

Paths of Adoption

A Taxonomy of Pre-TSP/TPI teams



Prepared by

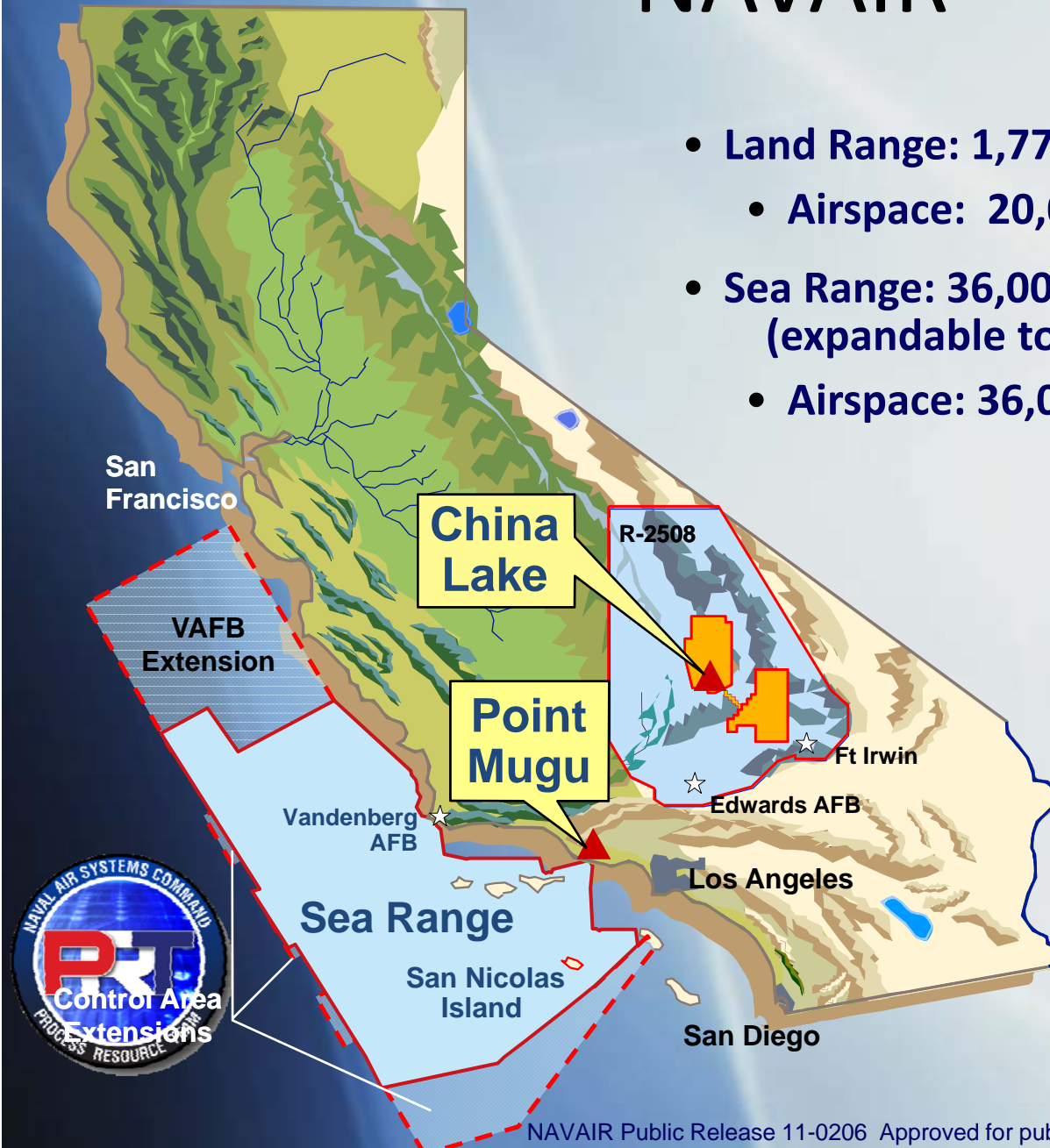
David Saint-Amand and Mark Stockmyer

NAVAIR Process Resource Team (PRT)



NAVAIR -- China Lake

- Land Range: 1,777 square miles
 - Airspace: 20,000 square miles
- Sea Range: 36,000 square miles
(expandable to 125,000 square miles)
 - Airspace: 36,000 square miles



The Topic

- Not all pre-TSP/TPI* teams are alike
 - Process champions to arm-folded curmudgeons
 - How do they go from ad-hoc processes to disciplined superstars?
 - What kind of techniques can you use to deal with the more difficult teams?
-
- * TPI – Team Process Integration
 - TSP Principles applied to non-software teams



Working Environments

- Academic
 - Management prepared
 - Take the time to use the adoption curve strategy
 - Teams come together for the first time
 - Launch used to build the Team
- DoD and Industry
 - Teams already exist and are often stable
 - Launch is used to introduce Best Practices



Agenda

- Team Taxonomy
- Paths of Adoption - Introduction Strategies
- Team Results Over Time
- Final Comments



Agenda

- **Team Taxonomy**
- Paths of Adoption - Introduction Strategies
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Team Types - Basic Taxonomy

- When does someone
 - realize there's a problem?
 - decide to get it fixed?
- Self-Selected Teams
- Management-Selected Teams



Self-Selected Teams

- Fix the broken management
- Obtain a process the team will use
- Save the broken schedule



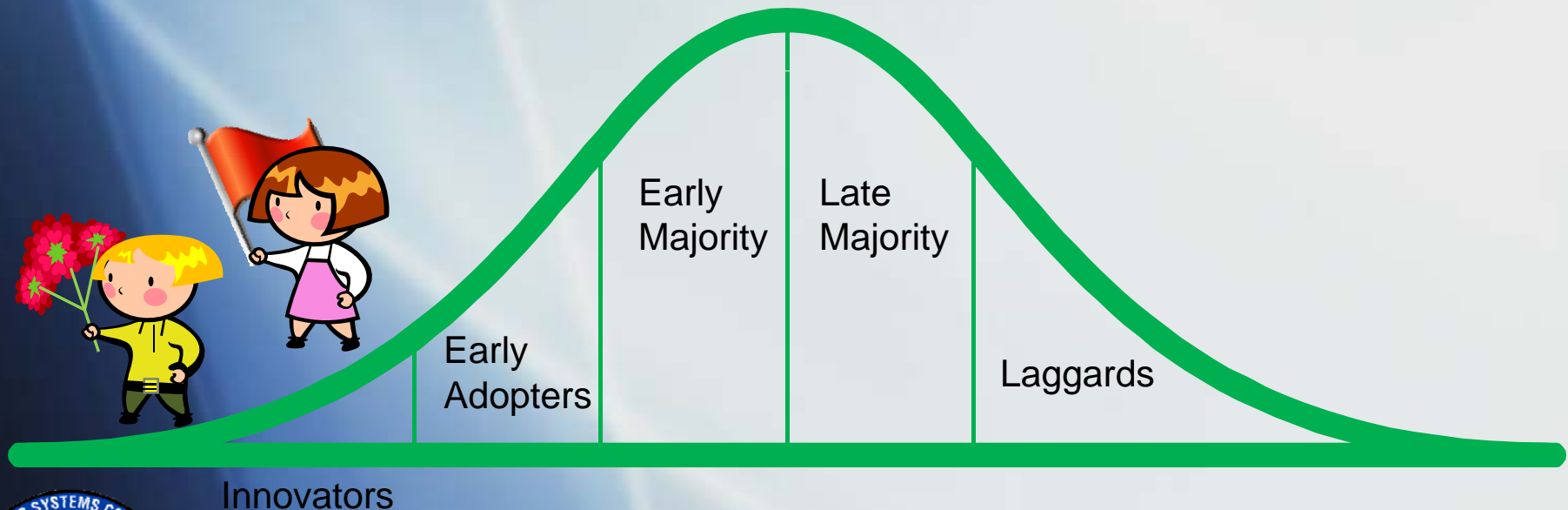
Management-Selected Teams

- Management saw it in a White Paper
- Fix the broken teams
- Fix the unpredictable teams
- Teams are instructed to do it
 - Some willingly
 - Some not



The Canonical “Adoption Curve”

For Self-Selected Teams



Self Selected: Fix the broken management

- New engineer on pre-existing team
- Realizes team lead is irrational
- Implements personal/team process
 - Control own world
 - Set good example
- Chance of overall success: Low



Self Selected: Obtain a process the Team will use

- Lead is starting new team
- Realizes chaos is poor strategy
- Wants some kind of process
- Willing to try new things
- Chance of overall success: High



Self Selected: Save the broken schedule

- Team keeps missing deadlines
 - Realizes there must be better way
 - Willing to readily accept change
-
- Chance of overall success: High



Self-Selected Teams

- Not difficult to deal with
- Follow the canonical adoption curve
- Not where you need to spend a lot of time
 - Non-traditional time



Management-Selected Teams

- Management realizes a problem
- Hears about success with process improvement
- Wants **YOU** to fix their broken team
- What does the team look like?
 - Psssst . . . It's not canonical . . .



Canon vs. Reality - 1

- Canon
 - New team of people that have never worked together before
- Reality
 - Teams already exist



Canon vs. Reality - 2

- Canon
 - Suffering together for a week forms the team
 - Team jells
- Reality
 - Team has already jelled
 - Against you and your process



Canon vs. Reality - 3

- Canon
 - Roll out entire process at once
 - This is the steep path
 - Faster
- Reality
 - Roll out in stages
 - For the 'difficult' teams
 - More gentle path
 - Slower



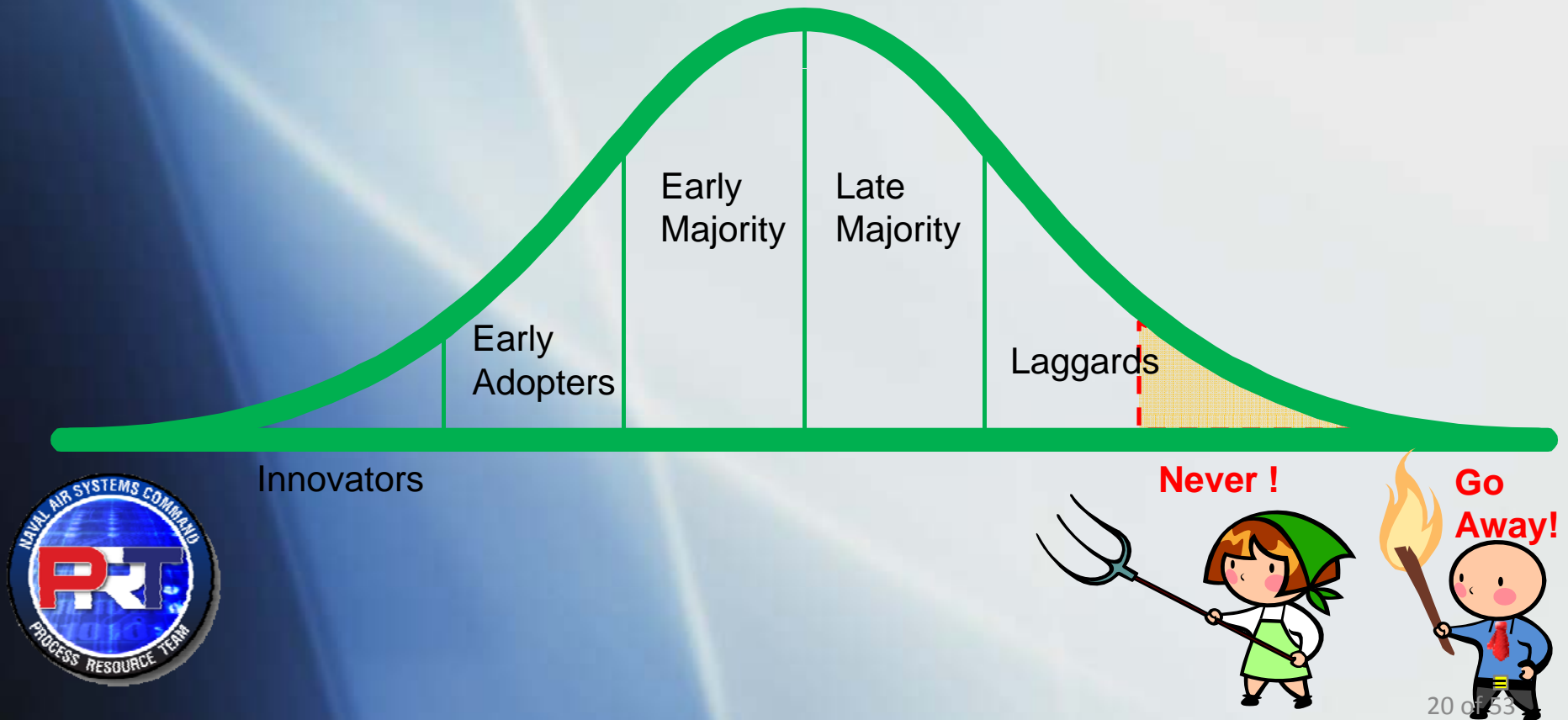
Mgmt Select: Broken & Unpredictable Teams

- Your biggest hurdle as a process coach
- Experienced Professionals
 - Cynical
 - Masters of Passive-Aggressive Resistance
- More time than with a Self-Selected Team
- This is our focus



The “Never Adoption Curve”

For Management-Selected Projects



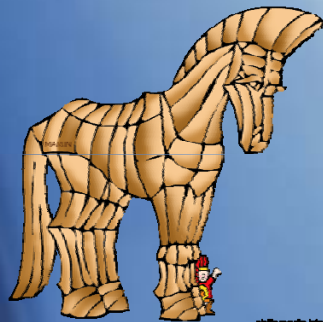
Agenda

- Team Taxonomy
- **Paths of Adoption - Introduction Strategies**
- Team Results Over Time
- Final Comments



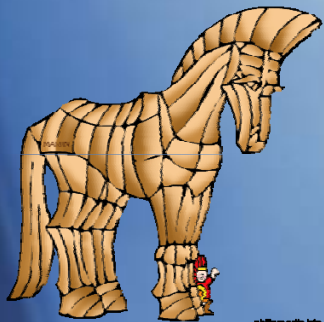
Introduction Strategy

- Plan
 - Introduce the team to projects with plans
- Track
 - Start to instill tracking discipline
- Quality
 - Build the process



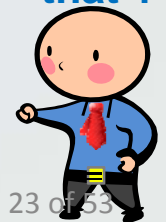
Plan

- A Project with a plan is unusual
 - Especially a team-developed plan
- Having a plan brings the greatest benefit
- Estimated size in terms of time
- Start with a list of simple (small) tasks
 - Simple workflows, if any



Huh...

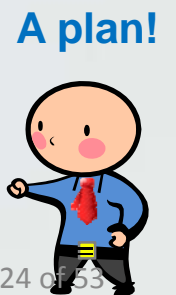
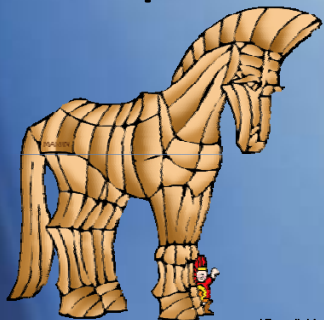
What's
that ?



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Plan - Result

- Defines the working environment
- Real-time load-balancing
- People like it!
 - “This is the first time on this project where I know what I’m supposed to do.”
 - “This is good. We should always have a plan.”



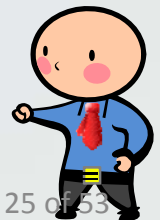
Track

- Now that you have a plan.
- How are you going to track progress?
 - Measure time against task
 - Close completed tasks
- Use the fine granularity “against” them



Log Time?!

Check tasks complete?!



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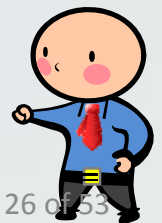
Track - Results

- Time on task
- Earned value
- Schedule progress
- Forecasts
- Accuracy of estimates



That's Interesting...

Data !



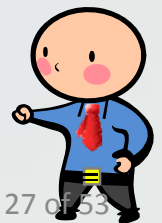
Track Time – Where's the Quality?

- Do they have quality data?
 - No.
- Do they have a quality product?
 - That depends
 - At least better than before they had a detailed plan
 - Interfaces are usually much better defined



That's Interesting...

Data !



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Build the Process

- Initial data is of poor quality, but contains useful information
- Useful data makes the engineers want more
- Subsequent cycles will demonstrate to them
 - **Some process is not bad**
 - **More process may be better**

Our data is lousy !

Why didn't you
make us do this
correctly from the
start?!



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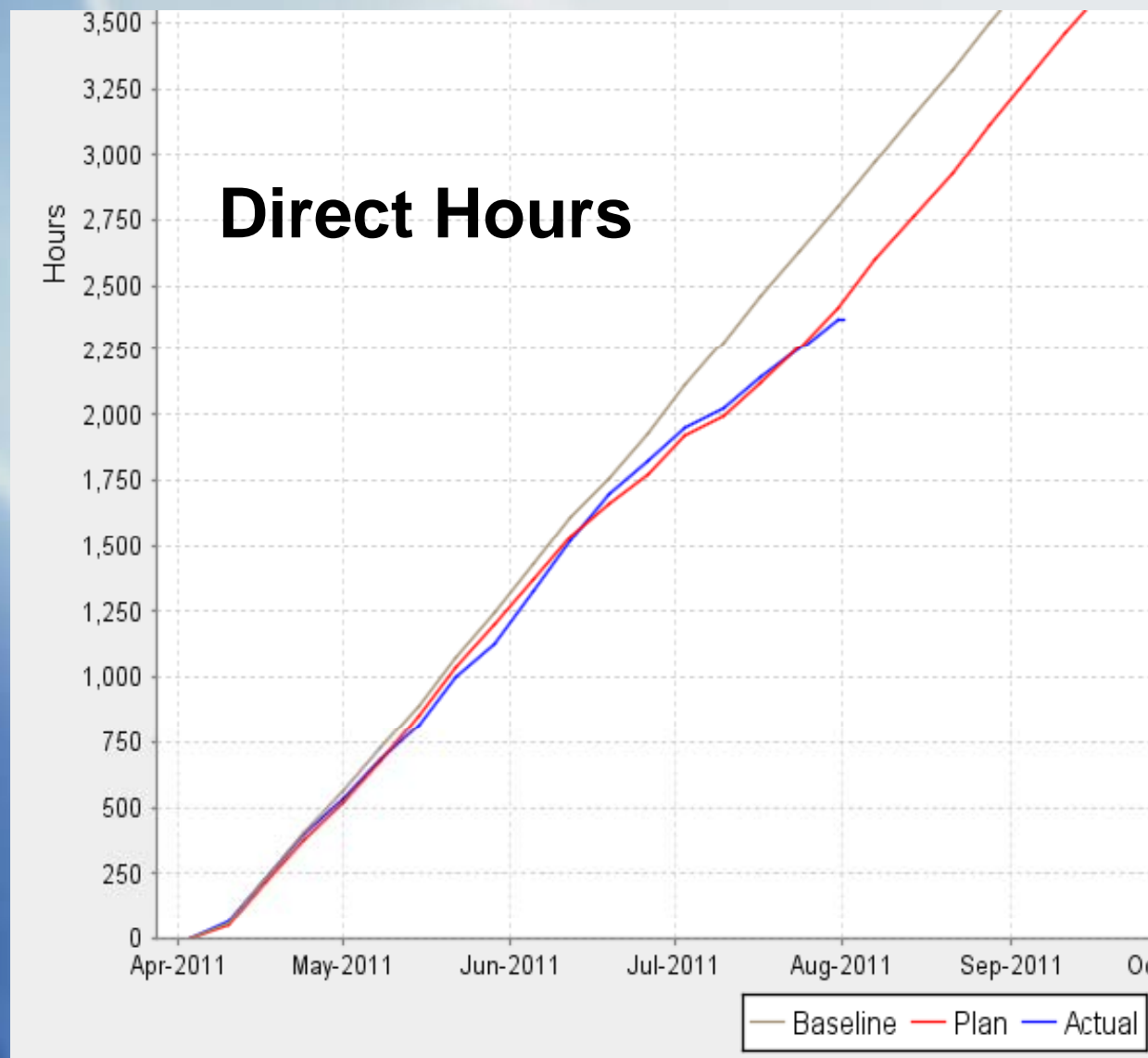


Team Results Over Time

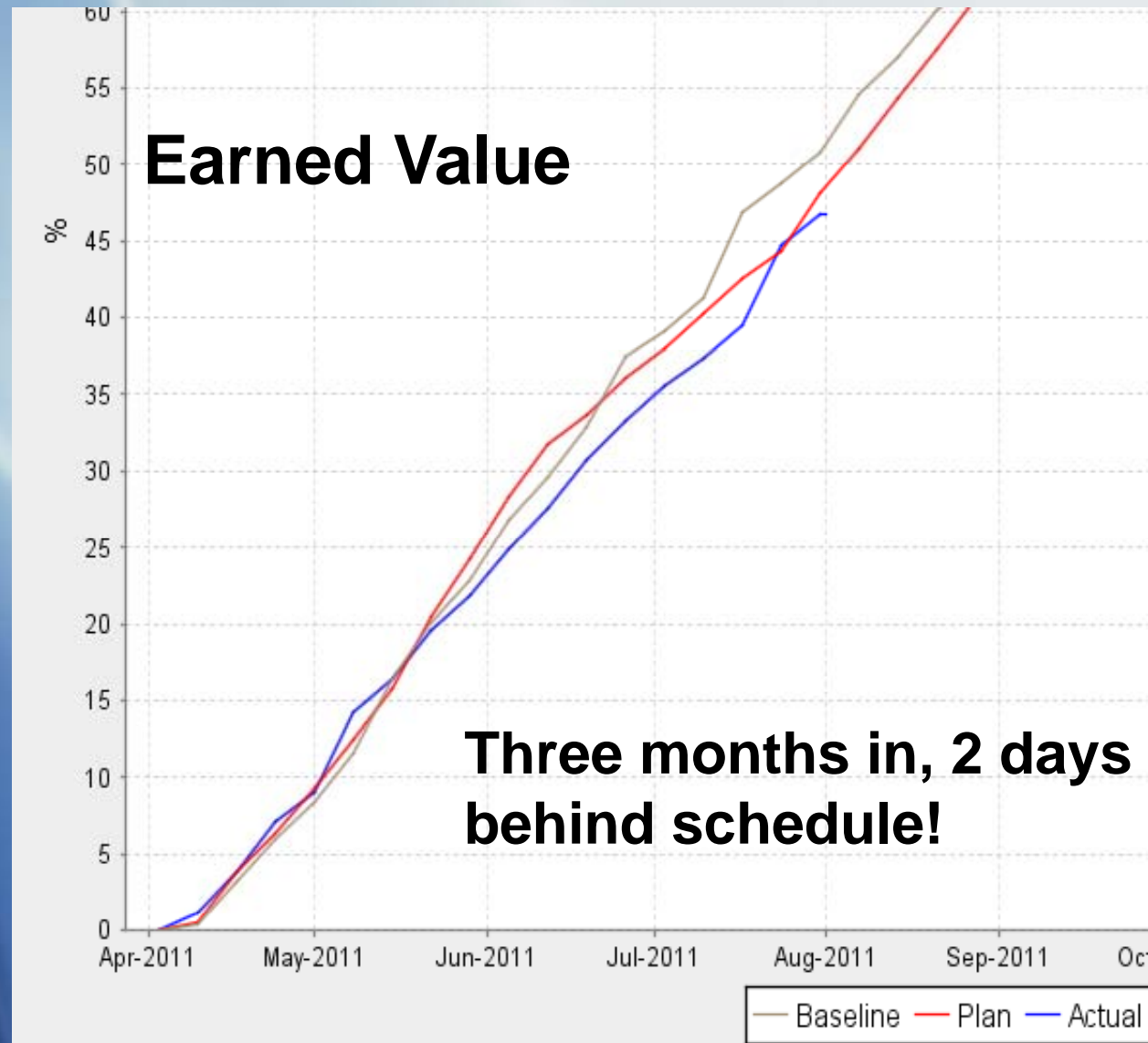
- Team A: Interdisciplinary
 - Software, Electronics, Mechanicals
- Team B: Software testers



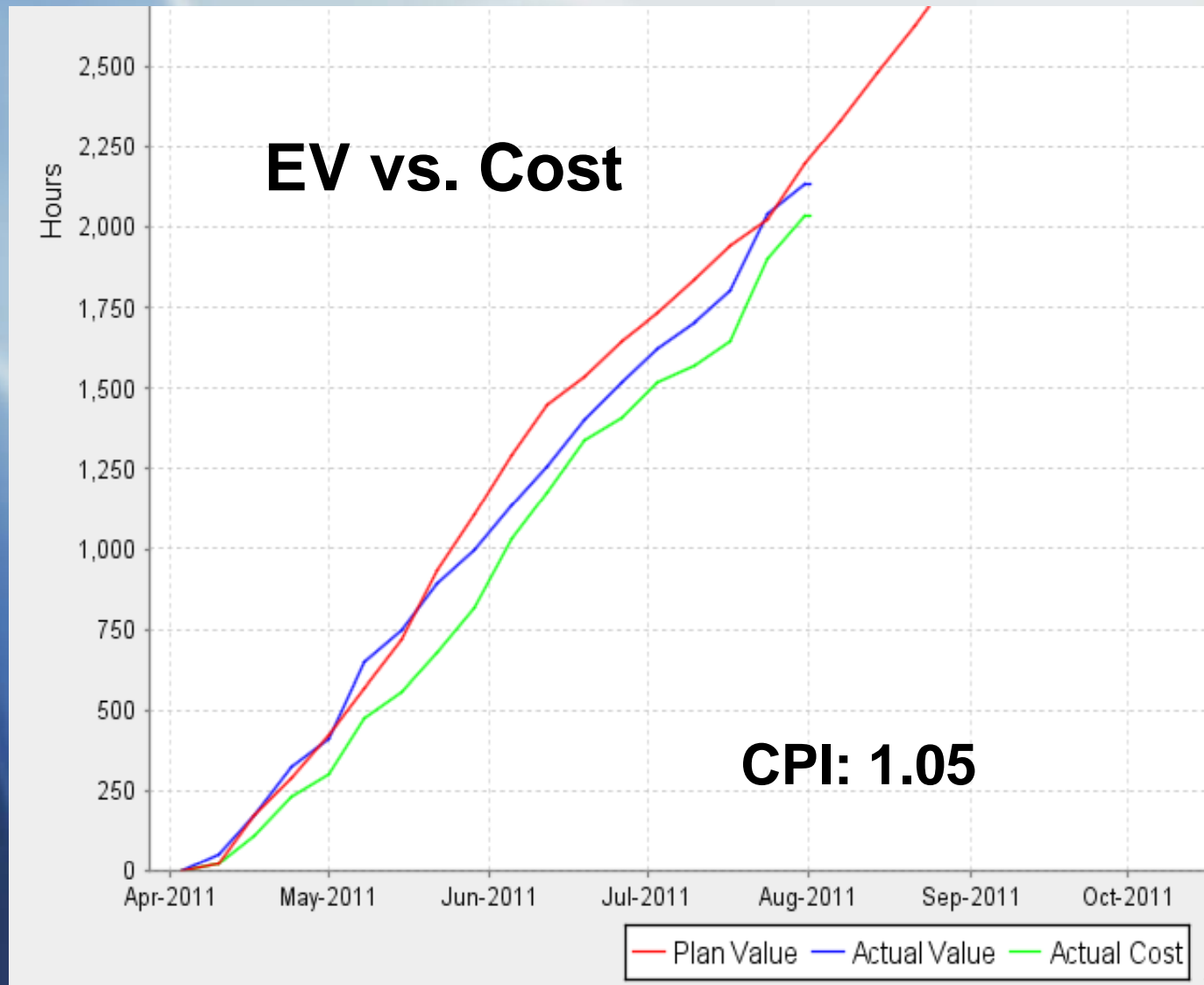
Team A - Plan and Track Only



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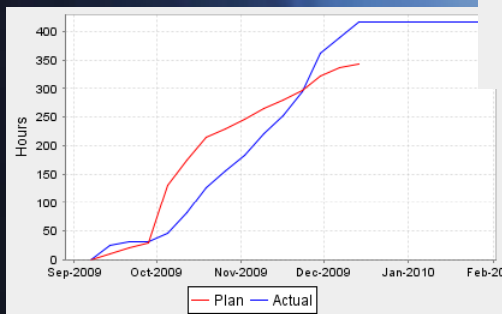


Team A - Plan and Track Only

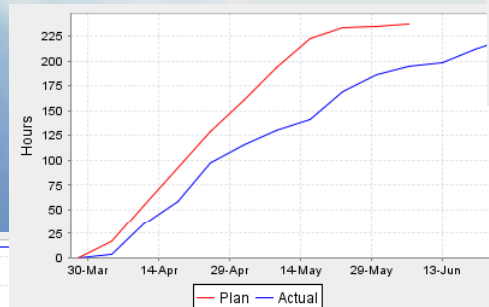


Software Test Team – Direct Time

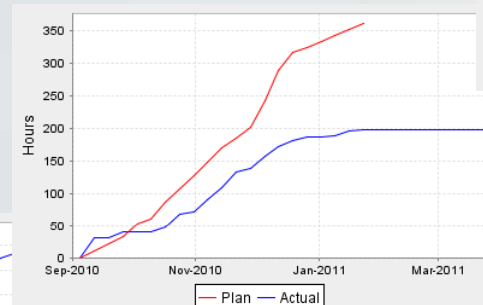
1st Cycle



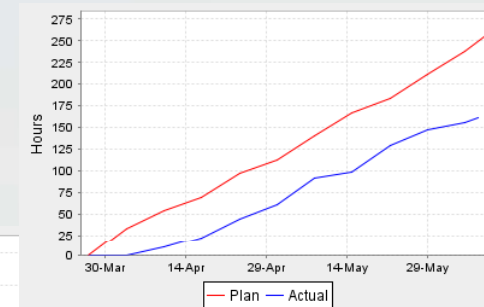
2nd Cycle



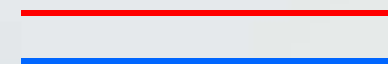
3rd Cycle



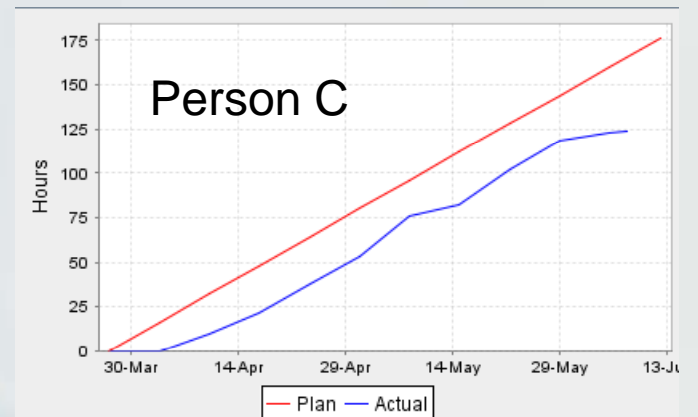
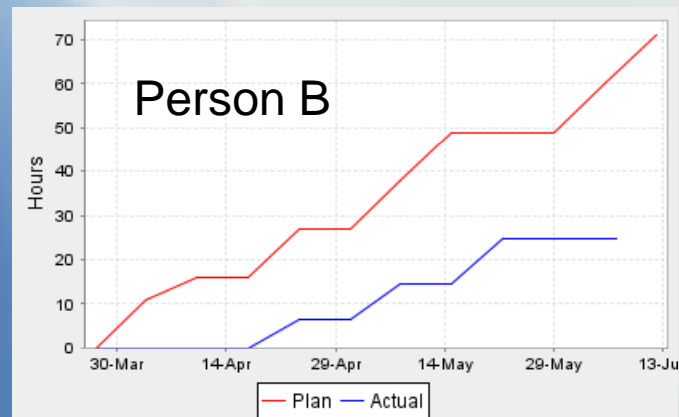
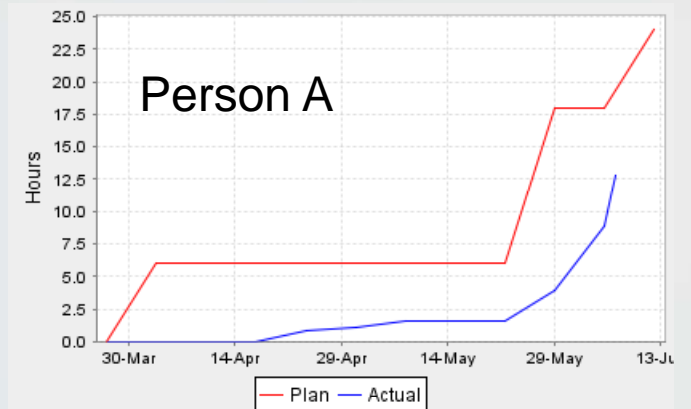
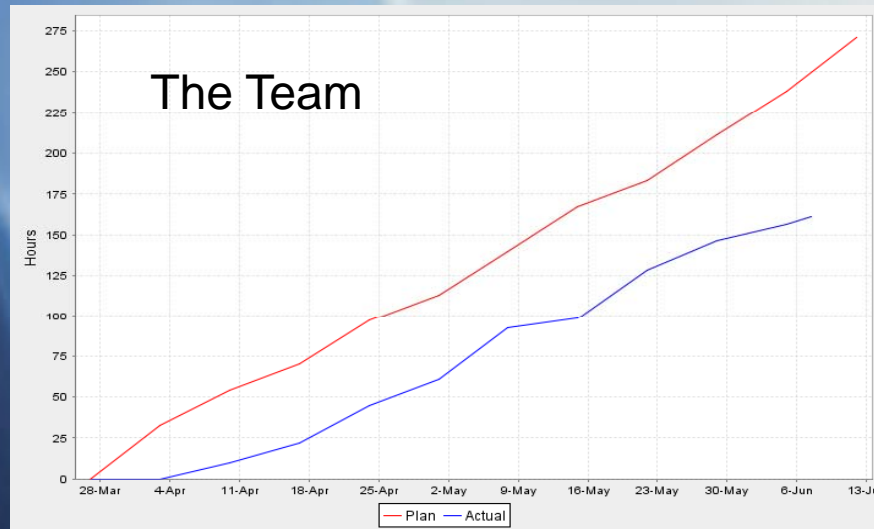
4th Cycle



Planned Direct Time
Actual Direct Time

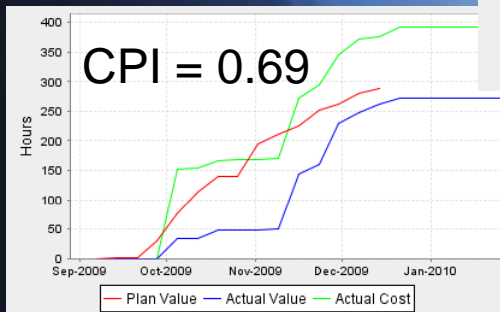


Direct Time 4th Cycle

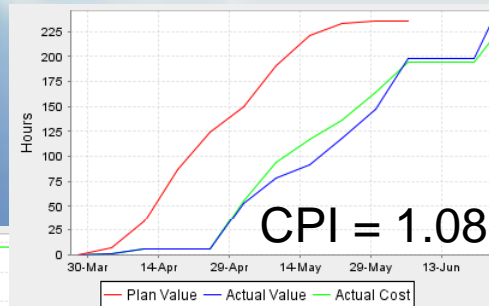


Software Test Team – Earned Value

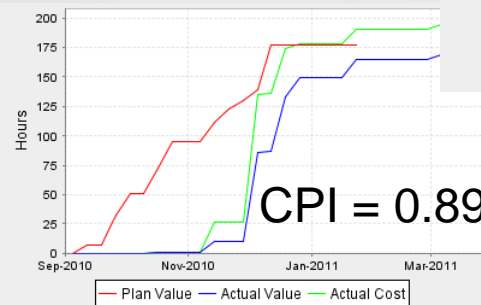
1st Cycle



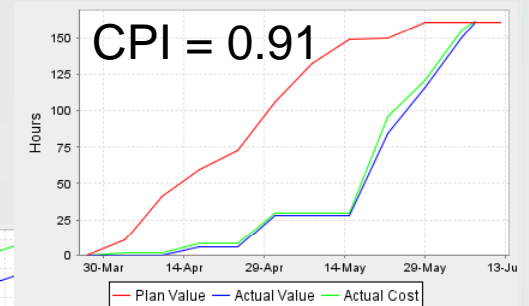
2nd Cycle



3rd Cycle



4th Cycle

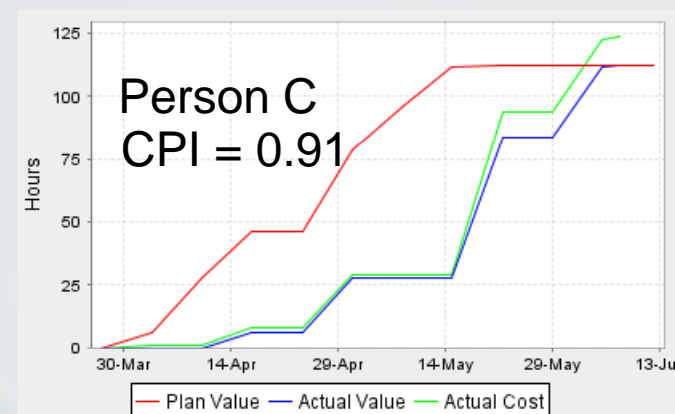
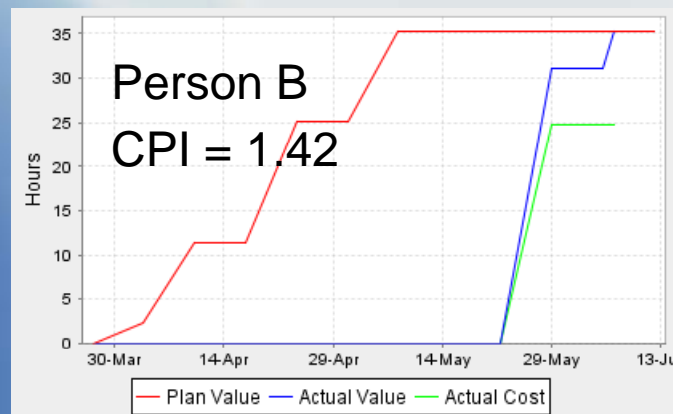
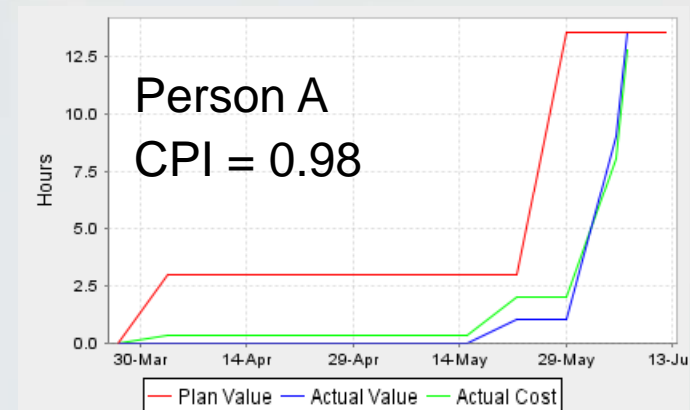
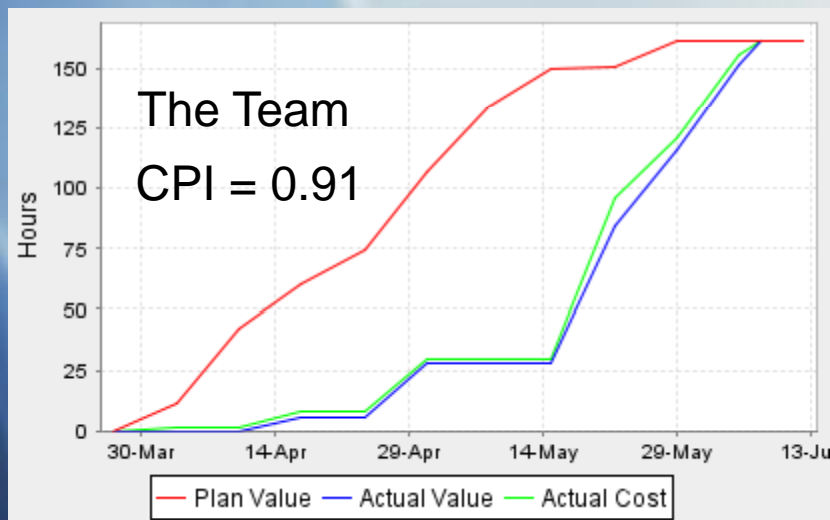


Planned Earned Value —————

Actual Earned Value —————

Actual Cost —————

Earned Value 4th Cycle



Typical First Launch Comments

- Launch was dreaded by everyone
- “What have we done to ourselves?!”
- Launch is one more thing taking time out of my availability for work
- Launch turned out to be relatively painless
- The Launch Coach was flexible
- The Launch was efficient. The Process kept the Team on-topic.
- The Launch was effective. There were a lot of good comments and ideas expressed
- Reviewed the whole list of tasks
- Good Team communications. Saw the Team process in action
- Risk discussion was helpful
- The launch process accommodated our plan well. Might work
- Not nearly as bad an experience as I thought it would be
- Coaches were open to questions and tried hard to answer them
- Ability to use what planning we had already done demonstrated that the coaches were not as inflexible as reported
- More detail on the number and type of Development Tasks
- Quantified (the level of effort required to handle) the support tasks
- Now have evidence of the high level of tasking
- Coach accepted that it was more important to start measuring the existing process rather than force the team to adopt practices that the Team will probably not do

First Launch - Difficulty

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Second Cycle Comments

- 1.5 day long launch
- Easier to comprehend what happens in a launch
- Identified odd meeting times and attendance and emphasized the importance of logging time as you go, instead of back filling.
- Helped us to identify the tasks that we do so automatically that we don't really think about them when we plan our work.
- Kept the Coach employed.
- Injected discipline into work. Helped to keep focus
- Force me to consult with others (the time spent in the inspection process helped)
- Plan let me know what to work on next
- Consulting/designing/planning together
- Team Building
- Weekly Team meetings made for better communication between Team members
- Interesting to see the kind of statistics being collected
- The time estimates were better this time
- The Team is more realistic about work load
- More comfortable with the process

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Fourth Cycle Comments

- Smoother launch
- Less Bruising
- Work patterns are emerging
- Only one day! History from previous semesters helped keep it short.
- ADHD (too much fun to focus)
- Like having historical data. Made the PM less painful than in the past.
- The preparation time for the management monthly report has dropped from four hours a month to 15 minutes. (Team Leader)
- <The Planning Manager> is also spending less time on this task as the required data is readily available from the Dashboard tool.
- Need more rigorous planning requirements.
- Opportunity to communicate with Team members.
- Stopped launch tasks to work out issues and sync Team understanding

Fourth Cycle - Difficulty

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Fourth Cycle – Tangible Benefits

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So What?

- Bad PR
- Lose other Process Improvement opportunities
- Lose knowledgeable (but resistant) individuals
 - Retirement
 - Quit



Final Comments

- The goal is Process Improvement
- Best practices
- Not all teams have to take the steep path
- After two years, we have evidence that a phased approach will deliver
 - Even for teams that are not willing



Questions?

