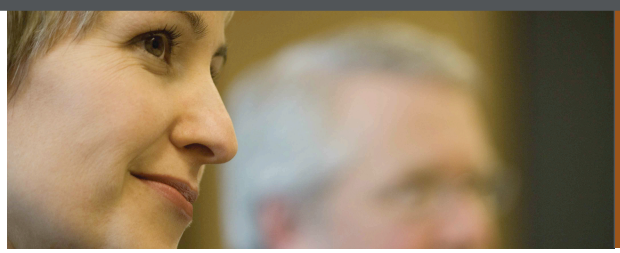
EARNED VALUE MANAGEMENT PERFORMANCE BLUEPRINT



APPLICATION BRIEF

COGNOS | INNOVATION CENTER
for Performance Management™

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INTRODUCTION

This application brief demonstrates a Web-based planning and reporting process for managing and measuring project costs using IBM Cognos 8 Planning and IBM Cognos 8 Business Intelligence. The rules employed in this *Blueprint* follow the U.S. Government required standard for Earned Value Management (EVM).

For government agencies, the *IBM Cognos Earned Value Management Performance Blueprint* provides users with a streamlined, best-practice planning, forecasting, analysis, and reporting tool. As a part of their annual budget submission, federal agencies must use the EVM methodology for all major investments. If any cost, schedule, or performance variance is negative 10 percent or more, agencies must provide an analysis and explanation and take corrective action. This *Blueprint* will outline the necessary course of action.

Private corporations can use this *Blueprint* as a project management tool for rigorous tracking and analysis of project costs and timelines. While there are many project-planning applications, the *Earned Value Management Blueprint* is easily consolidated and distributed to a wide audience. Additionally, the model quickly integrates with other Cognos planning applications, such as the annual budget.

IBM Cognos Performance Blueprints are pre-defined data, process, and policy software models developed in partnership with top-tier clients, industry experts, and leading academic institutions. Customers can download and implement these "quick start" data models at no extra cost.

Using the *Blueprint* with other Cognos performance management solutions offers you a simple, yet powerful way to set clear project goals and measure step-by-step progress logically and consistently.

OVERVIEW

For many agencies and companies, project measurement looks at actual versus planned costs. The Earned Value Management (EVM) approach measures the value of work completed at any given time compared to the value of work planned. EVM does this by looking at a combination of planned versus actual cost and planned versus actual performance at a given point in time. In this way, EVM provides a view into the true value of work performed.

There are three critical components used to measure performance:

- Activity: Also known as work breakdown structure (WBS), activity refers to a series of tasks that are hierarchical and contain interdependencies
- Schedule: Actual and plan
- Cost: Actual and plan, including detailed breakdowns for material, labor, and overhead and allocation of these resources

Key terms in the EVM process include

- Budgeted Cost of Work Performed (BCWP), which is another term for Earned Value
- Actual Cost of Work Performed (ACWP)
- Budgeted Cost of Work Scheduled (BCWS)
- Actual Cost of Work Scheduled (ACWS)
- Estimate at Completion (EAC)
- Budget at Completion (BAC)
- Estimate to Complete (ETC), which is the plan backlog
- Interim to date planned and actual costs (ITD)

BLUEPRINT OBJECTIVES

The *IBM Cognos Earned Value Management Performance Blueprint*, together with your IBM Cognos performance management software, provides a reliable, consistent modeling tool for analyzing current project costs and activity. You can use the *Blueprint* in its current form or as a repository for other project planning applications, such as Microsoft Project. The *Blueprint* provides a consolidated view of all projects within a responsible area, agency, or department.

EVM is a best business practice that puts a dollar value on project status to help companies measure the health of a project throughout its lifecycle. EVM is a required process for all federal agencies (including the Department of Defense and Intelligence Agencies) as part of the OMB A-11, Exhibit 300, Business Case for all Capital Asset Programs.

KEY IBM COGNOS PLANNING BENEFITS

IBM Cognos 8 Planning, one of several Cognos performance management solutions, offers organizations an array of best-practice planning capabilities:

- Flexible model development to support a wide variety of planning models
- Web-based or Excel-based deployment of models for data collection and consolidation
- Easy version control
- Real-time workflow to facilitate collaboration
- Real-time consolidation
- Real-time reporting
- Real-time browser-based calculations for immediate results
- Audit and user textual annotations at the cell, worksheet, and model level to enhance collaboration
- Drop-down validation lists to ensure data consistency
- Scalable architecture with proven deployments to thousands of users
- Linking functionality to bridge divergent, yet interrelated components of the planning environment
- Off-line capabilities
- Custom date capabilities with no limit on the time dimension to enable planning by the week, season, period, quarter, or year
- Unique multi-directional calculation engine enabling input across any dimension at detail or aggregate levels

Model design overview

Figure 1 provides a high-level overview of the Earned Value Management process.

Earned Value Management Flowchart

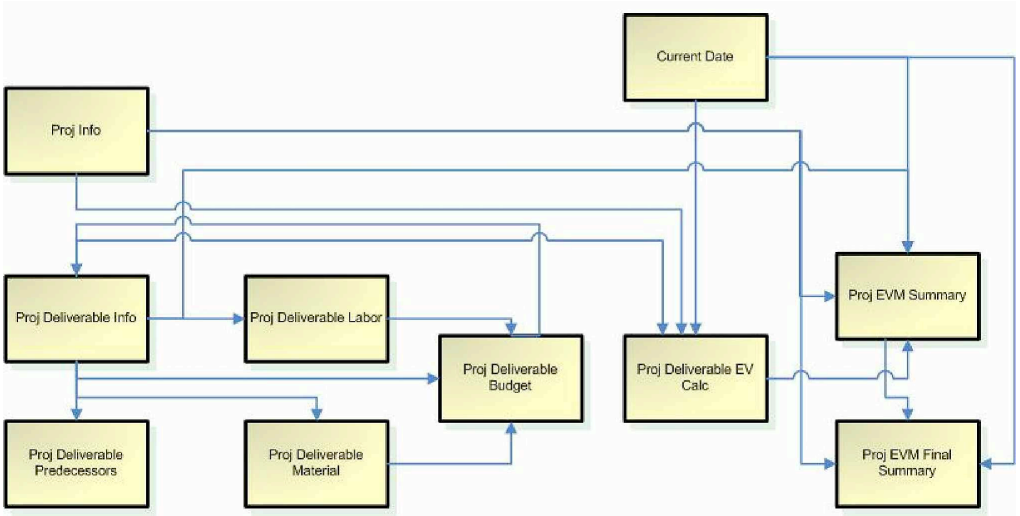


Figure 1

Earned Value Management Dashboard

A typical planning process may begin with a project manager opening the EVM portal, which is shown in *Figure 2*. The dashboard contains a bar chart for Project 1, which shows Actual Cost of Work Performed (ACWP) versus Budgeted Cost of Work Performed (BCWP) for each month in the current year. It also highlights exceptions. The line graph on the right shows Budgeted Cost of Work Scheduled (BCWS). The metrics show Cost Performance and Schedule Performance indices. The example below shows a red-alert situation for Cost Performance Index (CPI) and Schedule Variance.

Figure 2

Figure 3 shows a further drill-down on this information.

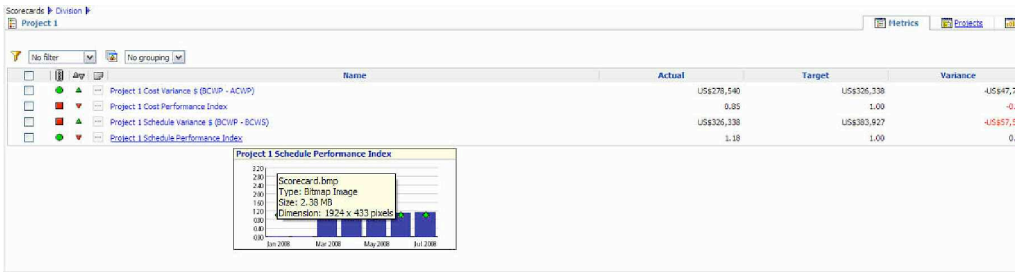


Figure 3

If you are managing a large number of projects, you may want to see a summary view of all projects (*Figure 4*). This view also gives detailed information about each project.

Project	Project Description	Org ID	Fiscal Year	Group	Division	Business Area	Project Start Date	Funding Reserve	Negotiated Period of Performance (NPOP)	Program	Client	Status	Task Order	Cost Basis	Cost Segment	CBM	Project Type	Project Source
Headquarters								730,000										
Division								730,000										
Project 1	XBDUProject	200.000.001	2008	Group I	Division II	Business Area 3	Feb-CY	320,000	14	Program 4	Client 3	Follow On	Task Order	Total Cost Impact	Cost Segment 2	COM	T&M	Contributor
Project 2	ZOO_UProject	200.001.004	2010	Group I	Division II	Business Area 2	Feb-CY	400,000	12	Program 2	Client 5	Pre	Not Task Order	Value Add	Cost Segment 3	No COM	FIXED PRICE	Contributor
HS_Project 300	HS_Project_300	200.000.003	2008	Group III	Division A	Business Area 1	Feb-CY	300,000	12	Program 1	Client 1	New	Task Order	Total Cost Impact	Cost Segment 1	COM	IDIQ Contract	HSProject

Figure 4

USING THE BLUEPRINT

Representative workflow

The *IBM Cognos Earned Value Management Performance Blueprint* gives you the ability to track individual projects using IBM Cognos 8 Planning. The following describes a basic workflow in which a faculty-level contributor would:

- Define project scope, cost, and completion date
- Define each deliverable for the project
- Determine dates, overall cost, and timeline for each deliverable
- Review and determine interdependencies and predecessors for each deliverable
- Detail material and labor costs for each deliverable
- Review the budget
- Enter completion dates for deliverables
- Review and correct against actual data

The *Blueprint* contains 10 input tabs and can accommodate users of other project management software. The data for these users should be captured and consolidated so that it is readily available.

An example organizational hierarchy, as shown in *Figure 5*, is organized by project for a specific agency. You can expand this hierarchy to include other projects, agencies, divisions, and departments.

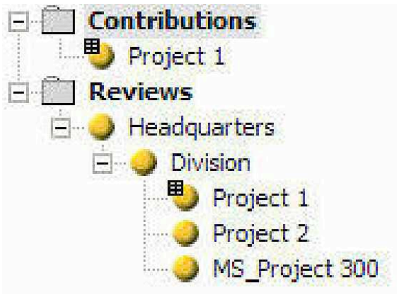


Figure 5

Workflow

When using the *IBM Cognos Earned Value Management Performance Blueprint*, users will have the same views and inputs, but each project manager will view only his or her projects. Users of other applications will see slightly different tabs. The division head can review all division projects individually or at a consolidated level and can reject proposed project costs and schedules. The example in *Figure 5* shows a user with Microsoft Project. The data provided will be available for total projects.

Current Date

The **Current Date** tab (*Figure 6*) enables the user to select the date used to view and analyze data at a given point in time.

Figure 6

Project Info

Shown in *Figure 7*, the **Project Info** tab (Proj Info) enables you to enter basic information about the project. Note that the Project Start Date and Negotiated Period of Performance variables are used to derive many of the indicators of performance.

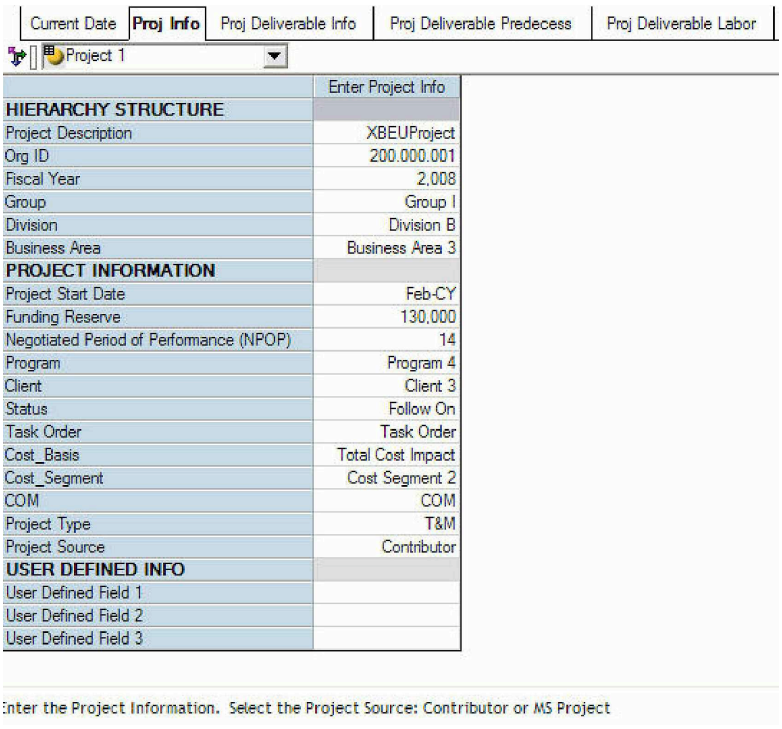
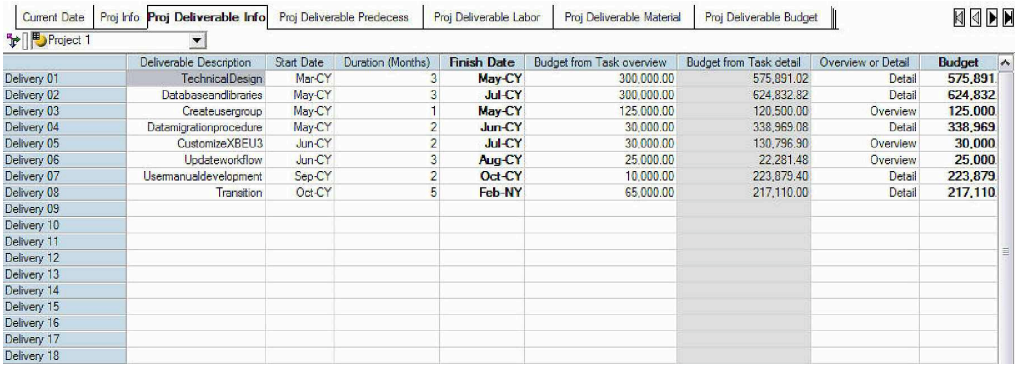


Figure 7

Project Deliverable Info

Using the **Project Deliverable Info** tab (Proj Deliverable Info), shown in *Figure 8*, the project manager defines and enters each deliverable required to complete the project. Included in this input are the start date and approximate project duration, along with a high-level estimate of cost. The project manager also indicates whether the material and labor costs for each deliverable will be detailed. In some cases, it may not be necessary to define costs more specifically, so the overview cost can be used. If costs are to be detailed, the data will come from the **Project Deliverable Labor** and **Project Deliverable Material** tabs.

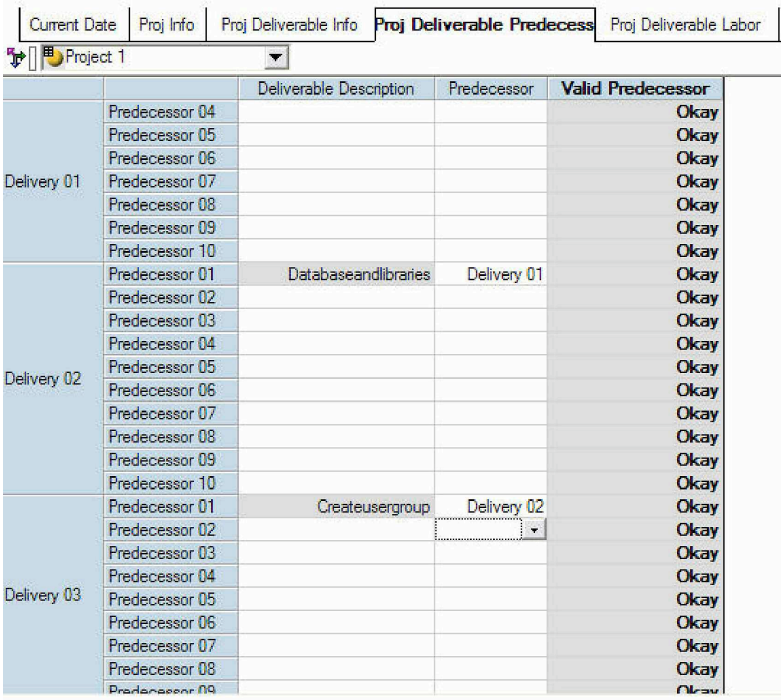


	Deliverable Description	Start Date	Duration (Months)	Finish Date	Budget from Task overview	Budget from Task detail	Overview or Detail	Budget
Delivery 01	TechnicalDesign	Mar-CY	3	**May-CY**	300,000.00	575,891.02	Detail	**575,891**
Delivery 02	Databaseandlibraries	May-CY	3	**Jul-CY**	300,000.00	624,832.82	Detail	**624,832**
Delivery 03	Createusergroup	May-CY	1	**May-CY**	125,000.00	120,500.00	Overview	**125,000**
Delivery 04	Datamigrationprocedure	May-CY	2	**Jun-CY**	30,000.00	338,969.08	Detail	**338,969**
Delivery 05	CustomizeXBEU3	Jun-CY	2	**Jul-CY**	30,000.00	130,796.90	Overview	**30,000**
Delivery 06	Updateworkflow	Jun-CY	3	**Aug-CY**	25,000.00	22,281.48	Overview	**25,000**
Delivery 07	Usermanualdevelopment	Sep-CY	2	**Oct-CY**	10,000.00	223,879.40	Detail	**223,879**
Delivery 08	Transition	Oct-CY	5	**Feb-NY**	65,000.00	217,110.00	Detail	**217,110**
Delivery 09								
Delivery 10								
Delivery 11								
Delivery 12								
Delivery 13								
Delivery 14								
Delivery 15								
Delivery 16								
Delivery 17								
Delivery 18								

Figure 8

Project Deliverable Predecessor

The **Project Deliverable Predecessor** tab (Proj Deliverable Predecess) indicates when certain deliverables cannot occur unless preceded by other steps. As shown in *Figure 9*, Delivery 02 must precede Delivery 03.



		Deliverable Description	Predecessor	Valid Predecessor
Delivery 01	Predecessor 04			Okay
	Predecessor 05			Okay
	Predecessor 06			Okay
	Predecessor 07			Okay
	Predecessor 08			Okay
	Predecessor 09			Okay
	Predecessor 10			Okay
Delivery 02	Predecessor 01	Databaseandlibraries	Delivery 01	Okay
	Predecessor 02			Okay
	Predecessor 03			Okay
	Predecessor 04			Okay
	Predecessor 05			Okay
	Predecessor 06			Okay
	Predecessor 07			Okay
	Predecessor 08			Okay
	Predecessor 09			Okay
	Predecessor 10			Okay
Delivery 03	Predecessor 01	Createusergroup	Delivery 02	Okay
	Predecessor 02			Okay
	Predecessor 03			Okay
	Predecessor 04			Okay
	Predecessor 05			Okay
	Predecessor 06			Okay
	Predecessor 07			Okay
	Predecessor 08			Okay
	Predecessor 09			Okay

Figure 9

Project Deliverable Labor

Shown in *Figure 10*, the **Project Deliverable Labor** tab (Proj Deliverable Labor) provides detailed labor information for each deliverable. The user enters data, including Labor Class, Employee, Group, Hours, Rate Type, and Rate Input. Labor Costs and Standard Rates are calculated based on the Rate Input and Rate Factor.

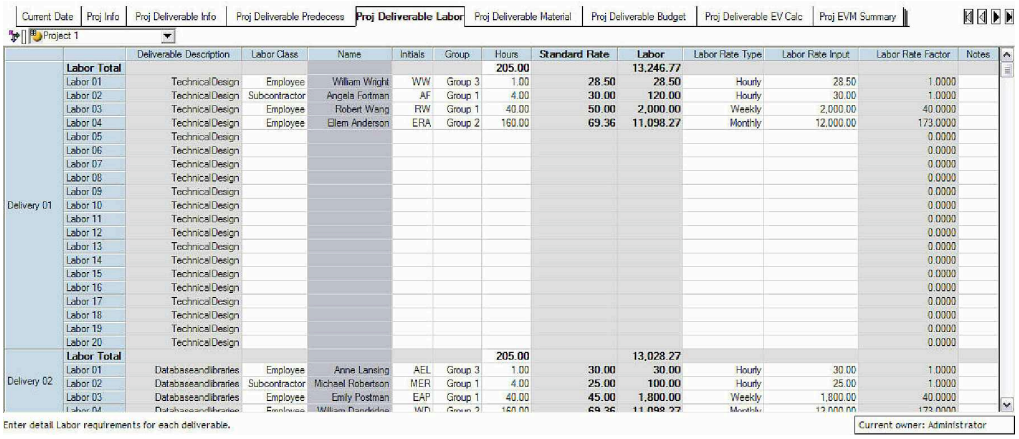


Figure 10

Project Deliverable Material

As with the preceding tab, the **Project Deliverable Material** tab (Proj Deliverable Material), shown in *Figure 11*, enables you to enter detailed material costs for each deliverable. Total Costs are calculated from quantity, unit measure, and price.

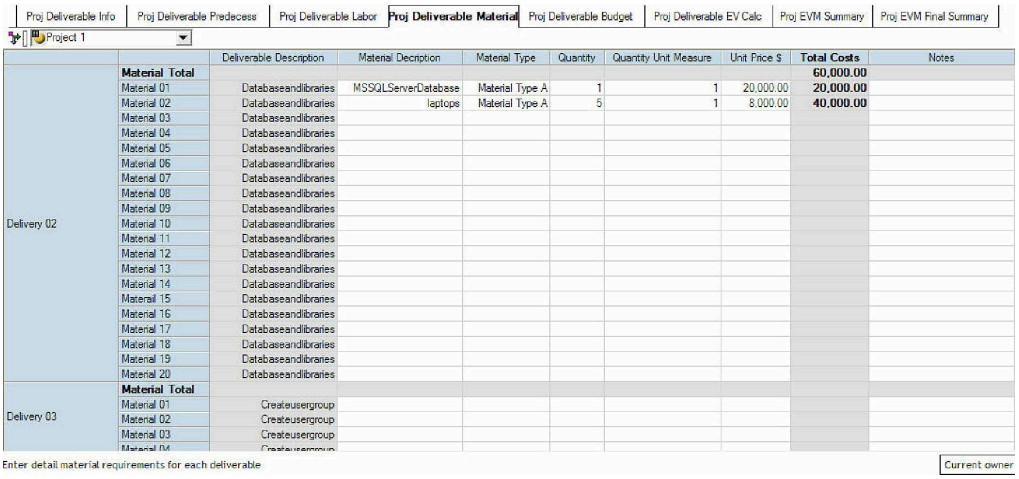
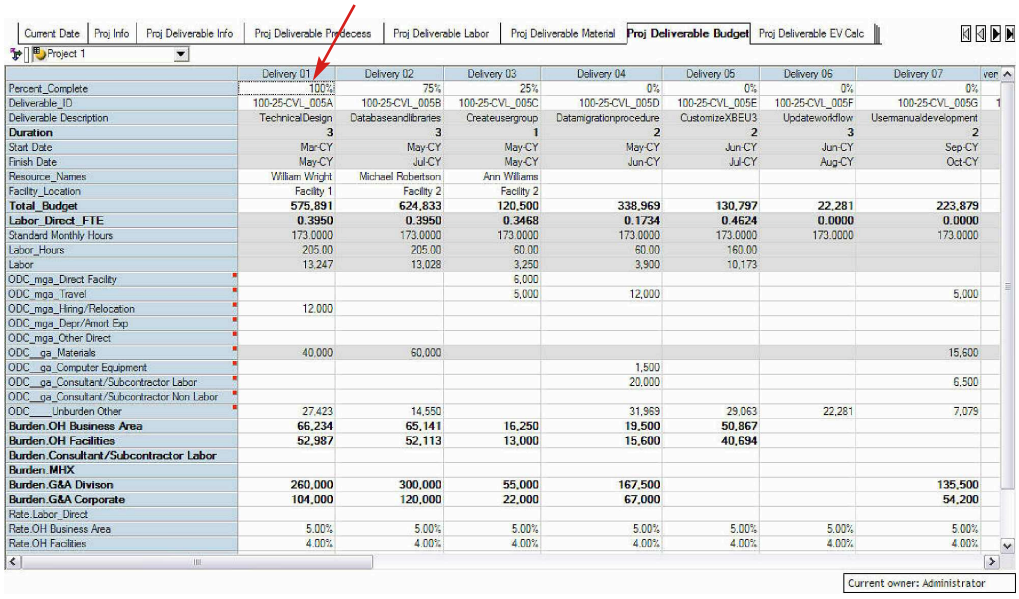


Figure 11

Project Deliverable Budget

Material and labor costs are linked into the **Project Deliverable Budget** tab (*Figure 12*). You can enter additional costs in this tab, such as general and administrative (G&A) and overhead costs. Overhead is calculated based on the Burden Rates input.

You must enter the Percent Complete. This input is critical for the calculation of EVM metrics and variances, and it provides the value of work completed to date.

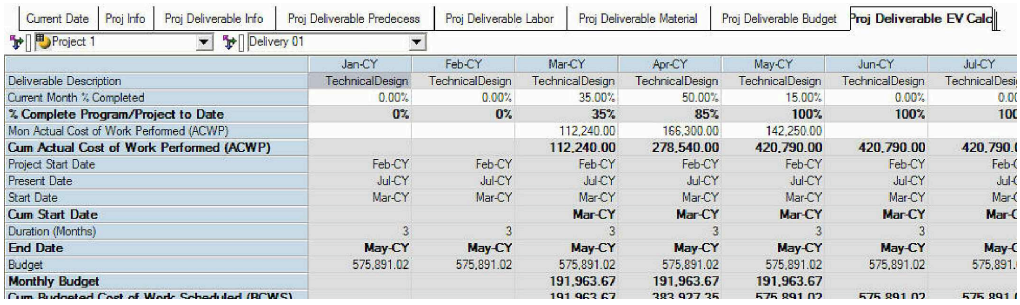


	Delivery 01	Delivery 02	Delivery 03	Delivery 04	Delivery 05	Delivery 06	Delivery 07
Percent_Complete	100%	75%	25%	0%	0%	0%	0%
Deliverable_ID	100-25-CVL_005A	100-25-CVL_005B	100-25-CVL_005C	100-25-CVL_005D	100-25-CVL_005E	100-25-CVL_005F	100-25-CVL_005G
Deliverable Description	TechnicalDesign	Databaseandlibraries	Createusergroup	Datamigrationprocedure	CustomizeXBEU3	Updateworkflow	Usermanualdevelopment
Duration	**3**	**3**	**1**	**2**	**2**	**3**	**2**
Start Date	Mar-CY	May-CY	May-CY	May-CY	Jun-CY	Jun-CY	Sep-CY
Finish Date	May-CY	Jul-CY	May-CY	Jun-CY	Jul-CY	Aug-CY	Oct-CY
Resource_Names	William Wright	Michael Robertson	Ann Williams				
Facility_Location	Facility 1	Facility 2	Facility 2				
Total_Budget	**575,891**	**624,833**	**120,500**	**338,969**	**130,797**	**22,281**	**223,879**
Labor_Direct_FTE	**0.3950**	**0.3950**	**0.3468**	**0.1734**	**0.4624**	**0.0000**	**0.0000**
Standard Monthly Hours	173.0000	173.0000	173.0000	173.0000	173.0000	173.0000	173.0000
Labor_Hours	205.00	205.00	60.00	60.00	160.00		
Labor	13,247	13,028	3,250	3,900	10,173		
ODC_mga_Direct Facility			6,000				
ODC_mga_Travel			5,000	12,000			5,000
ODC_mga_Hiring/Relocation	12,000						
ODC_mga_Depr/Amort Exp							
ODC_mga_Other Direct							
ODC__ga_Materials	40,000	60,000					15,600
ODC__ga_Computer Equipment				1,500			
ODC__ga_Consultant/Subcontractor Labor				20,000			6,500
ODC__ga_Consultant/Subcontractor Non Labor							
ODC____Unburden Other	27,423	14,550		31,969	29,063	22,281	7,079
Burden.OH Business Area	**66,234**	**65,141**	**16,250**	**19,500**	**50,867**		
Burden.OH Facilities	**52,987**	**52,113**	**13,000**	**15,600**	**40,694**		
Burden.Consultant/Subcontractor Labor							
Burden.MHX							
Burden.G&A Divison	**260,000**	**300,000**	**55,000**	**167,500**			**135,500**
Burden.G&A Corporate	**104,000**	**120,000**	**22,000**	**67,000**			**54,200**
Rate.Labor_Direct							
Rate.OH Business Area	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Rate.OH Facilities	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%

Figure 12

Project Deliverable EV Calculation

Shown in *Figure 13*, the **Project Deliverable EV Calculation** tab (Proj Deliverable EV Calc) enables you to enter the percent and cost of each deliverable for each month. The *% Complete Program/Project to Date* should not exceed 100 percent. Data in other fields is either derived from other tabs or calculated.



	Jan-CY	Feb-CY	Mar-CY	Apr-CY	May-CY	Jun-CY	Jul-CY
Deliverable Description	TechnicalDesign	TechnicalDesign	TechnicalDesign	TechnicalDesign	TechnicalDesign	TechnicalDesign	TechnicalDesi
Current Month % Completed	0.00%	0.00%	35.00%	50.00%	15.00%	0.00%	0.0
% Complete Program/Project to Date	**0%**	**0%**	**35%**	**85%**	**100%**	**100%**	**100**
Mon Actual Cost of Work Performed (ACWP)			112,240.00	166,300.00	142,250.00		
Cum Actual Cost of Work Performed (ACWP)			**112,240.00**	**278,540.00**	**420,790.00**	**420,790.00**	**420,790.**
Project Start Date	Feb-CY	Feb-CY	Feb-CY	Feb-CY	Feb-CY	Feb-CY	Feb-C
Present Date	Jul-CY	Jul-CY	Jul-CY	Jul-CY	Jul-CY	Jul-CY	Jul-C
Start Date	Mar-CY	Mar-CY	Mar-CY	Mar-CY	Mar-CY	Mar-CY	Mar-C
Cum Start Date			**Mar-CY**	**Mar-CY**	**Mar-CY**	**Mar-CY**	**Mar-C**
Duration (Months)	3	3	3	3	3	3	
End Date	**May-CY**	**May-CY**	**May-CY**	**May-CY**	**May-CY**	**May-CY**	**May-C**
Budget	575,891.02	575,891.02	575,891.02	575,891.02	575,891.02	575,891.02	575,891.
Monthly Budget			**191,963.67**	**191,963.67**	**191,963.67**		
Cum Budgeted Cost of Work Scheduled (BCWS)			**191,963.67**	**383,927.35**	**575,891.02**	**575,891.02**	**575,891.**

Figure 13

Project EVM Summary

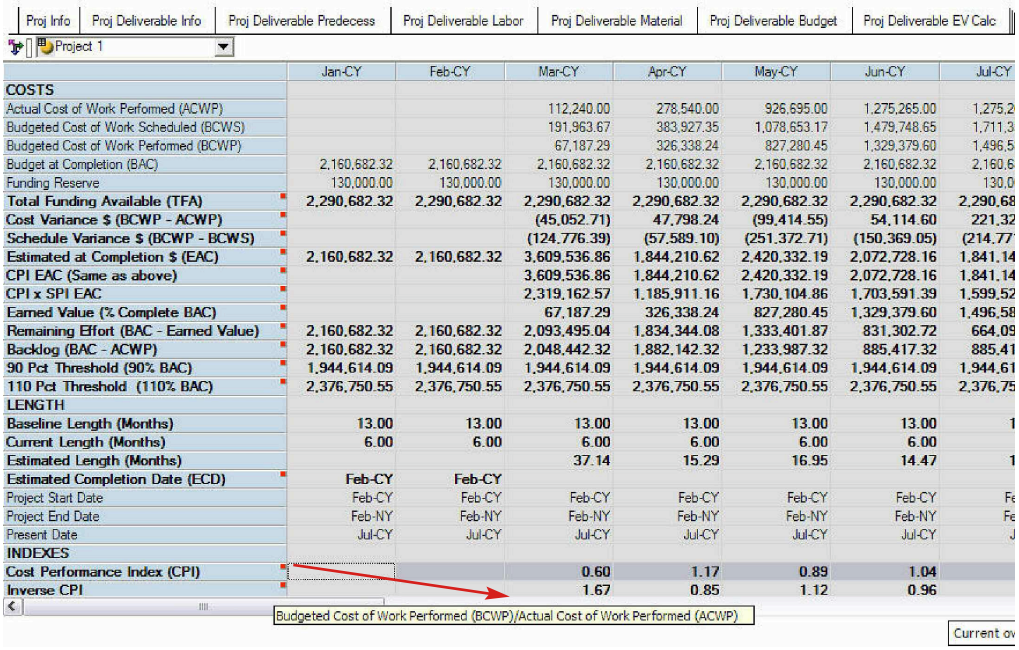
Shown in *Figure 14*, the **Project EVM Summary** tab (Proj EVM Summary) contains all summary information on the project by month. Items noted with a red square include a description of the calculation or metric. Move the cursor under the Cost Performance Index (CPI) indicator, for example, to see a description of this calculation.

The CPI metric is extremely important as it determines the outcome of the variance.

< 1 means that the cost of completing the work is higher than planned (favorable)

= 1 means that the cost of completing the work is right on plan (favorable)

> 1 means that the cost of completing the work is less than planned (favorable or unfavorable).

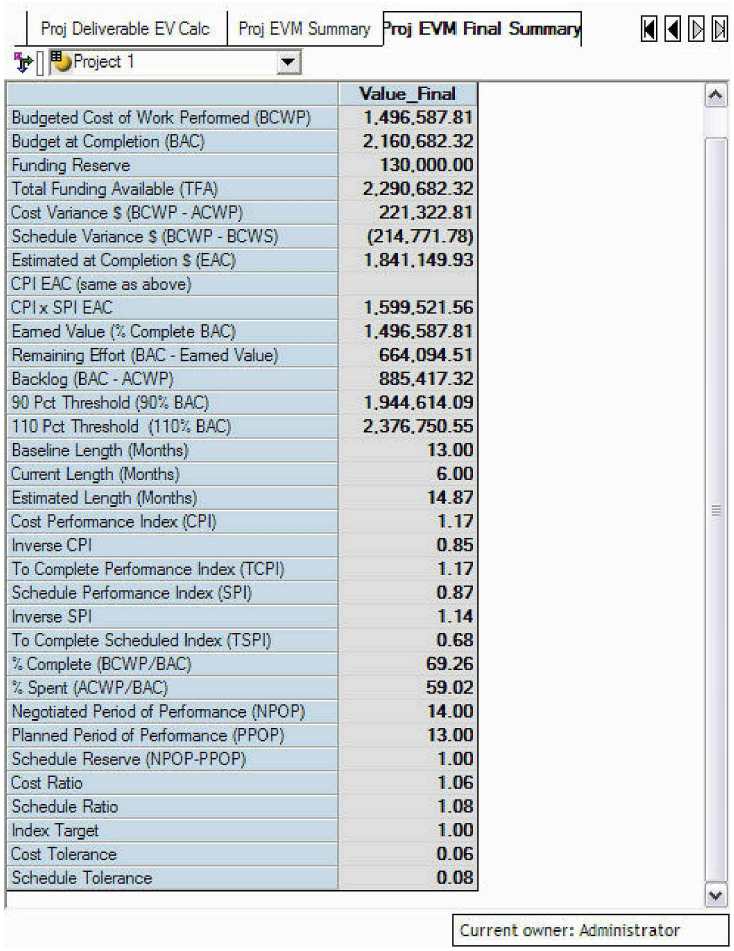


	Jan-CY	Feb-CY	Mar-CY	Apr-CY	May-CY	Jun-CY	Jul-CY
COSTS							
Actual Cost of Work Performed (ACWP)			112,240.00	278,540.00	926,695.00	1,275,265.00	1,275,2
Budgeted Cost of Work Scheduled (BCWS)			191,963.67	383,927.35	1,078,653.17	1,479,748.65	1,711,3
Budgeted Cost of Work Performed (BCWP)			67,187.29	326,338.24	827,280.45	1,329,379.60	1,496,5
Budget at Completion (BAC)	2,160,682.32	2,160,682.32	2,160,682.32	2,160,682.32	2,160,682.32	2,160,682.32	2,160,6
Funding Reserve	130,000.00	130,000.00	130,000.00	130,000.00	130,000.00	130,000.00	130,0
Total Funding Available (TFA)	**2,290,682.32**	**2,290,682.32**	**2,290,682.32**	**2,290,682.32**	**2,290,682.32**	**2,290,682.32**	**2,290,68**
Cost Variance $ (BCWP - ACWP)			**(45,052.71)**	**47,798.24**	**(99,414.55)**	**54,114.60**	**221,32**
Schedule Variance $ (BCWP - BCWS)			**(124,776.39)**	**(57,589.10)**	**(251,372.71)**	**(150,369.05)**	**(214,77**
Estimated at Completion $ (EAC)	**2,160,682.32**	**2,160,682.32**	**3,609,536.86**	**1,844,210.62**	**2,420,332.19**	**2,072,728.16**	**1,841,14**
CPI EAC (Same as above)			**3,609,536.86**	**1,844,210.62**	**2,420,332.19**	**2,072,728.16**	**1,841,14**
CPI x SPI EAC			**2,319,162.57**	**1,185,911.16**	**1,730,104.86**	**1,703,591.39**	**1,599,52**
Earned Value (% Complete BAC)			**67,187.29**	**326,338.24**	**827,280.45**	**1,329,379.60**	**1,496,58**
Remaining Effort (BAC - Earned Value)	**2,160,682.32**	**2,160,682.32**	**2,093,495.04**	**1,834,344.08**	**1,333,401.87**	**831,302.72**	**664,09**
Backlog (BAC - ACWP)	**2,160,682.32**	**2,160,682.32**	**2,048,442.32**	**1,882,142.32**	**1,233,987.32**	**885,417.32**	**885,41**
90 Pct Threshold (90% BAC)	**1,944,614.09**	**1,944,614.09**	**1,944,614.09**	**1,944,614.09**	**1,944,614.09**	**1,944,614.09**	**1,944,61**
110 Pct Threshold (110% BAC)	**2,376,750.55**	**2,376,750.55**	**2,376,750.55**	**2,376,750.55**	**2,376,750.55**	**2,376,750.55**	**2,376,75**
LENGTH							
Baseline Length (Months)	**13.00**	**13.00**	**13.00**	**13.00**	**13.00**	**13.00**	**1**
Current Length (Months)	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**	
Estimated Length (Months)			**37.14**	**15.29**	**16.95**	**14.47**	**1**
Estimated Completion Date (ECD)	**Feb-CY**	**Feb-CY**					
Project Start Date	Feb-CY	Feb-CY	Feb-CY	Feb-CY	Feb-CY	Feb-CY	Fe
Project End Date	Feb-NY	Feb-NY	Feb-NY	Feb-NY	Feb-NY	Feb-NY	Fe
Present Date	Jul-CY	Jul-CY	Jul-CY	Jul-CY	Jul-CY	Jul-CY	J
INDEXES							
Cost Performance Index (CPI)			**0.60**	**1.17**	**0.89**	**1.04**	
Inverse CPI			**1.67**	**0.85**	**1.12**	**0.96**	

Figure 14

Project EVM Final Summary

The **Project EVM Final Summary** tab (Proj EVM Final Summary), shown in *Figure 15*, links from the **Project EVM Summary** tab. The view is modified to show calculated variance only for the month originally selected in the **Current Date** tab.



	Value_Final
Budgeted Cost of Work Performed (BCWP)	1,496,587.81
Budget at Completion (BAC)	2,160,682.32
Funding Reserve	130,000.00
Total Funding Available (TFA)	2,290,682.32
Cost Variance $ (BCWP - ACWP)	221,322.81
Schedule Variance $ (BCWP - BCWS)	(214,771.78)
Estimated at Completion $ (EAC)	1,841,149.93
CPI EAC (same as above)	
CPI x SPI EAC	1,599,521.56
Earned Value (% Complete BAC)	1,496,587.81
Remaining Effort (BAC - Earned Value)	664,094.51
Backlog (BAC - ACWP)	885,417.32
90 Pct Threshold (90% BAC)	1,944,614.09
110 Pct Threshold (110% BAC)	2,376,750.55
Baseline Length (Months)	13.00
Current Length (Months)	6.00
Estimated Length (Months)	14.87
Cost Performance Index (CPI)	1.17
Inverse CPI	0.85
To Complete Performance Index (TCPI)	1.17
Schedule Performance Index (SPI)	0.87
Inverse SPI	1.14
To Complete Scheduled Index (TSPI)	0.68
% Complete (BCWP/BAC)	69.26
% Spent (ACWP/BAC)	59.02
Negotiated Period of Performance (NPOP)	14.00
Planned Period of Performance (PPOP)	13.00
Schedule Reserve (NPOP-PPOP)	1.00
Cost Ratio	1.06
Schedule Ratio	1.08
Index Target	1.00
Cost Tolerance	0.06
Schedule Tolerance	0.08

Figure 15

MICROSOFT PROJECT VIEW

The following tabs show what a user will see if data is imported from Microsoft Project (MS Project). Little input is required beyond selection of the month to view.

Current Date

Use the **Current Date** tab (*Figure 16*) to select which date to view for project status.

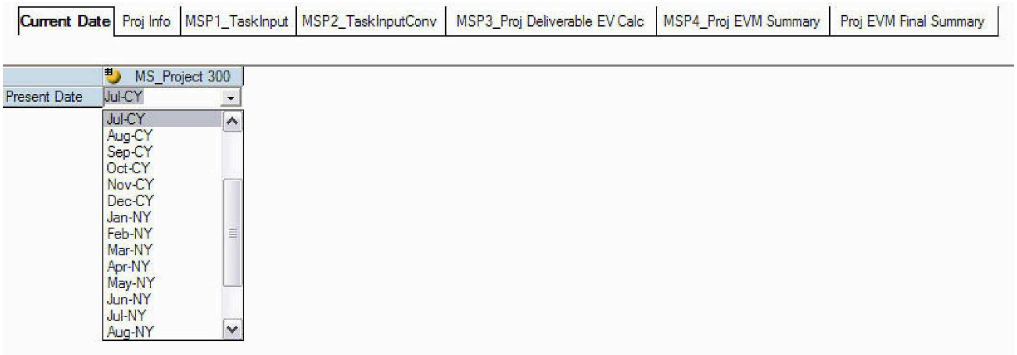


Figure 16

Project Info

The **Project Info** tab (Proj Info), shown in *Figure 17*, provides basic information about the project as imported from MS Project. The tab contains three user input fields for entering additional data.

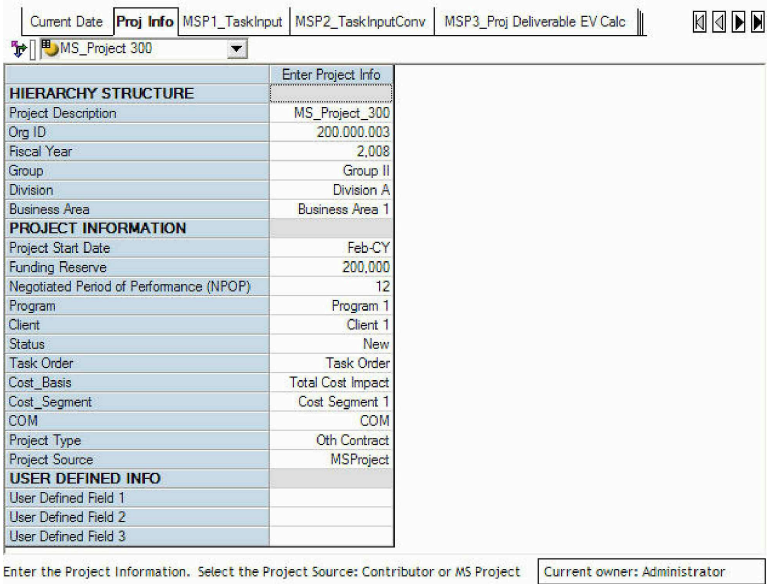
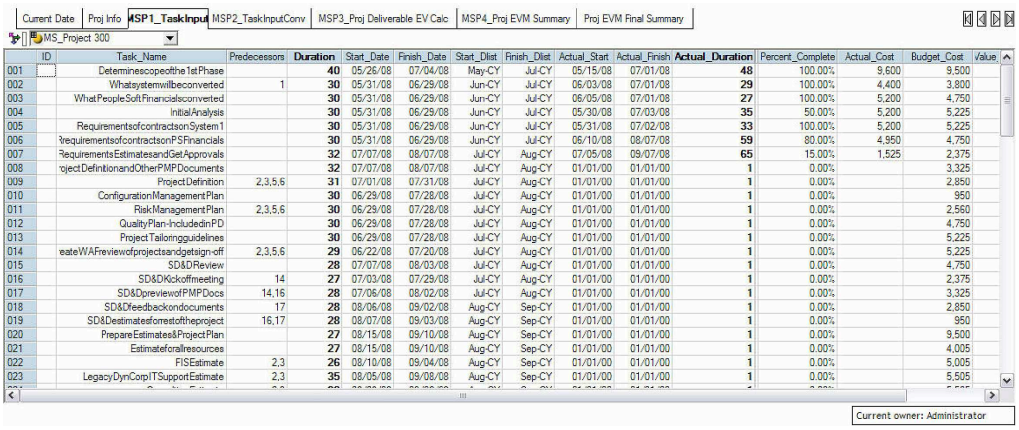


Figure 17

Microsoft Project 1 Task Input

Shown in *Figure 18*, the **Microsoft Project 1 Task Input** tab (MSP1_Task Input) shows specific task detail for the project; the data is assumed to be imported.

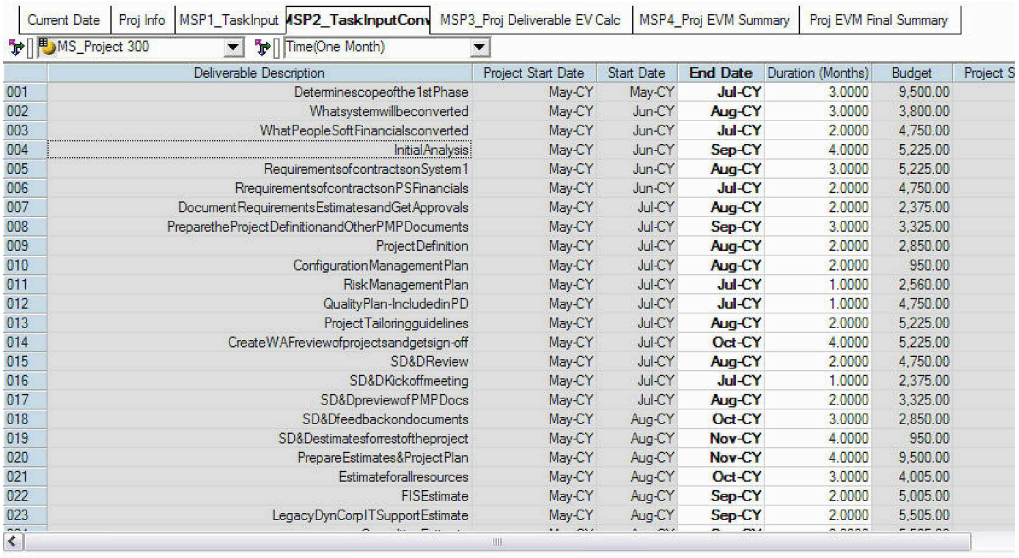


	ID	Task_Name	Predecessors	Duration	Start_Date	Finish_Date	Start_Dlist	Finish_Dlist	Actual_Start	Actual_Finish	Actual_Duration	Percent_Complete	Actual_Cost	Budget_Cost	Value
001		Determinescopeofthe1stPhase		40	05/26/08	07/04/08	May-CY	Jul-CY	05/15/08	07/01/08	48	100.00%	9,600	9,500	
002		Whatsystemwillbeconverted	1	30	05/31/08	06/29/08	Jun-CY	Jul-CY	06/03/08	07/01/08	29	100.00%	4,400	3,800	
003		WhatPeopleSoftFinancialsconverted		30	05/31/08	06/29/08	Jun-CY	Jul-CY	06/05/08	07/01/08	27	100.00%	5,200	4,750	
004		InitialAnalysis		30	05/31/08	06/29/08	Jun-CY	Jul-CY	05/30/08	07/03/08	35	50.00%	5,200	5,225	
005		RequirementsofcontractsonSystem1		30	05/31/08	06/29/08	Jun-CY	Jul-CY	05/31/08	07/02/08	33	100.00%	5,200	5,225	
006		RrequirementsofcontractsonPSFinancials		30	05/31/08	06/29/08	Jun-CY	Jul-CY	06/10/08	08/07/08	59	80.00%	4,950	4,750	
007		RequirementsEstimatesandGetApprovals		32	07/07/08	08/07/08	Jul-CY	Aug-CY	07/05/08	09/07/08	65	15.00%	1,525	2,375	
008		rojectDefintionandOtherPMPDocuments		32	07/07/08	08/07/08	Jul-CY	Aug-CY	01/01/00	01/01/00	1	0.00%		3,325	
009		ProjectDefinition	2,3,5,6	31	07/01/08	07/31/08	Jul-CY	Aug-CY	01/01/00	01/01/00	1	0.00%		2,850	
010		ConfigurationManagementPlan		30	06/29/08	07/28/08	Jul-CY	Aug-CY	01/01/00	01/01/00	1	0.00%		950	
011		RiskManagementPlan	2,3,5,6	30	06/29/08	07/28/08	Jul-CY	Aug-CY	01/01/00	01/01/00	1	0.00%		2,560	
012		QualityPlan-IncludedinPD		30	06/29/08	07/28/08	Jul-CY	Aug-CY	01/01/00	01/01/00	1	0.00%		4,750	
013		ProjectTailoringguidelines		30	06/29/08	07/28/08	Jul-CY	Aug-CY	01/01/00	01/01/00	1	0.00%		5,225	
014		reateWAFreviewofprojectsandgetsign-off	2,3,5,6	29	06/22/08	07/20/08	Jul-CY	Aug-CY	01/01/00	01/01/00	1	0.00%		5,225	
015		SD&DReview		28	07/07/08	08/03/08	Jul-CY	Aug-CY	01/01/00	01/01/00	1	0.00%		4,750	
016		SD&DKickoffmeeting	14	27	07/03/08	07/29/08	Jul-CY	Aug-CY	01/01/00	01/01/00	1	0.00%		2,375	
017		SD&DpreviewofPMPDocs	14,16	28	07/06/08	08/02/08	Jul-CY	Aug-CY	01/01/00	01/01/00	1	0.00%		3,325	
018		SD&Dfeedbackondocuments	17	28	08/06/08	09/02/08	Aug-CY	Sep-CY	01/01/00	01/01/00	1	0.00%		2,850	
019		SD&Destimatesforrestoftheproject	16,17	28	08/07/08	09/03/08	Aug-CY	Sep-CY	01/01/00	01/01/00	1	0.00%		950	
020		PrepareEstimates&ProjectPlan		27	08/15/08	09/10/08	Aug-CY	Sep-CY	01/01/00	01/01/00	1	0.00%		9,500	
021		Estimateforallresources		27	08/15/08	09/10/08	Aug-CY	Sep-CY	01/01/00	01/01/00	1	0.00%		4,005	
022		FISEstimate	2,3	26	08/10/08	09/04/08	Aug-CY	Sep-CY	01/01/00	01/01/00	1	0.00%		5,005	
023		LegacyDynCorpITSupportEstimate	2,3	35	08/05/08	09/08/08	Aug-CY	Sep-CY	01/01/00	01/01/00	1	0.00%		5,505	

Figure 18

Microsoft Project 2 Task Input Conversion

The **Microsoft Project 2 Task Input Conversion** the (MSP2_Task InputConv), shown in *Figure 19*, contains data from the Microsoft Project Task Input and Microsoft Project 2 Task Input tabs. It converts fields from Microsoft Project to like-named Contributor fields. For example, the task_name data field links to Deliverable Description, enabling the reviewer to see summary-level project data from all nodes.

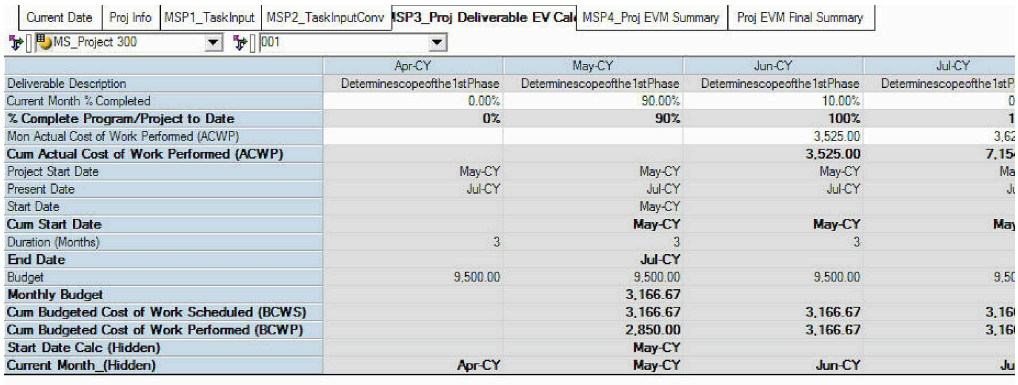


	Deliverable Description	Project Start Date	Start Date	End Date	Duration (Months)	Budget	Project S
001	Determinescopeofthe1stPhase	May-CY	May-CY	Jul-CY	3.0000	9,500.00	
002	Whatsystemwillbeconverted	May-CY	Jun-CY	Aug-CY	3.0000	3,800.00	
003	WhatPeopleSoftFinancialsconverted	May-CY	Jun-CY	Jul-CY	2.0000	4,750.00	
004	InitialAnalysis	May-CY	Jun-CY	Sep-CY	4.0000	5,225.00	
005	RequirementsofcontractsonSystem1	May-CY	Jun-CY	Aug-CY	3.0000	5,225.00	
006	RrequirementsofcontractsonPSFinancials	May-CY	Jun-CY	Jul-CY	2.0000	4,750.00	
007	DocumentRequirementsEstimatesandGetApprovals	May-CY	Jul-CY	Aug-CY	2.0000	2,375.00	
008	PreparetheProjectDefinitionandOtherPMPDocuments	May-CY	Jul-CY	Sep-CY	3.0000	3,325.00	
009	ProjectDefinition	May-CY	Jul-CY	Aug-CY	2.0000	2,850.00	
010	ConfigurationManagementPlan	May-CY	Jul-CY	Aug-CY	2.0000	950.00	
011	RiskManagementPlan	May-CY	Jul-CY	Jul-CY	1.0000	2,560.00	
012	QualityPlan-IncludedinPD	May-CY	Jul-CY	Jul-CY	1.0000	4,750.00	
013	ProjectTailoringguidelines	May-CY	Jul-CY	Aug-CY	2.0000	5,225.00	
014	CreateWAFreviewofprojectsandgetsign-off	May-CY	Jul-CY	Oct-CY	4.0000	5,225.00	
015	SD&DReview	May-CY	Jul-CY	Aug-CY	2.0000	4,750.00	
016	SD&DKickoffmeeting	May-CY	Jul-CY	Jul-CY	1.0000	2,375.00	
017	SD&DpreviewofPMPDocs	May-CY	Jul-CY	Aug-CY	2.0000	3,325.00	
018	SD&Dfeedbackondocuments	May-CY	Aug-CY	Oct-CY	3.0000	2,850.00	
019	SD&Destimatesforrestoftheproject	May-CY	Aug-CY	Nov-CY	4.0000	950.00	
020	PrepareEstimates&ProjectPlan	May-CY	Aug-CY	Nov-CY	4.0000	9,500.00	
021	Estimateforallresources	May-CY	Aug-CY	Oct-CY	3.0000	4,005.00	
022	FISEstimate	May-CY	Aug-CY	Sep-CY	2.0000	5,005.00	
023	LegacyDynCorpITSupportEstimate	May-CY	Aug-CY	Sep-CY	2.0000	5,505.00	

Figure 19

Microsoft Project 3 Project Deliverable EV Calculation

Shown in *Figure 20*, the **Microsoft Project 3 Project Deliverable EV Calculation** tab (MSP3_Proj Deliverable EV Calc) displays the same information as the Project Deliverable EV Calculation Tab (*Figure 13*).



Current Date | Proj Info | MSP1_TaskInput | MSP2_TaskInputConv | MSP3_Proj Deliverable EV Calc | MSP4_Proj EVM Summary | Proj EVM Final Summary

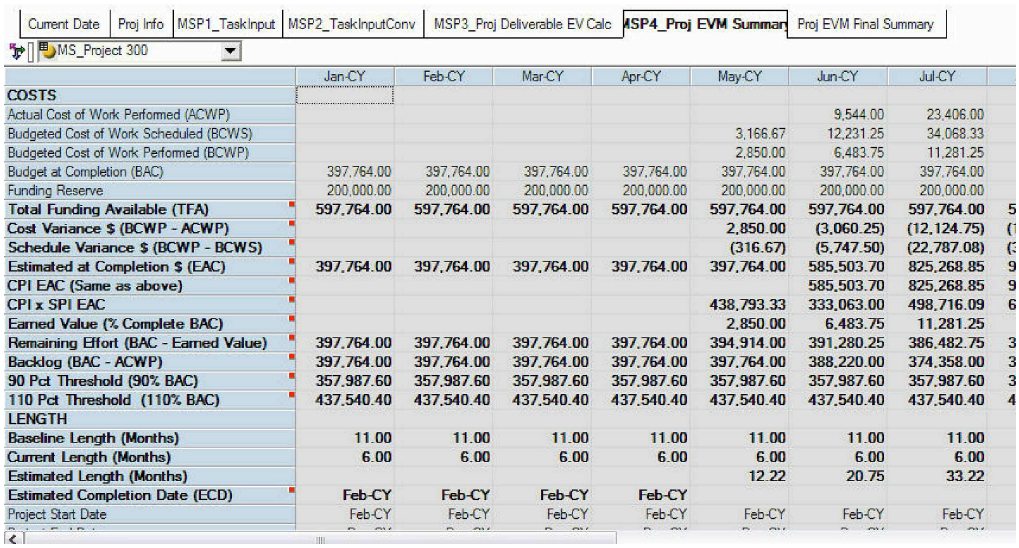
MS_Project 300 | 001

	Apr-CY	May-CY	Jun-CY	Jul-CY
Deliverable Description	Determinescopeofthe1stPhase	Determinescopeofthe1stPhase	Determinescopeofthe1stPhase	Determinescopeofthe1stP
Current Month % Completed	0.00%	90.00%	10.00%	0
% Complete Program/Project to Date	**0%**	**90%**	**100%**	**1**
Mon Actual Cost of Work Performed (ACWP)			3,525.00	3,62
Cum Actual Cost of Work Performed (ACWP)			**3,525.00**	**7,15**
Project Start Date	May-CY	May-CY	May-CY	Ma
Present Date	Jul-CY	Jul-CY	Jul-CY	Ju
Start Date		May-CY		
Cum Start Date		**May-CY**	**May-CY**	**May**
Duration (Months)	3	3	3	
End Date		**Jul-CY**		
Budget	9,500.00	9,500.00	9,500.00	9,50
Monthly Budget		**3,166.67**		
Cum Budgeted Cost of Work Scheduled (BCWS)		**3,166.67**	**3,166.67**	**3,16**
Cum Budgeted Cost of Work Performed (BCWP)		**2,850.00**	**3,166.67**	**3,16**
Start Date Calc (Hidden)		**May-CY**		
Current Month_(Hidden)	**Apr-CY**	**May-CY**	**Jun-CY**	**Ju**

Figure 20

Microsoft Project 4 Project EVM Summary

Shown in Figure 21, the **Microsoft Project 4 Project EVM Summary** tab (MSP4_Proj EVM Summary) shows the same information as the **Project EVM Summary** tab: calculations and metrics for the project by month.



Current Date | Proj Info | MSP1_TaskInput | MSP2_TaskInputConv | MSP3_Proj Deliverable EV Calc | MSP4_Proj EVM Summary | Proj EVM Final Summary

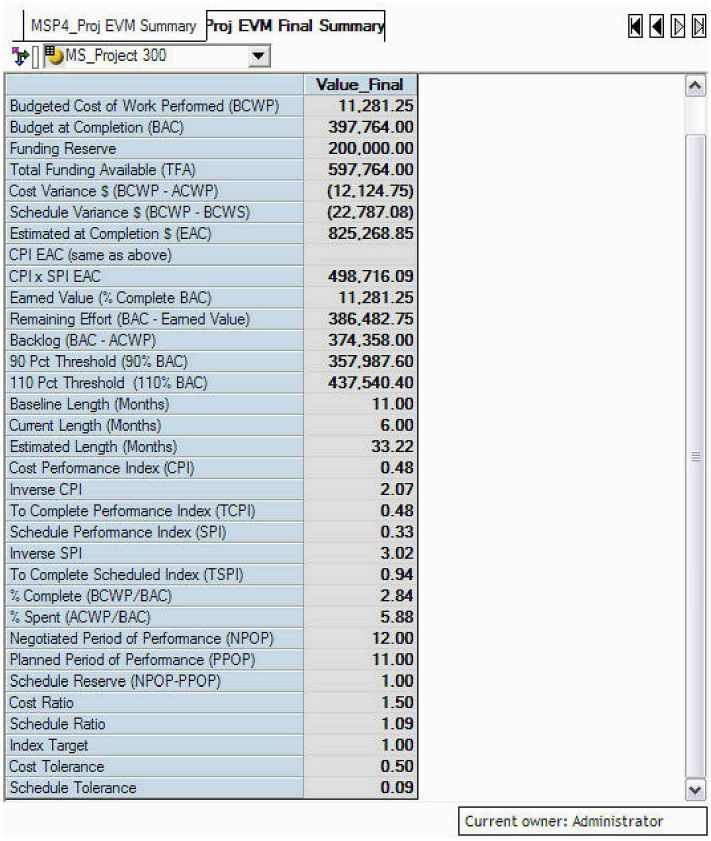
MS_Project 300

	Jan-CY	Feb-CY	Mar-CY	Apr-CY	May-CY	Jun-CY	Jul-CY
COSTS							
Actual Cost of Work Performed (ACWP)						9,544.00	23,406.00
Budgeted Cost of Work Scheduled (BCWS)					3,166.67	12,231.25	34,068.33
Budgeted Cost of Work Performed (BCWP)					2,850.00	6,483.75	11,281.25
Budget at Completion (BAC)	397,764.00	397,764.00	397,764.00	397,764.00	397,764.00	397,764.00	397,764.00
Funding Reserve	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00
Total Funding Available (TFA)	**597,764.00**	**597,764.00**	**597,764.00**	**597,764.00**	**597,764.00**	**597,764.00**	**597,764.00**
Cost Variance $ (BCWP - ACWP)					**2,850.00**	**(3,060.25)**	**(12,124.75)**
Schedule Variance $ (BCWP - BCWS)					**(316.67)**	**(5,747.50)**	**(22,787.08)**
Estimated at Completion $ (EAC)	**397,764.00**	**397,764.00**	**397,764.00**	**397,764.00**	**397,764.00**	**585,503.70**	**825,268.85**
CPI EAC (Same as above)						**585,503.70**	**825,268.85**
CPI x SPI EAC					**438,793.33**	**333,063.00**	**498,716.09**
Earned Value (% Complete BAC)					**2,850.00**	**6,483.75**	**11,281.25**
Remaining Effort (BAC - Earned Value)	**397,764.00**	**397,764.00**	**397,764.00**	**397,764.00**	**394,914.00**	**391,280.25**	**386,482.75**
Backlog (BAC - ACWP)	**397,764.00**	**397,764.00**	**397,764.00**	**397,764.00**	**397,764.00**	**388,220.00**	**374,358.00**
90 Pct Threshold (90% BAC)	**357,987.60**	**357,987.60**	**357,987.60**	**357,987.60**	**357,987.60**	**357,987.60**	**357,987.60**
110 Pct Threshold (110% BAC)	**437,540.40**	**437,540.40**	**437,540.40**	**437,540.40**	**437,540.40**	**437,540.40**	**437,540.40**
LENGTH							
Baseline Length (Months)	**11.00**	**11.00**	**11.00**	**11.00**	**11.00**	**11.00**	**11.00**
Current Length (Months)	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**
Estimated Length (Months)					**12.22**	**20.75**	**33.22**
Estimated Completion Date (ECD)	**Feb-CY**	**Feb-CY**	**Feb-CY**	**Feb-CY**			
Project Start Date	Feb-CY	Feb-CY	Feb-CY	Feb-CY	Feb-CY	Feb-CY	Feb-CY

Figure 21

Project EVM Final Summary

The **Project EVM Final Summary** tab (Proj EVM Final Summary), shown in *Figure 22*, lists the key EVM metrics for the month selected in the **Current Date** tab.



	Value_Final
Budgeted Cost of Work Performed (BCWP)	11,281.25
Budget at Completion (BAC)	397,764.00
Funding Reserve	200,000.00
Total Funding Available (TFA)	597,764.00
Cost Variance $ (BCWP - ACWP)	(12,124.75)
Schedule Variance $ (BCWP - BCWS)	(22,787.08)
Estimated at Completion $ (EAC)	825,268.85
CPI EAC (same as above)	
CPI x SPI EAC	498,716.09
Earned Value (% Complete BAC)	11,281.25
Remaining Effort (BAC - Earned Value)	386,482.75
Backlog (BAC - ACWP)	374,358.00
90 Pct Threshold (90% BAC)	357,987.60
110 Pct Threshold (110% BAC)	437,540.40
Baseline Length (Months)	11.00
Current Length (Months)	6.00
Estimated Length (Months)	33.22
Cost Performance Index (CPI)	0.48
Inverse CPI	2.07
To Complete Performance Index (TCPI)	0.48
Schedule Performance Index (SPI)	0.33
Inverse SPI	3.02
To Complete Scheduled Index (TSPI)	0.94
% Complete (BCWP/BAC)	2.84
% Spent (ACWP/BAC)	5.88
Negotiated Period of Performance (NPOP)	12.00
Planned Period of Performance (PPOP)	11.00
Schedule Reserve (NPOP-PPOP)	1.00
Cost Ratio	1.50
Schedule Ratio	1.09
Index Target	1.00
Cost Tolerance	0.50
Schedule Tolerance	0.09

Figure 22

CONCLUSION

The *IBM Cognos Earned Value Management Performance Blueprint* is built to satisfy the requirements of the federal government project management methodology. Given the large capital investments overseen by the government, the Blueprint's purpose is to provide immediate visibility into any problems with the project, so that corrective action can be taken quickly. IBM Cognos performance management software and the *IBM Cognos Earned Value Management Performance Blueprint* provide consistent and verifiable tools for rigorous project planning and management process.

ABOUT THE COGNOS INNOVATION CENTER

The Cognos Innovation Center was established in North America and Europe to advance the understanding of proven planning and performance management techniques, technologies, and practices. The Innovation Center is dedicated to transforming routine performance management practices into "next practices" that help companies

- cut costs
- streamline processes
- boost productivity
- enable rapid response to opportunity
- increase management visibility

Staffed globally by experts in planning, technology, and performance and strategy management, the Innovation Center partners with more than 600 Cognos customers, academicians, industry leaders, and others seeking to accelerate adoption, reduce risk, and maximize the impact of technology-enabled performance management practices.

ABOUT COGNOS, AN IBM COMPANY

Cognos, an IBM company, is the world leader in business intelligence and performance management solutions. It provides world-class enterprise planning and BI software and services to help companies plan, understand and manage financial and operational performance. IBM acquired Cognos in January 2008. For more information, visit **www.cognos.com**.

(10/08)

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