

Scrum



It Isn't Scrum If ...

<http://www.scrumalliance.org>

<http://www.controlchaos.com>

<http://www.agilealliance.org>

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03/28/2008

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Scrum Knowledge Test

2

Form a team of five people. Spend 15 minutes discussing the Scrum knowledge questions.

www.controlchaos.com/update.pdf

1. How does Scrum implement empirical process control? 3
2. How do you sell Scrum to senior management?
3. Why is transparency important to Scrum?
4. What type of impediments are you likely to encounter when implementing Scrum?
5. How does the Product Owner know the likely end date and cost of a project once it is underway?
6. What are the determining factors in the accuracy of estimating? How can they be improved?
7. Who is on a Scrum team?
8. What does a Product Owner do if the team(s) can't build the release or system fast enough?
9. What does a team do if a team member isn't pulling his/her weight?
10. How can a ScrumMaster tell if the Product Owner isn't adequately engaged? What does the ScrumMaster do if the Product Owner isn't adequately engaged?

11. What does the ScrumMaster do if a team presents an increment of Product Backlog that isn't "done?"
12. What is the definition of "done?"
13. What are the implications if a team doesn't have a definition of "done?"
14. What is the ratio of time spent planning on a Scrum project compared to a traditional project?
15. How do you prioritize the items in a Product Backlog?
16. Can two Product Backlog items have the same priority?
17. How do you keep the Product Backlog in shape for the Sprint Planning meeting?
18. How are dependencies handled in the Product Backlog?
19. Are Sprints ever longer than one month?
20. Can the length of a Sprint change from Sprint to Sprint? What would determine the length of each Sprint?
21. What does it mean if Sprints are followed by Sprints for stabilization, quality assurance, regression testing, or other types of integration and completion work?

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22. How can you determine if a Sprint Planning meeting has been successful?
23. What are the symptoms of an inadequate Sprint Planning meeting?
24. What is the purpose of the Daily Scrum?
25. What is the purpose of the three questions in the Daily Scrum?
26. The team just had a great Sprint. Is applause appropriate at the Sprint review?
27. What is the role of the project manager in a Scrum project?
28. What is the role of other management, including executive and functional management, in a Scrum project or Scrum-based enterprise?
29. What are some of the characteristics of self-management? When can you detect them?
30. How are impediments that are broader than a single team or project resolved and removed?

Agenda:

6

- Theory
- Building a plan
- Teams
- Scrum flow
- Product Backlog grooming and impact on Sprint Planning
- Self Management and impact on Sprint Planning and the Sprint backog
- Sprint length
- Daily Scrum and self-management
- Sprint Review and inspect/adapt
- Scrum of Scrums and integration
- Management responsibilities

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- Enterprise and Scrum

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Agenda:

7

- Theory

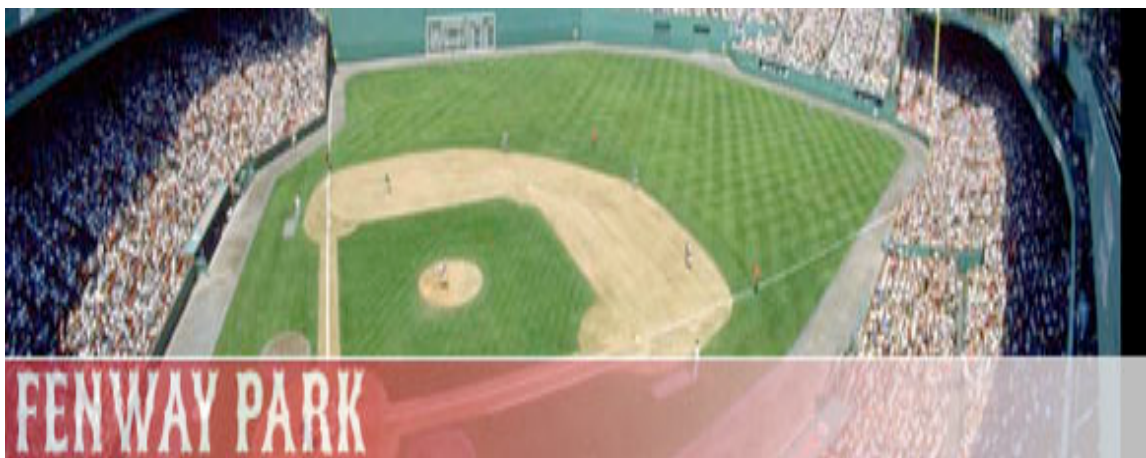
Scrum is not a methodology. Scrum does not provide the answers to how to build quality software faster,



Scrum is a framework within which the game of product development is played.

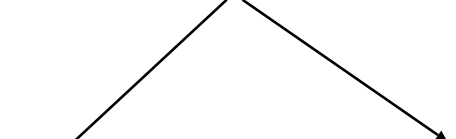
Your team plays and how good or not-good it is becomes highly visible.

Your team gets to continuously improve itself.



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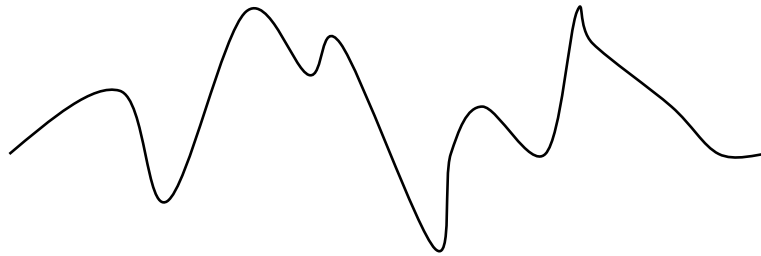
Predictive

Start
with
Plan
and all
require
ments

End with all
requirements
completed

Scrum - Empirical

Start
with
Goals
and
some
priority
require
ments



End
with
Goals
met

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Requirements

Far from Agreement

Complicated

Scrum

Close to Agreement

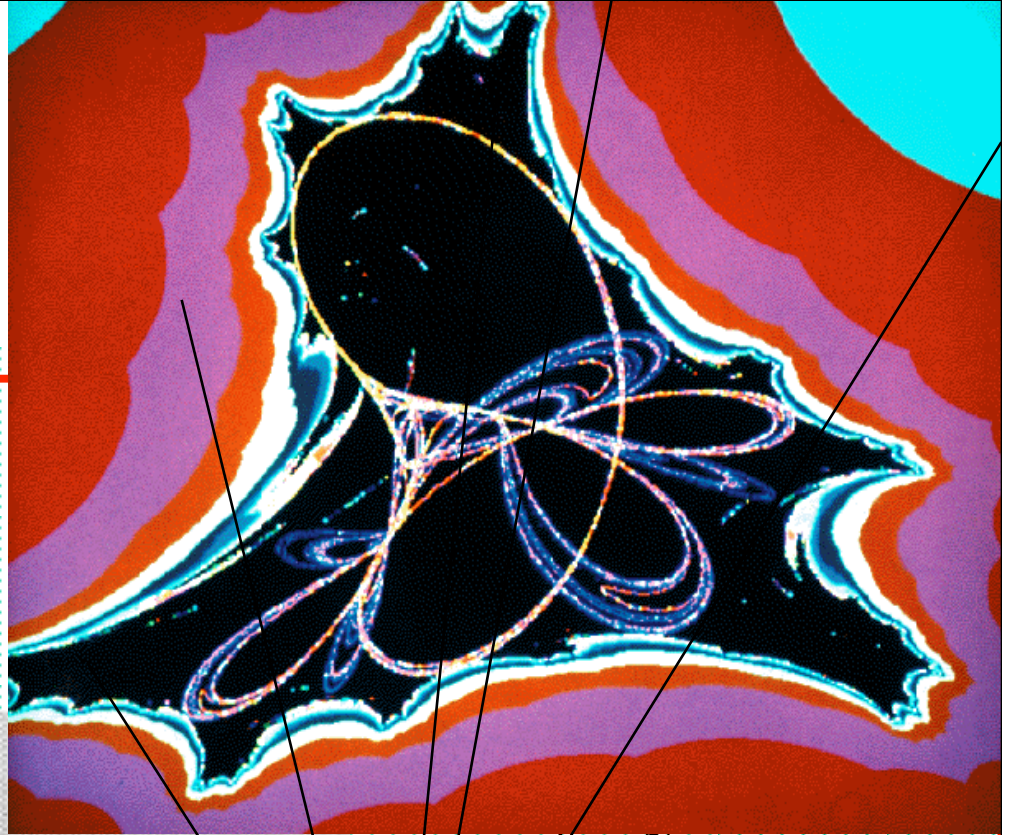
Simple

Complicated

Close to Certainty

Technology

Far from Certainty



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Scrum

Empirical process for managing the development and deployment of complex products.

Empiricism is dependent on frequent inspection and adaptation to reach goal.

Inspection is dependent on transparency.

Scrum rests on the four legs of iterative development that generates done increments of functionality using self-

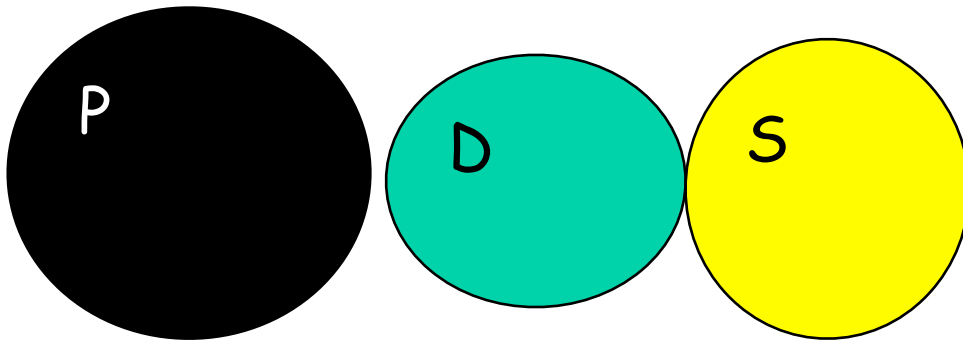
managing teams that are cross-

Agenda:

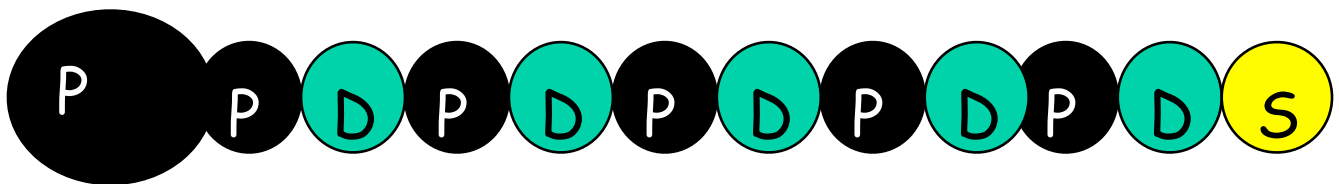
14

- Theory
- Building a plan

Scrum Planning Is Just-In-Time



Traditional Project



Scrum Project

 Planning

 Development

 Stabilization

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Exercise : Getting Started with First Sprint

Purpose - to explore the impact of different approaches to problem solving.

Explore the difference between planning a party if every sentence begins with "yes, but" and "yes, and."

Developing Architecture

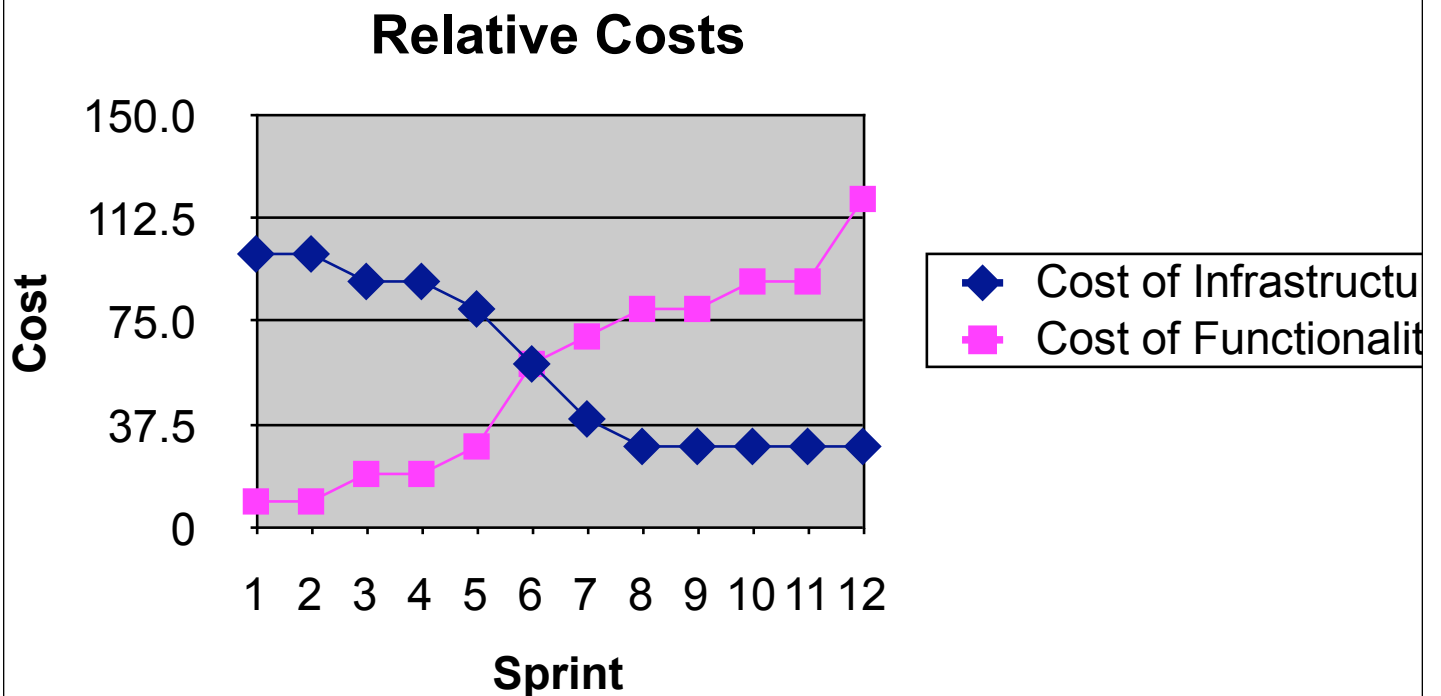
- Architecture and infrastructure are high priority non-functional requirements
- Must be completed to prove that functional requirements can be implemented satisfactorily
- Every Sprint still must deliver at least some piece of business functionality
 - To prove that architecture or infrastructure works
 - To prove to customer that work they care about is taking place

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Developing Architecture ¹⁸

Cost allocation changes within the project as architecture and infrastructure are put in place



Agenda:

19

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- Building a plan
- Teams

Scrum Team

Consists of Product
Owner, ScrumMaster
and developers

Scrum Teams

Forming

Storming

Norming

Performing

Bruce Tuckman

Team Formation

Set aside at least one day when team first gets together to form:

- Introductions and backgrounds;
- Team name;
- Team room and Daily Scrum time/place;
- Development process for making Product Backlog done;
- Definition of "Done" for Product and Sprint Backlog items;
- Rules of development;
- Rules of etiquette; and,
- Training in conflict resolution.

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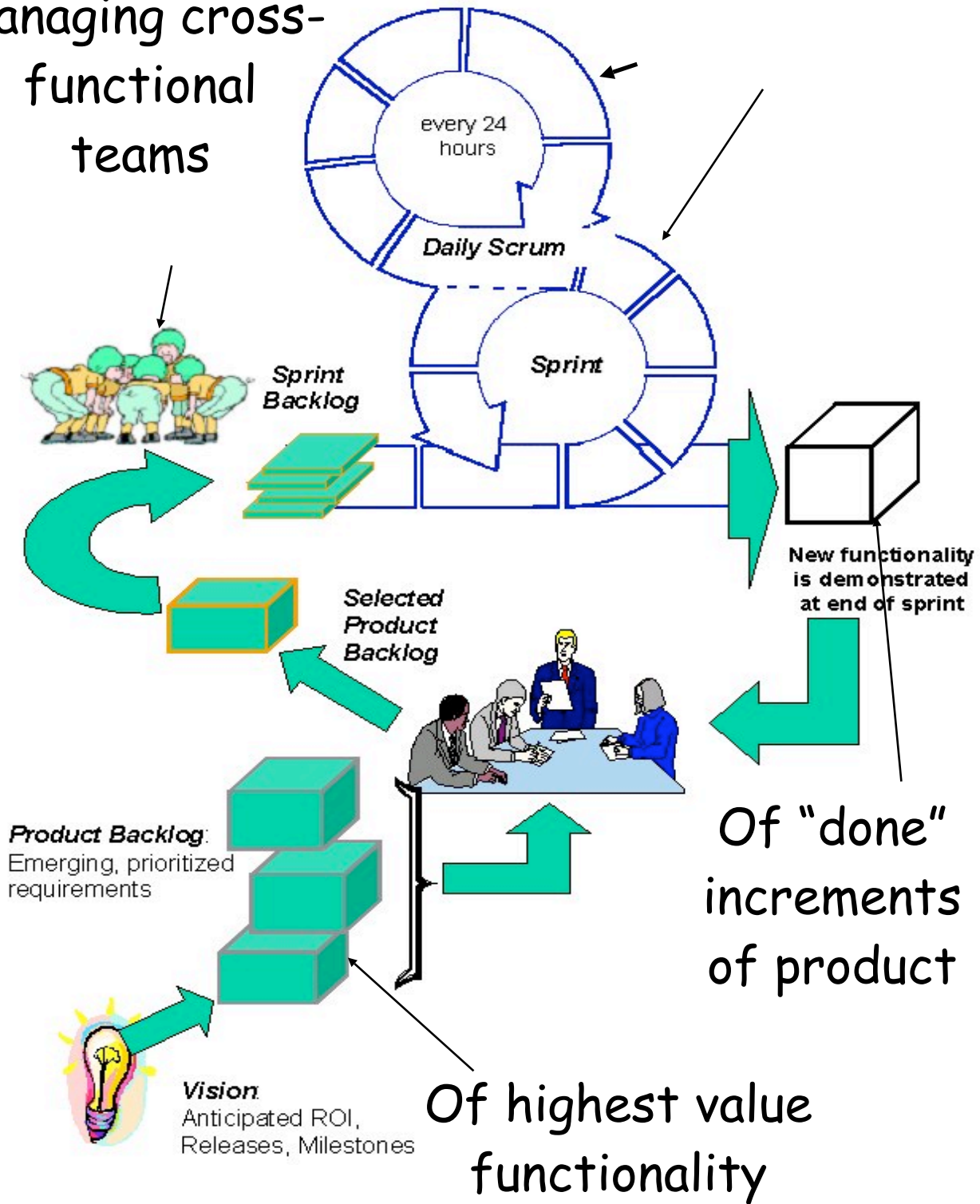
Agenda:

23

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- Scrum flow

By self-managing cross-functional teams

Iterative development



3 Inspect/Adapt Points - Where?

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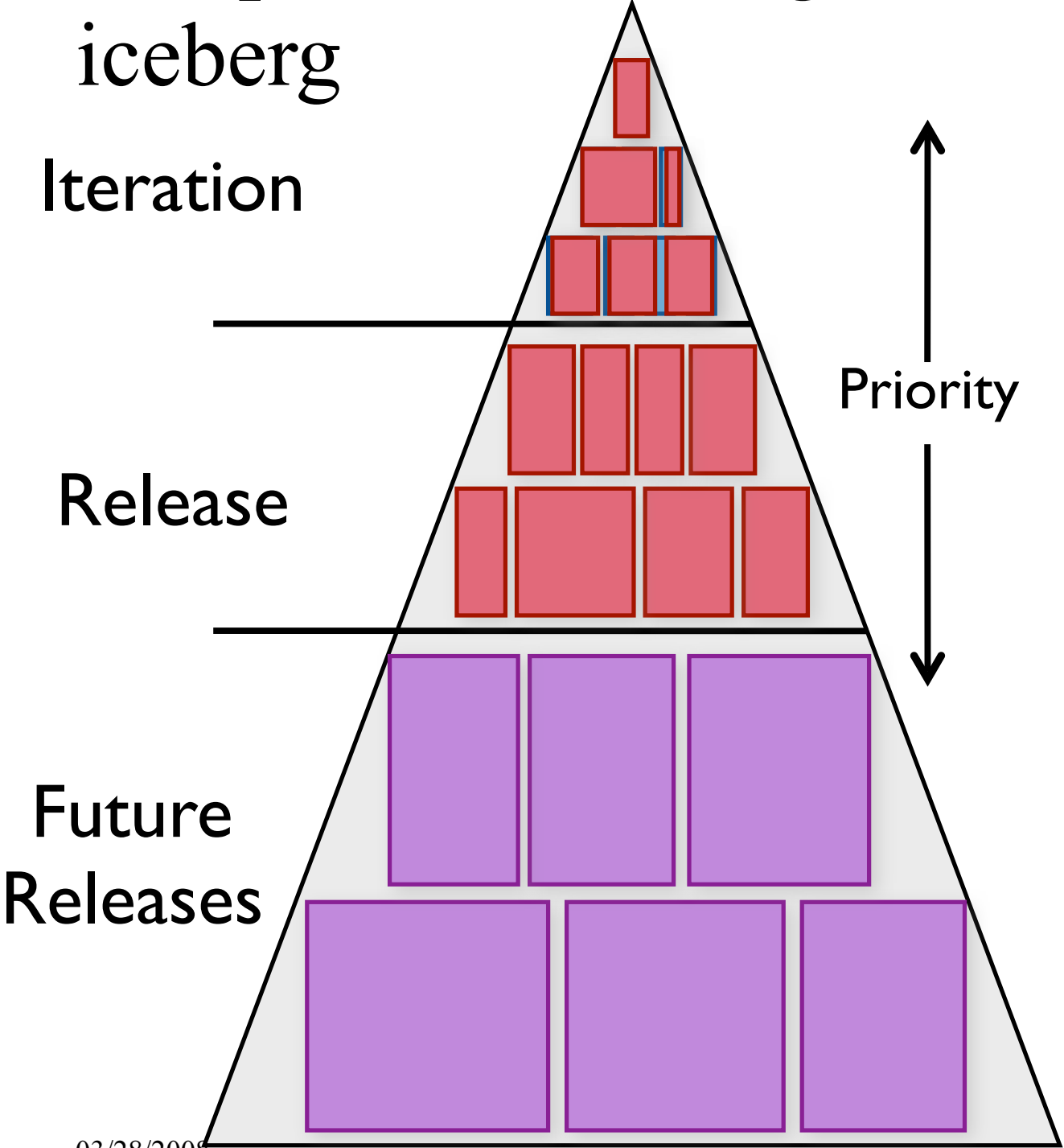
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Agenda:

25

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- Product Backlog grooming and impact on Sprint Planning

The product backlog iceberg

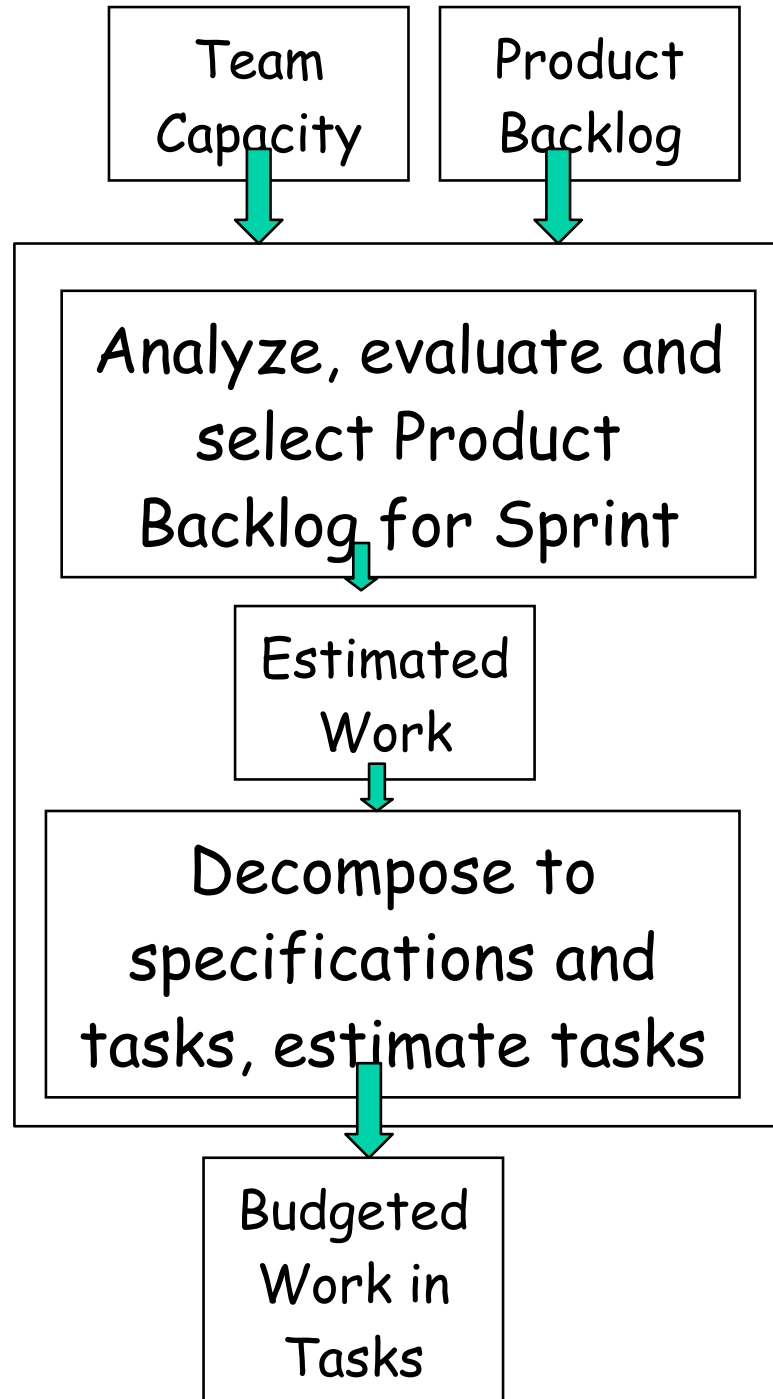


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Product Backlog Refactoring

1. Re-evaluate calculated priority of Product Backlog;
2. Re-granularize Product Backlog according to priority;
3. Ensure next Sprint or two's probable product backlog is actionable (less than 16 per days per item for monthly Sprint);
4. Have team allocate 10% of their Sprint capacity for this activity, which should be compartmentalized to minimize interruption; and
5. Never allow the Product Owner to go into the Sprint Planning meeting with an ungroomed Product Backlog.

Sprint Planning Meeting



Sprint Planning Meeting Part 1

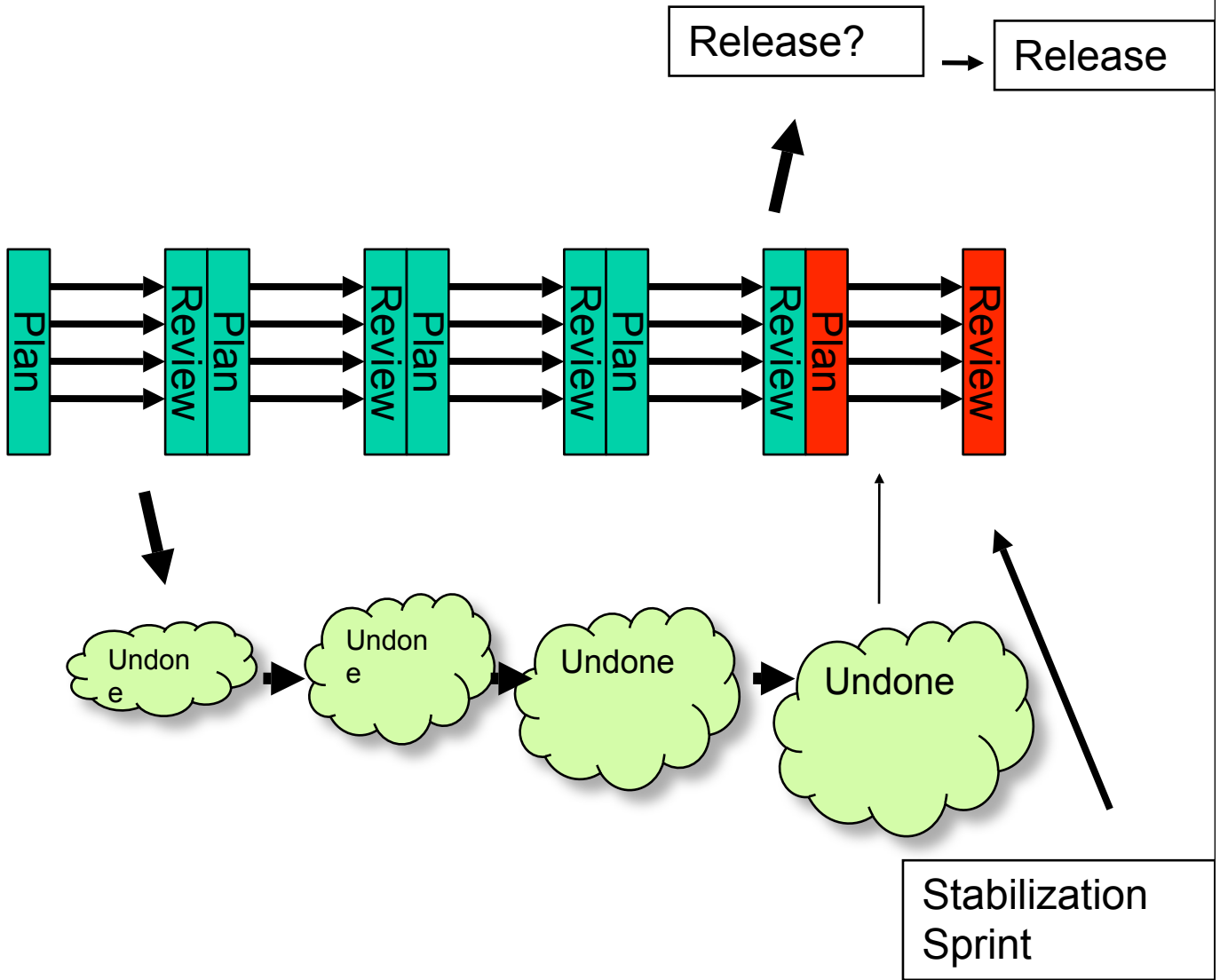
Purpose: Commit to Product Backlog for the next Sprint

Calculate capacity of your team for the next Sprint (month). You are 100% allocated less 10% for forward looking Product Backlog analysis and 10% for severity 1 catastrophes.

Commit to the Product Owner as much Product Backlog as your team believes it can turn into a "done" increment in the next Sprint.

Four hour timebox. Product Backlog grooming often reduces this part of Sprint Planning to less than 30 minutes.

“Undone” work



Create Product Backlog Item for “Undone Work”

Work Item	Usual	Rec. start	Done
Requirements analysis	25	25	25 31
Design of architectural components (UI, System, Data)	15	15	15
Design review	0	5	5
Design of tests (system, user acceptance, integration)	0	10	10
Design review	0	3	3
Design of documentation	0	2	2
Design Review	0	1	1
Refactoring of existing design	0	0	8
Design of unit tests for new code	0	3	3
Design of unit tests for code to be refactored	0	3	3
Writing new code	10	7	7
Writing refactored code	6	3	3
Code review (or pair programming)	0	4	4
Write functional tests	8	4	4
Write integration tests	0	4	4
Write documentation	4	4	4
Unit test code	0	2	2
Identify and rectify defects	0	2	2
Subsystem/team build	6	2	2
Identify and rectify defects	1	1	1
Unit test for subsystem/team code	0	2	2
Identify and rectify defects	0	2	2
System/integration build	1	1	1
Identify and rectify defects	0	2	2
System, functional tests	1	2	2
Identify and rectify defects	1	2	4
Integration tests	0	0	2
Identify and rectify defects	0	0	5
Performance tests	0	0	1
Identify and rectify defects	0	0	2
Security tests	0	0	1
Identify and rectify defects	0	0	2
Regression test	0	2	2
Identify and rectify defects	0	8	8
Documentation test	0	1	2
Identify and rectify defects	0	1	1
Total work expended requirement	118	118	148
Work remaining per requirement	65	30	0

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Empirical Process Control

- Uses Inspection and subsequent adaptation to optimize realization of goals.
- Transparency is required for inspection and adaptation.
- Transparency requires courage



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The Nexus of the Crisis

1. Ground Zero is the customers belief that they can demand something, and the developers willingness to unconscionably cut quality to support the belief.
2. The most obvious consequences are people who don't like the profession they are in and customers who don't like the profession.
3. The long term consequences are failing products, failing companies, and hateful work. We are there now.
4. The canary is the definition of "done"

Exercise

Planned work consists of:

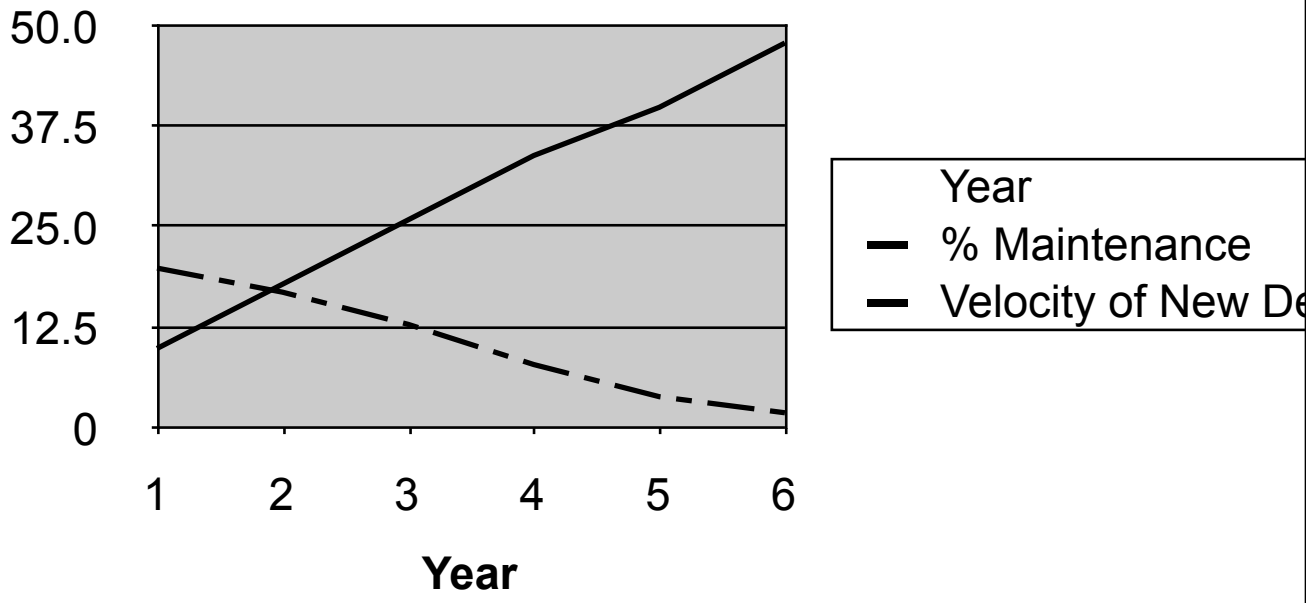
1. Function 1: 20 units of work, 15 new, 5 core
 2. Function 2: 40 units of work, 25 new, 15 core
 3. Function 3: 30 units of work, 20 new, 10 core
- Velocity for new functionality is 15 units of work per Sprint per team.
 - Velocity for core functionality is 5 units of work per Sprint total.

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You need a release with all three functions in three months. What do you do?

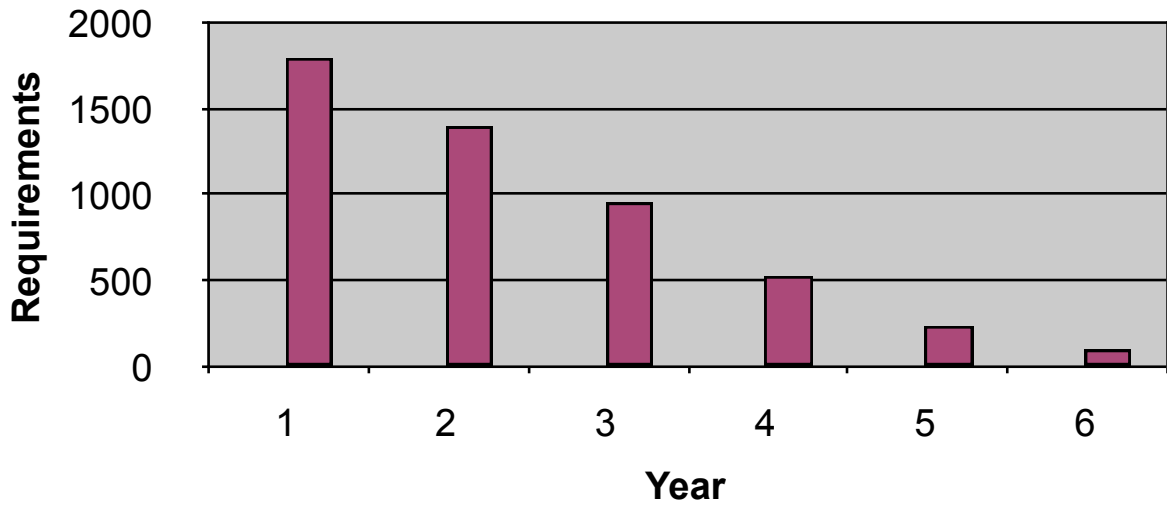
"Done" and "Undone" Work

1. "Undone" work is a Product Backlog item that must be completed prior to any release.
2. It incrementally grows every Sprint, as the proportion of Sprint undone/ Sprint done.
3. This increase in release "undone" work appears linear, but the "undone" work increase in more rapid and unpredictable.

Correlation between declining quality and velocity



New Requirements Capability



"Done" is
not
defined.



1. No stable velocity from which to estimate;
2. Inaccurate product backlog burndown;
3. Product Owner doesn't know progress or status;
4. The Product Backlog probably isn't in good shape;
5. Team doesn't know how much to select in Sprint Planning meeting; and,
6. Product Owner doesn't know what is

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being inspected at Sprint Review

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Exercise: Sprint Planning Meeting Part 2

Purpose: For the team to figure out what it is going to build and how it is going to build it.

Artifacts: Design, Sprint Backlog, Design

This should start with design work ... what is the design for what the team committed to? Then the team figures out how it will develop the design, which translates into who does what: Sprint Backlog tasks.

The Product Owner is present to clarify and make design tradeoff's. Product Backlog may be decommitted or additional Product Backlog requested by the team.

A budget is the team's understanding of

what it is going to do and how much

effort the Product Owner thinks it will

Sample Sprint Backlog Tool



The Team doesn't design how to meet its commitment in the Sprint Planning Meeting



1. Team probably doesn't know that the sum of the tasks will deliver its commitment;
2. Team cannot self-manage;
3. Cross-functionality probably isn't happening.

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Agenda:

42

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- Self Management and impact on Sprint Planning and the Sprint backlog
- Sprint length

Scrum Practices -Sprint⁴³



- Monthly iteration fits into rest of business cycle.
- Shorter cycles may be used overall or periodically to reduce risk.
- Sprints from all Scrum teams should synchronize.
- Sprint length doesn't vary to fit Product Backlog; Product Backlog is granularized to fit Sprint length.

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Sprint Abnormal Termination

- Sprints can be cancelled before the allotted Sprint is over;
- Product Owner is only one that can cancel a Sprint;
- Sprints may be cancelled because of changes in competition, business, or technology feasibility. More normally, scope of Sprint is adjusted.
- If a Sprint is abnormally terminated, the next step is to conduct a new Sprint planning meeting, where the reason for the termination is reviewed.

Demonstration: Abnormal Sprint

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Termination Ceremony

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- Daily Scrum and self-management

The Daily Scrum is a status meeting

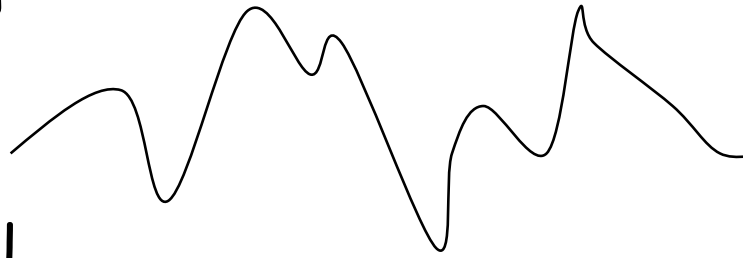


1. Team isn't self-managing;
2. Team has no idea where it is toward delivering its commitment;
3. Team will probably not deliver everything that it has committed to; and,
4. If "done" is defined, it may be adulterated in those things demonstrated at the Sprint Review.

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Start
with
Sprint
Goal
and
partial
Sprint
Backlog

Sprint - Empirical



End with
Goals met
and
increment
"done"

Daily Scrum is the inspect and adapt of empirical process control for the team

The three questions provide the information the team needs (inspect) to adjust its work to meet its commitments (adapt)

What Is Being Made Visible?

- When a Team member says "done," what does that mean?
- Code adheres to standards, is clean, has been refactored, has been unit tested, has been checked in, has been built, and has had a suite of unit tests applied to it
- Development environment for this to happen requires source code library, coding standards, automated build facility, and unit test harness

The Team doesn't have a Sprint Backlog Burndown



1. Team probably doesn't know where it is in meeting its commitments;
2. Team probably isn't self-managing;
3. Daily Scrums are probably status meetings without inspect and adapt;
4. ScrumMaster hasn't taught team to self-manage.

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- Daily Scrum and self-management
- Sprint Review and inspect/adapt

Exercise: What is Wrong?

The Sprint Review goes well. Senior management is there to encourage the team. At the end of the Sprint Review, the CEO and everyone present applaud the team for their fine work.

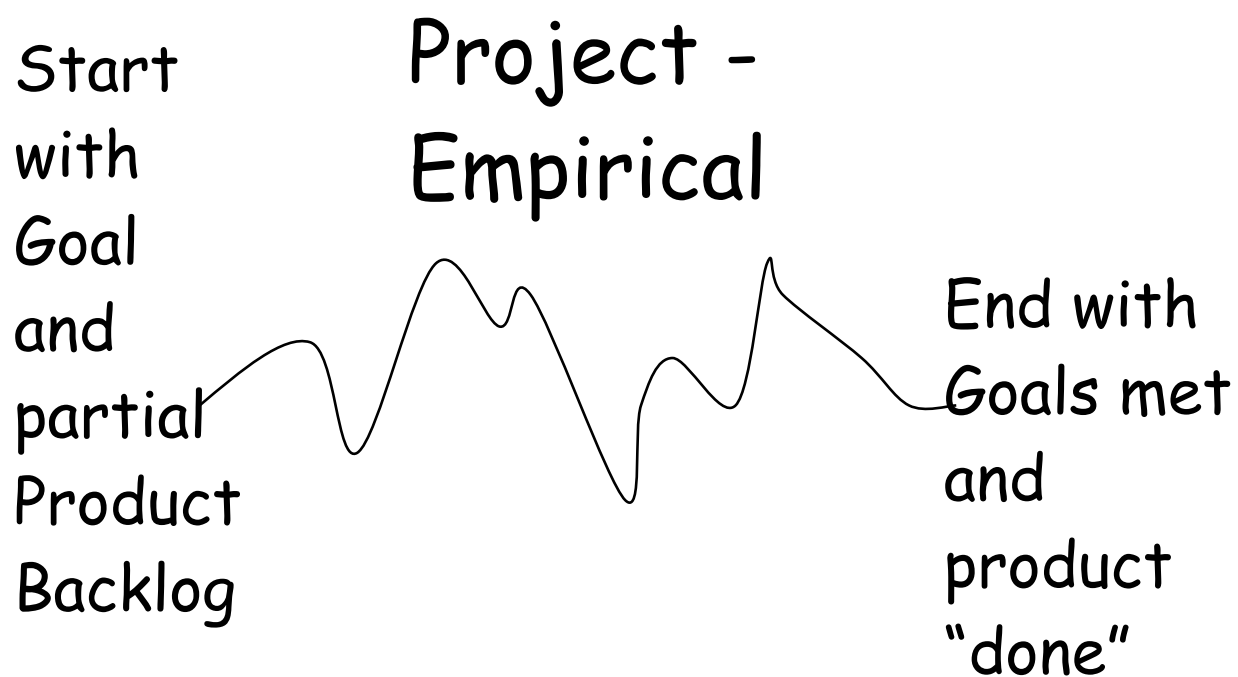
What is wrong with this description?

The Sprint Review isn't collaborative in pursuing work for the next Sprint



1. Product Owner isn't committed enough to project;
2. Stake-holders may not be involved adequately;
3. Demonstration is mistaken for inspection and adaptation.

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Sprint Review is the inspect and adapt of empirical process control for the team;

The most current Product Backlog and the increment are for inspection; the adaptation is the modified Product Backlog; and,

This a collaborative working session, not a demonstration.

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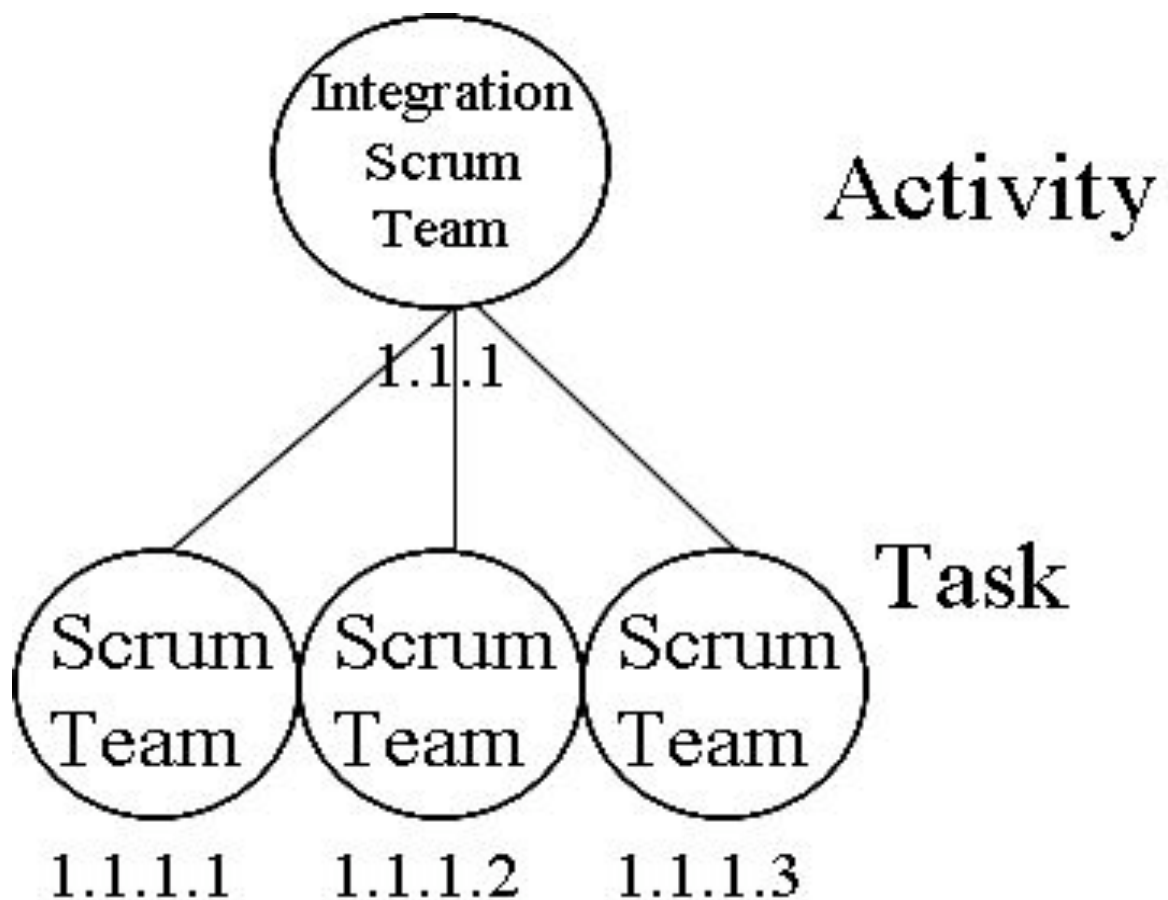
The Product Owner doesn't have a Product Backlog Burndown



1. Product Owner doesn't know how the project is doing;
2. Product Owner hasn't accurately apprised others of project status;
3. Product Owner isn't engaged; and,
4. Product Owner will probably push for "more" later in cycle.

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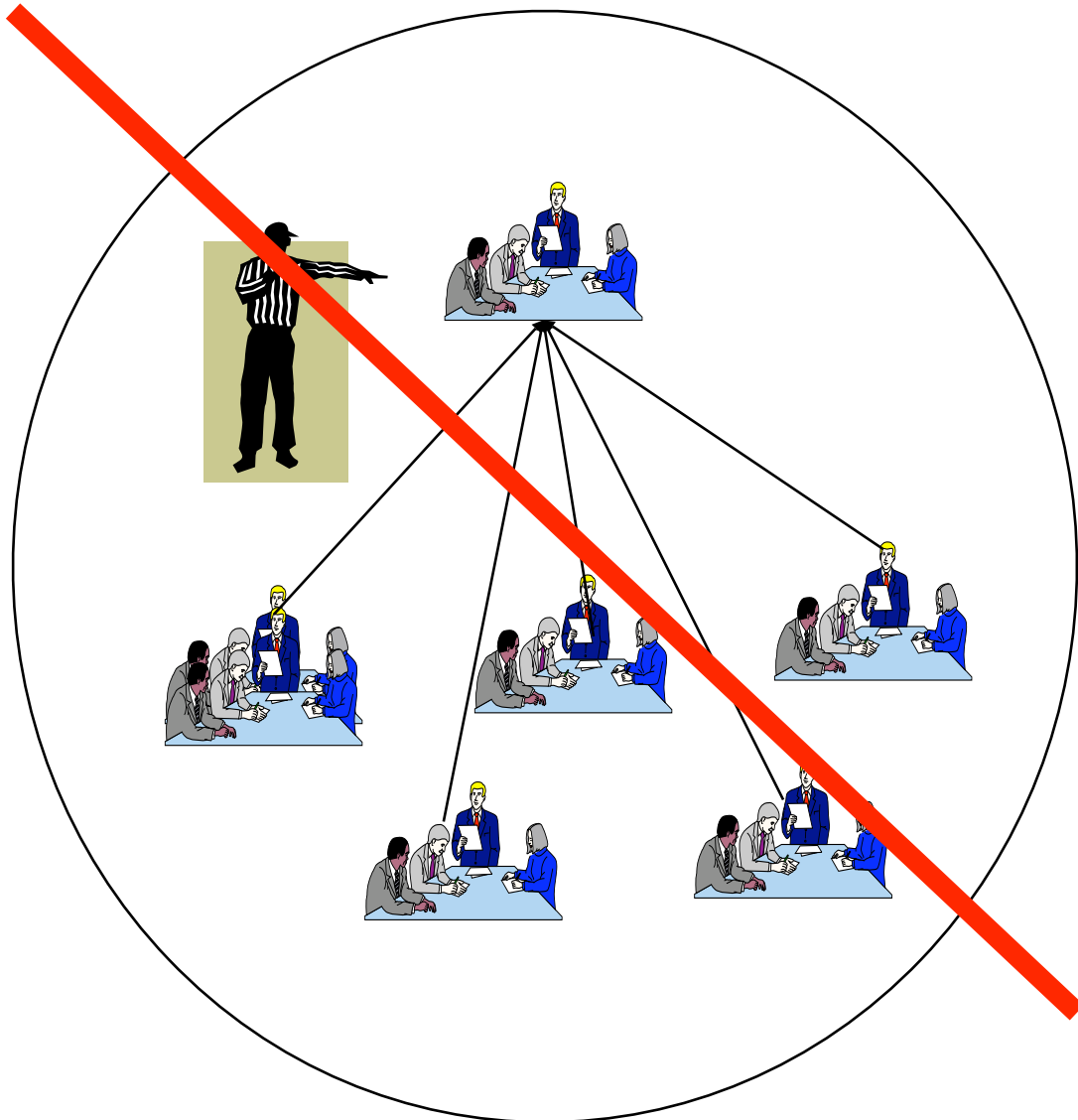


Integration Product Owner maintains backlog for 1.1.1, 1.1.1.1, 1.1.1.2, and 1.1.1.3

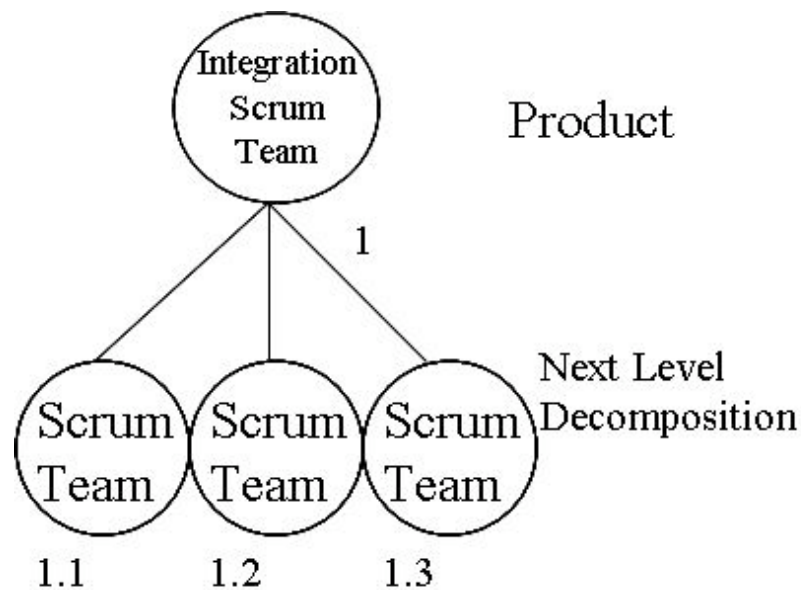
Integration ScrumMaster ensures rules of Scrum are followed

Integration Development team build integration facilities, integration tests, and architectural infrastructure

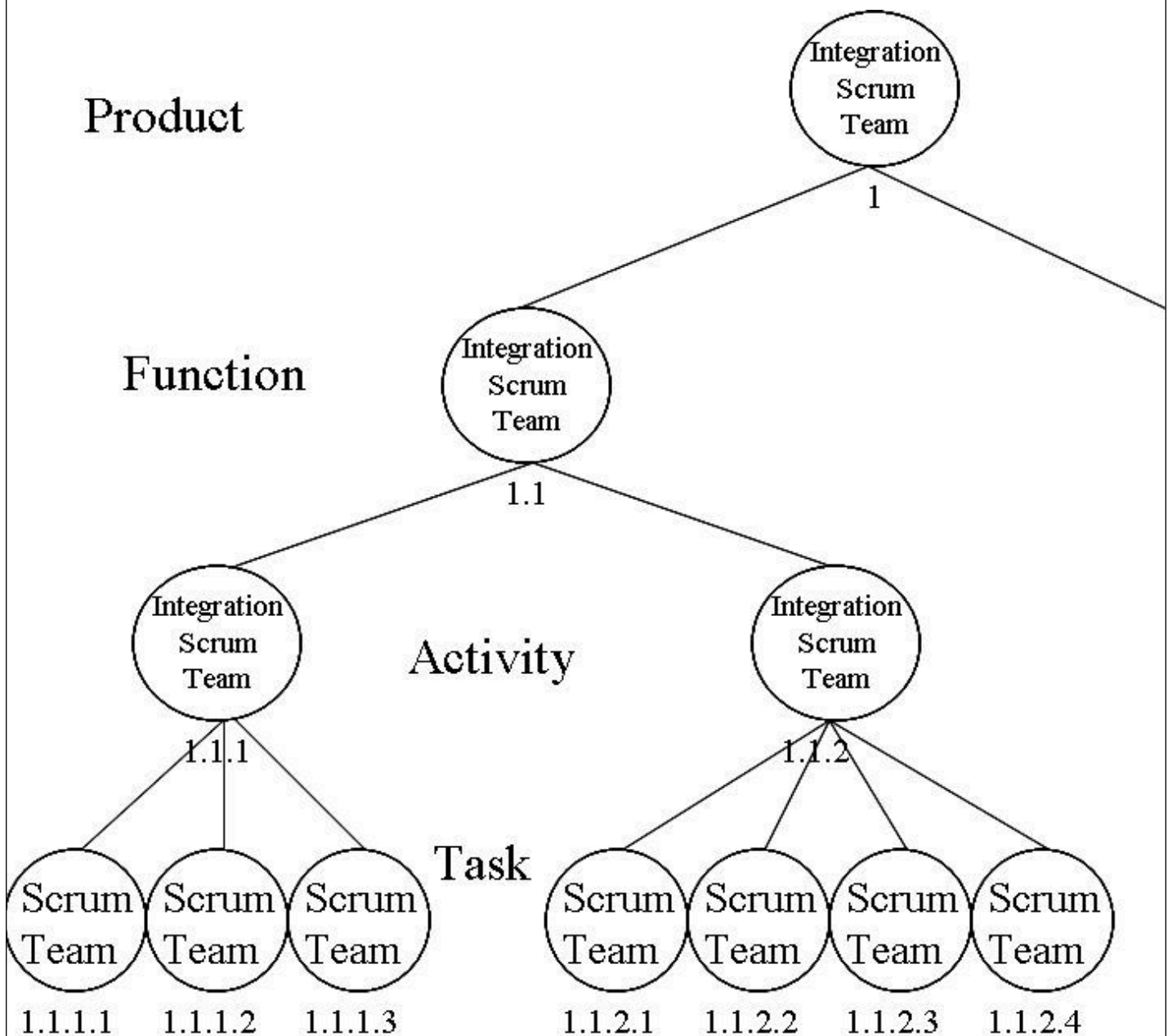
Scrum of Scrums



Only used a temporary bridge
until integration is in place



Start with an initial team. When enough is in place for more teams, staff and seed them. Continue until velocity is adequate.



Appropriate level of accountability at each level ... using leadership management as defined in Scrum

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- Enterprise and Scrum

Conundrum

I've had a really interesting day learning all of this Scrum stuff. But, when I go back to work I still have to get hit the date, cost and functionality that my customers expect. What does all of this have to do with that?

Basic truths about team motivation

1. People are most productive when they manage themselves;
2. People take their commitment more seriously than other people's commitment for them;
3. People have many creative moments during down time;
4. People always do the best they can; and,
5. Under pressure to "work harder," developers automatically and increasingly reduce quality.

Basic truths about team performance

1. Teams and people do their best work when they aren't interrupted;
2. Teams improve most when they solve their own problems; and,
3. Broad-band, fact-to-face communications is the most productive way for teams to work together.

Basic truths about team composition

1. Teams are more productive than the same number of individuals;
2. The optimum size team is around seven people, and no more than nine;
3. Products are more robust when a team has all of the cross-functional skills focused on the work; and,
4. Changes in team composition ruin productivity.

Work the Project Manager used to do that the Team now does:

1. Make commitments on behalf of the team about how much they can get done by a certain date
2. Convince team that the commitments made on their behalf are attainable
3. Give direction to the team on how to implement the work, so they can deliver on the commitment
4. Monitor the team's progress, to make sure they stay on schedule, and isn't having problems
5. Step in and determine the solution, if the team falls behind on their schedule, or starts having problems
6. Conduct weekly status update and 1:1 meetings with the team, to surface issues, and provide direction
7. Provide motivation and push the team to work harder than they might want to, using carrots and / or sticks
8. Decide task assignments among the team members and follow up on tasks to make sure they've been done
9. Be responsible for the team doing the right

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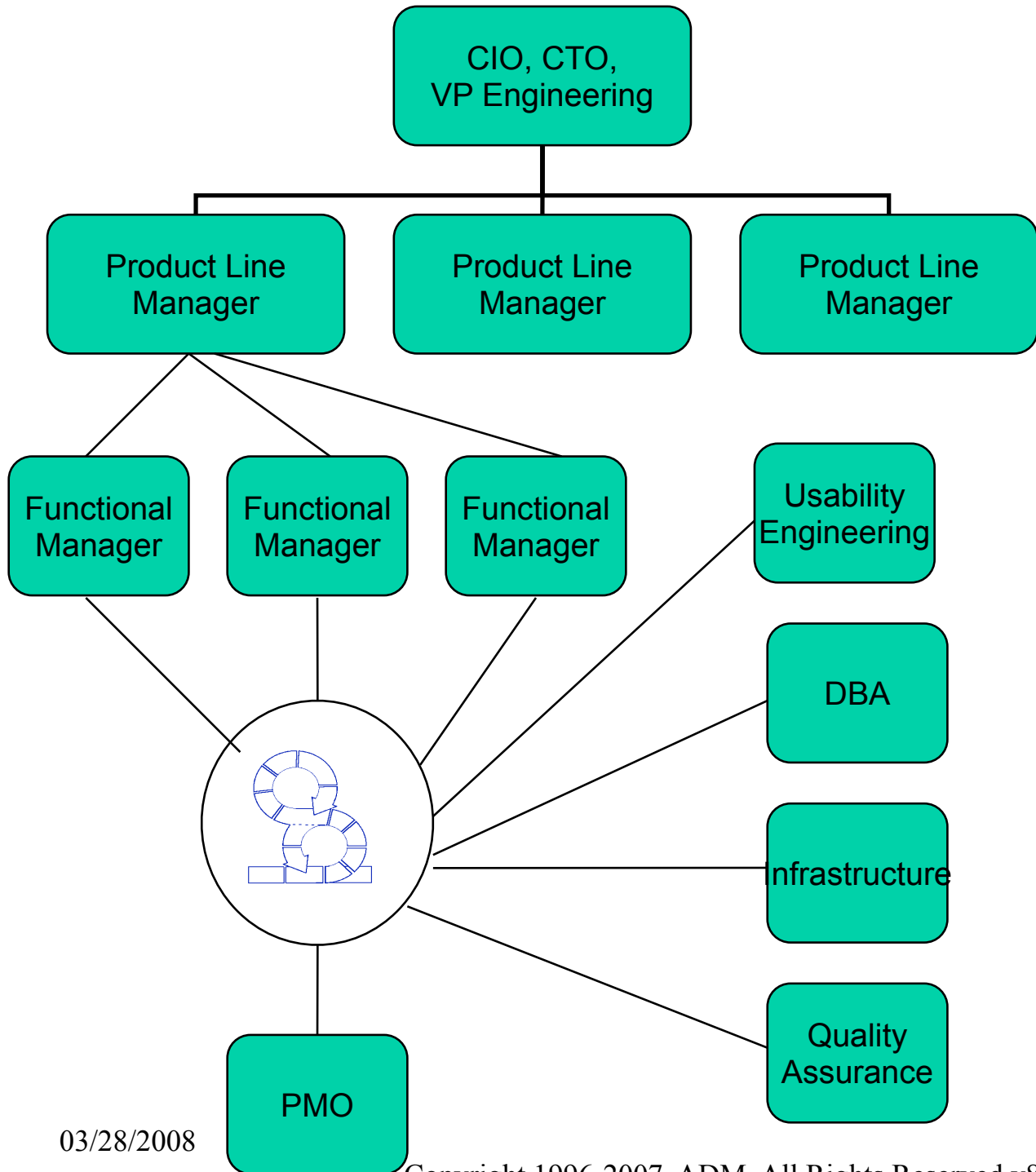
Self-directed teams	Traditional organization
Customer-driven	Management-driven
Multi-skilled workforce	Workforce of isolated specialists
Few job descriptions	Many job descriptions
Information widely shared	Information limited
Few levels of management	Many levels of management
Whole-business focus	Function/department focus
Shared goals	Segregated goals
Seemingly chaotic	Seemingly organized
Purpose achievement emphasis	Problem-solving emphasis
High worker commitment	High management commitment
Continuous improvements	Incremental improvements
Self-controlled	Management-controlled
Values/principles based	Policy/procedure based

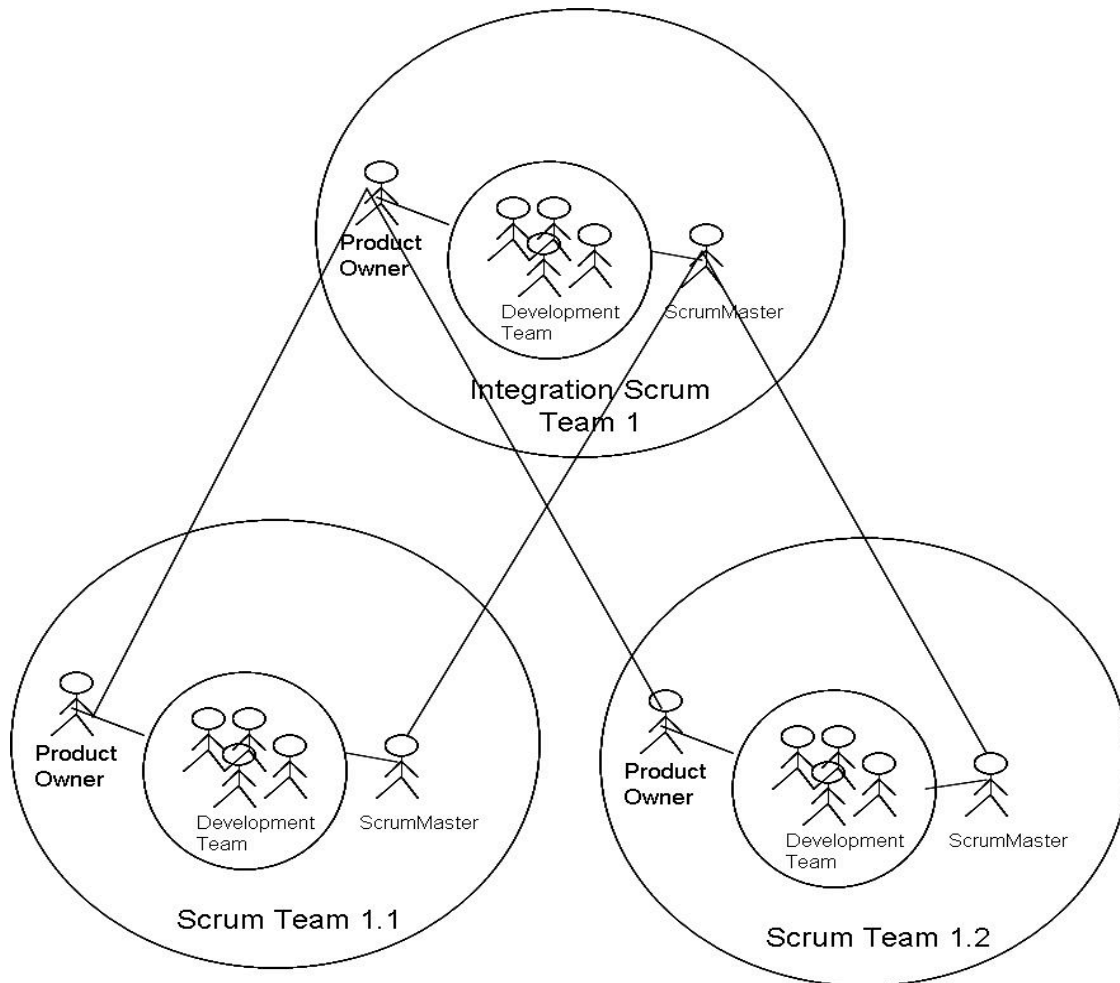
Text from: "Leading self-directed
work teams"
By Kimball Fisher

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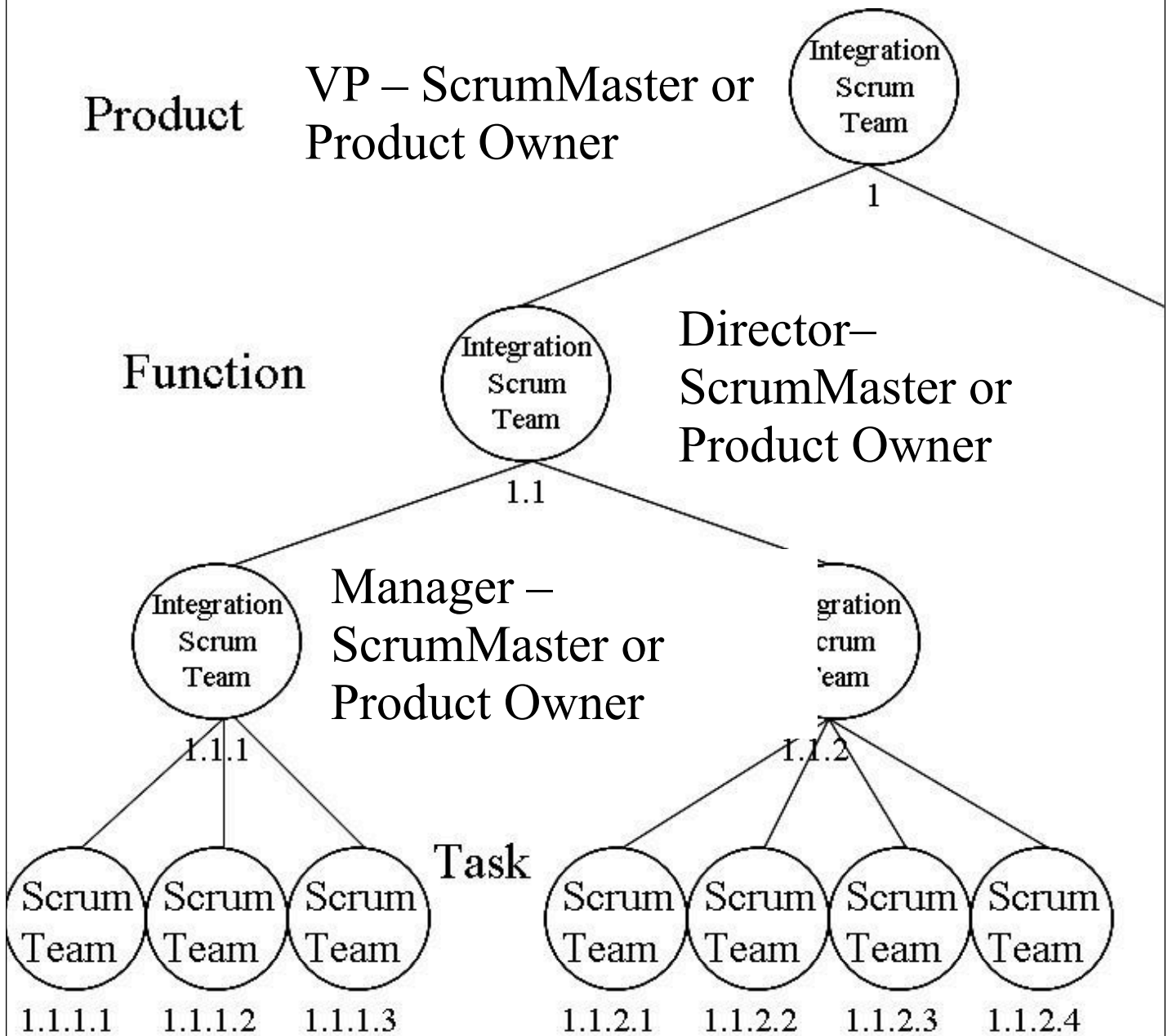
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What is the role of Management?





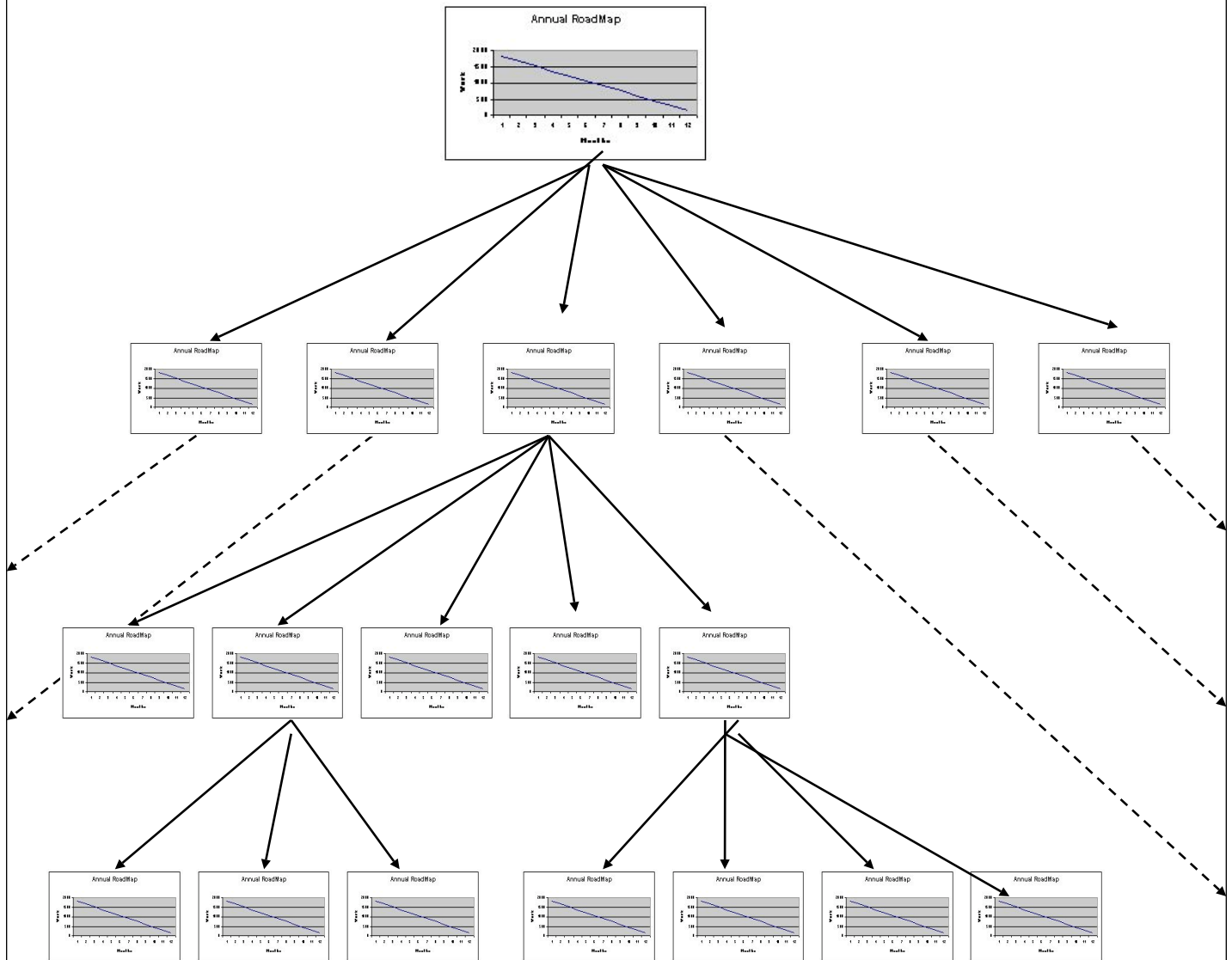
Reporting Relationships



Appropriate level of accountability at each level ... using leadership management as defined in Scrum

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The Wailing Wall



Work is decomposed from goals, and reported to track progress in reaching goals.

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Enterprise Scrum

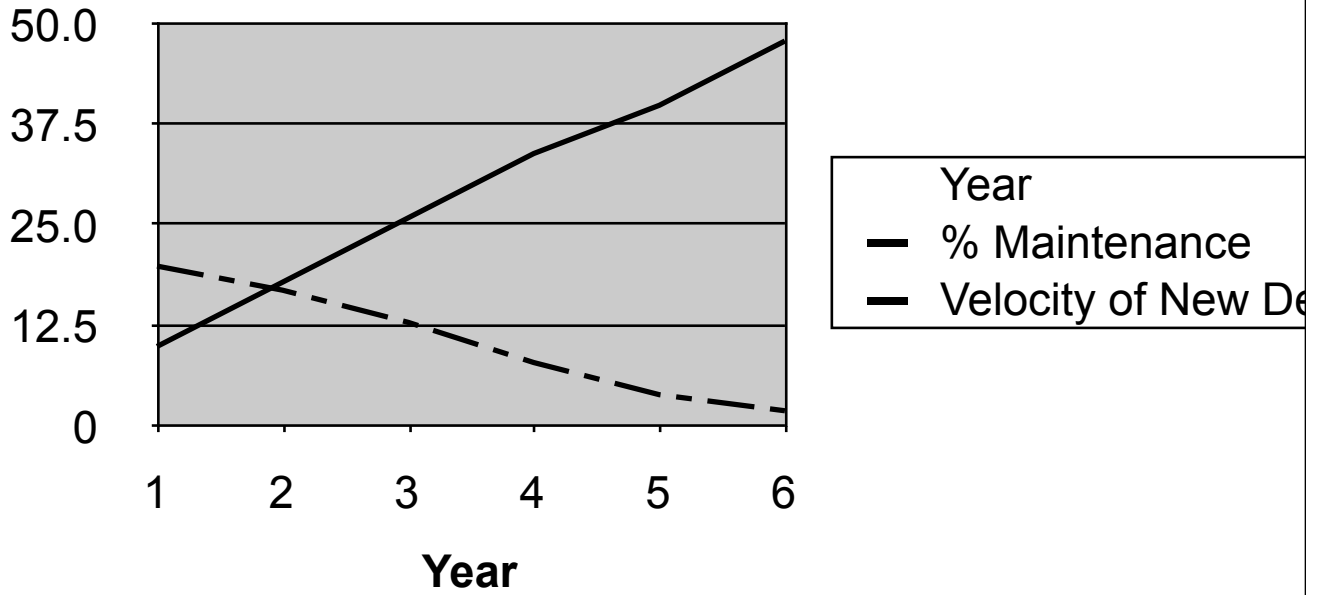
Why does management want to adopt Scrum? What problems do they want to solve?

Why haven't they solved these problems already?

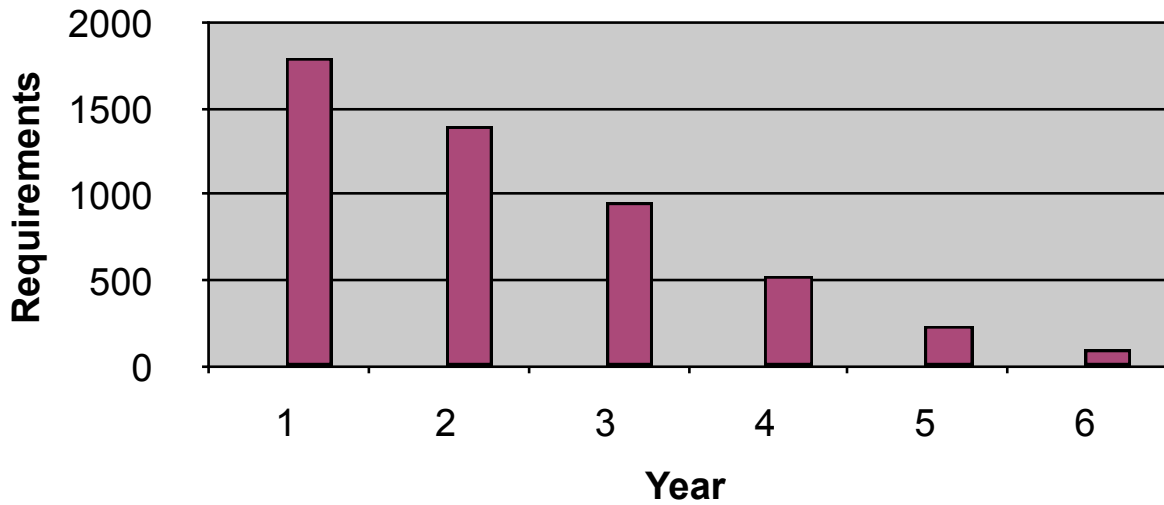
Scrum will make these problems more intolerable.

Management's job is to remove these impediments and problems, in priority order.

Correlation between declining quality and velocity



New Requirements Capability



Typical comments

- We go through a new process every 18 months.
 - What do you think we will do after Scrum?
- Why causes this comment?
 - History
 - Process changes, but culture stays the same.
- How do we make this stick?
 - Person by person.
 - Culture change

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• "Culture eats strategy for breakfast"

If you are convinced that Scrum is right (what process will we use next?):

1. If you only partially succeed and then abandon further change, parts of your enterprise may be worse off than today;
2. The primary cost is sweat-equity from everyone in the enterprise, especially you;
3. You must lead and everyone must understand where you are taking them;
4. You are about to create a new,
"that's the way things are done

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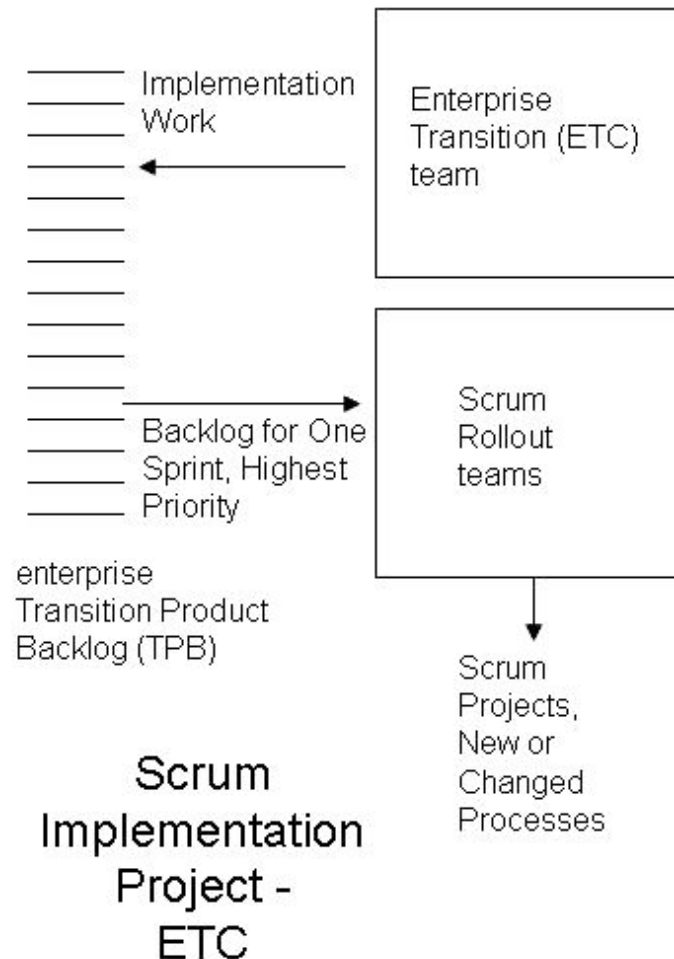
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Use Scrum to Change

Enterprise Transition team (ETC) led by top person and his/her senior managers.

ETC uses Scrum and consist of a Product Owner, ScrumMaster, and team.

Changes made by Scrum Rollout teams.



Initial Transition Product Backlog

1. Communicate to the enterprise;
2. Provide training and set expectations;
3. Provide a way for people to ask questions and resolve issues about Scrum and its impact on them;
4. Establish preconditions that must be met before a project can use Scrum;
5. Identify the first projects to use Scrum next;
6. Define Scrum metrics and mechanisms for gathering and managing with them;
7. Begin creating an enterprise Product Backlog;
8. Identify likely ScrumMasters;
9. Assess compensation policies to encourage teamwork;
10. Define Scrum project reporting requirements; and
11. Establish a Scrum Center.

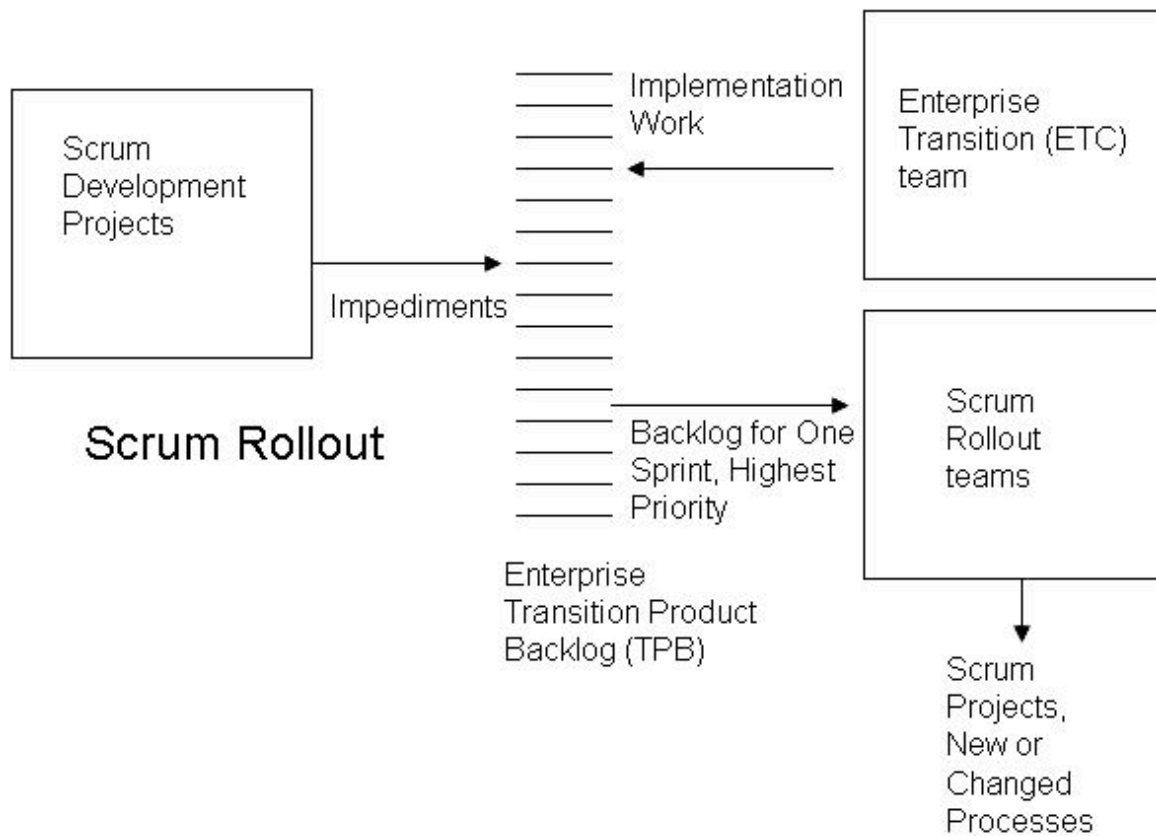
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New Team Preconditions

1. Full Time Team
2. ScrumMaster Training
3. Product Owner Training
4. Team Formation Activities
5. Team Room
6. Definitions of "Done"

The Whole Ball of Wax



If you proceed:

1. Staff turnover will occur;
2. Management turnover will occur;
3. The third to sixth month will be particularly hard on everyone;
4. Conflict will occur;
5. Customer/Product Management's job will change and be harder;
6. Development is responsible for retaining quality;
7. Compensation policies will change;
8. Management's activities will shift from command to leadership;
9. Adding more people will not longer be the answer; and,
10. Change will occur throughout the

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The Good News - very few of your competitors will be able to compete with you after you change, and very few of them have the guts to change.

The Bad News - very few enterprises succeed, even with compelling reason. Think of Toyota's warning and GM, Ford, and Chrysler's response.

Remember - Culture eats strategy
for breakfast.

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Scrum Smells

3 Strikes and You Are

Out



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Questions?

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