the standard—core, ancillary, broad, narrow?
5. Who has built a business in the technology?
6. Who will build a business using the standard?
7. What effort will be put into standardization?
8. What provisions for intellectual property issues must the project address?
9. Where could and should the standardization effort take place?

By the end of this tutorial

You should be able to...

- Ask good questions
- Analyze a standards project
- Recognize some pitfalls
- Understand how to build useful, timely standards
- Build better standards more effectively

Outline

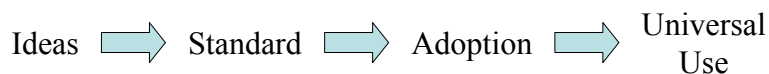
- Introduction and Preliminaries
- Standards, Architecture, and Projects
- Know the Right Questions
- Strategies
- Tactics
- Review
- Where to go from Here?
- Summary

Know Yourself

- Consider how you start a project
 - What do you know?
 - What don't you know?
 - What are the risks?
 - What are the costs?
 - What are the consequences of failure?
 - What are the consequences of success?
- Choose a project and answer those questions
 - Don't identify the project; this is for your use today

What is a Standard?

- Simplistic definition:
 - A standard is a consensus specification, broadly used to achieve interoperation
- Ideal
 - The strength of the ideas/technical merit drives standards



Reality Intrudes

- Reality is much messier
 - Even the words used in our working definition vary in meaning
- Many inputs, much work hidden in this simplified ideal
- Success takes planning and understanding

Context: Who, What, ...

- Basic questions about any project
 - Landscape/environment you're working in?
 - Where will you do it?
 - Who are the actors?
 - What are you trying to accomplish?
 - How will you do it?
 - Why do you want to do it?
- The answers are interrelated

What's in a Word?

'When I use a word,' Humpty Dumpty said, in a rather scornful tone, 'it means just what I choose it to mean, neither more nor less.' - Lewis Carroll

“A standard is a consensus specification, broadly used to achieve interoperation”

- Consensus
- Specification
- Broadly used
- Interoperation



Software Architecture

The software architecture of a program or computing system is the structure or structures of the system, which comprise software elements, the externally visible properties of those elements, and the relationships between them. - Wikipedia

- Architect's view of project stages (idealized)
 - Define, then
 - Design, then
 - Deliver, then
 - Deploy
- Reality: forward/back links between all the stages



How Projects Work

- Coordination adds complexity
 - Architects reduce high level complexity
- It always takes longer than you thought
 - “The second half takes the other 90% of the time”
- Process is and should be front-loaded
 - Are you all pushing the same direction?
 - Understand your goals and needs

Architecture and Projects

- Does a front-loaded process have too much overhead?
 - Can speed final results, with care:



Without architecture



With architecture and planning



Undisciplined architecture phase

Architecture and Projects (continued)

- At every stage evaluate how your product architecture fits with the draft standard
 - Implement/prototype on top of draft spec
 - Prototype native implementation base
 - Prototype interoperability if possible
 - Consider quality of alignment

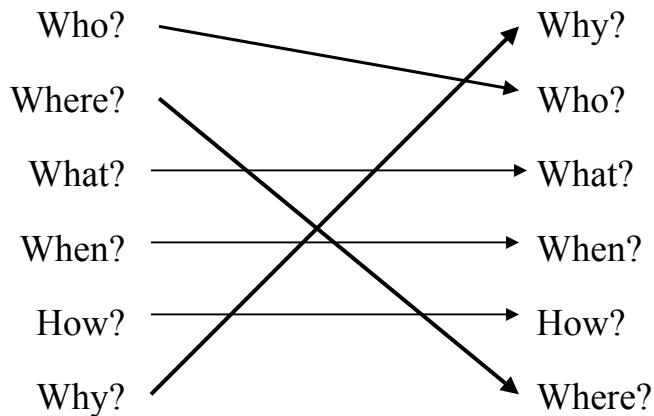
Improve Your Understanding

- Good questions make understanding easier
- More important than knowing the answer
- Understand what you don't know
- Several ways to slice the problem
 - One may fit you/your project better
 - Both bring out similar information
- Bring the project into focus!

First Slicing - The Newspaper

- Outline of a newspaper article
- Expose important information early
- Conventional order
- Need a [marketing] headline
 - How will you explain the project?

Newspaper vs Standards Projects



Why?

- Inspiration?
- Motivations?
 - Economic
 - Technical
- Quality of collaboration
- Sustain interest?
- Buy side? Sell side?
- Do you need a standard?

Who?

- Use the “Why” answers to
 - Identify prospective participants and understand their motives
 - Estimate their degree of commitment
 - Identify those who would oppose the project and their motives
- Use your analysis to guide recruiting, negotiate buy-in

What?

- What is the proposed standards project?
- Does the project meet the needs of “the community”?
- How does the project fit the landscape?
 - Other projects, other standards, products

When?

- What is the market window for the proposed project?
 - What range of times will the result be useful?
- May adjust when it's delivered by asking
 - Is it too ambitious?
 - Too big, too small, just right?
 - Is it useful enough?

How?

- Is there a critical mass of
 - Participants?
 - Intellectual Property Rights contributors?
 - Potential users of the eventual standard?
 - Potential supporters of the eventual standard?
- Will there be sustained interest to complete?
- Do you have a project plan? A marketing plan?

Where?

- Evaluate potential venues
 - Private consortium (new, existing)
 - Standards group (new, existing)
- Criteria include
 - Costs of the effort and managing contributors
 - Processes and definitions
 - IPR issues, policies, and solutions
 - Openness
 - Overhead costs (money and time)

Second Slicing - Time+Topics

- Many questions fit in multiple categories
- Group differently
- Similar questions, but organization may better fit your style or your project

Motivation and Interest

- Are there enough potential contributors to complete the project in a reasonable time?
- Is there enough interest to maintain commitment?
- How contentious will the work/result be?
- How might adopters use the standard?
- How will adopters go from current practice to the standard?

Economics

- What is the value to the proposers and contributors of the effort?
- What would stakeholders lose with adoption?
- Do economic forces align with delay or rapid completion? Adoption?
- Is there a reasonable alignment of interests among the contributors and users?
- What resources are required?

Definition

- What is proposed for standardization?
- Is the proposed work complete enough?
- Is the proposed work central to the technology?
- What work is needed to produce a useful standard?
- For each person and company involved, what is their definition of “success”?

Intellectual Property Rights

- Separate set of issues
- Who owns or could assert IPR?
- Can all owners be convinced to contribute IPR?
What if they can't?
- What do the IPR stakeholders expect from the standard?
- Is it safe for the project to accept contributions?
- Does the standards venue have an IPR policy?
How does it affect the project?

Timing

- What is the market window for a finished standard?
- Can the project realistically hit that market window?
- What if it takes 2 or 3 times longer?
 - Schedule risk
- When and how can products be available?

Venue

- What stature for the result is desired?
 - Stature and importance of venue's other stds
- Natural relationship between subject areas?
- Clear and acceptable IPR policy?
- What support will the venue provide?
 - Training? Support? Community?
- Does the venue collaborate with other venues?
 - ISO and other “higher level” standards?

Venue (continued)

- What are the direct and indirect costs?
 - For you and for other participants?
- Is there a clear process?
 - From charter to final approval?
- How effective and efficient is the process?
- What “consensus” and “openness” is required?
- Have others been pleased with the venue?

OASIS Committee FAQs

- Linked from
<http://docs.oasis-open.org/templates/>
- See reprint provided
- How do these FAQs fit our questions?

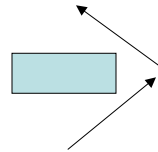
Suggested Techniques

“If you don’t know where you’re going, how will you know when you’ve arrived?”

- Strategic and tactical
- Help you to
 - Start right
 - Keep on track
 - Anticipate and avoid problems
 - Correct problems

Selected Strategies

- Always be conscious of your needs/goals
- Always be aware of others needs/goals
 - Consider and try to anticipate others' behavior
- Build coalitions where you can
 - Find common ground, trade support
- Build consensus where you can
 - And lock it down
- The shortest path may not be feasible



Selected Strategies (continued)

- Alliances aren't always visible
 - Analyze, consider who benefits and how
 - Alliances may shift as the subject changes
- If you don't succeed, regroup and keep trying
 - Limited goals are easier to reach
- Consider your product architecture
 - Implement and interoperate with draft specs
 - You may be surprised at what you do/don't need
- "The perfect is the enemy of the good"

Selected Tactics

- Be a better contributor (and get your ideas across more effectively) by giving more
 - Offer to edit (if you can afford it)
 - Write position papers and text for drafts
 - Communicate clearly, concisely, and consistently
- Try to not revisit issues
- Socialize ideas informally
 - Informal discussions at meals/breaks useful

Case Studies

- Three real-life examples
 - “Back on Track”
 - “Get it started on time”
 - “Make sure it’s consensus, not a railroad”

CS 1: Back on Track

- A standards project had started out strong, but without a clear plan
- Had been allowed to drift.
- Actions
 - Know/learn the territory, why doing the project
 - ID likely allies
 - Define plan
 - Build coalitions
 - Move to (adjusted) goal

CS 2: Start on Time

- A new standards project needed to be announced at user conference
- Time was short
- Actions
 - Know/learn the territory, why doing the project, time requirements
 - ID likely allies
 - Define plan, allow for venue's approach
 - Build coalitions
 - Move to goal (just in time!)

CS 3: Consensus or Railroad

- Project already underway
- Public perception of a “standard” being pushed by a small number of players, ignoring issues
- Actions
 - Know/learn the territory, why leaders doing the project
 - ID likely allies
 - Define plan (tactical)
 - Build coalitions
 - Execute plan

Review Questions

1. What is being standardized — a system, a protocol, a vocabulary, a model?
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Where to go from Here?

- Ask the first level questions we've sampled
 - Follow up with questions tailored to the situation
- Work with others to expand your capabilities
 - Collaborators, consultants, colleagues
 - “Have you thought about...?”
- Work to understand the situation
 - Think about others' goals and needs
 - Don't answer as *you*, anticipate answers as *them*
 - Validate whenever possible

Summary

- Success factors in a standards project are similar to success factors in a software project
- Know the questions to ask and follow up
 - Get the right help when you need it
- Situation awareness improves success
 - Understand the environment
 - Know what you need and want

Contact Information

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Questions

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Evaluations



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