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| **Guidance on Bespoke Reporting for Testing** |
|  |
| Thursday, February 21, 2013 |
| **Visual Studio ALM Rangers** |
| **Microsoft Corporation** |

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# Introduction

## Overview

This guidance should be used in conjunction with documentation that accompanies the product and Microsoft Developer Network (MSDN) at http://msdn.microsoft.com.

Reporting is a key aspect of the ALM Process, and is one of the ways we can evaluate, measure, track, and ultimately tell if the software tested is ready for release. There are many artifacts through the system that test may need to track, and this guidance will help you achieve this.

## Visual Studio ALM Rangers

Visual Studio ALM Rangers is a special group with members from the Visual Studio Product group, Microsoft Services, Microsoft Most Valued Professionals (MVP) and Visual Studio Community Leads. Their mission is to provide out of band solutions to missing features and guidance.

This guide is intended for Microsoft “200-300 level” users of Team Foundation Server. They are intermediate to advanced users of Team Foundation Server and have in-depth understanding of the product features in a real-world environment. Parts of this guide might be useful to novices and experts, but they are not the intended audience for this guide.

# Chapter 1 – What is bespoke reporting?

WHAT’S IN THIS CHAPTER?

* Bespoke reporting – What does that mean?

## Bespoke reporting

Bespoke reporting is a term used to describe an individual or “custom” report. Bespoke is traditionally used in other service oriented fields to describe things like a custom tailored suit, or custom code written for a specific purpose. It’s mainly used in the United Kingdom, but this word is being used more widely and really describes anything made to order.

As we apply this to the TFS environment there are several areas we will be exploring then applying this to:

* MTM
* Team Projects
* SharePoint
* Excel
* SSRS (SQL Server Reporting Service)
* Project / Project Server

High level reporting overview:

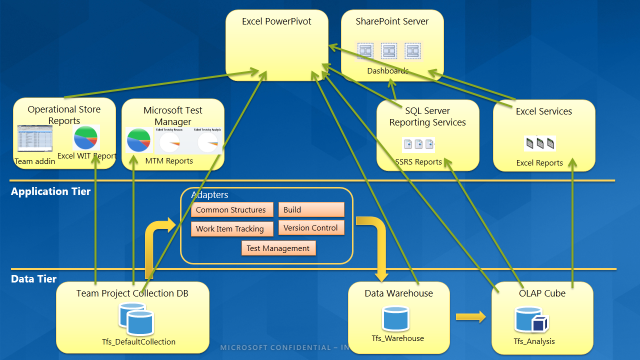


Figure 1 – Overview of VS2012 Reporting

In this guide we’ll go over the Excel Reports, Project Reports and the SharePoint server briefly.

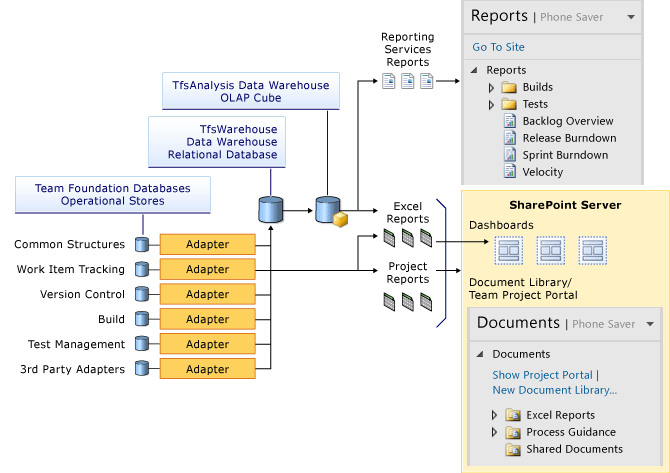


Figure 2 - Overview of TFS

# Chapter 2 – MTM

WHAT’S IN THIS CHAPTER?

* MTM reporting
  + Plan
  + Test
  + Track
  + Organize

## MTM Reporting

MTM utilizes some basic but powerful reporting that as you’ll see below has multiple areas where you can customize or filter the results. You’ll be able to get reports real time as the plan is being executed. You’ll also be able to customize and view your results in multiple ways along with the bugs associated. You can then track and view your links and traceability through MTM query.

## Plan

Plan test run status:

You get some initial test reporting information while looking at the plan. This is great feedback for looking at what’s active and passed so far. If you hover your mouse over the bar in the upper right you’ll see what your results are thus far. See Figure 3.

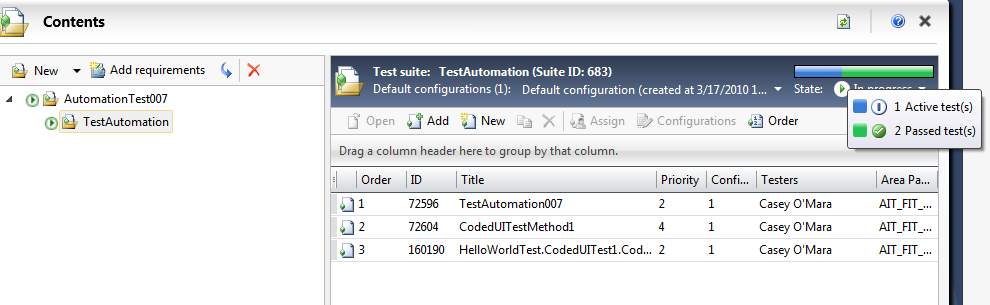


Figure 3- MTM Plan Contents

Properties –

No longer contains reporting information for test passes and results. There is a new tab for VS 2012.

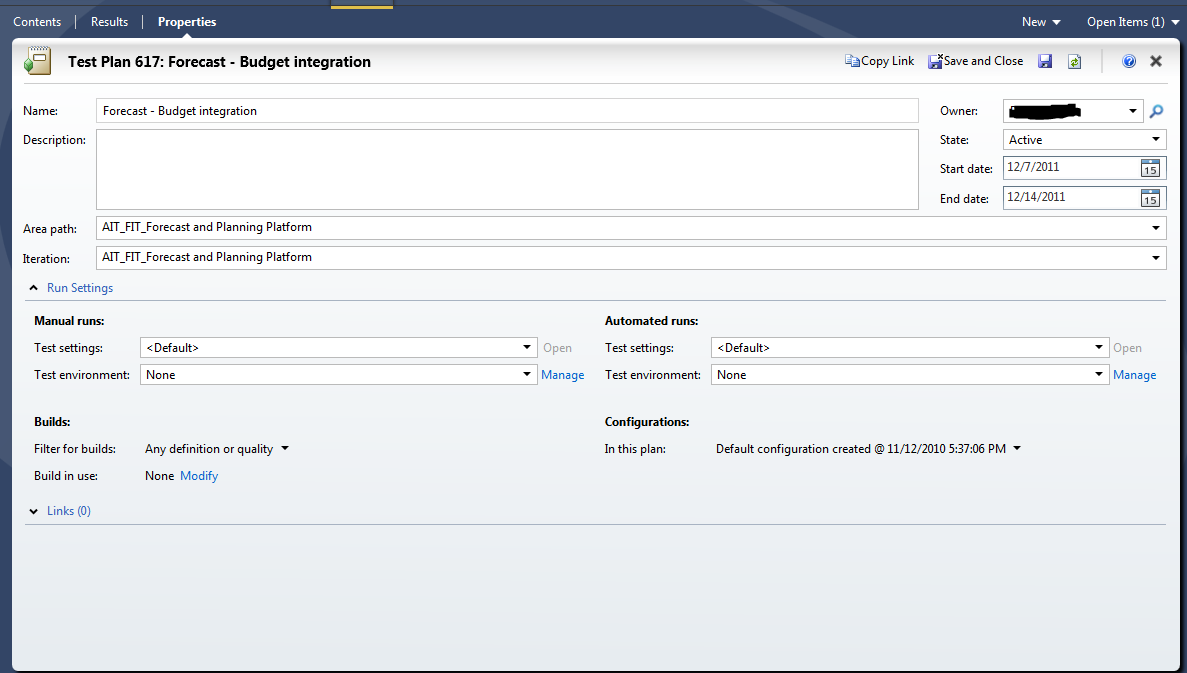


Figure 4-Test Plan Properties

Results - Now has functionality for suite based reporting and for configuration across your test plan.



Figure 5- Results (new)

* Failed Tests by Reason – A pie chart view of the failed test cases by reason there are 5 failure types available.
* Failed Tests by Analysis – A pie chart view of the Analysis feature. There are 11 inconclusive results which this could be thrown on based on the configuration.

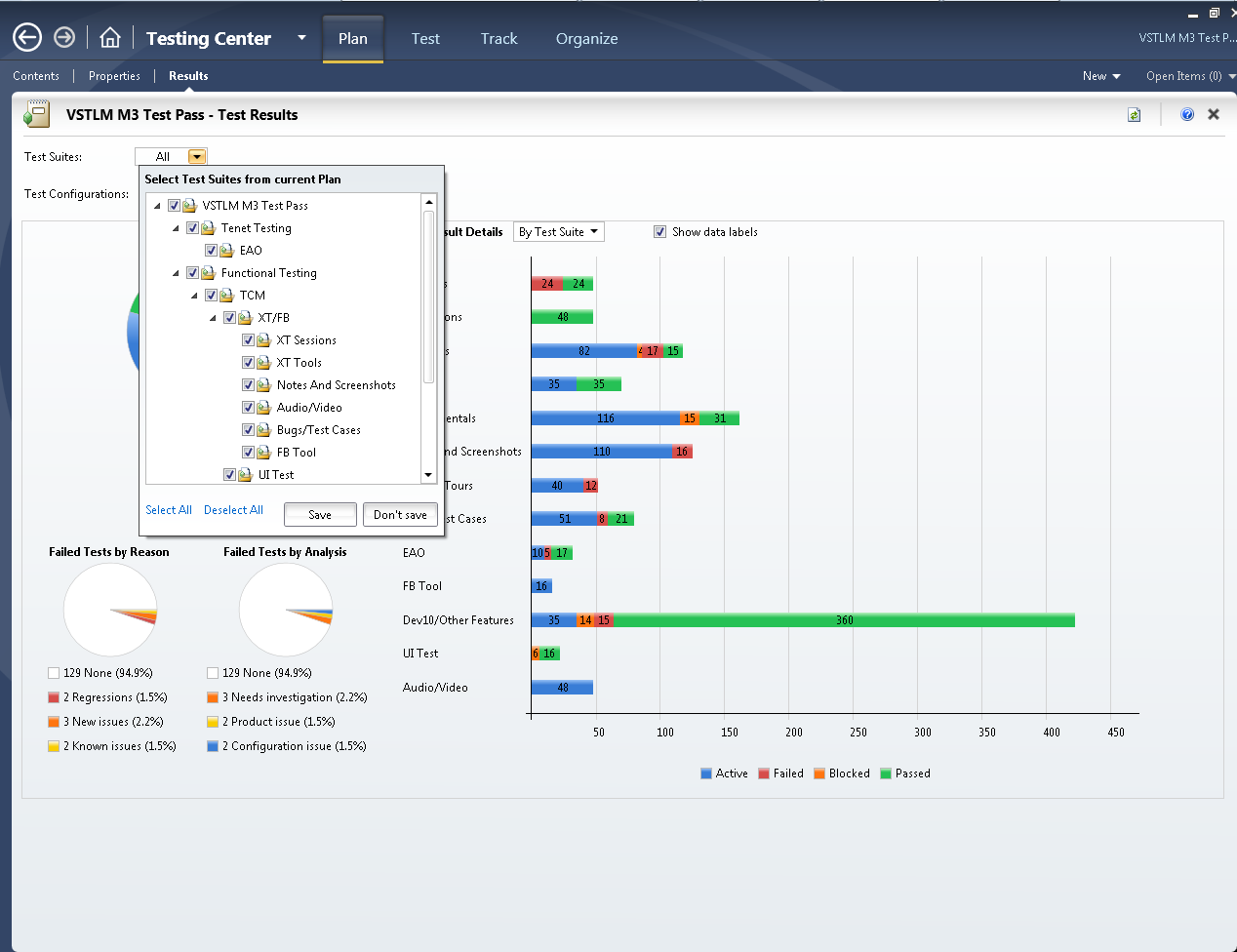


Figure 6- VS Test Plan Results

## Test

The test tab really focuses on 2 pieces for reporting analyze test runs and verify bugs. When we look at the bespoke aspects of this tab there are a few areas you can modify, let’s dive in and take a look.

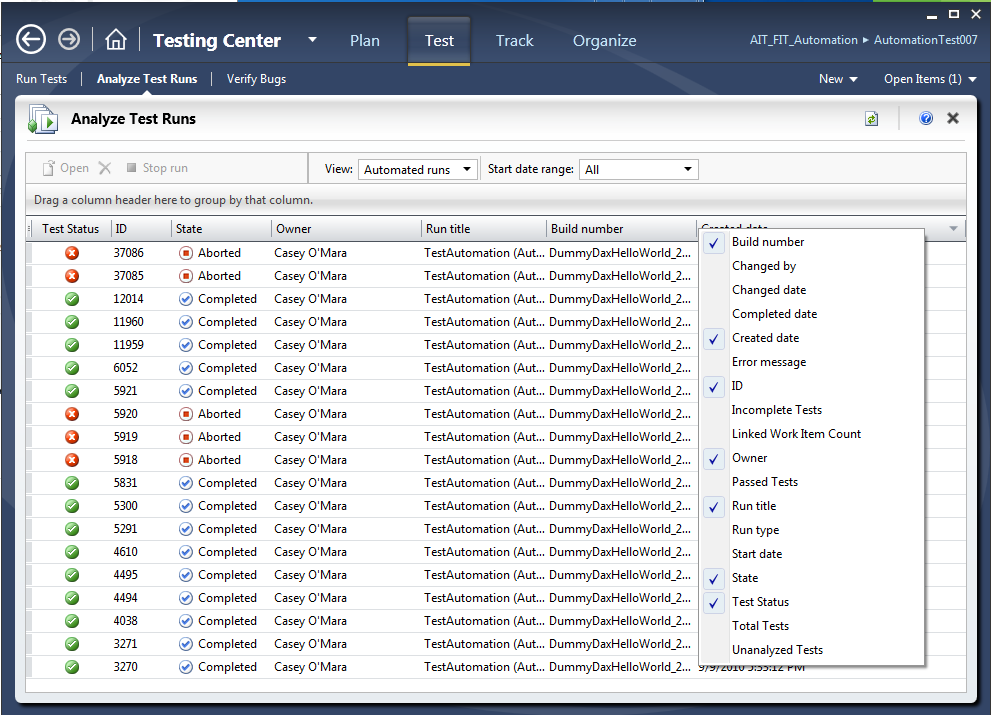


Figure 7-Test Analyze Test Runs

As you see in the above example you can select any column you want to analyze your test run. The real power of reporting in analyzing the test runs is around the ability to drag a column just above the column headers, and have it group by them in the order they were placed there.

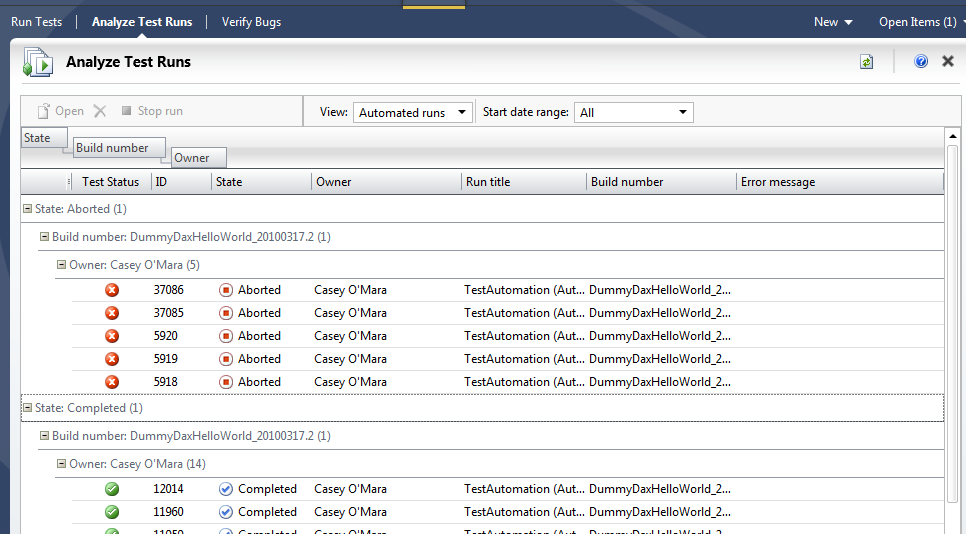


Figure 8-Test Analyze Column Configuration

With verify bugs tab is very similar to the analyze test runs report in that you can select many more columns and can group by those as well.

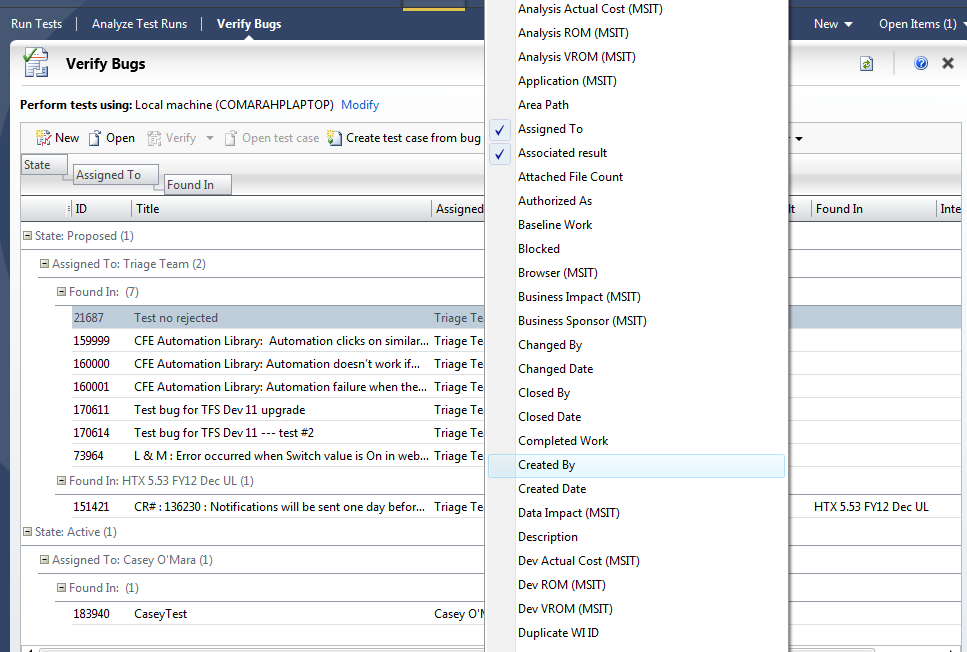


Figure 9-Column Choices

Verify bugs also allows you to do one additional thing which is you can select custom from the view then filter “edit custom”

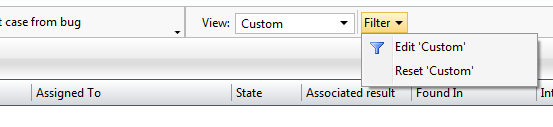


Figure 10- Edit custom report

This will bring up a custom query window that will allow you to form and run your query. This will allow you to really focus on just the bugs you wanted in your report.

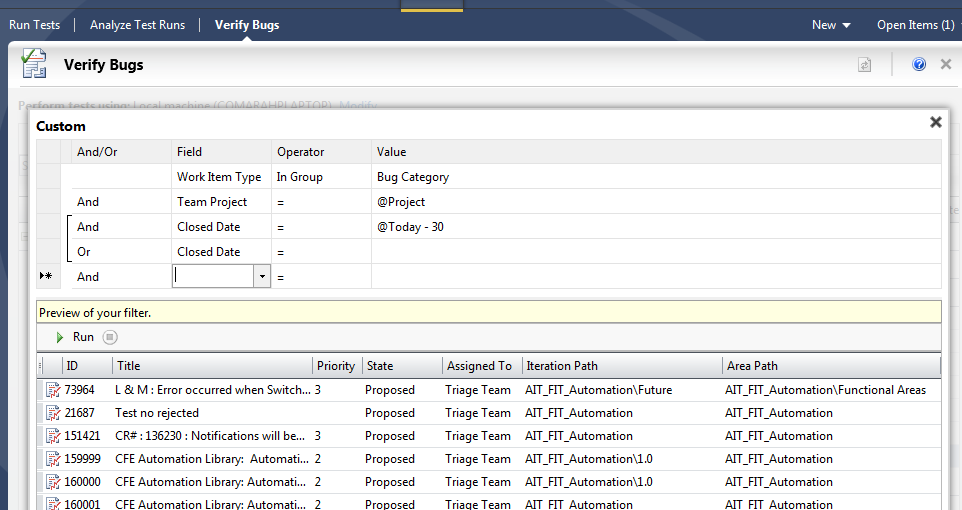


Figure 11- Verify Bugs

## Track

The MTM track tab really focuses on digging into your builds, which one are you using. Querying the work items in TFS and returning links to items you want to track or trace through your project cycle. Impacted tests will show up here along with recommended tests.

Query

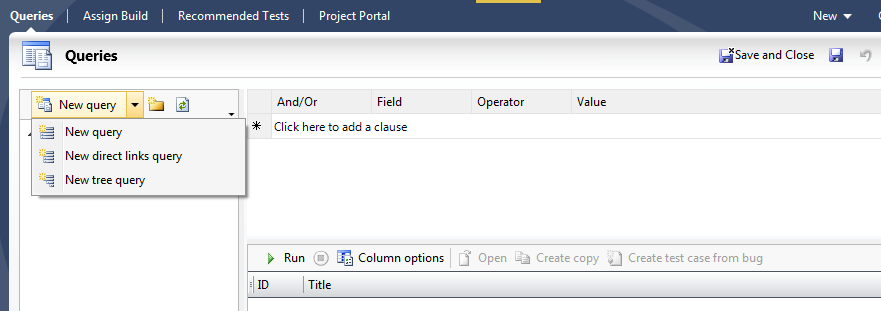


Figure 12- New Query

Query has 3 basic types that you can run new query, new direct links query, and new tree query.

New query is the most basic .WIQ type that you can have.

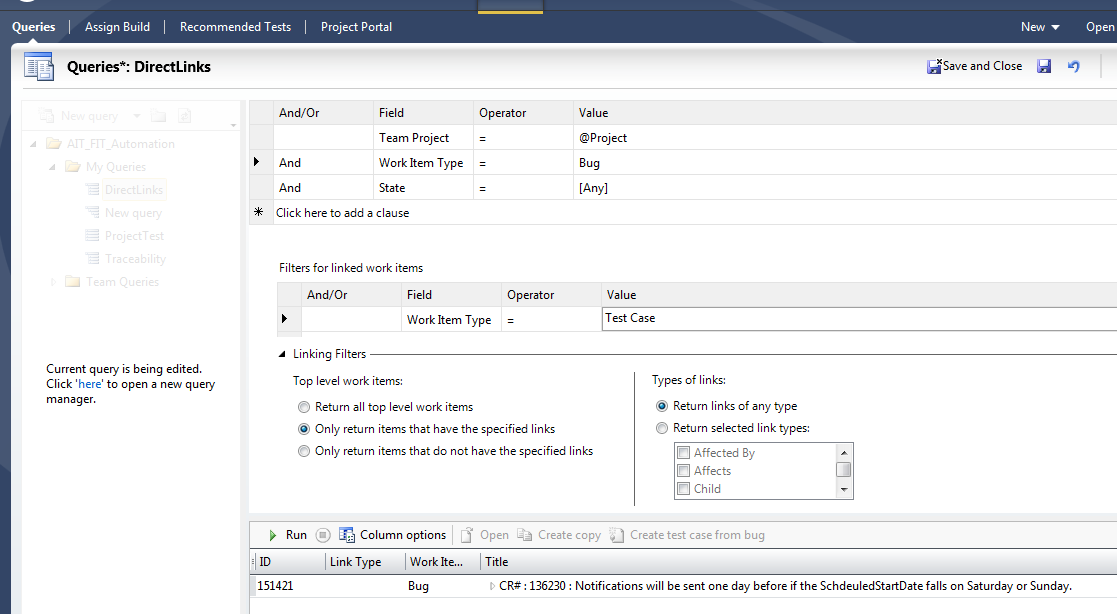


Figure 13- Queries DirectLinks

New direct links query will help you bring out the traceability and links based on type, with top level or even linked work items.

Another Ranger Project <http://vsartestreleaseguide.codeplex.com/> has traceability reports that you can download along with Test Release Management Guidance.

Assign build is very straightforward and allows you to select a build and find the associated work items between builds. This is where you can also select and assign a build to your plan, or you can see what build is in use. You can also click modify and you’ll be taken to the plan and you can change configurations, build number environments etc.

Recommended tests is a great report where you can see recommended Tests and Related work items. Between builds. Use the drop down list to select build in use and what build you want to compare it to.

Project portal will take you to the SharePoint portal for your TFS Server where you can see more information, and a lot of reporting which will cover in a later chapter.

Organize

This tab is really around managing your Test Plans, Configuration, Test case and share steps manager. These are great for MTM and management aspects which will be covered in the Test Release Management Guidance: <http://vsartestreleaseguide.codeplex.com>.

# Chapter 3 – Team Projects

WHAT’S IN THIS CHAPTER?

* Templates
  + CMMI
  + Agile
  + Scrum
* How to customize these

In this chapter we’re going to focus on the differences between CMMI, Agile and Scrum out of the box for Visual Studio 2012.



Figure 14- Report Work Item Types / Reports

## CMMI Project

This project type is selected if you are following the Software Engineering Institute (SEI) Capability Maturity Model® Integration Model. This project type has a reporting structure out of the box that looks like this:

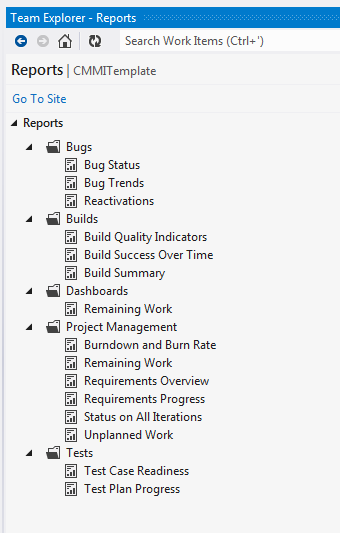


Figure 15- CMMI Reports

## Agile Project

Agile Projects are focused on test driven development and other agile practices.

Agile projects have the following reports that are standard out of the box with Visual Studio 2012:

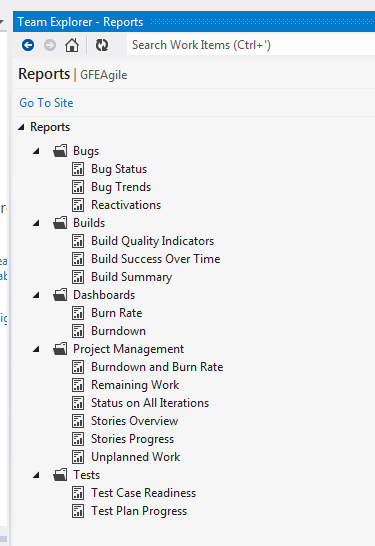


Figure 16 - Agile Reports

## Scrum Project

Scrum Projects are focused on people versus documentation, and take full advantage of the scrum methodology in Visual Studio. This is the new default for Visual Studio 2012. It will also be the default for visualstudio.com TFS service.

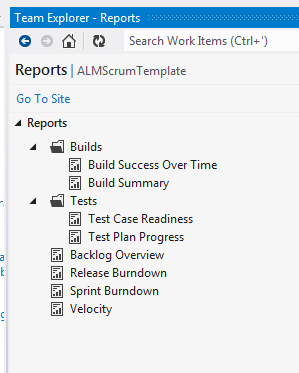


Figure 17- Scrum Reports

# Chapter 4 – SharePoint

WHAT’S IN THIS CHAPTER?

* Templates
  + CMMI
  + Agile
  + Scrum
* How to customize these

SharePoint provides dashboards, Excel reports, libraries and other guidance in the portal. In this chapter we’ll look to cover what parts are in the SharePoint portal, then what you can do to customize or bespoke these reports.

NOTE

Some features won’t be available unless you are running SharePoint Enterprise Edition. See <http://sharepoint.microsoft.com/en-us/buy/Pages/Editions-Comparison.aspx> you’ll need Excel Services only found in Enterprise Edition of SharePoint.

There are several dashboards available to you to copy or modify:

Agile

* Burndown
* Quality
* Bugs
* Test
* Build
* My Dashboard
* SDET Dashboard

CMMI

* Progress
* Quality
* Bugs
* Test
* Build
* My Dashboard

Scrum

* Release / Burndown /Backlog

We’ll use the Quality Dashboard for this example.It also will be listed at the top of every site page that you clone:

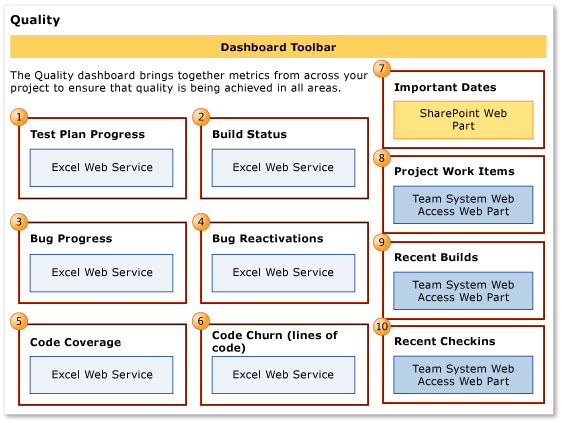


Figure 18- Dashboard Toolbar (SharePoint)

NOTE

More information can be found in MSDN around Dashboards:

<http://msdn.microsoft.com/en-us/library/dd380719>

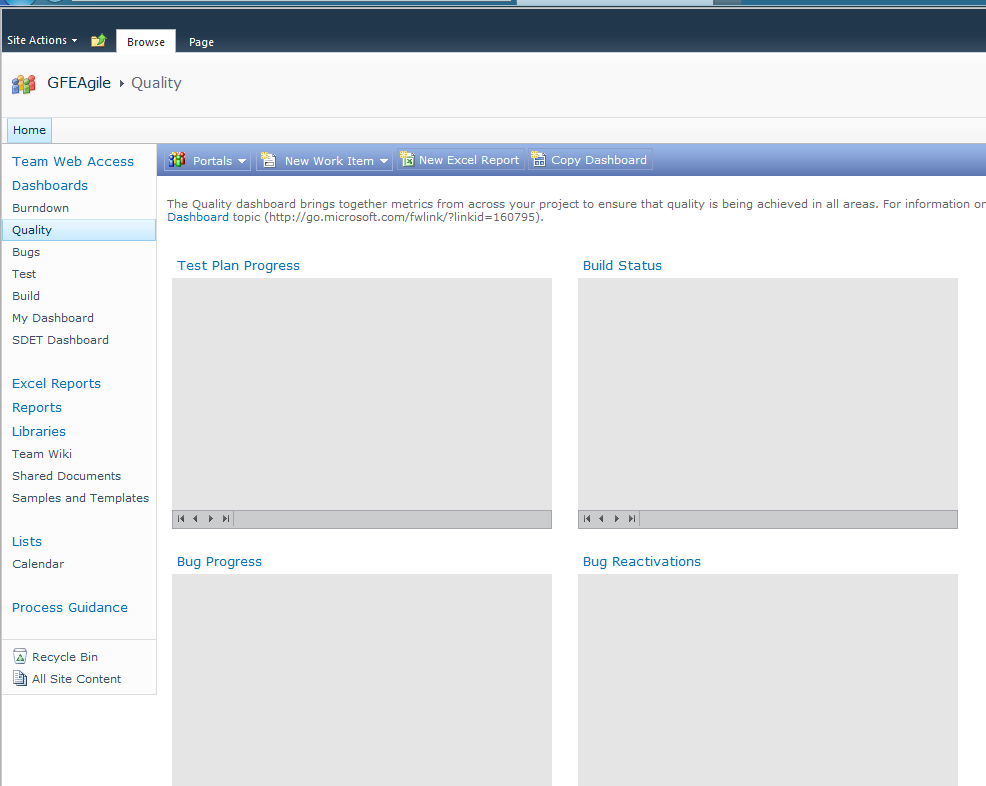


Figure 19- Quality Dashboard

Each Dashboard has different reports on that page. You can clone these dashboards and create your own

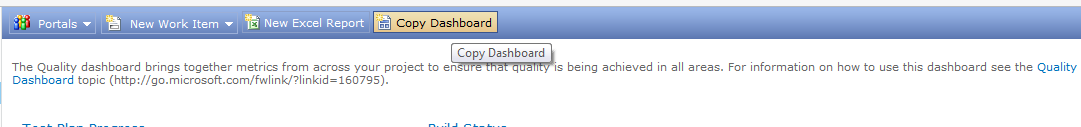


Figure 20- Copy Dashboard Feature

Click on the copy dashboard button on the dashboard you want to modify.

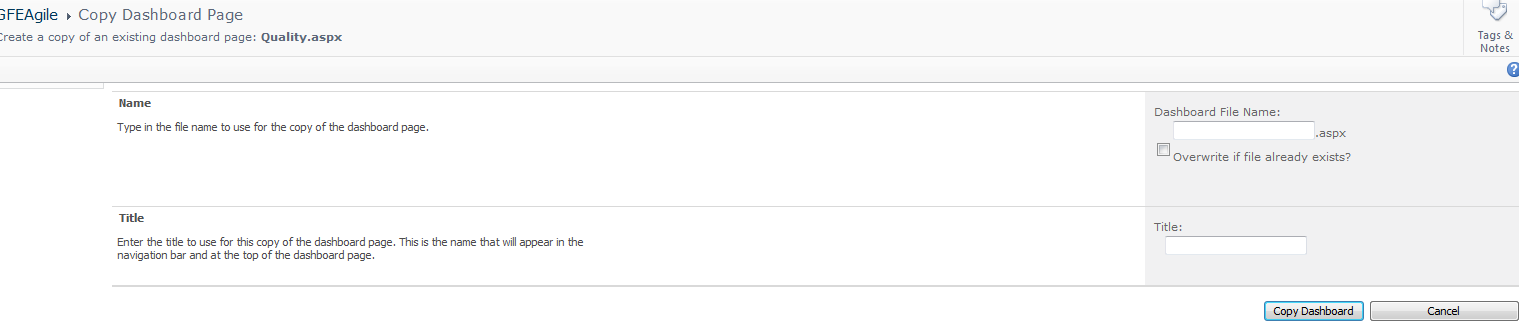


Figure 21- Copy Dashboard web part

On the pages there are web parts you can modify to get custom interfaces, and change how you want these to look. You can customize these, and your side web parts to display just the information you want to see.

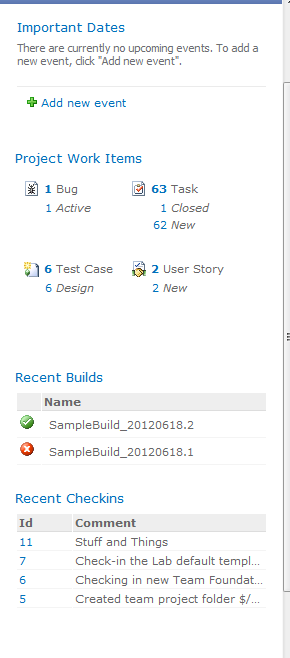


Figure 22- Dashboard Webpart

NOTE

You can copy these reports to other projects, or to another SharePoint server.

<http://office.microsoft.com/en-us/excel-help/save-a-file-to-a-sharepoint-library-or-another-web-location-HA010131481.aspx>

This takes us into adding excel reports which we’ll cover in the next chapter!

# Chapter 5 – Excel

WHAT’S IN THIS CHAPTER?

* Excel connection to projects
* Cube reporting / pivot table

As you saw in the previous chapter you can not only customize your dashboards, but you can add excel reports as well.

Let’s quickly go over where you can find the excel reports before adding new ones so you know what Visual Studio 2012 delivers out of the box.

NOTE

Some features won’t be available unless you are running SharePoint Enterprise Edition. See note in SharePoint chapter for more information.

We’ll go in the Team Explorer and in the documents folder click on that and there will be a folder called excel reports.

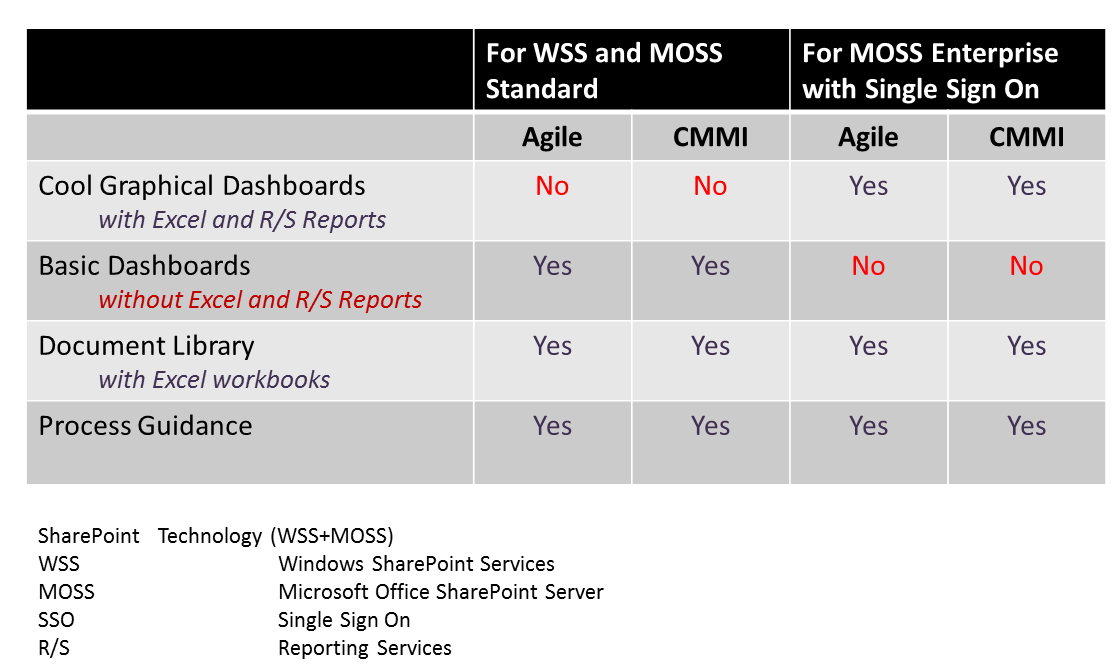


Figure 23- MOSS Comparison

## Agile

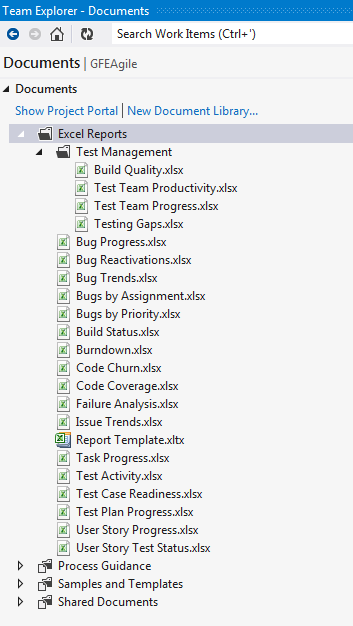


Figure 24- Agile Excel Reports

## CMMI

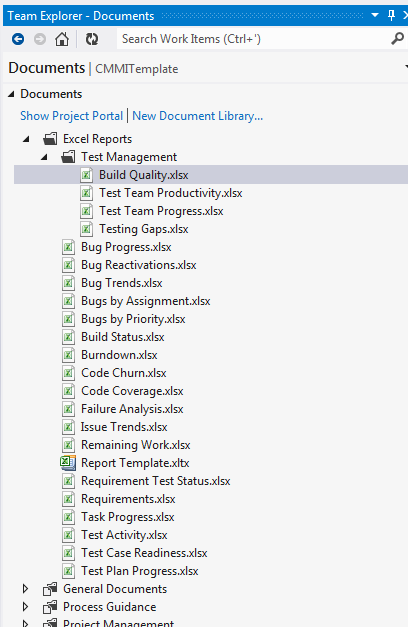


Figure 25- CMMI Excel Reports

## Scrum

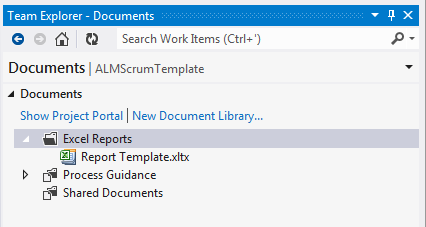


Figure 26- Scrum Excel Reports

## Modifying a SharePoint excel template

In chapter 4 we covered SharePoint reporting and copying a dashboard. In this part we’re going to cover the button next to that New Excel Report.

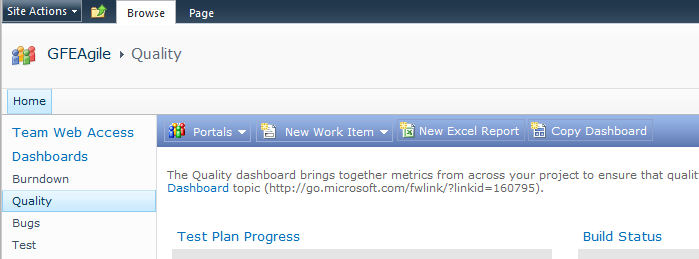


Figure 27- SharePoint Quality

You can click new excel report.

When you click this you’ll get the generic Report Template.xltx file. Open this Excel file.

You’ll get a protection warning and you’ll need to enable the content.

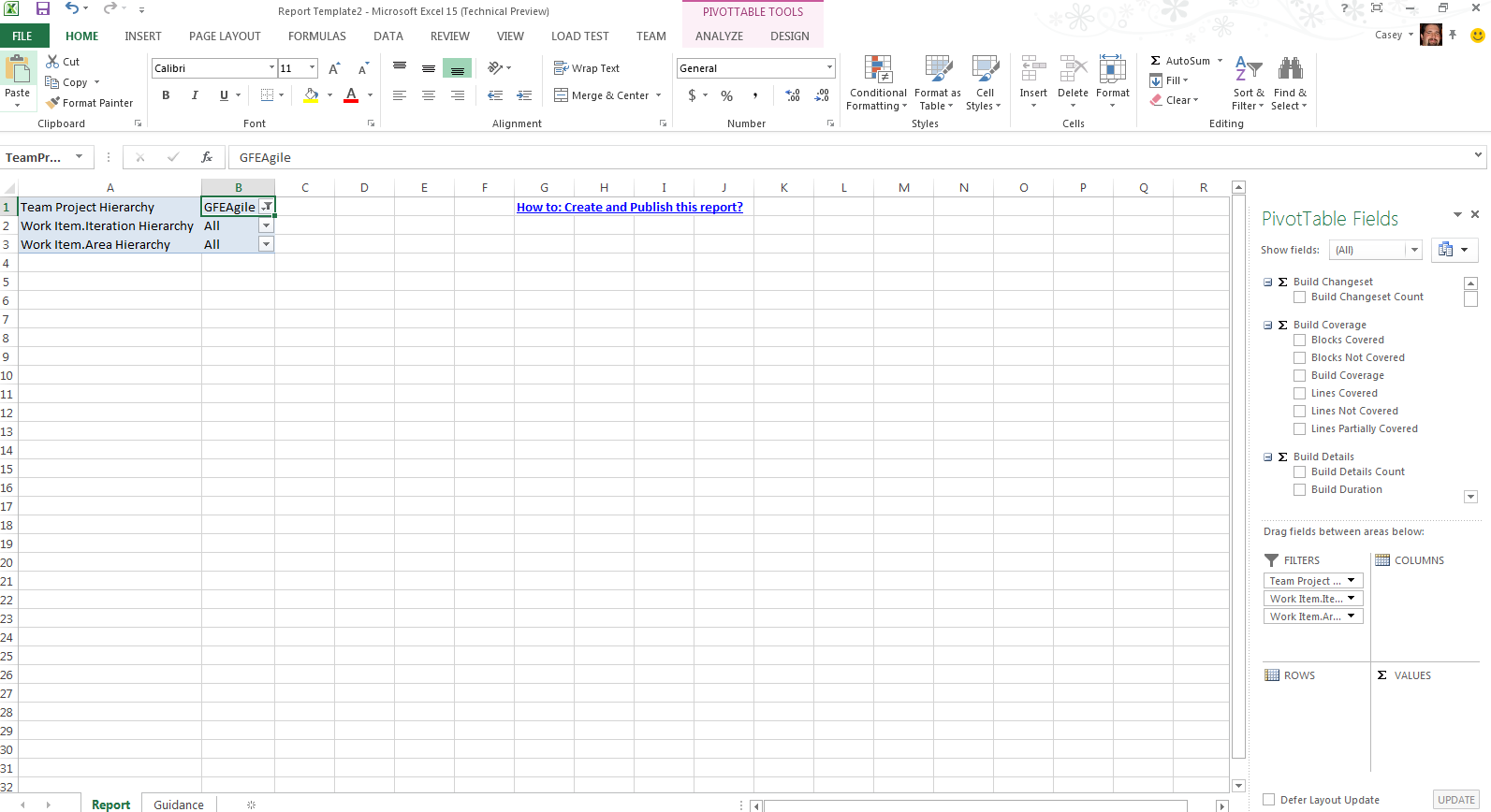


Figure 28- Excel PivotTable

You’ll find that there’s 2 tabs. One for the report you’ll want to create and a second with guidance on how to create and change the report. These tabs are located at the bottom left of the Excel workbook window.

It contains the following links:

|  |
| --- |
| [Create and change the field layout in a PivotTable or PivotChart report](http://go.microsoft.com/fwlink/?LinkID=131464&clcid=0x409) |
| [Create a PivotChart report from an existing PivotTable report](http://go.microsoft.com/fwlink/?LinkID=131465&clcid=0x409) |
| [Publish a workbook to Excel Services (Requires Microsoft Office SharePoint Server - Enterprise)](http://go.microsoft.com/fwlink/?LinkID=128886&clcid=0x409) |
| [Save a file to a SharePoint library](http://office.microsoft.com/en-us/excel/HA101314811033.aspx) |
| Use the following link to edit or remove an existing Excel Report. |
| [Edit or remove a workbook from Excel Services (Requires Microsoft Office SharePoint Server - Enterprise)](http://go.microsoft.com/fwlink/?LinkID=128887&clcid=0x409) |

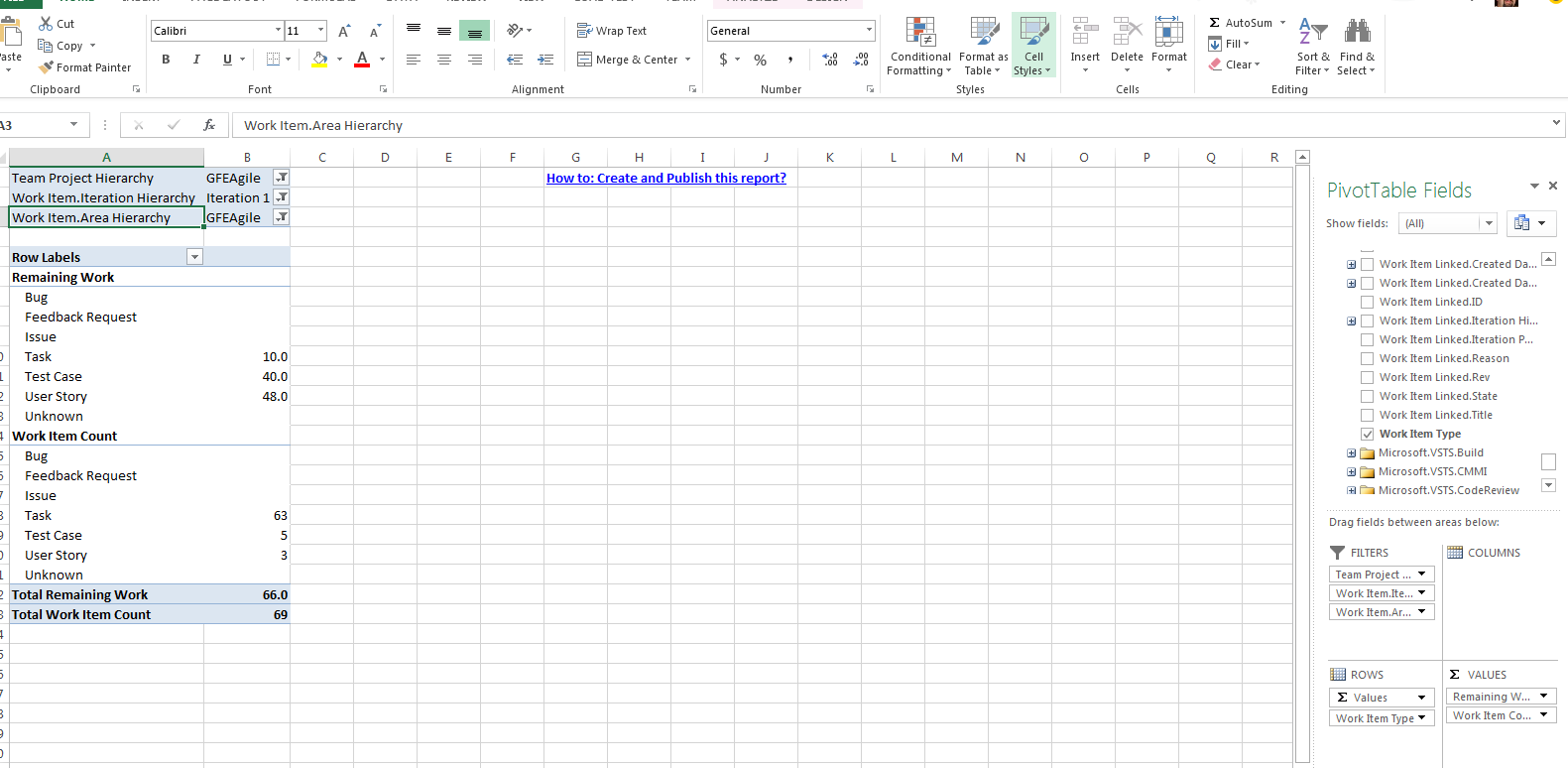


Figure 29- Excel Filters

From here you can select the Filters, Columns, Rows and Values in your pivot table.

Once you have this you can go to the insert tab in Excel and add a chart with the data selected:

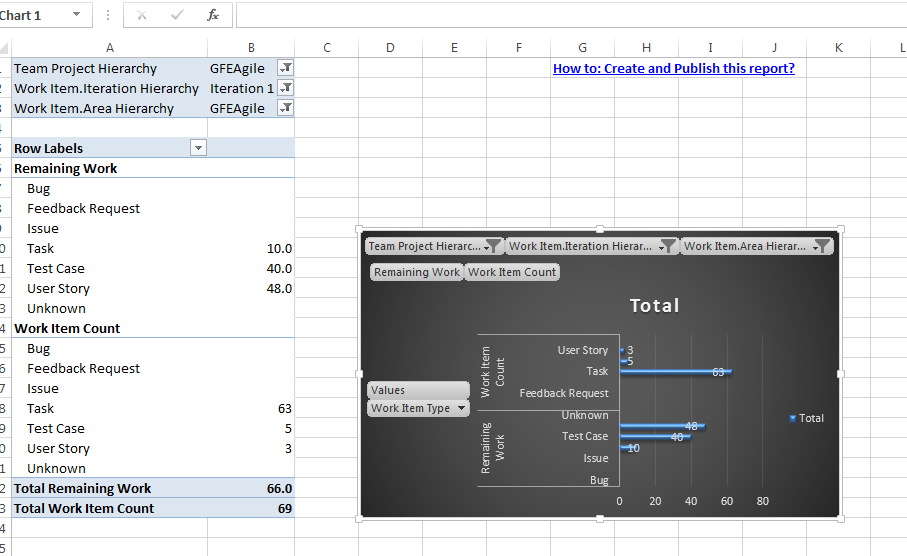


Figure 30- Excel Pivot table Publish

You can then save the reports out to the SharePoint site that you want it published back to

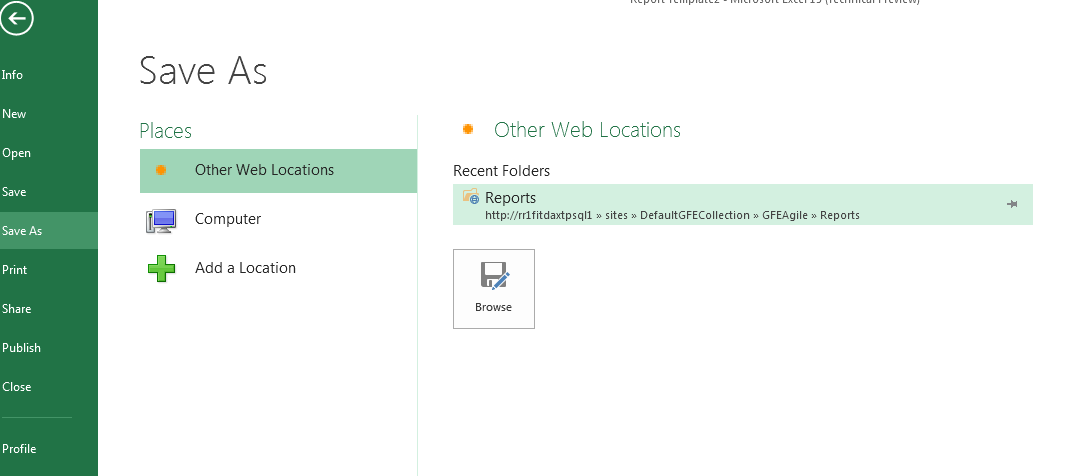


Figure 31- Save As Web Location

You should now see your Excel report on the SharePoint under the dashboards:



Figure 32- New Report

If you don’t have SharePoint one of the things you can do is copy them from someone’s SharePoint, or you can go to the link in the references from Ravi Shanker and he has the reports in a zip file at the bottom of the FAQ.

## Connection

Changing the connection in Excel is a fairly straightforward process. The connection string is a standard SQL connection string, but the tricky part is getting to it.

1. Open the Data – Connections Tab in Excel
2. In workbook connections click the OLAP report and then properties
3. Next click the Definition Tab and you’ll see the connection string
4. Here you can change your server, initial catalog.

## SQL Server Reporting Service Report Editor

This is the connection wizard that you will use to select the database or connect to a cube or table.

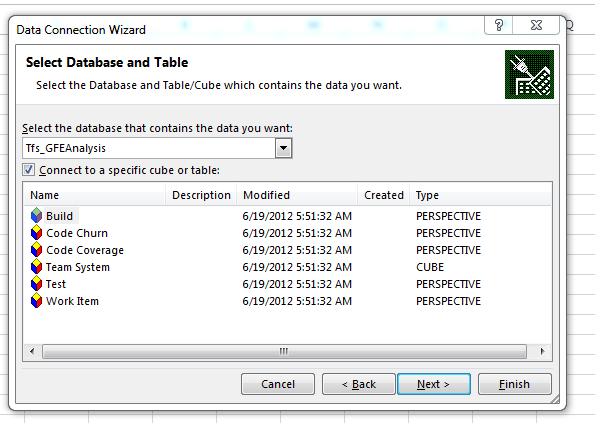


Figure 33- Cube Data

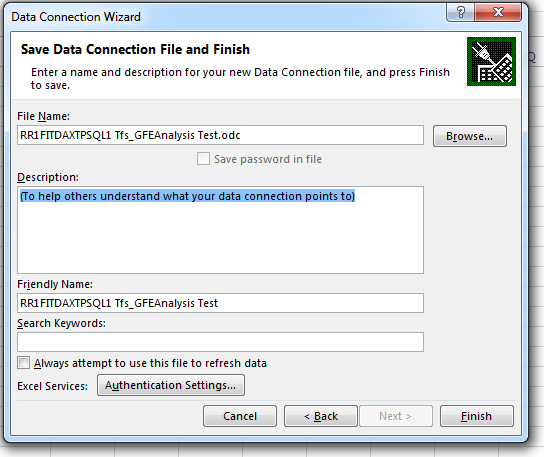
\

Figure 34- Data Connection

You can save your data in Excel Services and save the friendly name for use again. Save your file and Finish – Add authentication here for your excel service if needed.

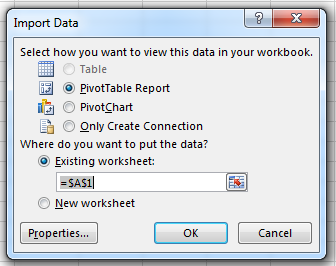


Figure 35- Import Data

You can import the data into the existing worksheet using your connection into a PivotTable Report.

Hopefully you see how you can use Visual Studio 2012 MTM, SharePoint, Excel, and Team Reports to help you with your reporting needs. You’ll also find a lot of great resources at the references below.

# References

Shanker, Ravi, 10-14-2011, “Test Case Management (TCM) Reporting – Frequently Asked Questions – Part 1”

<http://blogs.msdn.com/b/vstsqualitytools/archive/2011/10/14/test-case-management-tcm-reporting-frequently-asked-questions-part-1.aspx>

Accessed April 24th 2012

2 Shanker, Ravi, 10-14-2011, “Test Case Management (TCM) Reporting – Frequently Asked Questions – Part 2”

<http://blogs.msdn.com/b/vstsqualitytools/archive/2011/11/11/test-case-management-tcm-reporting-frequently-asked-questions-part-2.aspx>

3 MSDN, 6/1/2012, “Quality Dashboard (Agile)” <http://msdn.microsoft.com/en-us/library/dd420562(VS.100).aspx>

Other References:

<http://msdn.microsoft.com/en-us/library/bb649552(v=vs.110)>

Test Result Warehouse tables

<http://msdn.microsoft.com/en-us/library/ee620635.aspx>

Work Item Test Result Tables

<http://msdn.microsoft.com/en-us/library/ee620637.aspx>

<http://blogs.msdn.com/b/granth/>

<http://blogs.msdn.com/b/granth/archive/2010/07/12/monitoring-the-tfs-data-warehouse-faq.aspx>

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How to query relational warehouse

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