

Morten Mossige, October, 2015

Application lifecycle management with Microsoft's Team Foundation Server at ABB

Agenda

- Microsoft's ALM Platform, Team Foundation Server
- Focus Areas
 - Implement process with minimal overhead
 - Plan & manage projects
 - Align roles across the lifecycle
 - Report across project boundaries
- Summary

What is TFS?

Task
Management

**Version
Control**

Test Case
Management

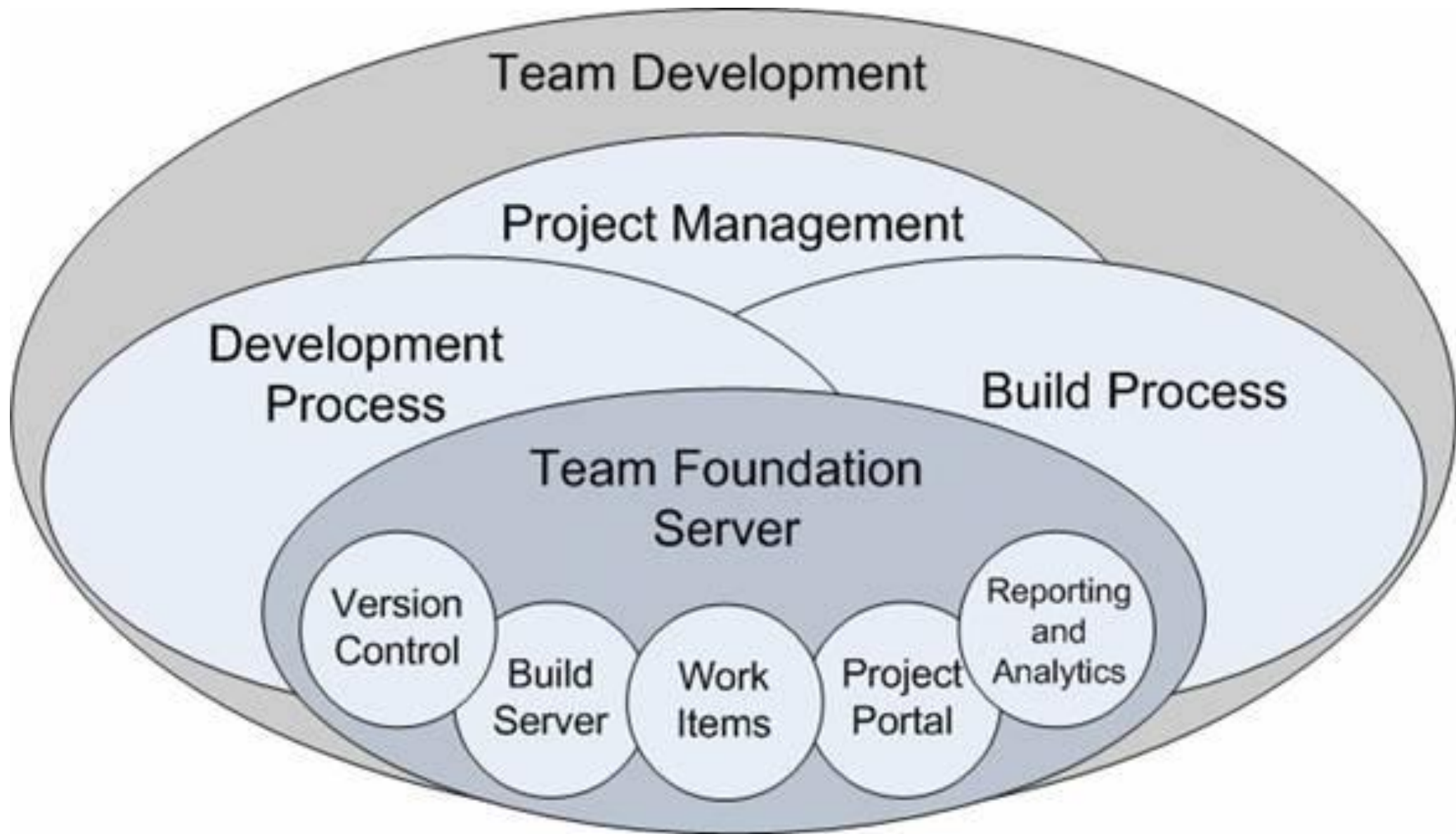
Requirements
Management

Bug Tracking

Build
Automation

Automated
Testing

Development
Tool



TFS focus Area

Process with minimal overhead

Plan & manage projects

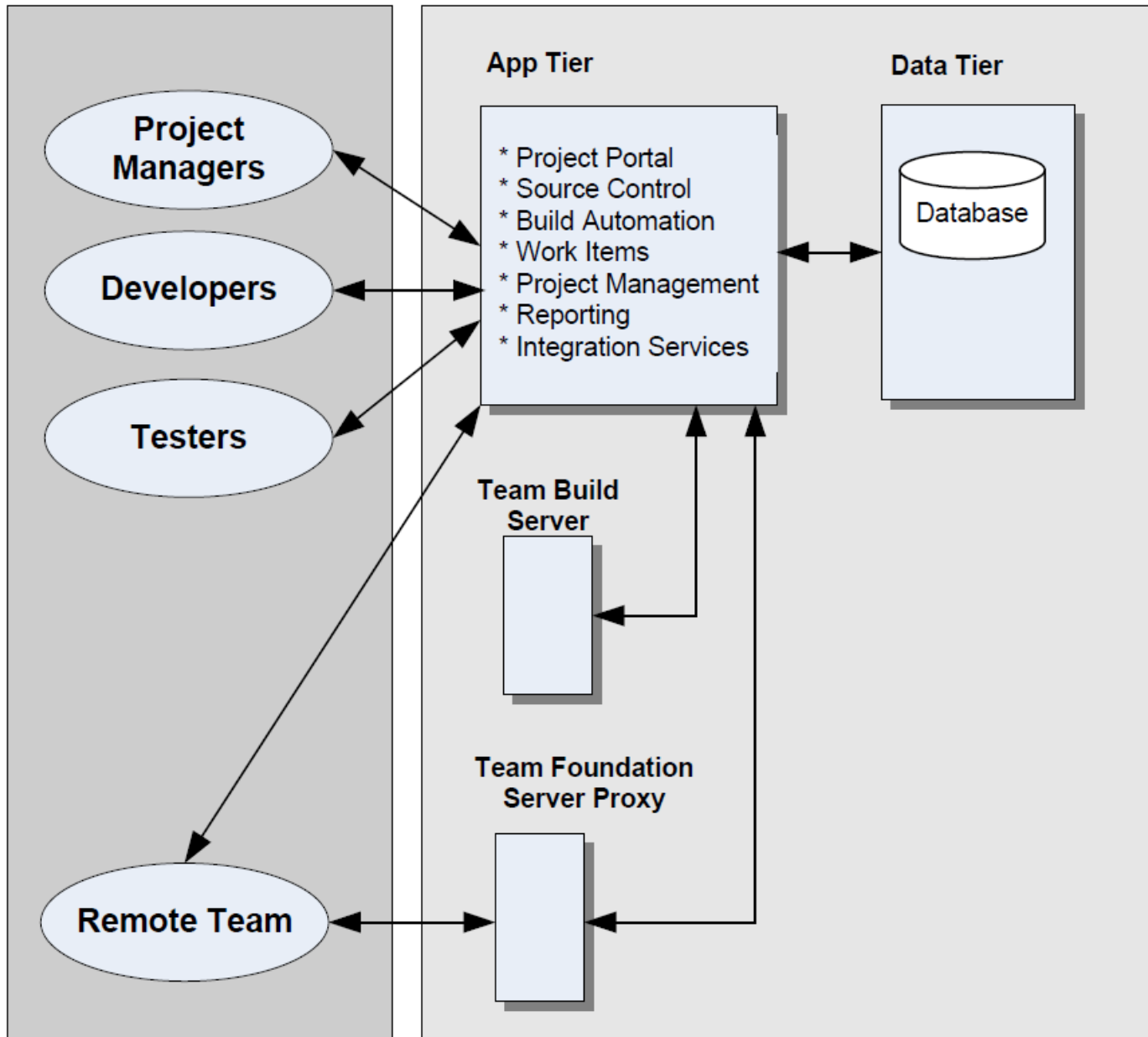
Align roles across the lifecycle

Report across project boundaries



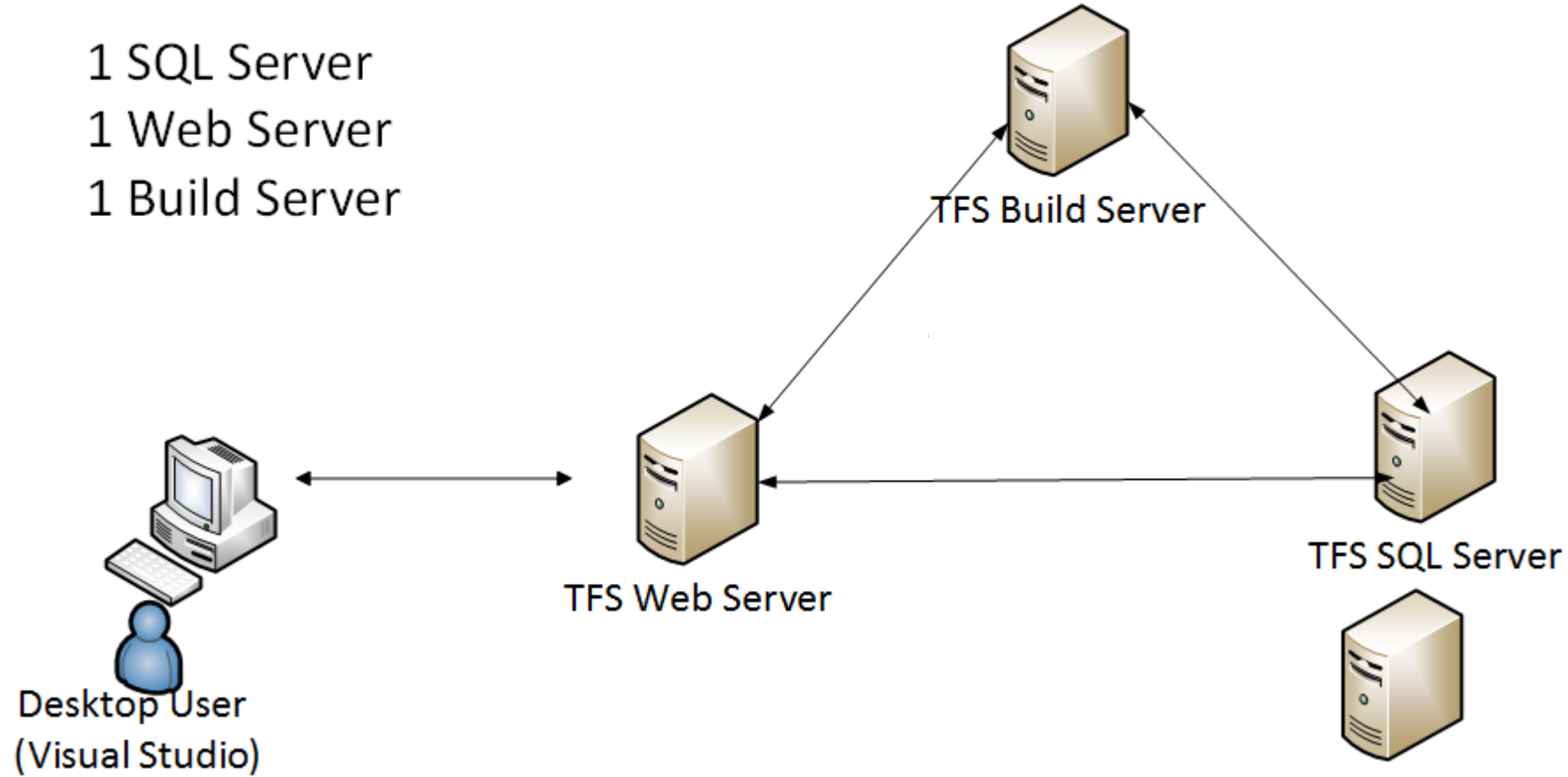
Teams

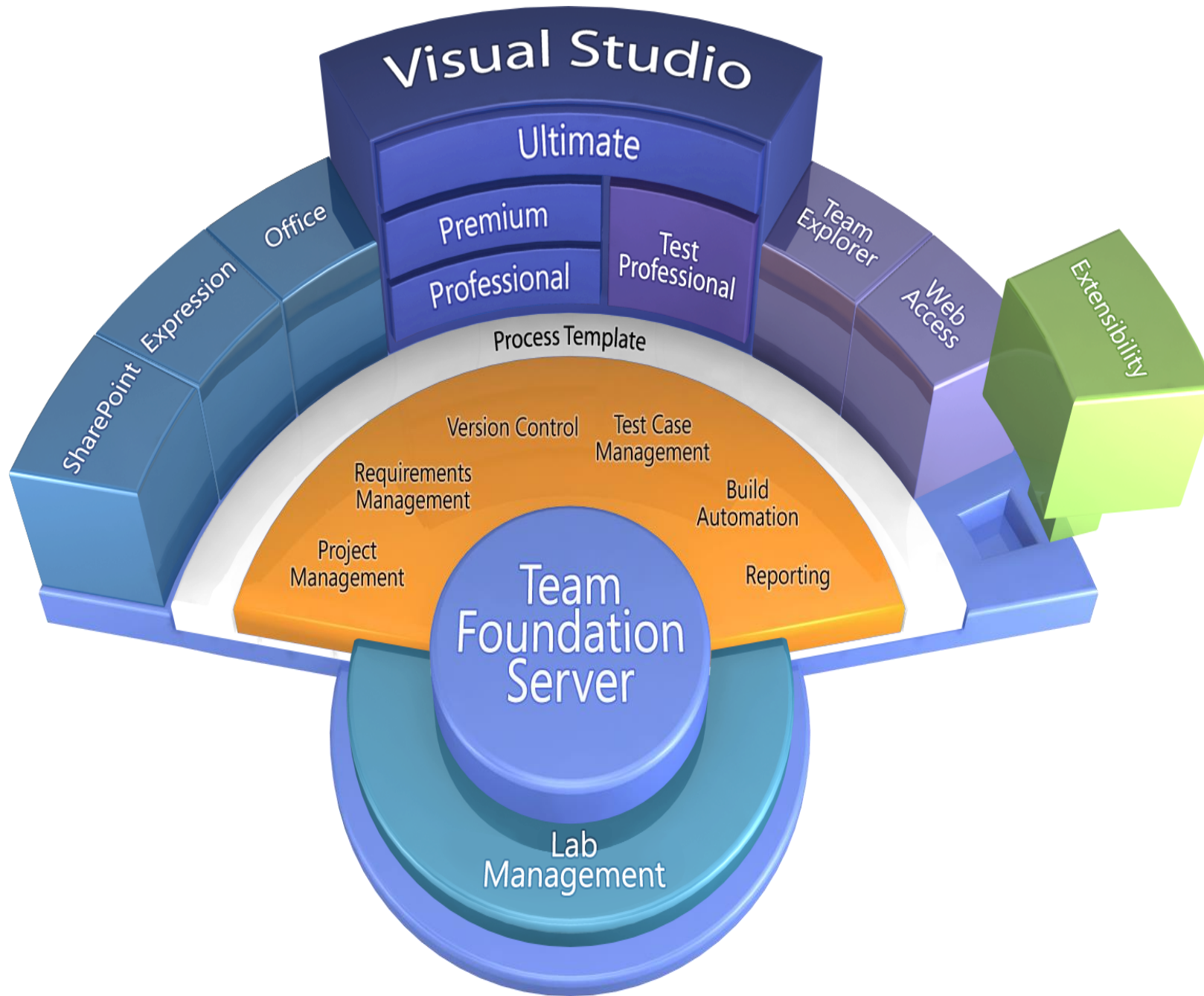
Team Foundation Server



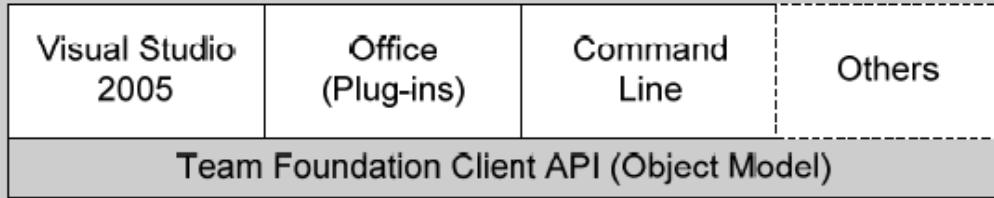
Typical Team Foundation Server Architecture

1 SQL Server
1 Web Server
1 Build Server

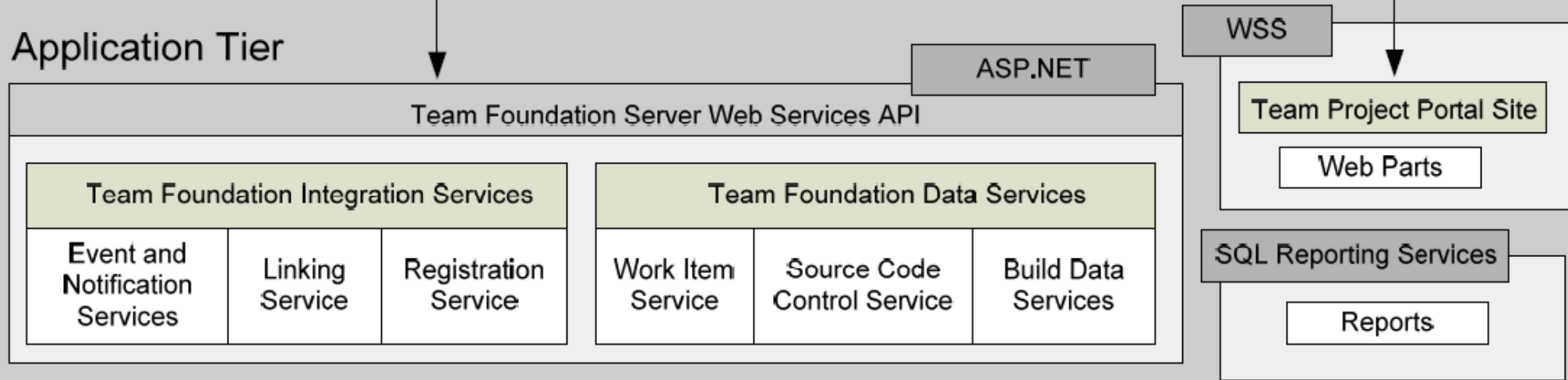




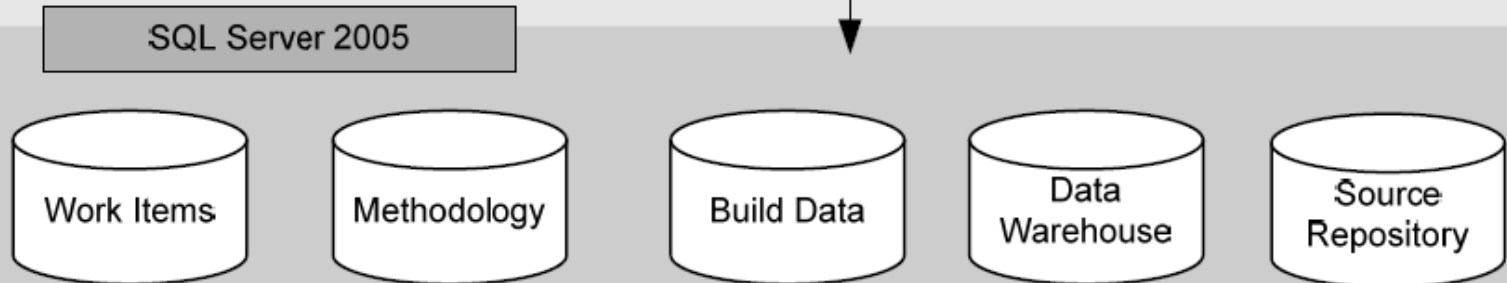
Client Tier



Application Tier



Data Tier



Process Templates

MSF for Agile Software Development

- Product planning based on user stories and story points
- Team progresses most work by moving from active to resolved to closed
- Team is not usually required to support rigorous audits

- Product planning based on requirements and CR's
- Most work moves from proposed to active to resolved to closed
- Team is required to maintain rigorous audit trails
- Team is working toward CMMI appraisal

MSF for CMMI

Visual Studio Scrum

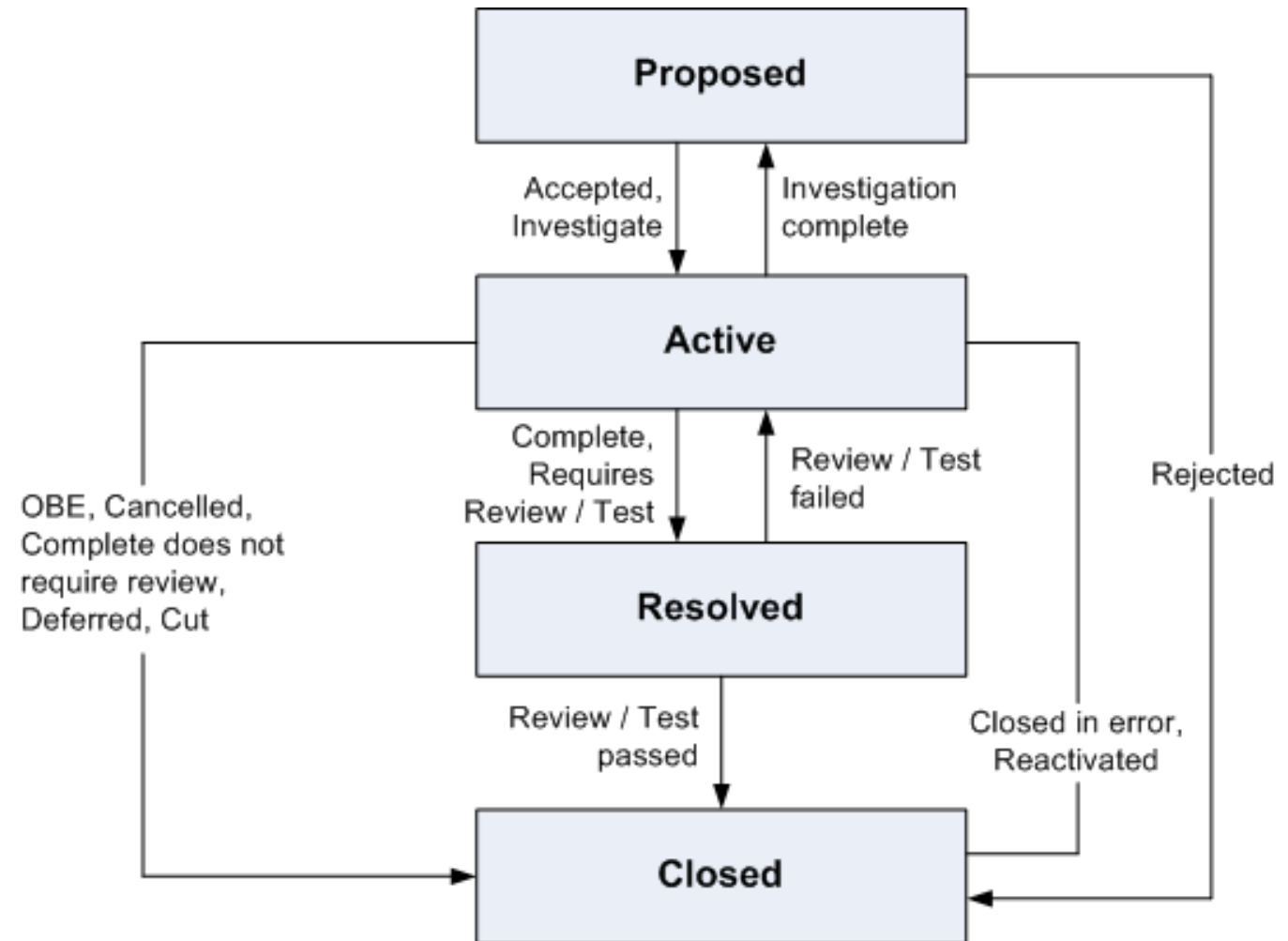
- Development lifecycle follows Scrum framework (based on Agile principles)

▪ *MSF = Microsoft Solutions Framework*

▪ *CMMI = Capability Maturity Model Integration*

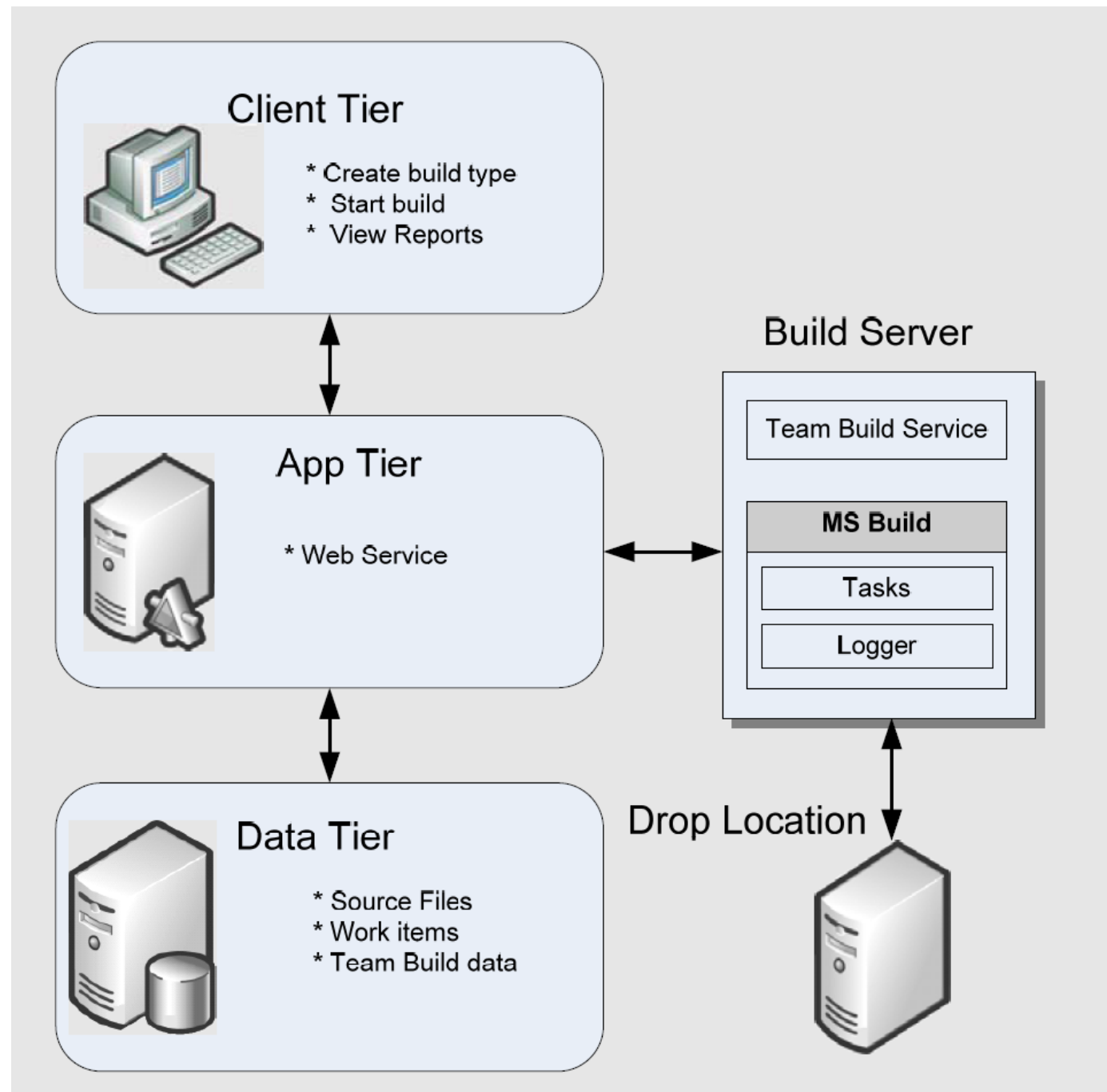
Workitems

- Bug
- Task
- Requirement
- Change request
- Feature
- Issue
- Review
- Risk
- RSI
- Test case



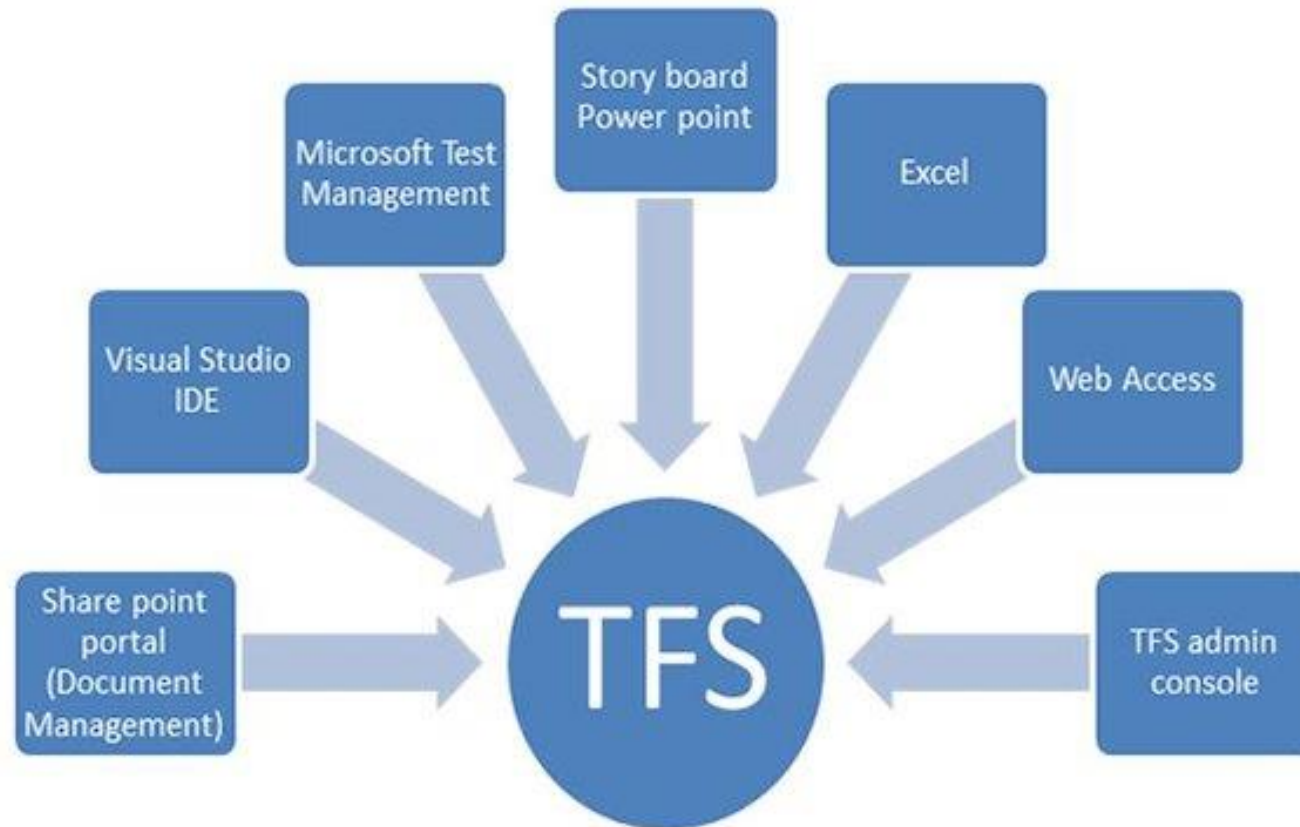
Builds

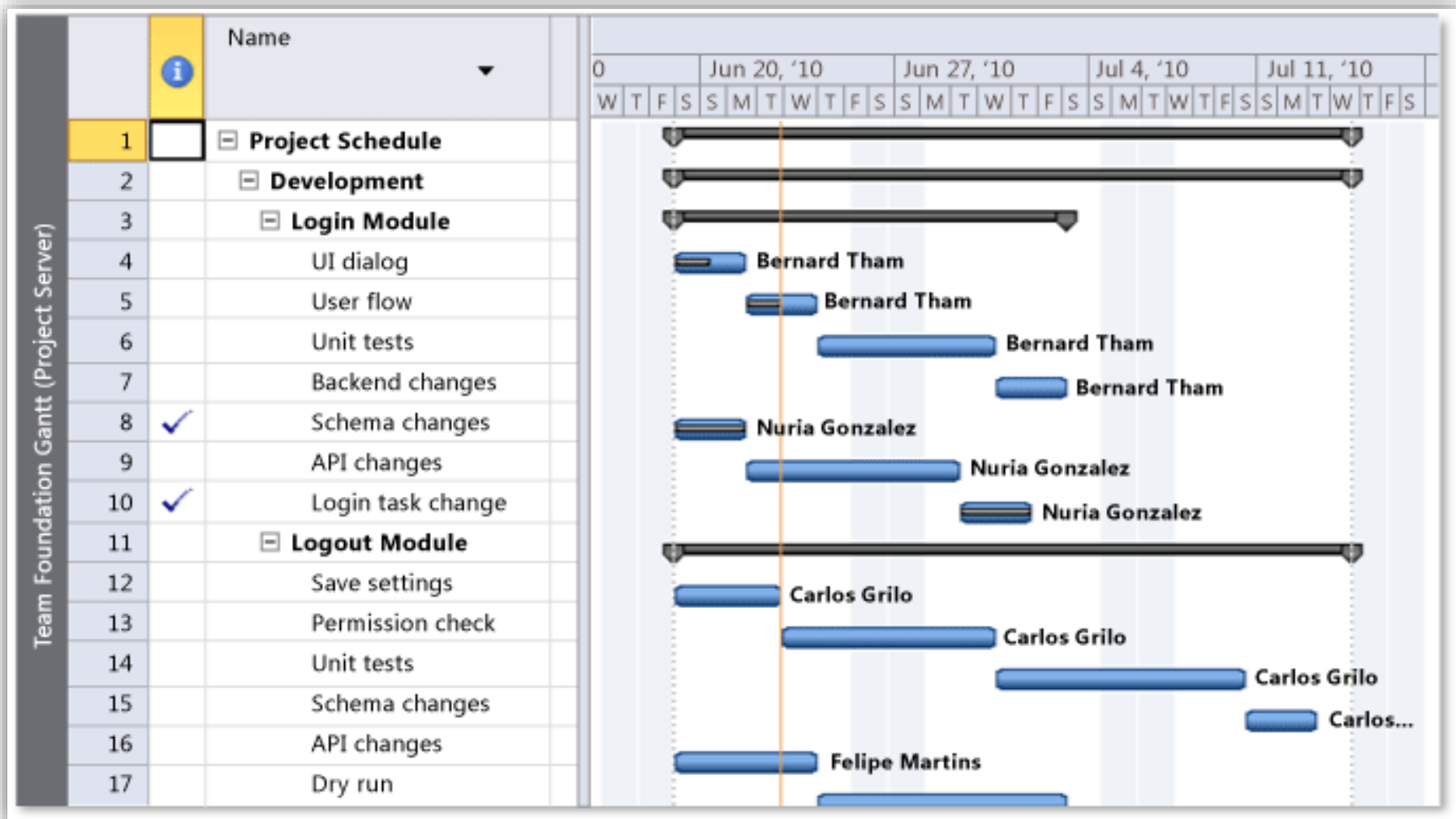
1. Get sources from source control into the build directory.
2. Compile the source and generate binaries.
3. Run code analysis (Optional).
4. Create a work item if there is a build failure.
5. Run tests (Optional).
6. Calculate code coverage (Optional).
7. Log build details.
8. Copy the build to the drop location.







Team members work in the tools that suit them

Tools supporting Application Lifecycle Management with TFS








Site Actions ▾ Browse Approvals

Filter: No Filter ▾
 Group By: No Group ▾

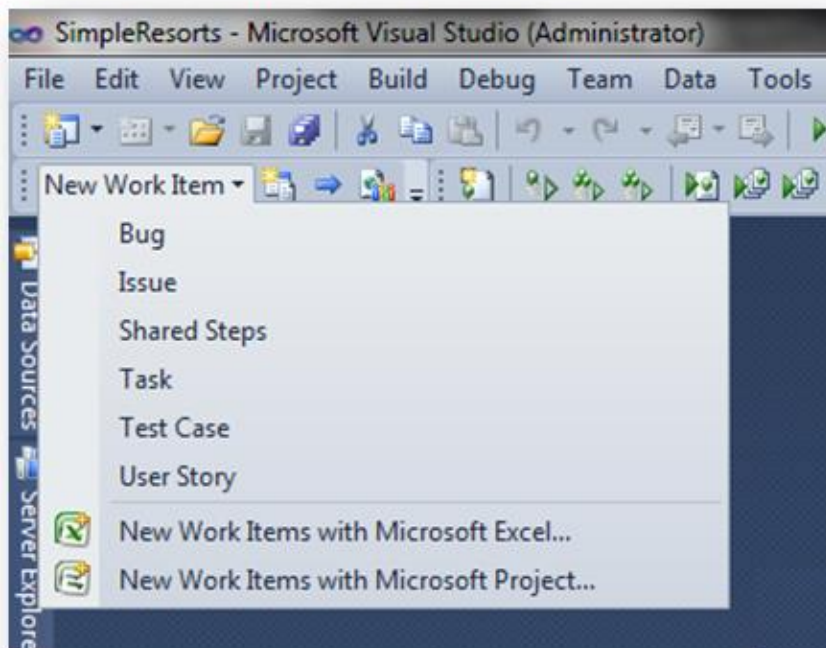
 From: 4/27/2010
 Set Date To: 7/27/2010 Range

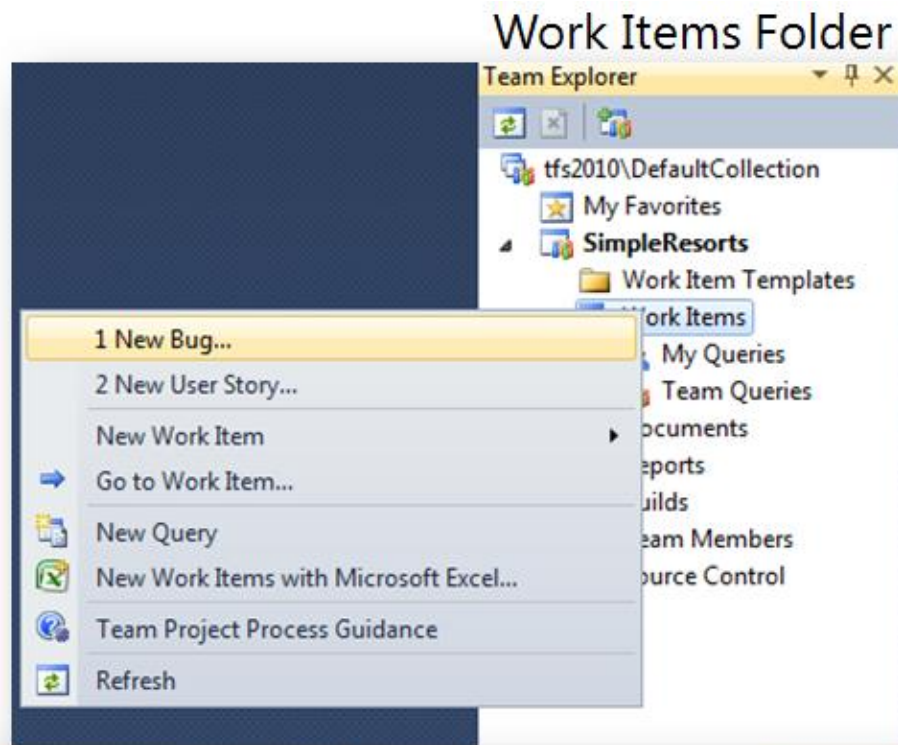
Actions: Accept, Reject, Preview Updates, Scroll To Update
 Data: Filter, Group By
 Date Range: Set Date To, Range
 Share: Export to Excel, Print

		Approval Type	Name	Update Type	Resource	Owner
Projects	<input type="checkbox"/>	Status Update	Login	New reassignment req...	Qiong Wu	Qiong Wu
Project Center	<input type="checkbox"/>	Status Update	Login	Task update	Justin Thorpe	Justin Thorpe
Approval Center	<input type="checkbox"/>	Status Update	Login	New reassignment req...	Eduard Dell	Eduard Dell
Workflow Approvals	<input type="checkbox"/>	Status Update	Logout	New reassignment req...	Eduard Dell	Eduard Dell
	<input type="checkbox"/>	Status Update	Logout	New reassignment req...	Qiong Wu	Qiong Wu
My Work	<input type="checkbox"/>	Status Update	Logout	Task update	Justin Thorpe	Justin Thorpe
Tasks	<input type="checkbox"/>	Status Update	Shopp...	New reassignment req...	Nuria Gonzalez	Nuria Gonzalez
Timesheet	<input type="checkbox"/>	Status Update	Shopp...	New reassignment req...	Sanjay Patel	Sanjay Patel
Issues and Risks	<input type="checkbox"/>	Status Update	Shopp...	Task update	Justin Thorpe	Justin Thorpe

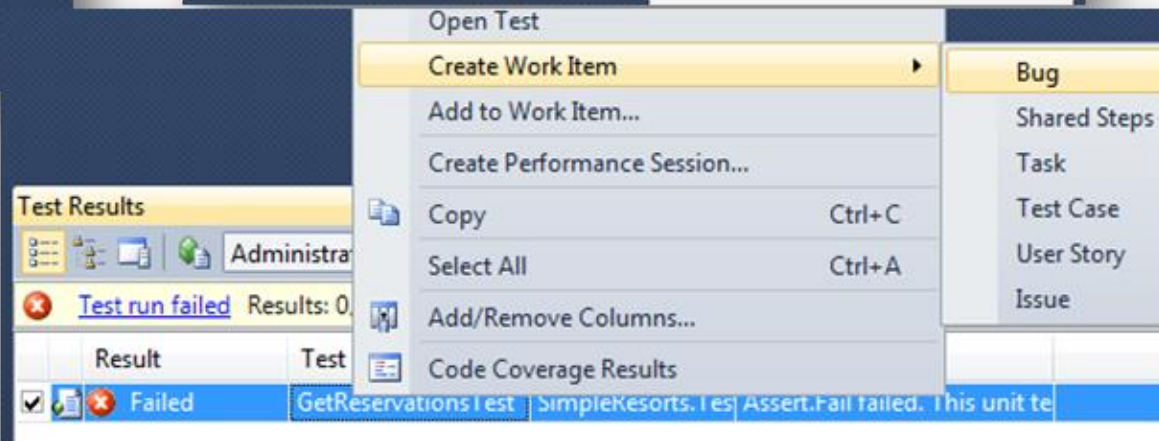
	A	B	C	D	E	F
1	Project: Dev10Demo Server: processbuild02\DefaultCollection Query: Product Backlog List type: Flat					
2	ID ▼	Stack Rank ▼↑	Story Points ▼	Title ▼	State ▼	Iteration Path ▼
3	65	1	3	As a meal provider that is a restaurant, I want my meals to link to my restaurant's web page to help attract in-person	Active	\Sprint 2
4	70	1	3	As a delivery provider, I want orders to be submitted to my business at least 45 minutes before we pick the order up	Active	\Sprint 2
5	69	2	5	As a returning customer, I want to be able to override my default location so that I can order from DinnerNow when	Active	\Sprint 2
6	64	3	6	As a customer, I want to save orders.	Active	\Sprint 2
Product Backlog / Iterations / Interruptions						



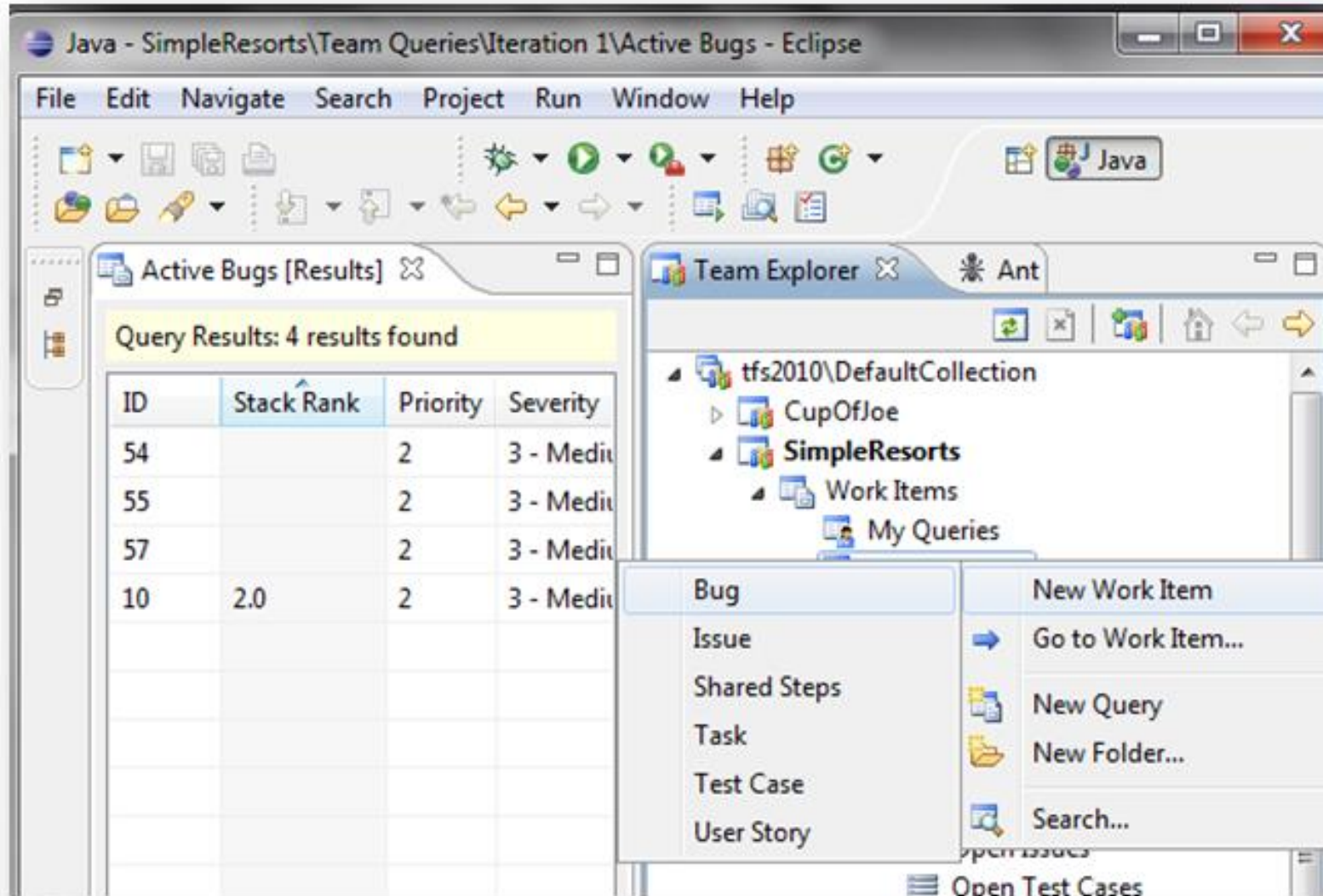
Toolbar



Work Items Folder



Test Results



Eclipse

Test Manager

The Test Runner interface displays a test case titled "56*: About page should display appropriate content". The test steps are:

1. Open browser and go to...
2. Click on About link in to...
3. Read text of about page...
4. Close browser

Step 3 includes an expected result: "Expected - Appropriate contextual information should be loaded/displayed." A "Create bug" button is visible in the toolbar.

Test Runner

The Test Manager interface shows a bug report for "Bug 57: About page is missing content".

Title: About page is missing content

Status:

- Assigned To: Dave Developer
- State: Active
- Reason: New
- Resolved Reason:

Classification:

- Area: SimpleResorts
- Iteration: SimpleResorts\iteration 1

Planning:

- Stack Rank:
- Priority: 2
- Severity: 3 - Medium

Steps to Reproduce:

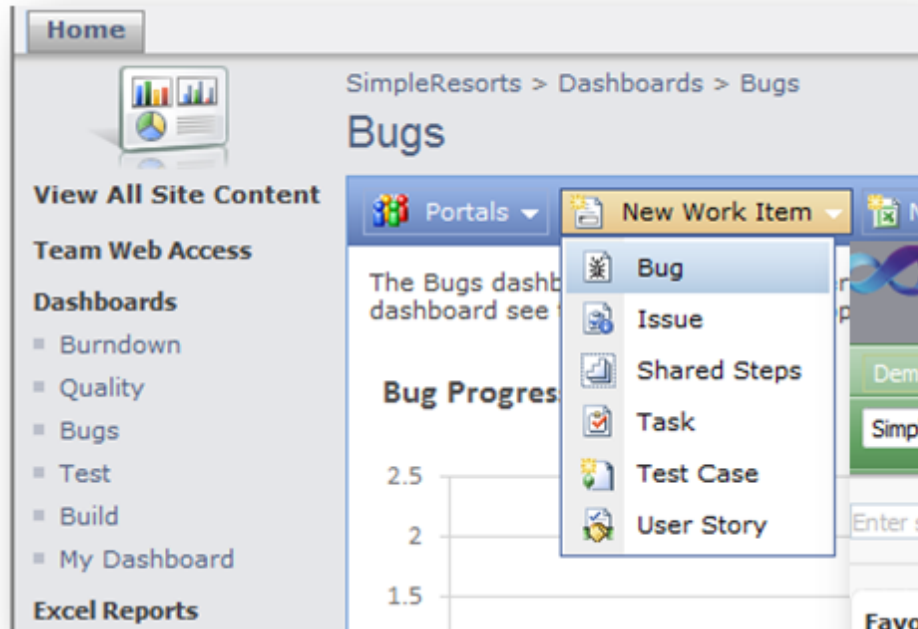
Segoe UI 2

9/1/2010 1:40:33 PM Bug filed on "About page should display appropriate content"

Step no.	Result	Title
1	Passed	Open browser and go to site home page

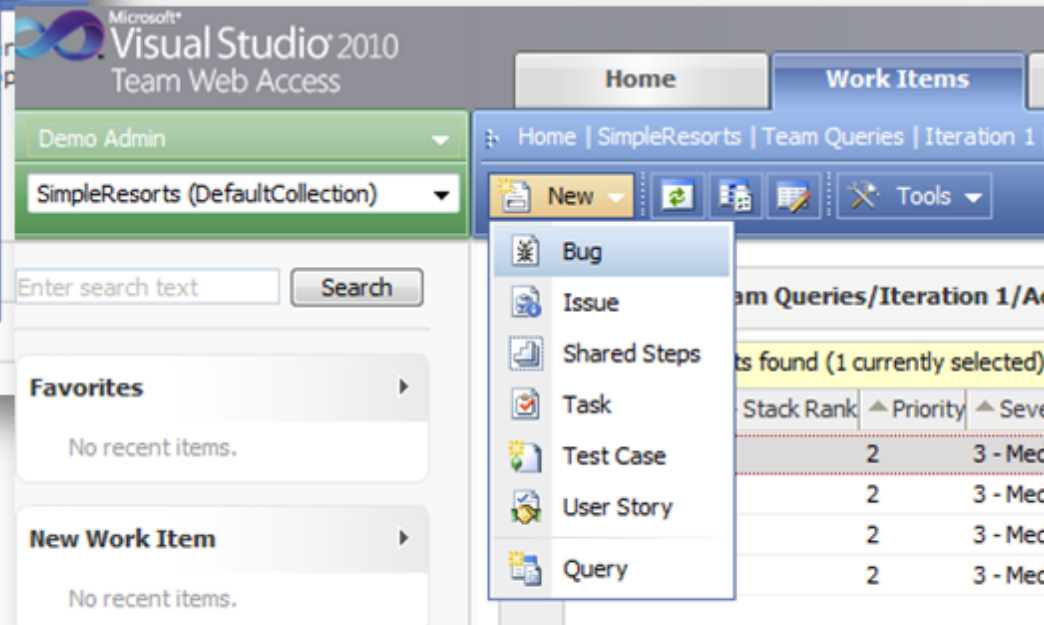
History:

- 9/1/2010 1:41:02 PM Edited by Demo Admin
- 9/1/2010 1:41:01 PM Created by Demo Admin



Project Portal

Team Web Access



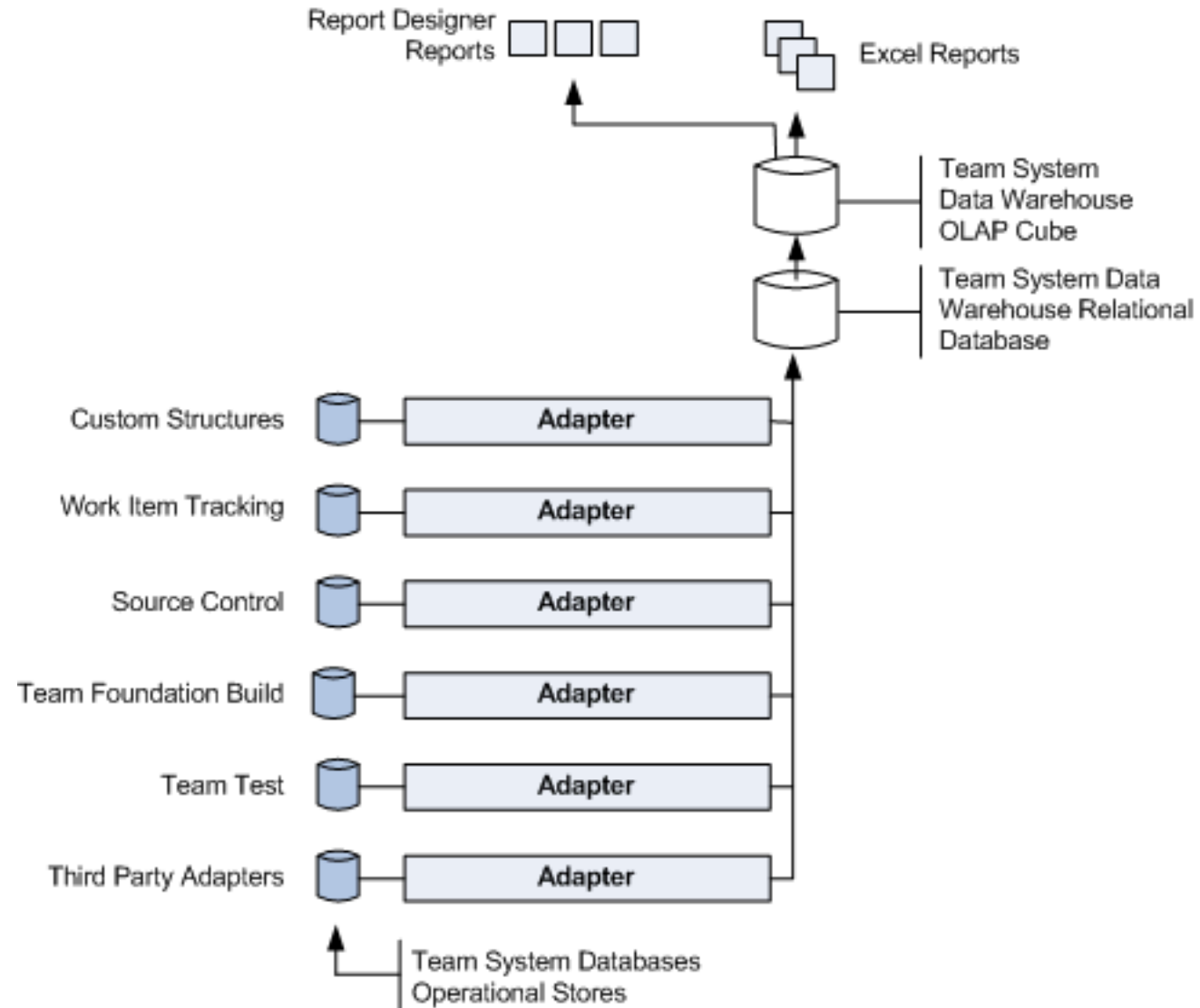
The screenshot displays the Health Explorer application interface. The main window is titled "TFS Application Tier Servers (2)". The left sidebar shows a tree view of monitoring categories, with "TFS Application Tier Servers" selected. The main pane shows a table of servers with columns for State, Name, Path, and various health indicators. A context menu is open over the server "TFS2010ATLB2", with the option "Health Explorer for TFS2010ATLB2" highlighted by a red circle. The right sidebar contains sections for "State Actions", "TFS Application Tier (AT) Ser...", "Resources", and "Help". The bottom pane shows the "Detail View" for the selected server, displaying its properties.

State	Name	Path	TFSBuildWeb	TFSAuthoriza	TFSRegistrat	TFSWorkItem	TFSVersionC
Healthy	TFS2010ATLB1	TFS2010ATLB1.TFS2008SCOMR2.com	Healthy	Healthy	Healthy	Healthy	Healthy
Warning	TFS2010ATLB2	TFS2010ATLB2.TFS2008SCOMR2.com	Healthy	Healthy	Healthy	Healthy	Healthy

Detail View: TFS Application Tier (AT) Server properties of TFS2010ATLB2

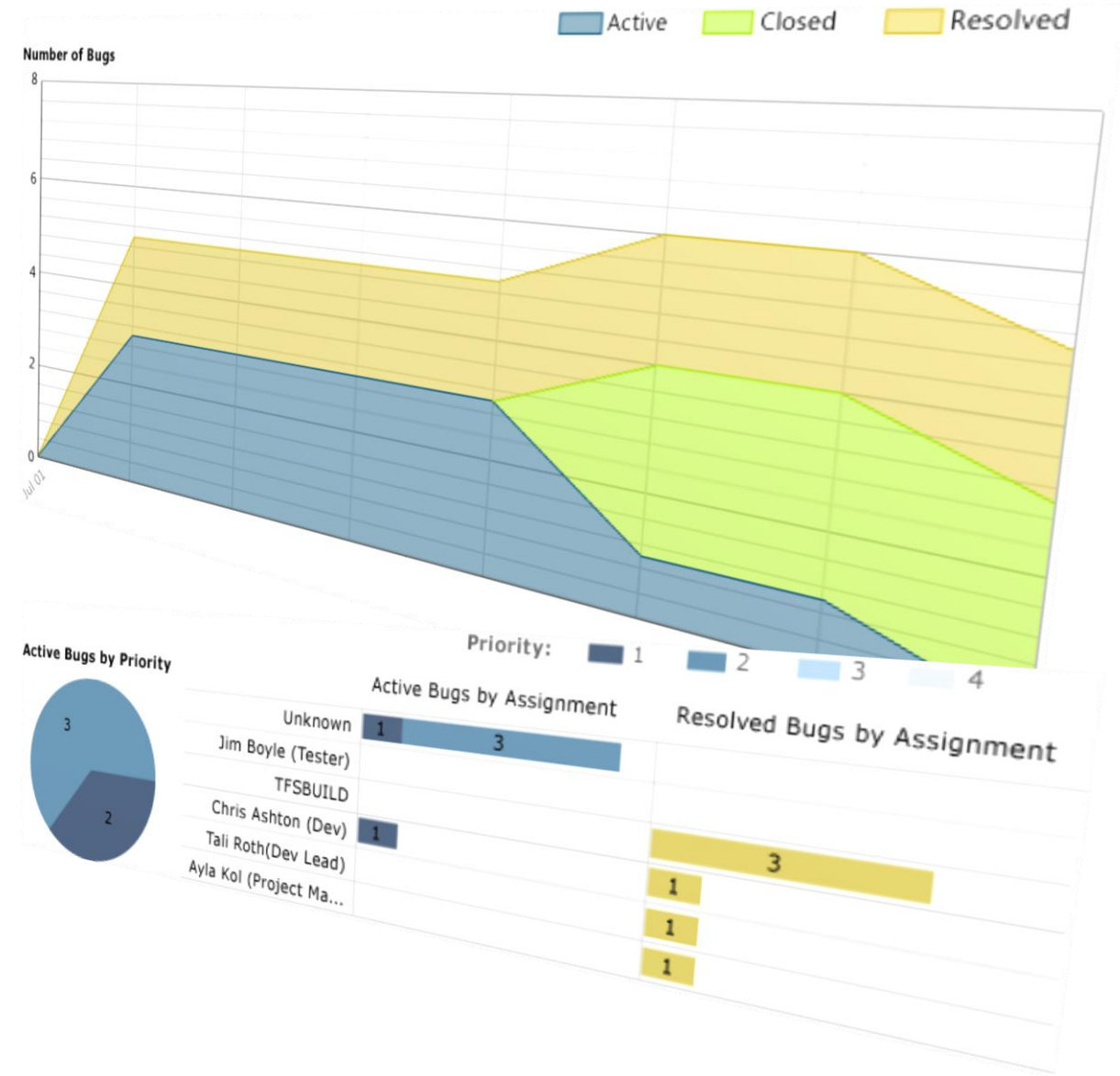
Name	TFS2010ATLB2
Path name	TFS2010ATLB2.TFS2008SCOMR2.com TFS2010ATLB2
TFS AT Computer Name	TFS2010ATLB2.TFS2008SCOMR2.com
Install Location	C:\Program Files\Microsoft Team Foundation Server 2010\Application Tier\
Database Connect String	Data Source=tfs2010db;Initial Catalog=Tfs_Configuration;Integrated Security=True;

Reporting



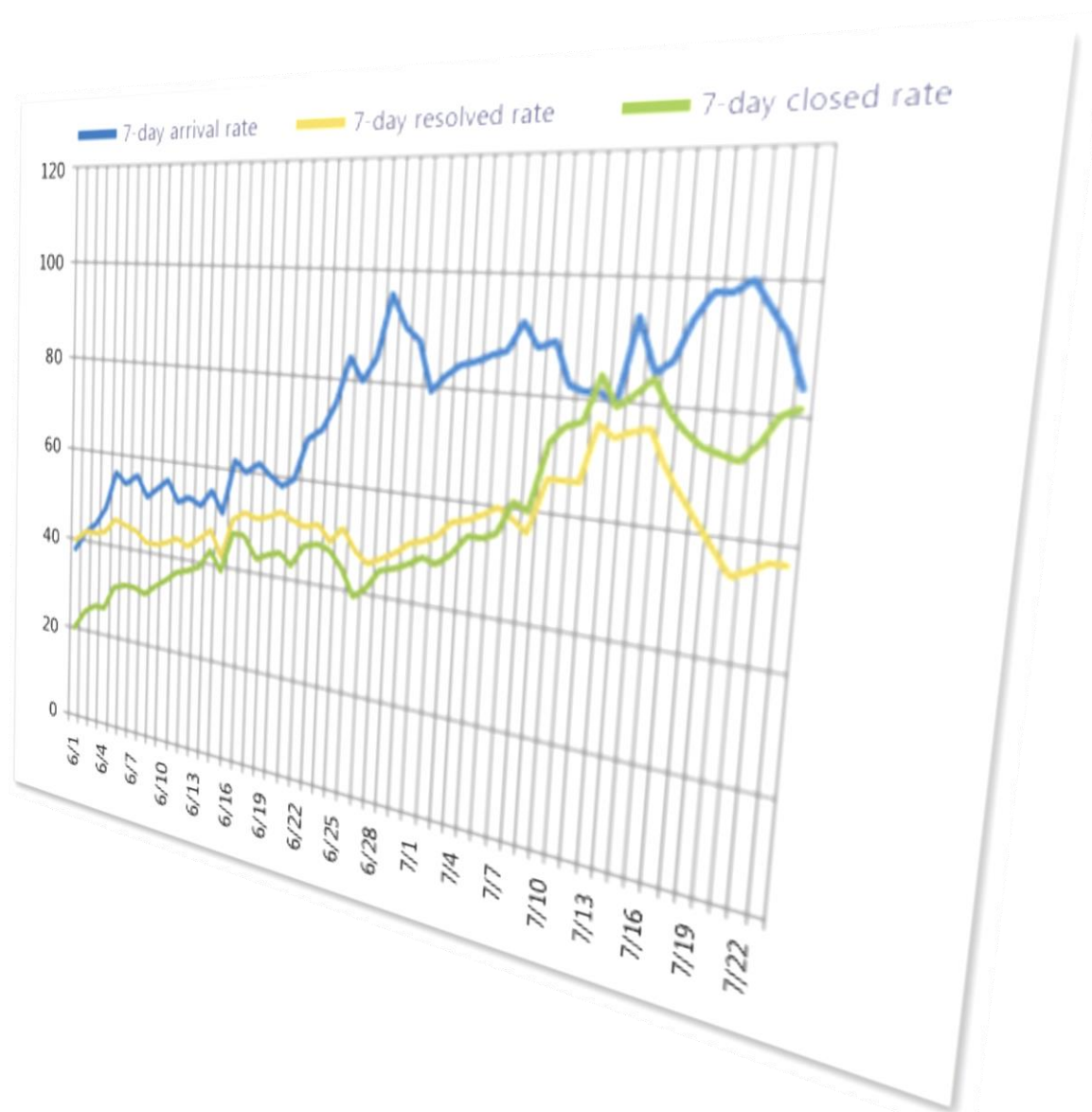
Bug Status Report

- Is the team fixing bugs quickly enough to finish on time?
- Is the team fixing high priority bugs first?
- What is the distribution of bugs by priority and severity?
- How many bugs are assigned to each team member?



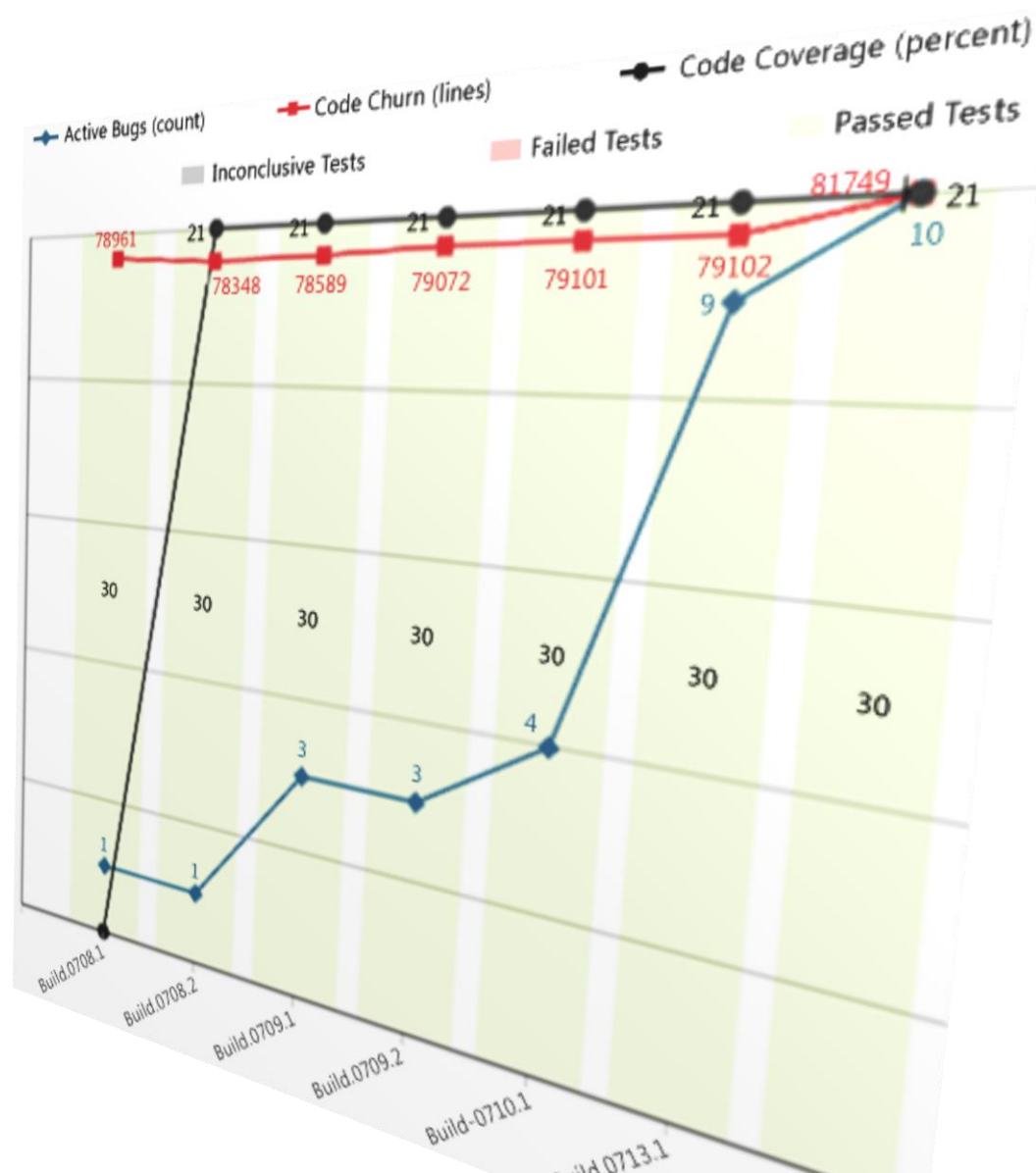
Bug Trends Report

- How many bugs is the team reporting, resolving, and closing per day?
- What is the overall trend at which the team is processing bugs?
- Are bug activation and resolution rates declining toward the end of the iteration as expected?



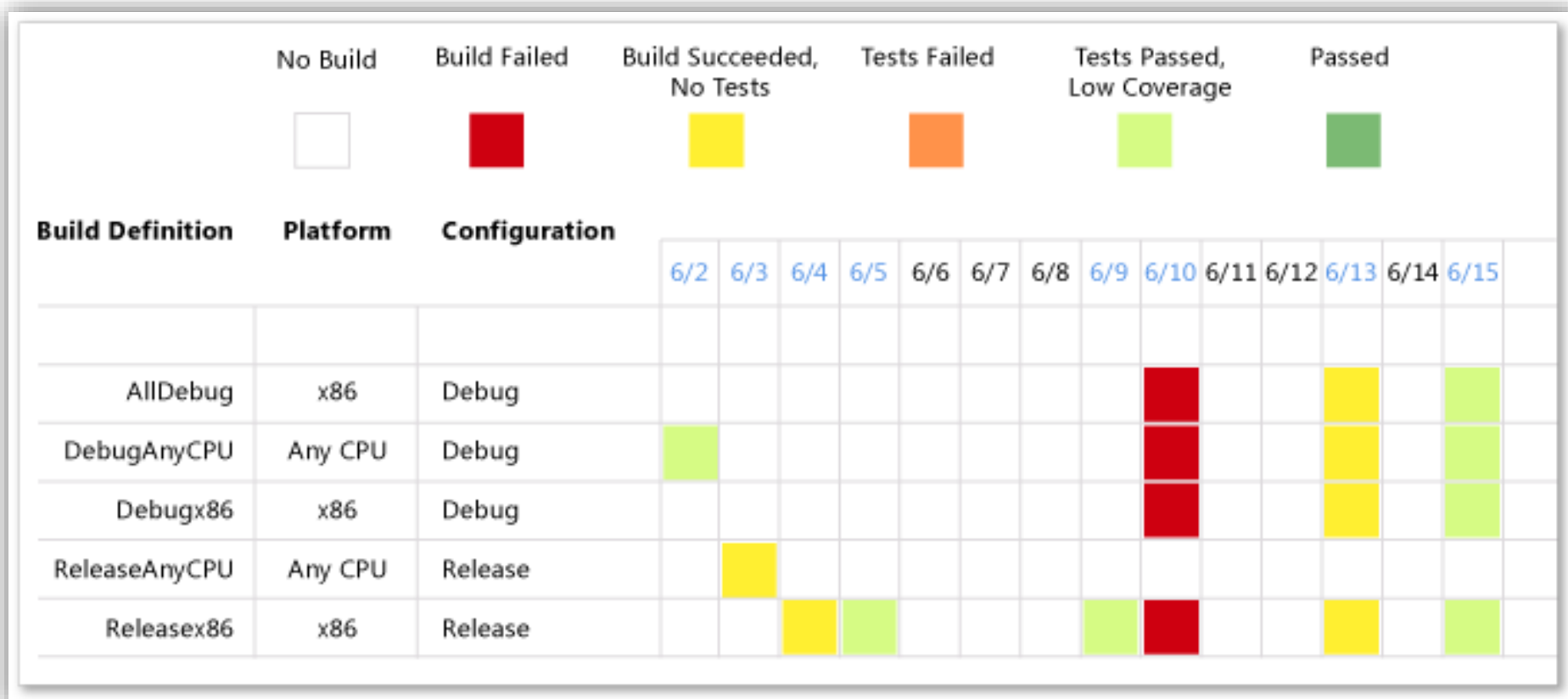
Build Quality Indicators Report

- What is the quality of the software?
- How often are tests passing, and how much of the code is being tested?
- Based on the code and test metrics, is the team likely to meet target goals?



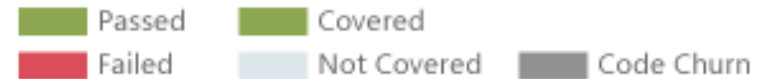
Build Success Over Time Report

- What parts of the project have produced software that is ready to be tested?
- What parts of the project are having trouble with regressions or bad checkins?
- How well is the team testing the code?



Build Summary Report

- What is the status of all builds over time?
- Which builds succeeded?
- Which builds have a significant number of changes to the code?
- How much of the code was executed by the tests?
- Which builds are ready to install?

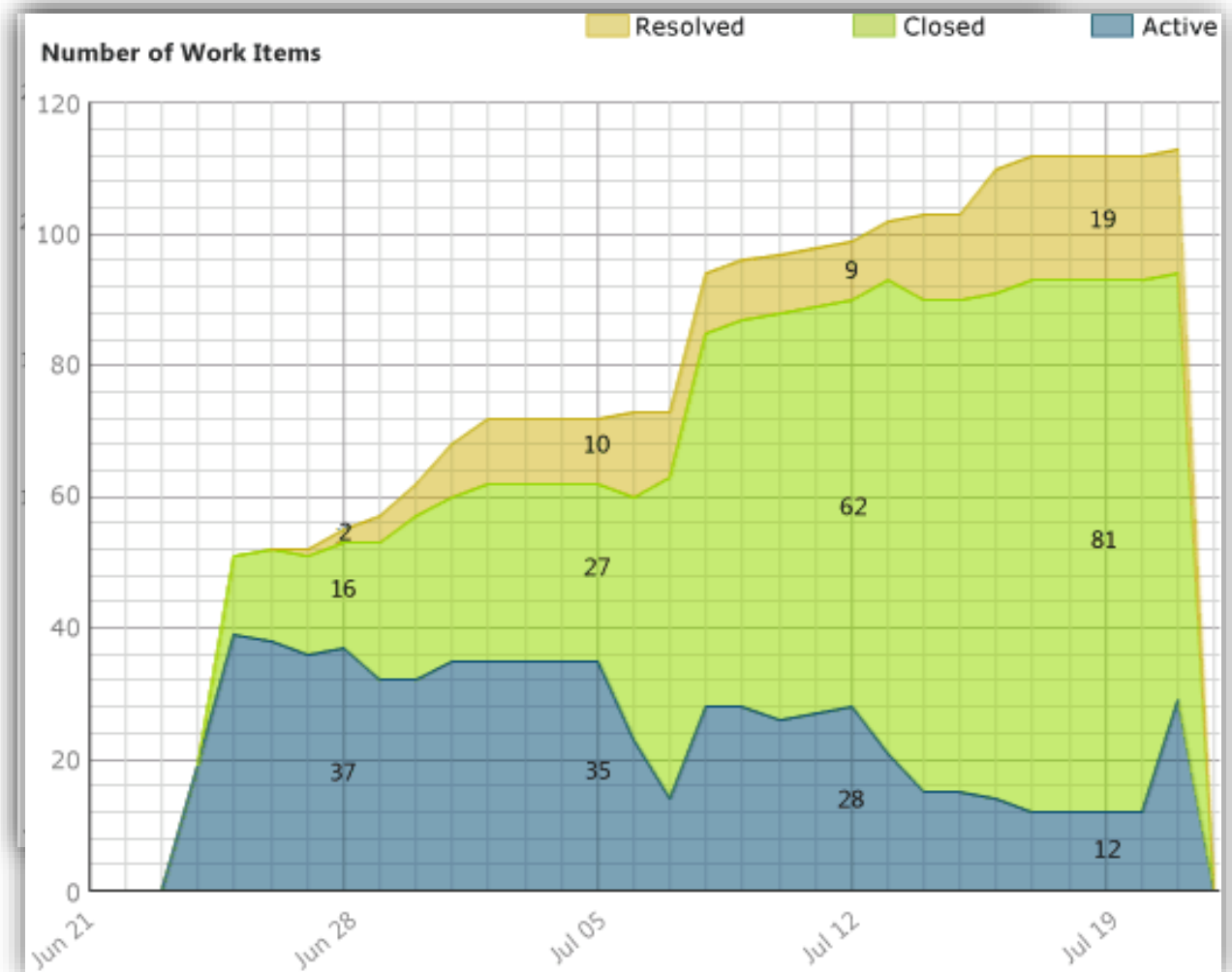


Date	BuildName	Platform	Configuration	Progress	Build Quality
7/15/2009 12:32 PM	Code Coverage_20090715.1	Mixed Platforms	Debug	Partially Succeeded	
7/15/2009 9:52 AM	Main NightBuild_20090715.3	Mixed Platforms	Debug	Succeeded	
7/15/2009 3:00 AM	Storefront I3Nightly_20090715.1	Mixed Platforms	Debug	Succeeded	
7/15/2009 2:00 AM	Main Night Build_20090715.1	Mixed Platforms	Debug	Failed	

% Tests Passed	% Code Coverage	Code Churn (lines)
100 %	11 %	
100 %		
100 %		2646
100 %	21%	81748

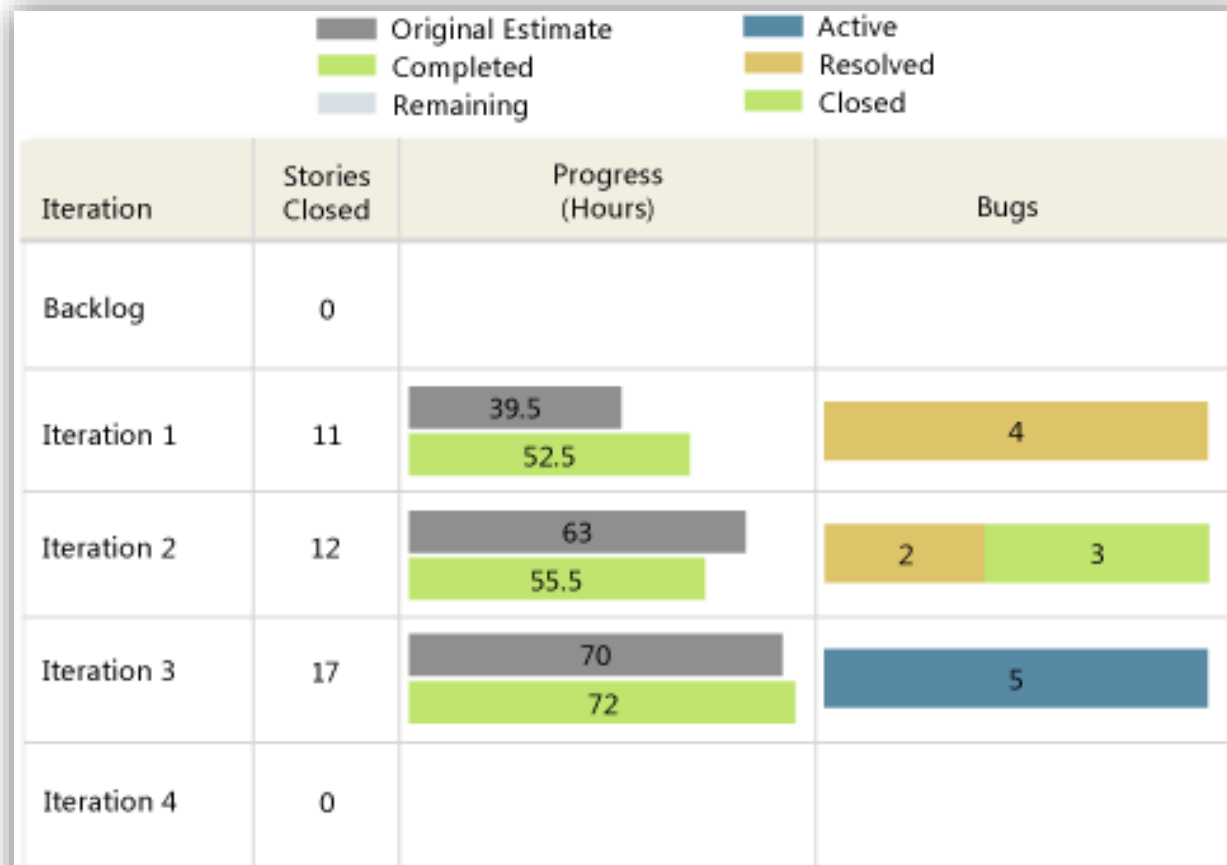
Remaining Work Report

- What is the cumulative flow of work?
- Is the team likely to finish the iteration on time?
- Is the amount of work or number of work items in the iteration growing?
- Does the team have too much work in progress?
- How is the team doing in estimating work for the iteration?



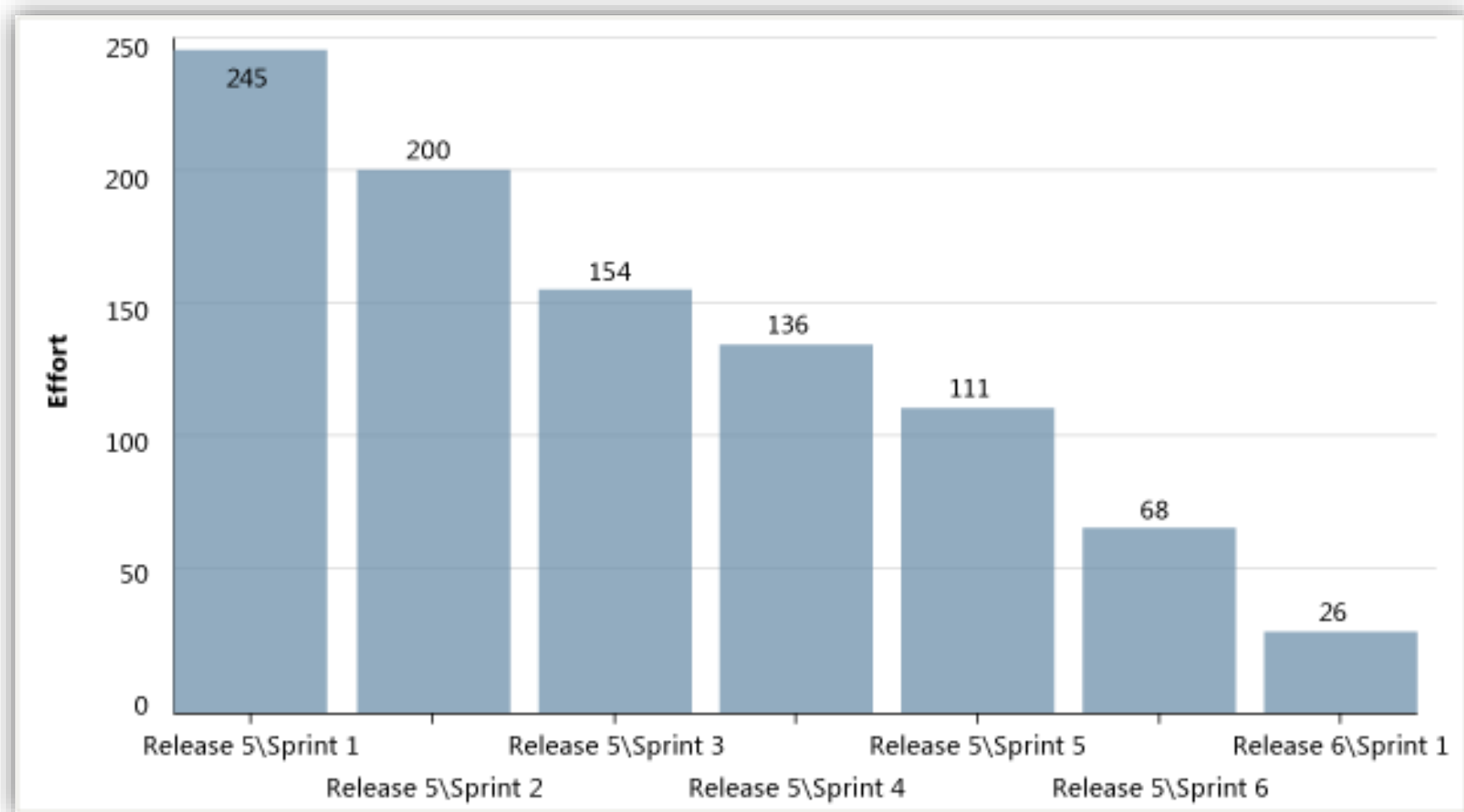
Status on All Iterations Report

- Is steady progress being made across all iterations?
- How many stories did the team complete for each iteration?
- How many hours did the team work for each iteration?
- For each iteration, how many bugs did the team find, resolve, or close?



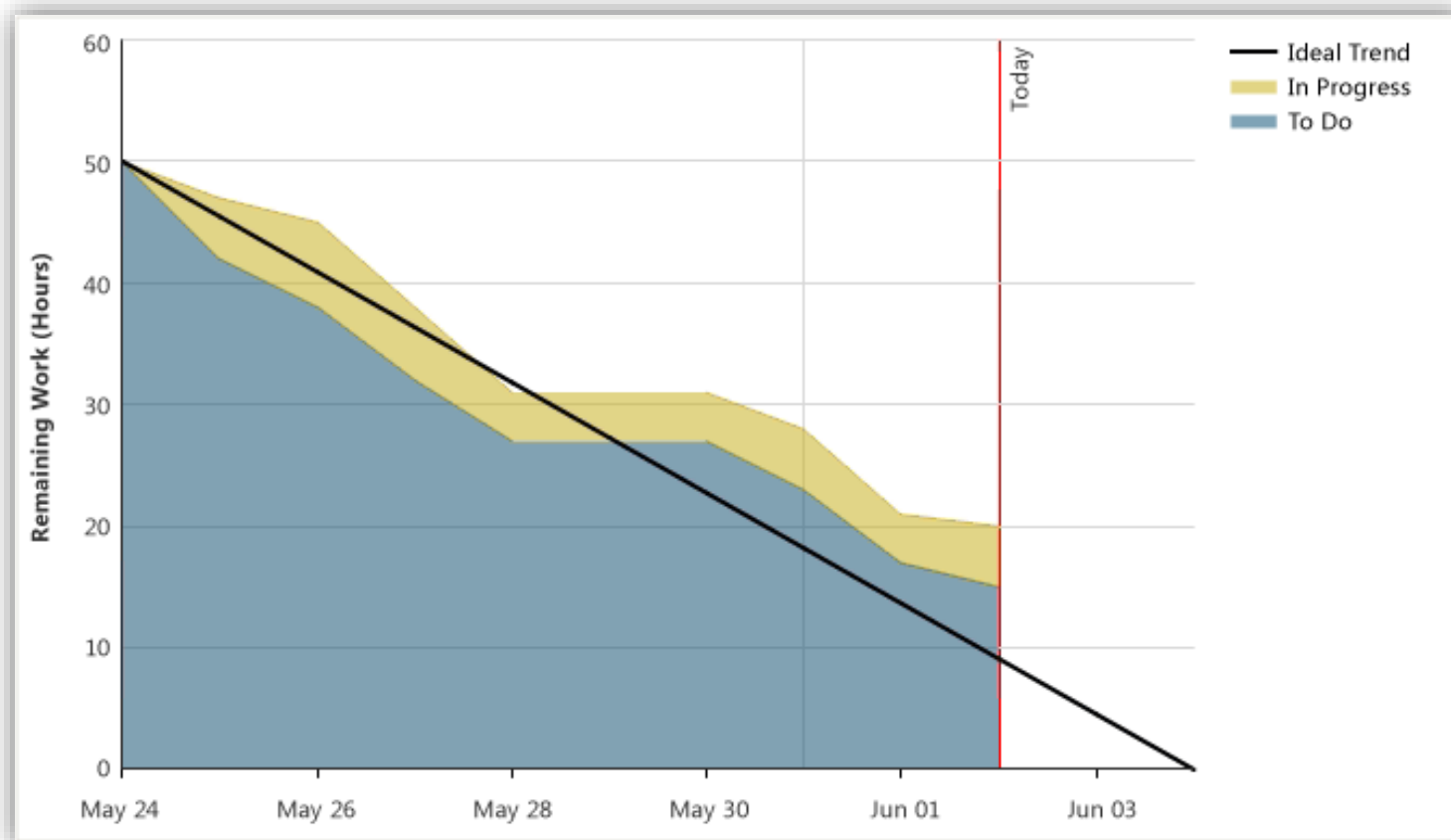
Release Burndown (Scrum)

- How much work remains in the release?
- How quickly is the team working through the product backlog?



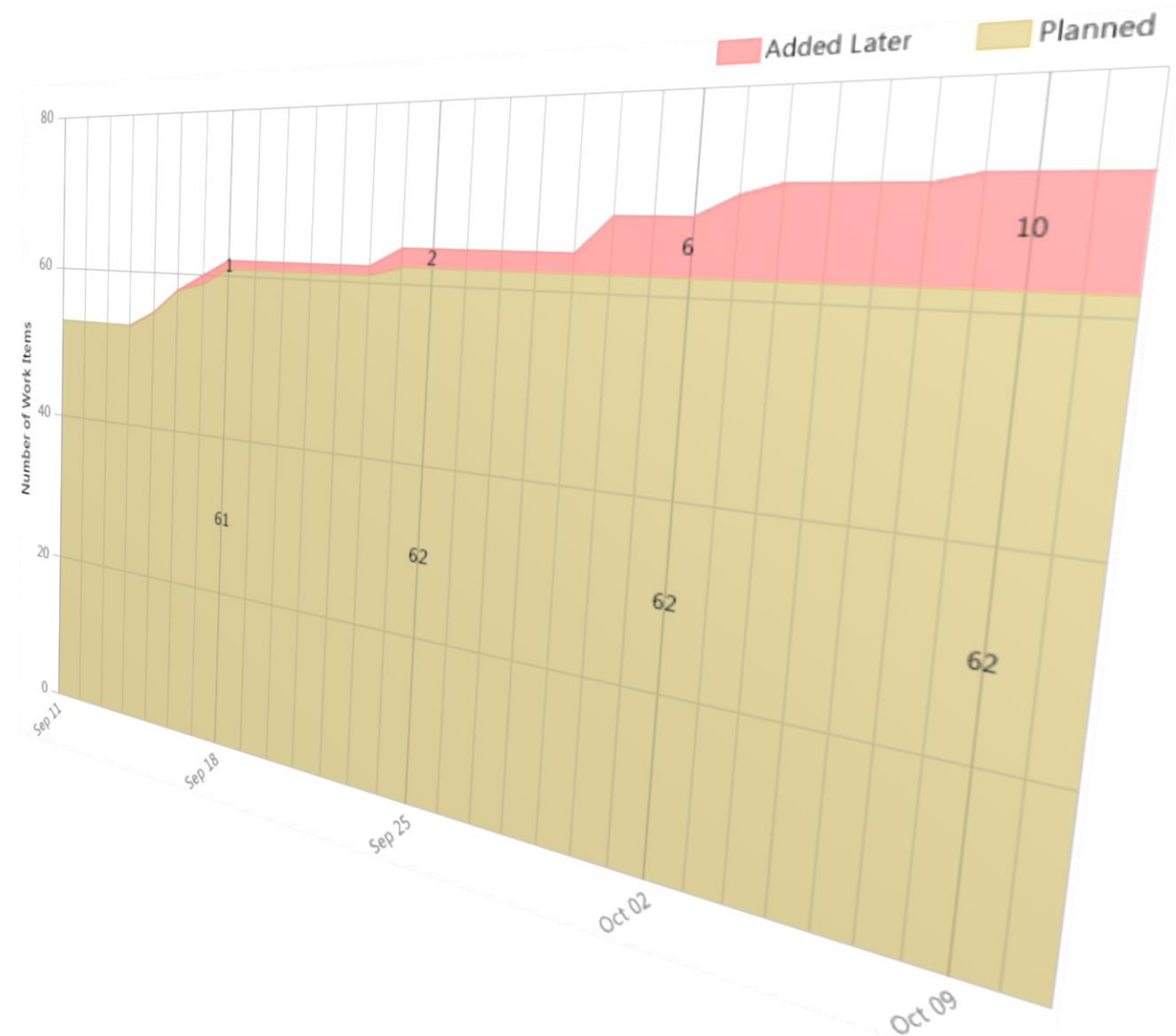
Sprint Burndown (Scrum)

- How much work remains in the sprint?
- Is your team on track to finish all work for the sprint?
- When will your team finish all work for the sprint?
- How much work for the sprint is in progress?



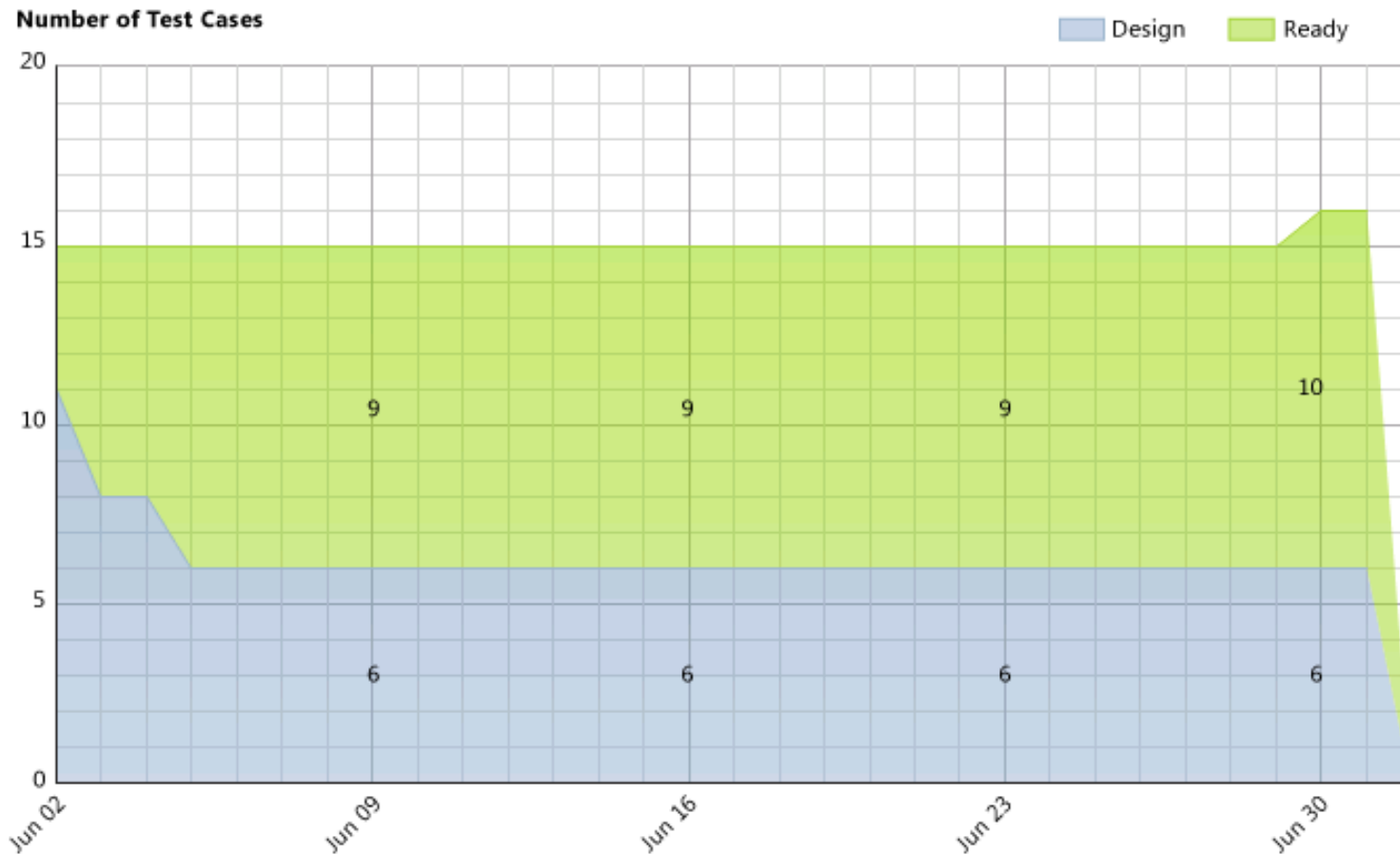
Unplanned Work Report

- How much work was added after the iteration started?
- Is too much work being added during the iteration?



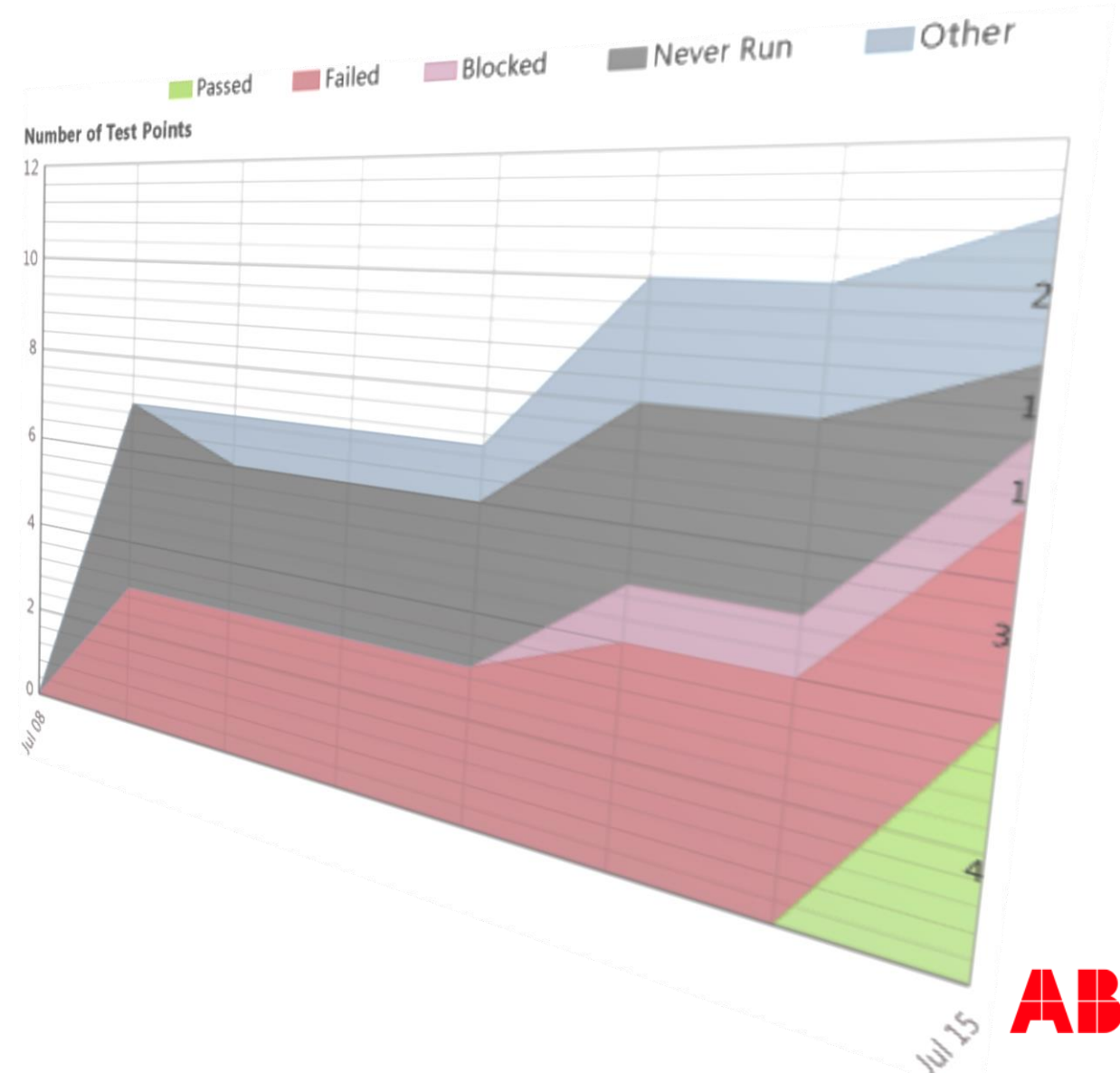
Test Case Readiness Report

- When will all the test cases be ready to run?
- Will all the test cases be ready to run by the end of the iteration?
- How many test cases must the team still write and review?
- How many test cases are ready to be run?



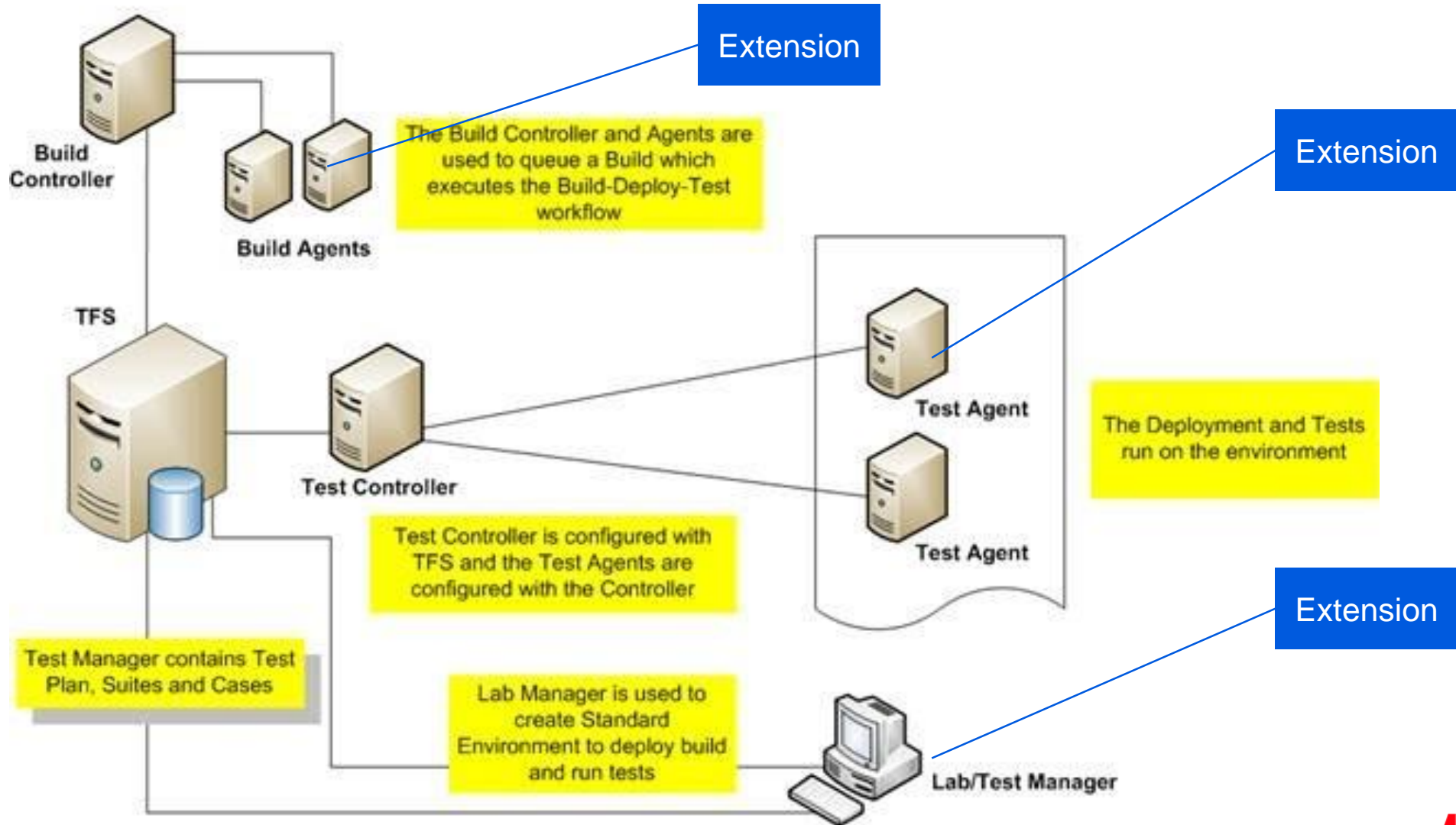
Test Plan Progress Report

- How much testing has the team completed?
- Is the team likely to finish the testing on time?
- How many tests are left to be run?
- How many tests are passing?
- How many tests are failing?
- How many tests are blocked?



TFS is adaptable. We have done special extensions

TFS 2012 Lab Center - Standard Environment



Try it!

- Visual Studio Online
 - Free for small teams (5 users or less)
 - Cloud based TFS server
 - All features available.

Power and productivity
for a better world™

