

**Sprint Performance Metrics –  
Beyond Burndown Charts**

**Philly SPIN**

**Nov 10, 2010**

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## Agenda

- Introduction
- Business Value
- Agile System Tool Network Map
- Basic Assumptions for Useful Sprint Metrics
- Sprint Performance Metrics
- Metrics 'Real-life' example
- Closing

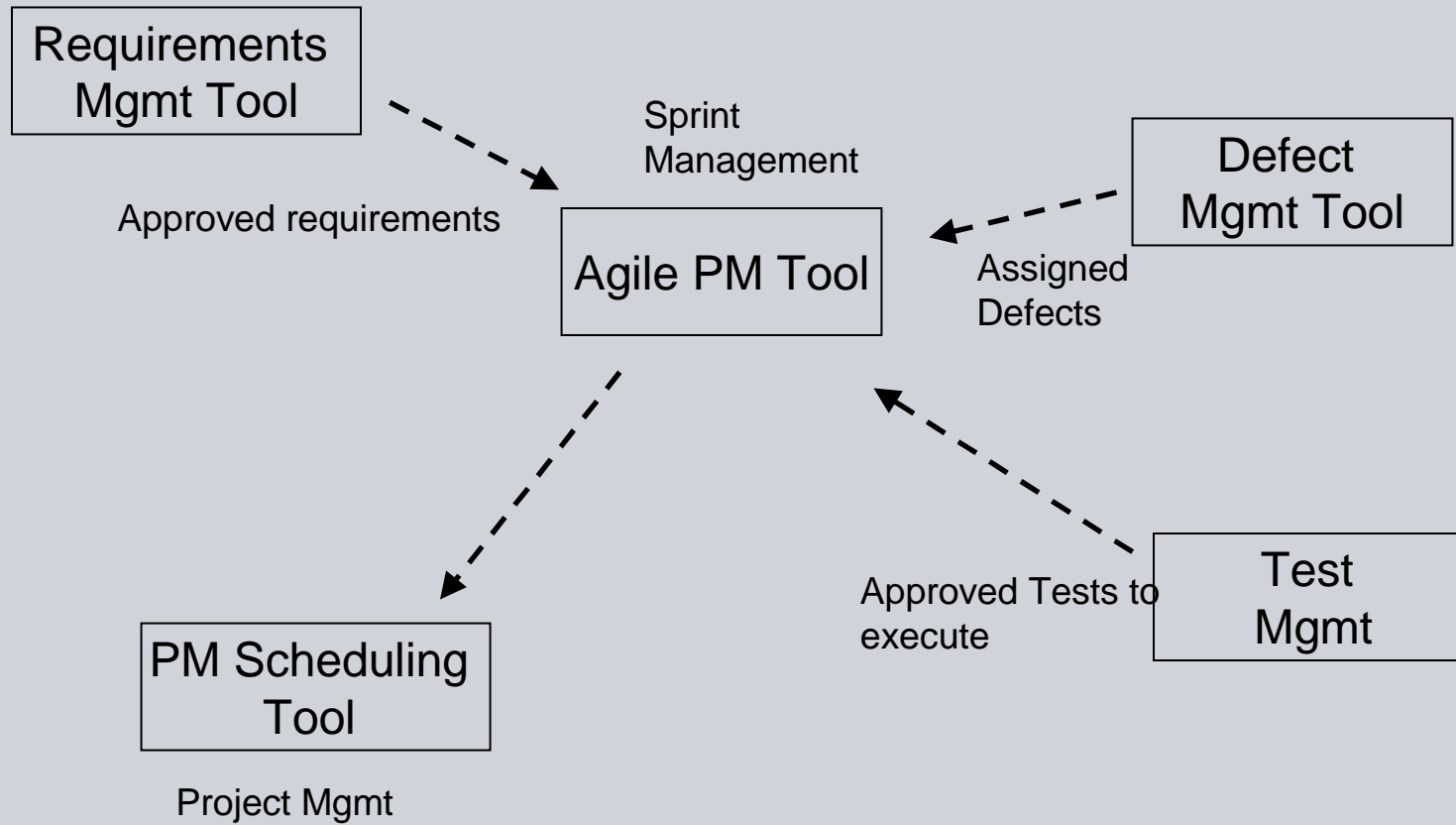
## Introduction

- Current Problem
  - There is not a good way to see how well sprint team's deliver on what they estimate
  - There is not an easy way to estimate project completion in the Agile toolset.
- Goal
  - Help organization's agile implementation by objectively measuring sprint results.
  - Metrics collection is independent of user's process. In other words, people are not asked to change the way they use products so that metrics can be collected easily.
- Customer Base
  - Internal R&D software development
  - Enterprise software development
  - Using Scrum methodology

## Business Value

- Business Value
  - Help project teams get better at Agile implementation
  - Increase use of supporting toolsets (Agile management, reports, etc).
  - Decrease tool administration.
  
- Measure the following
  - Data Quality: Show teams how well they are using agile management tools.
  - Usability: Show teams how to improve their use of agile techniques.
  - Predictability: Show teams the how well they execute on their estimates.

# Agile System Tool Network Map



## Basic Assumptions for Useful Sprint Metrics

- Sprint Completion: Sprint is closed on schedule.
  - Open sprint should match reality.
- Active Sprint: teams are actively using the correct sprint.
  - Only one sprint should be open at one time.
- Project: teams are assigning all sprint stories to release/deliverable level projects.
  - Stories are not executed on the release backlog, product backlog, or somewhere else.
- Asset Completion: Stories and tasks are closed in the sprint and follow doneness criteria.
  - Don't leave open stories behind. Bring incomplete work forward to the next sprint ("splitting stories").
  - Be careful about valuing completion estimate for partially completed story. Unless doneness is observable, credit should not be given.

## **Sprint Performance Metrics**

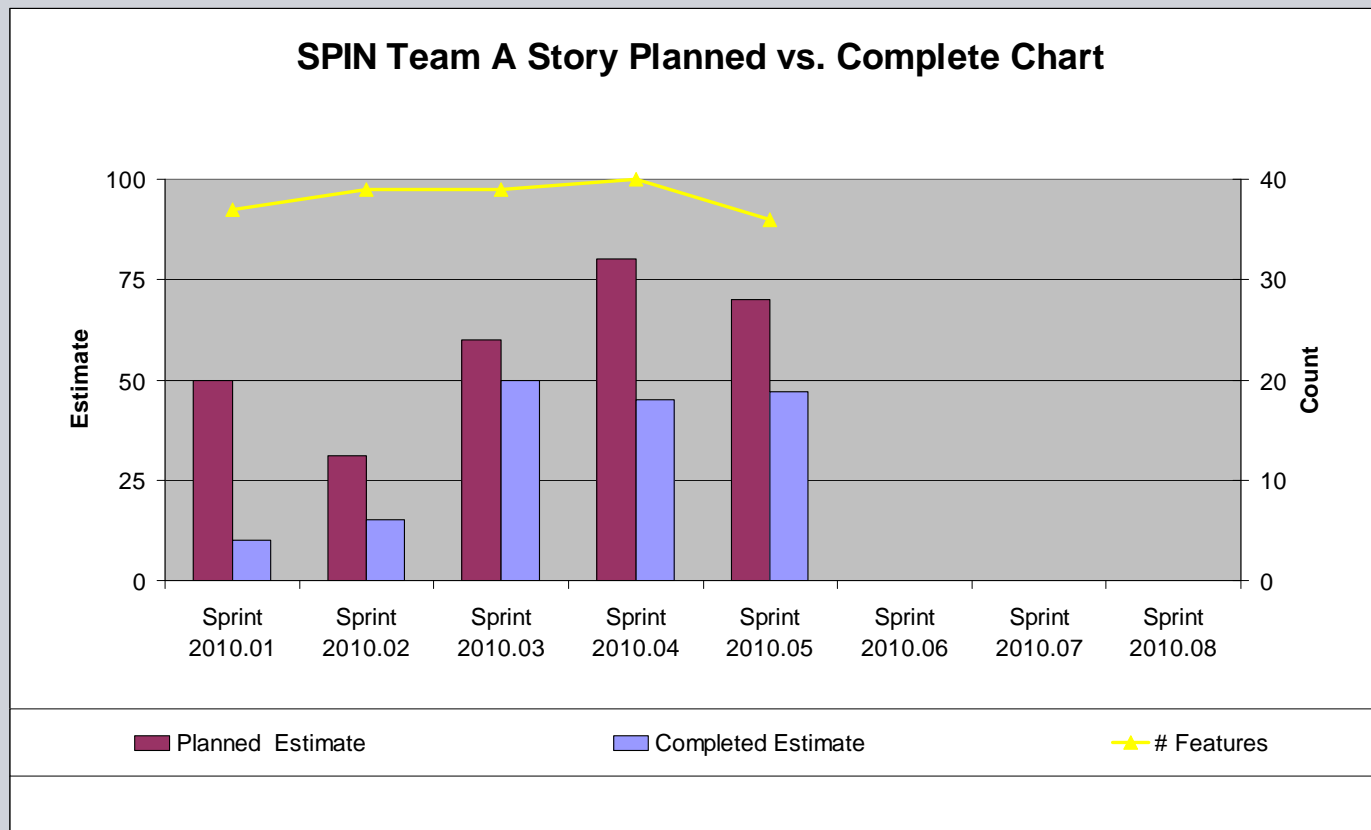
- Create a dashboard at the sprint level.
- Show trends across sprints for stories and tasks.
- Show progress at a release level and provide an easy projection.
- Metrics updated at the end of each sprint and distributed to the Product Manager, Project Manager, Scrum Masters.

## Sprint Performance Metrics – Graph Definitions

Sprint Story Performance Graph: How well does a team deliver on their story estimate?

- Story beginning estimate (at sprint planning),
- Story complete estimate (when sprint is closed).
- Number of features in the sprint.

## Story Dashboard

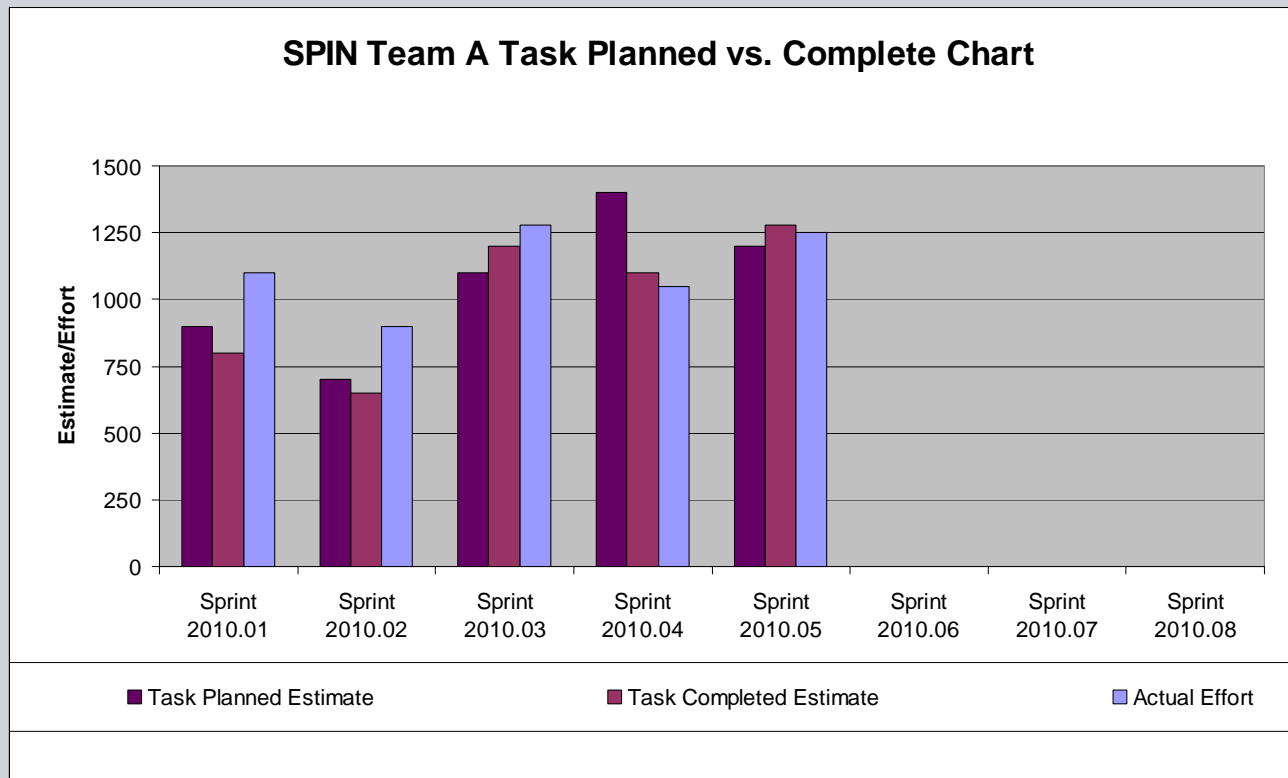


- Compares how the team estimated stories in the beginning versus the end.
- Shows how accurate the team is estimating their backlog items.
- Shows data consistency across sprints.
- Can be used during sprint planning to confirm the estimate level (velocity trend)..

## Sprint Performance Metrics – Graph Definitions

- Sprint Task Performance Graph: How well does a team deliver on their work effort estimate?
  - Task beginning estimate (at sprint planning)
  - Task complete estimate (when sprint is closed).
  - Task actuals (when sprint is closed).

## Task Dashboard

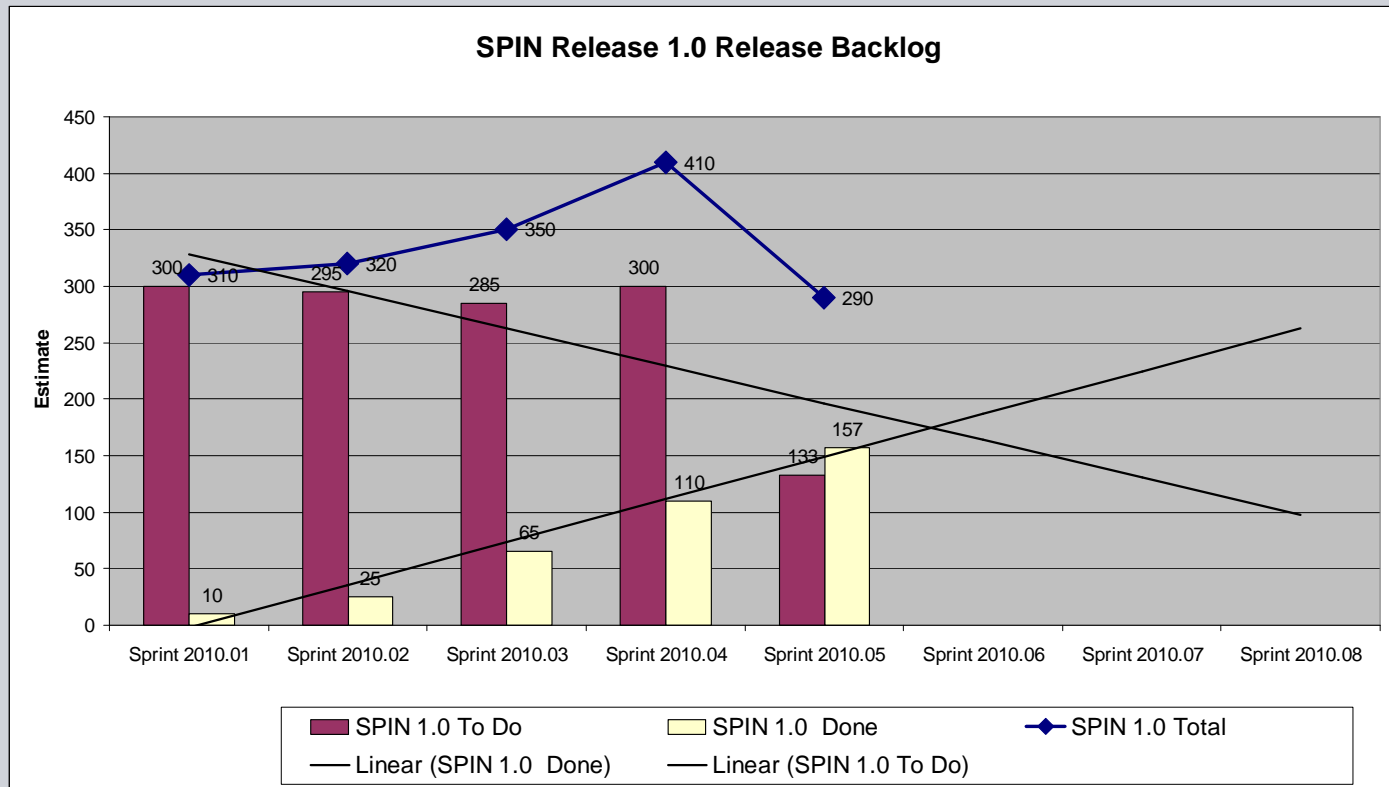


- Compares how the team estimated tasks in the beginning versus the end.
- Shows work effort estimate predictability
- Compare completed task estimate with Actual effort
- Shows work effort consistency across sprints.

## Sprint Performance Metrics – Graph Definitions

- Release Performance Graph (when sprint is closed): Is the release on track to complete as scheduled?
  - To Do story estimate
  - Completed story estimate
  - Trendline estimate for project completion.

## Release Dashboard



- At a release level, shows the Total, To Do and remaining estimate for each sprint.
- Plots an estimate trend for a target completion sprint.
- Shows long range trend for project completion

## Usage Comments

- Assist with accelerating agile maturity
- We are able to observe our performance objectively with the metrics
- What's more interesting, and where we really benefit, is when a metric is not being calculated correctly
  - This makes us look more closely at our team's use of the toolset
  - We are more likely to utilize new features when we can see how they will affect our metrics (i.e., Backlog Management, Release Planning, Sprint Planning)
- Most importantly, the monthly metrics are a catalyst for curiosity, questions, desire to learn more about both the toolset as well as Agile Methodology
- Helped the team when they have *empirical data* to support process changes.

# **Agile Metrics Product Example**

**Paul Lewis**  
**Siemens Health Services**

## **Sprint Report Outs – Show Progress**

### **Product Organization**

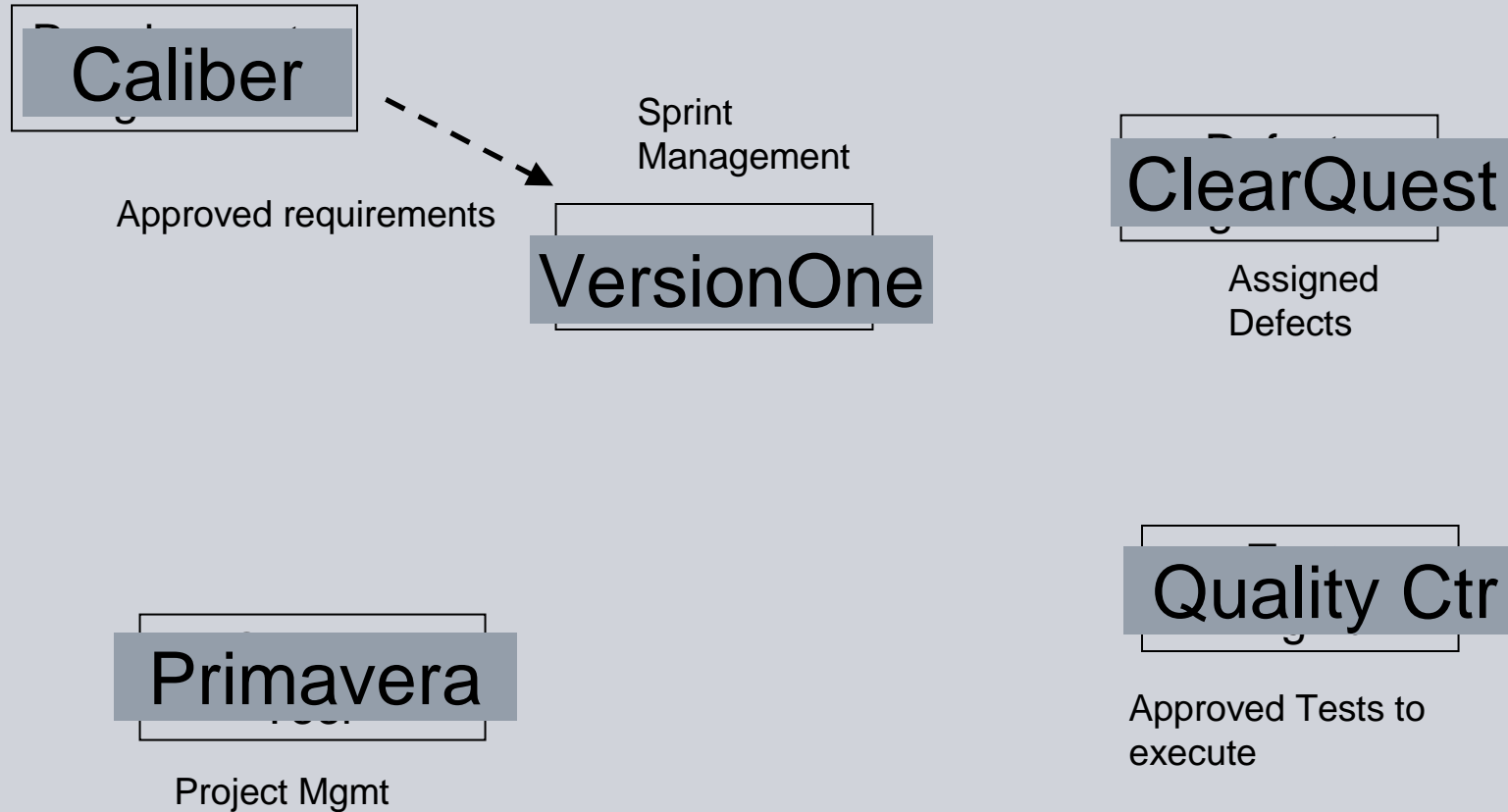
- **Scrum Agile methodology used**
- **10-15 teams with over 300 people on the development staff**
- **Two to three releases in development at the same time**

### **Goal**

- **Show Progress of the release using Sprint data**
- **Differentiate between**
  - **Development Done**
  - **Accepted by testing**
- **Capture Story Estimate Points**
  - **For each team**
  - **Planed at the beginning of each Sprint**
  - **Done at the ending of each Sprint**
  - **User Testable – are features ready for system testing**

- **Types**
  - **Planned Sprints** – **Beginning and Ending values**
  - **Total Points by Sprint** – **Open & Closed (show Velocity)**
  - **Team Summary** – **Open & Closed by release**
  - **User Testable** – **Ready for testing**
- **Available at the Team and Release level**

# Agile System Tool Network Map

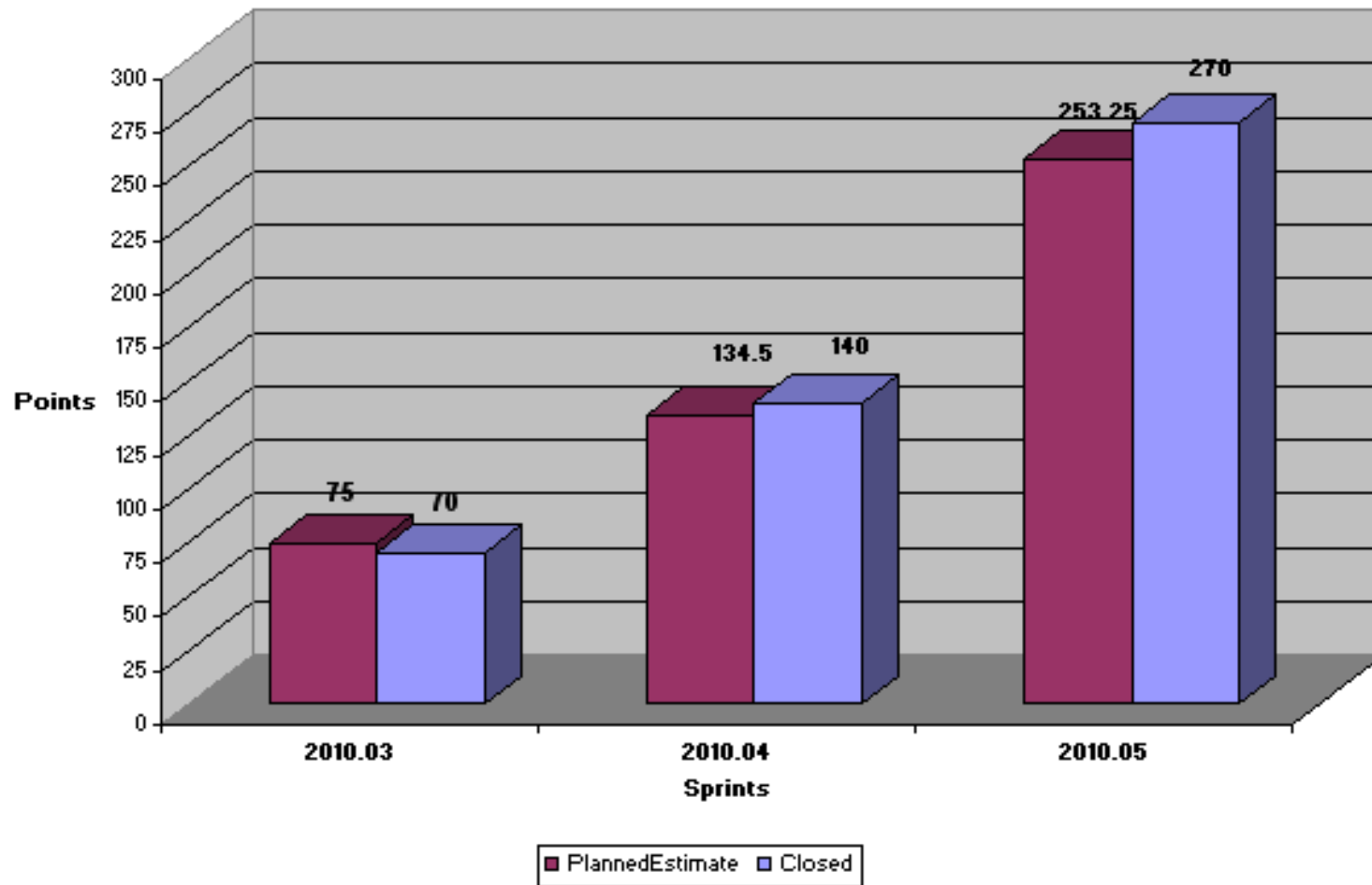


## Graph Production Mechanics

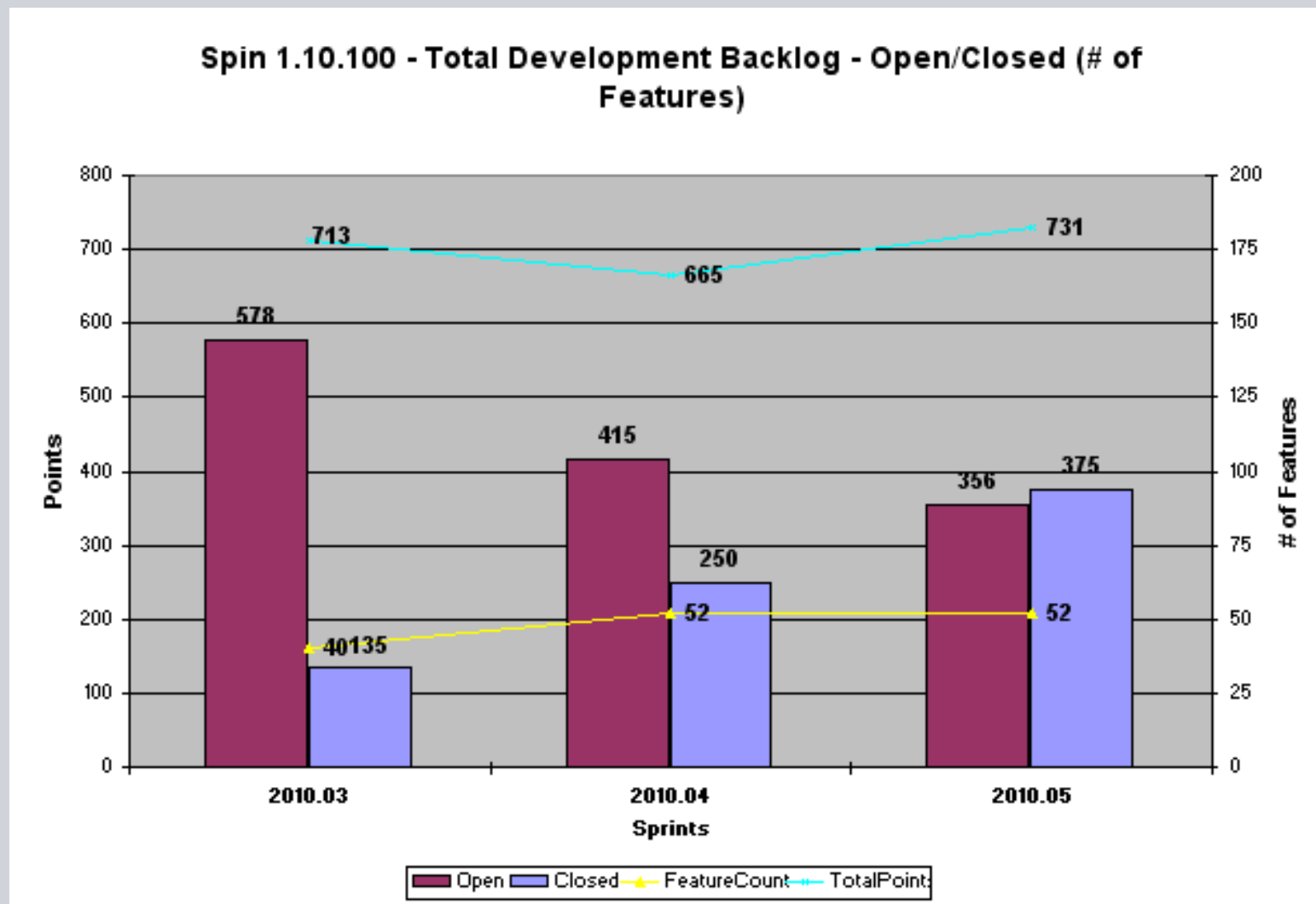
- Sprint, Story, Epic data extraction from VersionOne into an MS Access DB.
- Verify VersionOne data integrity
  - All stories under an Epic (i.e. feature level requirement in Caliber) should have:
    - The same product release (i.e. VersionOne project identifier)
    - The same Caliber requirement identifier
- Format into tables and export to MS Excel
- Create PowerPoint Charts
  - Charts created for each team and each release

# Planning Sprints

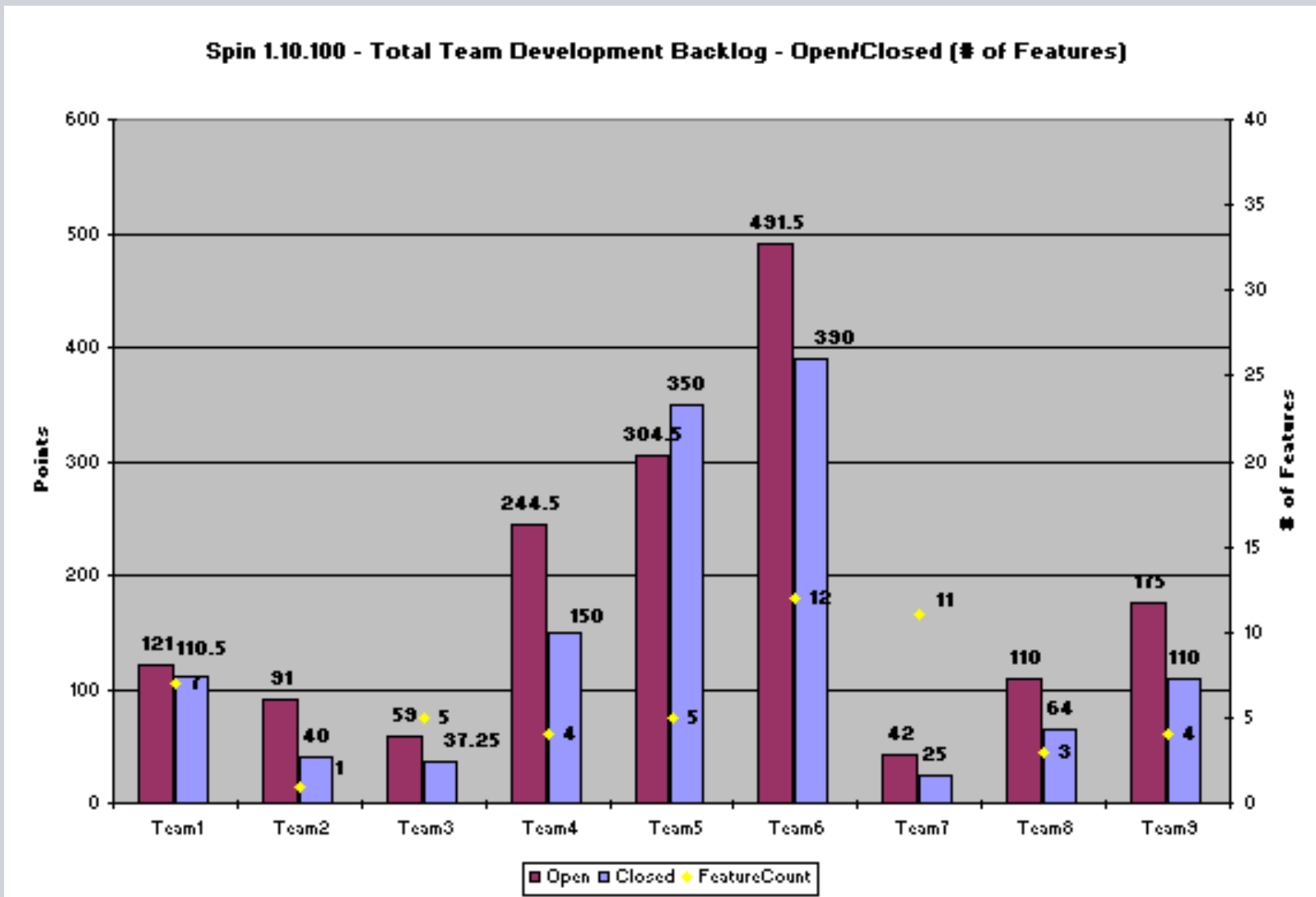
Spin - 1.10.100 Development Backlog - Planned & Closed by Sprint



## Total Release – by Sprint

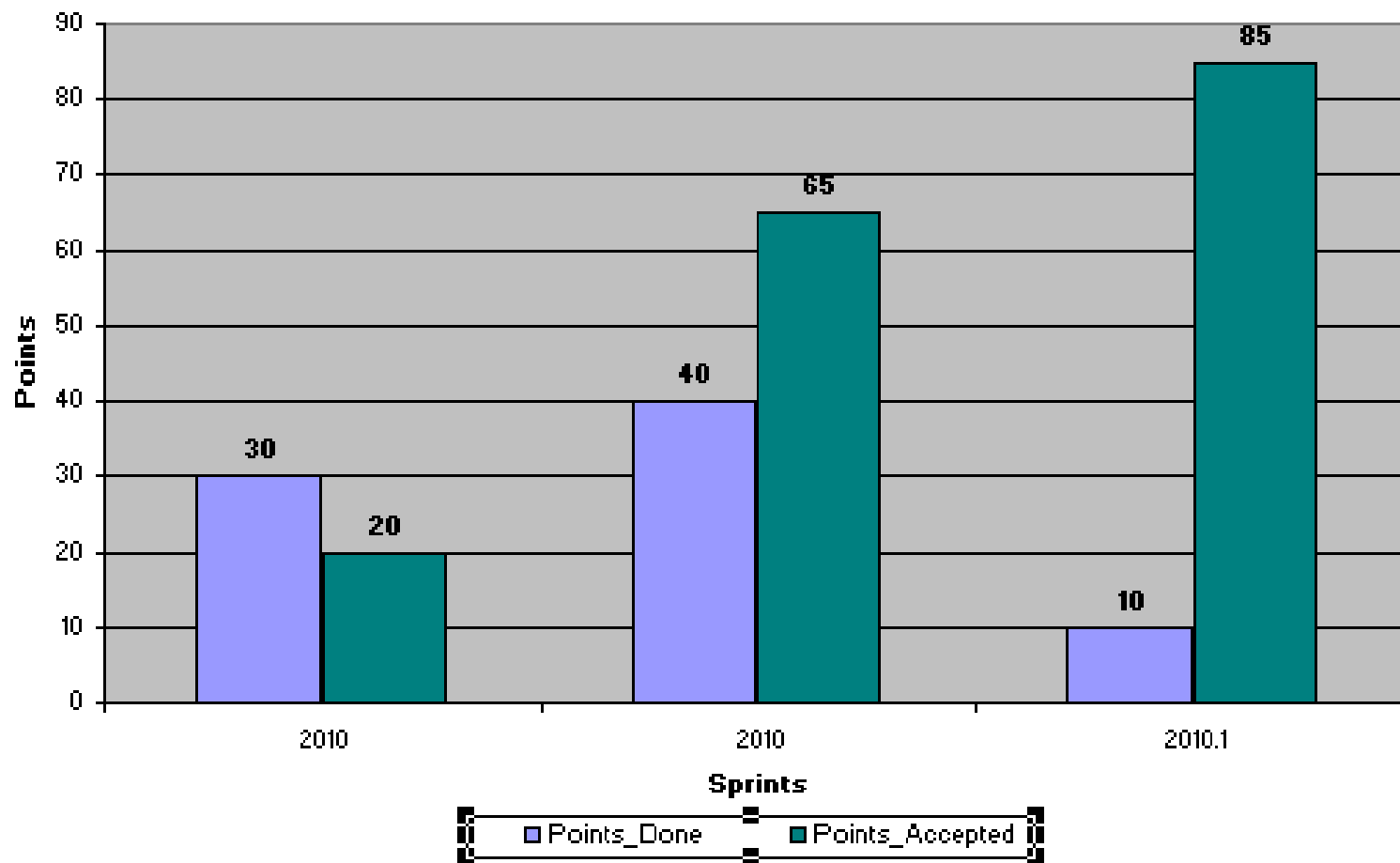


## Total Release – by Team



**User Testable Stories**

**Spin 1.10.100 User Testable - Accepted vs. Closed Points**



## Closing

Goal - “Careful Selection, Vital Few, Low Collection Burden, Only used for stated purpose”\*

- Collecting and reporting on metrics used to help teams get better at their performance to implement Agile practices.
- Collect data that is already being used for operational work i.e., try not to ask for special data entry so that it makes metrics easier to collect.
- Use these metrics in conjunction with other information to assess how a team is doing.
- Metrics gives you a place to Start asking questions.

\*Richard Lasher CC Pace Systems Inc.

**Presentation End**

**Thank You!**