



# Replanning in Deltek Cobra

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## *What a Single Point Adjustment does to your Cobra Project*

### **Introduction**

Before proceeding with any process in Cobra, it's important to understand the details of what exactly the tool is going to do to your project data. This is particularly true when it comes to performing a single point adjustment, or Replan as it's called in Cobra. Because a replan is a fairly uncommon event, it can be a daunting prospect to even the more experienced Cobra administrator. This article will help by showing examples of a simple project as it gets replanned. You will see how different options affect the outcome in different ways. This will help in the process of deciding how to best proceed with your own organization's replan.

### **Basic Concepts**

The purpose of a replan is to correct a project baseline when either the project's scope has been changed by the customer, or some unforeseen events have rendered the original plan unrealistic. The concept of replanning in Cobra is:

- a) To set all the planned and earned values up to and including time now to equal the value of the actual costs. The math is  $\text{Planned}=\text{Earned}=\text{Actual}$  or  $S=P=A$  ( $\text{BCWS}=\text{BCWP}=\text{ACWP}$ ).
- b) Update the planned costs to reflect a new plan for all work going forward.

Deltek Cobra provides functionality to execute these fundamental steps for you. This is called Replan in Cobra and saves you a great deal of manual adjustments to the existing earned value data.

### **In a Nutshell...**

During the replan process Cobra can set the planned and earned value to equal the actual cost for any completed or in-progress work package up to the status date.

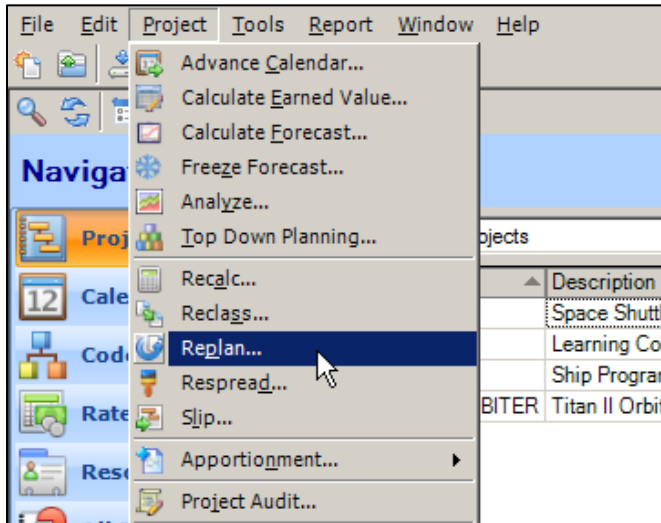
However, you have many options that can change this behavior. The above statement is just an example of a very typical version of events. The options in the replan wizard provide flexibility in the way the process handles completed, in-progress and planned work packages.

## Replanning in Deltek Cobra

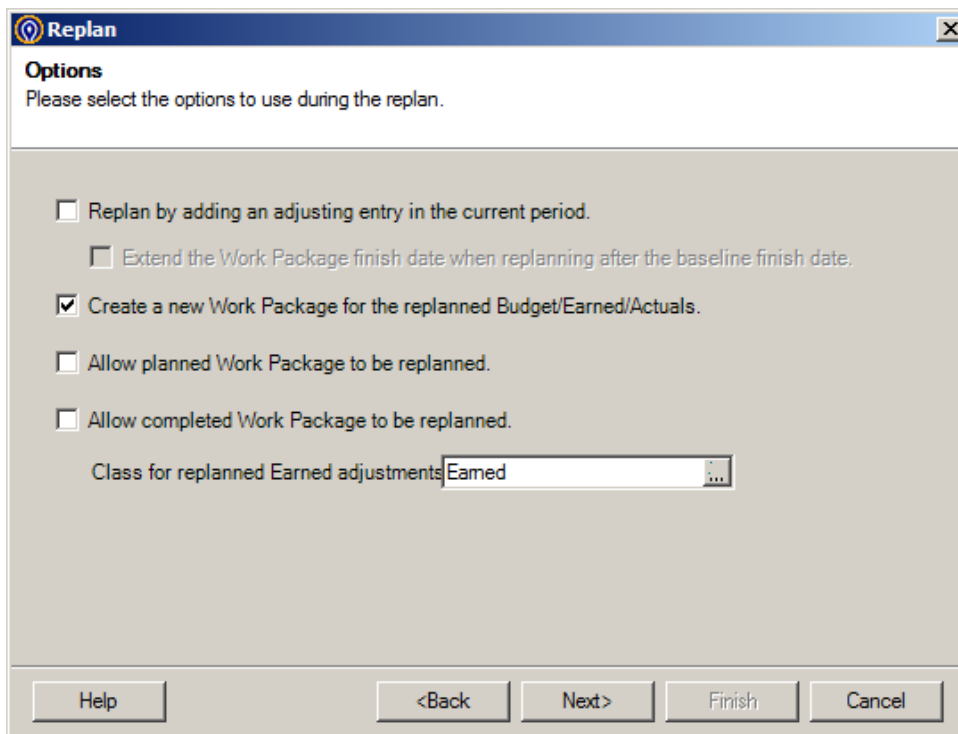
### Wizard Overview

Before starting with the details, let's look briefly at the Replan wizard and discuss some of its attributes.

The **Replan...** function is accessed from the **Project** menu.

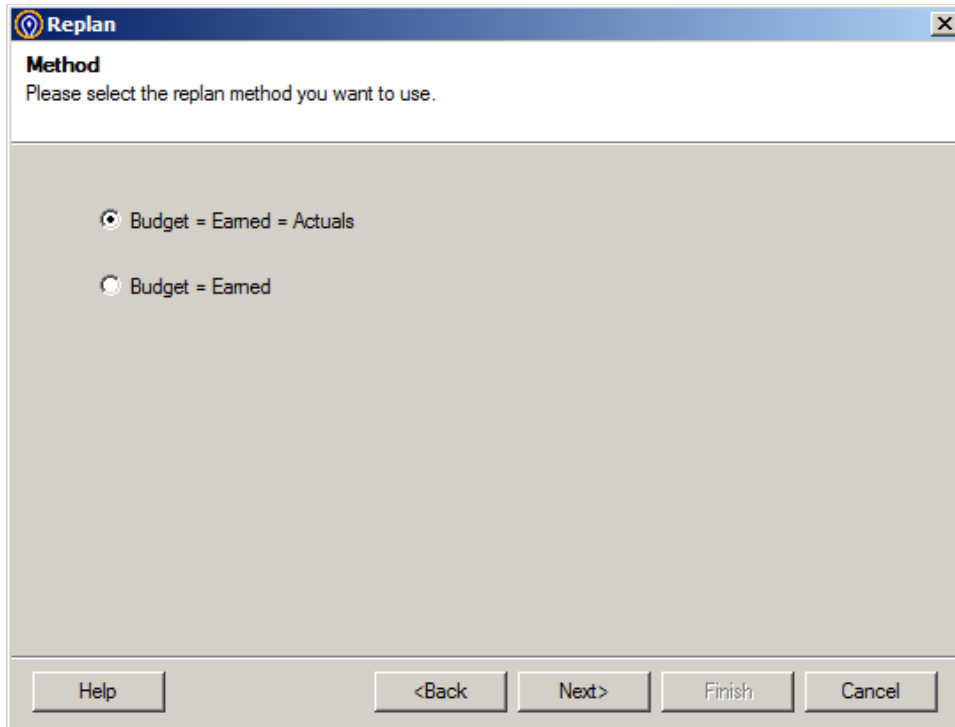


The **Options** dialog provides five different selections of functionality. These will be covered in detail with screen shots and examples in the next section.



## Replanning in Deltek Cobra

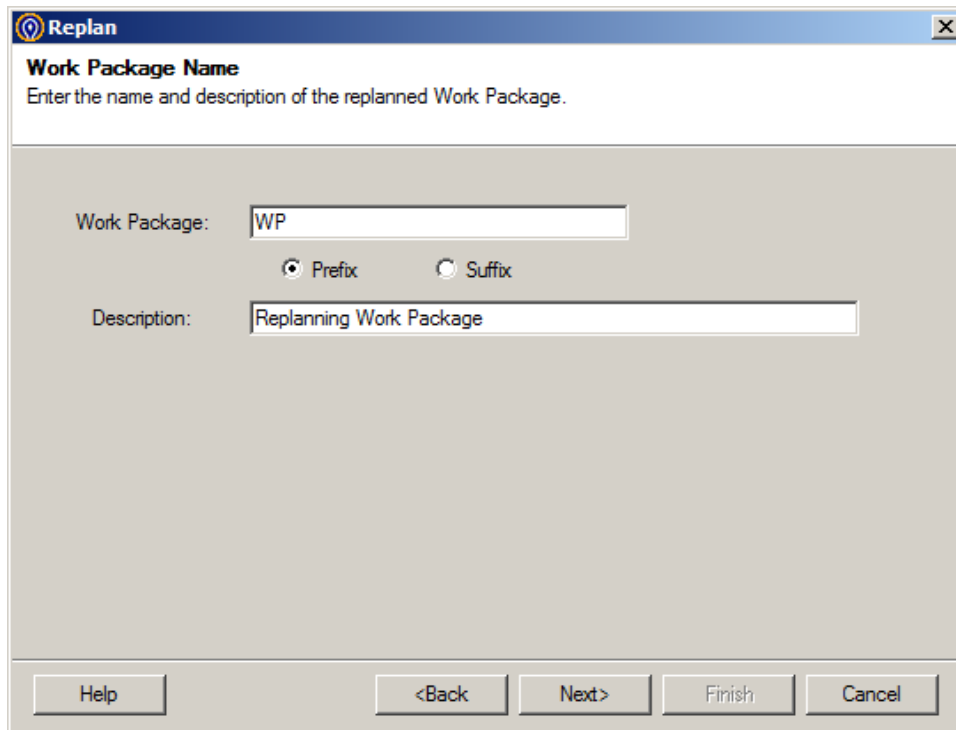
The **Method** dialog allows you to choose what will be set during the replan.



The screenshot shows a dialog box titled "Replan" with a "Method" section. The text inside says "Please select the replan method you want to use." There are two radio button options: "Budget = Eamed = Actuals" (which is selected) and "Budget = Eamed". At the bottom, there are four buttons: "Help", "<Back", "Next>", "Finish", and "Cancel".

If you've selected to have Cobra create new work packages for your replanned values, then you will see the **Work Package Name** dialog. Here you can enter a Prefix or Suffix to identify the replan work packages from the originals. So, if the original work package is 1.2.3, the new one would be WP1.2.3. Its description would be Replanning Work Package.

## Replanning in Deltek Cobra



### Replanning Process Examples

This example project will analyze the process and show how it behaves when particular options are selected in the Replan Wizard.

This project is one year in duration, has three work packages and is being replanned with the status date at 4/30/2011.

#### REPLAN PROJECT

STATUS DATE: 4/30/2011

CA	WP	Description	BAC	Planned	Earned	Actual	Status	BL Start	BL Finish
1.2.1.1		Construction	\$449,160.69	\$154,422.07	\$163,512.58	\$165,493.84	In-progress	1/31/2011	12/31/2011
1.2.1.1	1	Initial Coding	\$116,544.96	\$116,544.96	\$116,544.96	\$123,537.66	Completed	1/31/2011	3/31/2011
1.2.1.1	2	Final Coding	\$151,508.45	\$37,877.11	\$46,967.62	\$41,956.19	In-progress	4/1/2011	7/31/2011
1.2.1.1	3	Testing and Documentation	\$181,107.28	\$0.00	\$0.00	\$0.00	Planned	8/1/2011	12/31/2011

Here's the Budget time-phased data for the resource working on work package 2.

## Replanning in Deltek Cobra

Control Accounts:		CA	WP	Description	Budget	Budget to Date	Earned	Actuals	Status	Baseline Start	Baseline Finish
		1.2.1.1		Construction	\$449,160.69	\$154,422.07	\$163,512.58	\$165,493.84	In-progress	01/31/2011	12/31/2011
		1.2.1.1	001	Initial Coding	\$116,544.96	\$116,544.96	\$116,544.96	\$123,537.66	Completed	01/31/2011	03/31/2011
		1.2.1.1	002	Final Coding	\$151,508.45	\$37,877.11	\$46,967.62	\$41,956.19	In-progress	04/01/2011	07/31/2011
		1.2.1.1	003	Testing and Documentation	\$181,107.28	\$0.00	\$0.00	\$0.00	Planned	08/01/2011	12/31/2011

Resource	Description	Class	Result	Units	TOTAL	04/30/2011	05/31/2011	06/30/2011	07/31/2011
Software Engineer	Software Engineer	Actual	Percent		100.00	25.00	25.00	25.00	25.00
Software Engineer	Software Engineer	Budget	HOURS	HOURS	780.00	195.00	195.00	195.00	195.00
Software Engineer	Software Engineer	Earned	FTE	FTE	4.54	1.16	1.11	1.11	1.16
Software Engineer	Software Engineer	Forecast	DIRECT	\$	87,360.00	21,840.00	21,840.00	21,840.00	21,840.00
			OVERHEAD	\$	35,817.60	8,954.40	8,954.40	8,954.40	8,954.40
			GANDA	\$	28,330.85	7,082.71	7,082.71	7,082.71	7,082.71
			<b>Total Currency</b>		<b>151,508.45</b>	<b>37,877.11</b>	<b>37,877.11</b>	<b>37,877.11</b>	<b>37,877.11</b>

Here's the Earned time-phased data for the same resource.

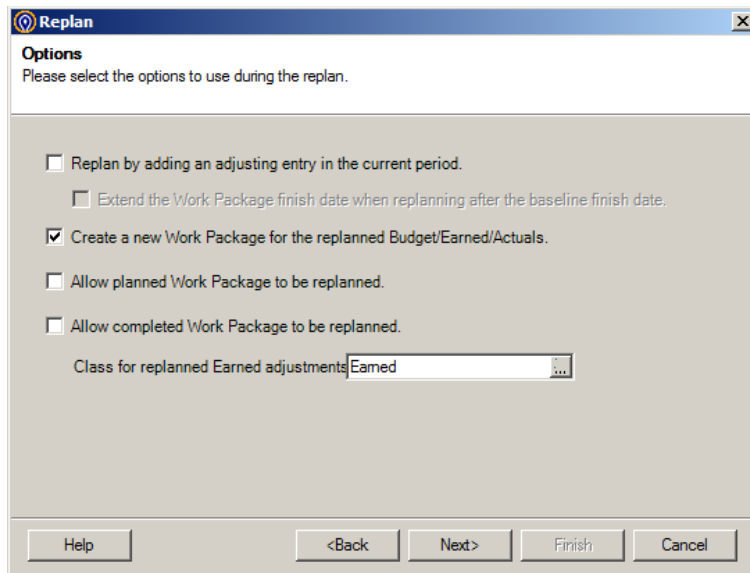
Resource	Description	Class	Result	Units	TOTAL	04/30/2011
Software Engineer	Software Engineer	Actual	Percent		100.00	100.00
Software Engineer	Software Engineer	Budget	HOURS	HOURS	241.80	241.80
Software Engineer	Software Engineer	Earned	FTE	FTE	1.43	1.43
Software Engineer	Software Engineer	Forecast	DIRECT	\$	27,081.60	27,081.60
			OVERHEAD	\$	11,103.46	11,103.46
			GANDA	\$	8,782.56	8,782.56
			<b>Total Currency</b>		<b>46,967.62</b>	<b>46,967.62</b>

And here's the Actual costs time-phased data for the resource.

Resource	Description	Class	Result	Units	CUM. TO DATE	04/30/2011
Software Engineer	Software Engineer	Actual	Percent		100.00	100.00
Software Engineer	Software Engineer	Budget	HOURS	HOURS	216.00	216.00
Software Engineer	Software Engineer	Earned	FTE	FTE	1.29	1.29
Software Engineer	Software Engineer	Forecast	DIRECT	\$	24,192.00	24,192.00
			OVERHEAD	\$	9,918.72	9,918.72
			GANDA	\$	7,845.47	7,845.47
			<b>Total Currency</b>		<b>41,956.19</b>	<b>41,956.19</b>

This will be a replan using the following settings:

## Replanning in Deltek Cobra



### REPLAN PROJECT A - Results

Only the 'Create a new Work Package...' option is selected. This will cause Cobra to effectively split the in-progress work package into two separate work packages. The original work package will return to a status of Planned. It will have budget values that start one day after the status date and its earned value time-phase table will be empty.

Resource Assignment:				Time Phase:					
Resource	Description	Class	Class Description	Result	Units	TOTAL	05/31/2011	06/30/2011	07/31/2011
software Engineer	Software Engineer	Budget	Current Budget (BCWS)	Percent		100.00	33.33	33.33	33.33
software Engineer	Software Engineer	Earned	Performed (BCWP)	HOURS	HOURS	585.00	195.00	195.00	195.00
software Engineer	Software Engineer	Forecast	Estimate To Complete (E)	FTE	FTE	3.38	1.11	1.11	1.16
				DIRECT	\$	65,520.00	21,840.00	21,840.00	21,840.00
				OVERHEAD	\$	26,863.20	8,954.40	8,954.40	8,954.40
				GANDA	\$	21,248.14	7,082.71	7,082.71	7,082.71
				<b>Total Currency</b>		<b>113,631.34</b>	<b>37,877.11</b>	<b>37,877.11</b>	<b>37,877.11</b>

In the table below, you can see the results of the replan when you compare the top table from the original REPLAN PROJECT to the results of the above replan options on REPLAN PROJECT A.

## Replanning in Deltek Cobra

### REPLAN PROJECT

STATUS DATE: 4/30/2011

CA	WP	Description	BAC	Planned	Earned	Actual	Status	BL Start	BL Finish
1.2.1.1		Construction	\$449,160.69	\$154,422.07	\$163,512.58	\$165,493.84	In-progress	1/31/2011	12/31/2011
1.2.1.1	1	Initial Coding	\$116,544.96	\$116,544.96	\$116,544.96	\$123,537.66	Completed	1/31/2011	3/31/2011
1.2.1.1	2	Final Coding	\$151,508.45	\$37,877.11	\$46,967.62	\$41,956.19	In-progress	4/1/2011	7/31/2011
1.2.1.1	3	Testing and Documentation	\$181,107.28	\$0.00	\$0.00	\$0.00	Planned	8/1/2011	12/31/2011

### REPLAN PROJECT A

CA	WP	Description	BAC	Planned	Earned	Actual	Status	BL Start	BL Finish
1.2.1.1		Construction	\$453,239.76	\$158,501.15	\$158,501.15	\$165,493.84	In-progress	1/31/2011	12/31/2011
1.2.1.1	1	Initial Coding	\$116,544.96	\$116,544.96	\$116,544.96	\$123,537.66	Completed	1/31/2011	3/31/2011
1.2.1.1	2	Final Coding	\$113,631.34	\$0.00	\$0.00	\$0.00	Planned	5/1/2011	7/31/2011
1.2.1.1	3	Testing and Documentation	\$181,107.28	\$0.00	\$0.00	\$0.00	Planned	8/1/2011	12/31/2011
1.2.1.1	RP002	Replanning Work Package	\$41,956.19	\$41,956.19	\$41,956.19	\$41,956.19	Completed	4/1/2011	7/31/2011

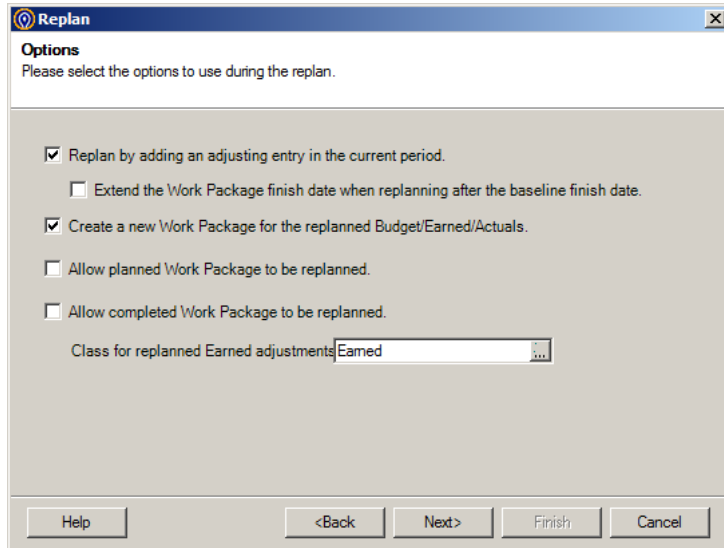
1. The completed work package called Initial Coding is unchanged.
2. The in-progress work package called Final Coding has returned to a status of Planned, has lost its planned value (BCWS), its earned value and its actuals in the past periods. Its BAC value has dropped from \$151,508.45 to \$113,631.34. Its BL Start date has changed from 4/1/2011 to 5/1/2011.
3. A new work package has been created by Cobra called RP001.
4. This new work package has a status of completed. It has a BAC that is equal to the original work package's (2 - Final Coding) Actual Cost of \$41,956.19. It's planned and earned values have been set to equal the actual costs that were moved over from the original work package.

Because the options selected didn't allow Cobra to replan completed work packages, the Control Account's summary row is still showing variances between the Planned, Earned and Actual values.

## Replanning in Deltek Cobra

### REPLAN PROJECT B – Results

In a second copy of the REPLAN PROJECT (B), the following options were selected.



Now compare these settings with the original REPLAN PROJECT and the following differences can be seen.

#### REPLAN PROJECT

STATUS DATE: 4/30/2011

CA	WP	Description	BAC	Planned	Earned	Actual	Status	BL Start	BL Finish
1.2.1.1		Construction	\$449,160.69	\$154,422.07	\$163,512.58	\$165,493.84	In-progress	1/31/2011	12/31/2011
1.2.1.1	1	Initial Coding	\$116,544.96	\$116,544.96	\$116,544.96	\$123,537.66	Completed	1/31/2011	3/31/2011
1.2.1.1	2	Final Coding	\$151,508.45	\$37,877.11	\$46,967.62	\$41,956.19	In-progress	4/1/2011	7/31/2011
1.2.1.1	3	Testing and Documentation	\$181,107.28	\$0.00	\$0.00	\$0.00	Planned	8/1/2011	12/31/2011

#### REPLAN PROJECT B

CA	WP	Description	BAC	Planned	Earned	Actual	Status	BL Start	BL Finish
1.2.1.1		Construction	\$453,239.76	\$158,501.15	\$158,501.15	\$165,493.84	In-progress	1/31/2011	12/31/2011
1.2.1.1	1	Initial Coding	\$116,544.96	\$116,544.96	\$116,544.96	\$123,537.66	Completed	1/31/2011	3/31/2011
1.2.1.1	2	Final Coding	\$113,631.34	\$0.00	\$46,967.62	\$0.00	Planned	5/1/2011	7/31/2011
1.2.1.1	3	Testing and Documentation	\$181,107.28	\$0.00	\$0.00	\$0.00	Planned	8/1/2011	12/31/2011
1.2.1.1	RP002	Replanning Work Package	\$41,956.19	\$41,956.19	(\$5,011.43)	\$41,956.19	Completed	4/1/2011	7/31/2011

Adjusting Entry = Actual Cost - Earned

By selecting the 'Replan by adding an adjusting entry in the current period.' option, the new work package (RP002) shows the adjusting entry in the earned column. This adjustment was calculated by subtracting the original earned value, in this case \$46,976.62, from the actual cost of \$41,956.19 to give an adjusted earned value of (\$5,011.43).



## Replanning in Deltek Cobra

### Replanned Class Values

The replanned class value for the resource assigned to the work package was calculated in the following way.

Budget Cost - \$37,877.11

Resource Assignment:			Time Phase:				
Resource	Description	Class	Result	Units	TOTAL	04/30/2011	05/31/2011
Software Engineer	Software Engineer	Actual	Percent		100.00	100.00	0.00
Software Engineer	Software Engineer	Budget	HOURS	HOURS	195.00	195.00	0.00
Software Engineer	Software Engineer	Replanned	FTE	FTE	1.16	1.16	0.00
			DIRECT	\$	21,840.00	21,840.00	0.00
			OVERHEAD	\$	8,954.40	8,954.40	0.00
			GANDA	\$	7,082.71	7,082.71	0.00
			<b>Total Currency</b>		<b>37,877.11</b>	<b>37,877.11</b>	<b>0.00</b>

Actual Cost - \$41,956.19

Resource Assignment:			Time Phase:				
Resource	Description	Class	Result	Units	CUM. TO DATE	04/30/2011	
Software Engineer	Software Engineer	Actual	Percent		100.00	100.00	
Software Engineer	Software Engineer	Budget	HOURS	HOURS	216.00	216.00	
Software Engineer	Software Engineer	Replanned	FTE	FTE	1.29	1.29	
			DIRECT	\$	24,192.00	24,192.00	
			OVERHEAD	\$	9,918.72	9,918.72	
			GANDA	\$	7,845.47	7,845.47	
			<b>Total Currency</b>		<b>41,956.19</b>	<b>41,956.19</b>	

Replanned Cost = Budget – Actual (\$37,877.11 – \$41,956.19 = \$4,079.07)

Resource Assignment:			Time Phase:				
Resource	Description	Class	Result	Units	TOTAL	04/30/2011	05/31/2011
Software Engineer	Software Engineer	Actual	Percent		100.00	100.00	0.00
Software Engineer	Software Engineer	Budget	HOURS	HOURS	21.00	21.00	0.00
Software Engineer	Software Engineer	Replanned	FTE	FTE	0.12	0.12	0.00
			DIRECT	\$	2,352.00	2,352.00	0.00
			OVERHEAD	\$	964.32	964.32	0.00
			GANDA	\$	762.75	762.75	0.00
			<b>Total Currency</b>		<b>4,079.07</b>	<b>4,079.07</b>	<b>0.00</b>

## Replanning in Deltek Cobra

Note that also the Control Account totals for Planned, Earned and Actual are not all equal. This is because the options did not allow for replanning of completed work packages. Therefore the higher actual cost of the work performed on work package 1 (Initial Coding) has kept the summary total number higher than the sums of the planned and earned value figures.

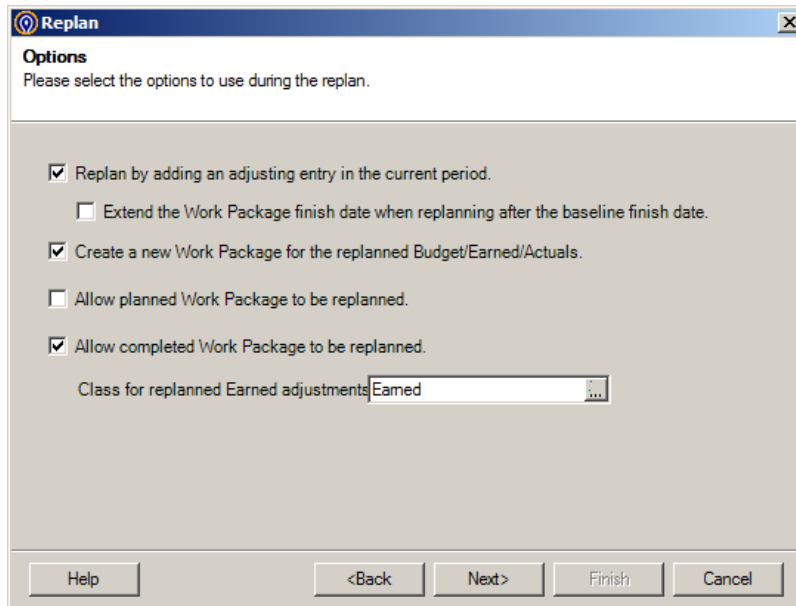
BAC	Planned	Earned	Actual	Status
\$453,239.75	\$158,501.15	\$158,501.15	\$165,493.84	In-progress
\$116,544.96	\$116,544.96	\$116,544.96	\$123,537.66	Completed
\$113,631.34	\$0.00	\$0.00	\$0.00	Planned
\$181,107.28	\$0.00	\$0.00	\$0.00	Planned
\$41,956.19	\$41,956.19	\$41,956.19	\$41,956.19	Completed

The next test demonstrates how further settings can correct this situation with the control account summaries.

## Replanning in Deltek Cobra

### REPLAN PROJECT C – Results

In this test the option to ‘Allow completed Work Packages to be replanned’ has been selected.



In this test, the control account summary values are now all equal for planned, earned and actual costs. This is because Cobra was able to replan the completed work package, setting the planned and earned values to equal the actual cost.

#### REPLAN PROJECT

STATUS DATE: 4/30/2011

CA	WP	Description	BAC	Planned	Earned	Actual	Status	BL Start	BL Finish
1.2.1.1		Construction	\$449,160.69	\$154,422.07	\$163,512.58	\$165,493.84	In-progress	1/31/2011	12/31/2011
1.2.1.1	1	Initial Coding	\$116,544.96	\$116,544.96	\$116,544.96	\$123,537.66	Completed	1/31/2011	3/31/2011
1.2.1.1	2	Final Coding	\$151,508.45	\$37,877.11	\$46,967.62	\$41,956.19	In-progress	4/1/2011	7/31/2011
1.2.1.1	3	Testing and Documentation	\$181,107.28	\$0.00	\$0.00	\$0.00	Planned	8/1/2011	12/31/2011

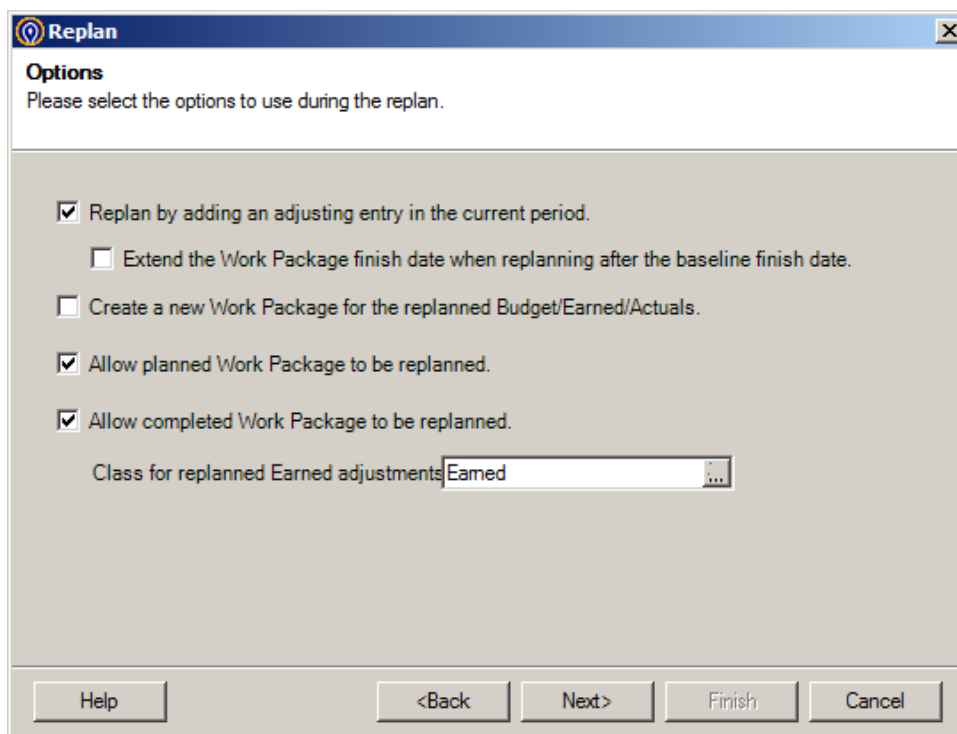
#### REPLAN PROJECT C

CA	WP	Description	BAC	Planned	Earned	Actual	Status	BL Start	BL Finish
1.2.1.1		Construction	\$460,232.46	\$165,493.84	\$165,493.84	\$165,493.84	In-progress	1/31/2011	12/31/2011
1.2.1.1	1	Initial Coding	\$123,537.66	\$123,537.66	\$123,537.66	\$123,537.66	Completed	1/31/2011	3/31/2011
1.2.1.1	2	Final Coding	\$113,631.34	\$0.00	\$46,967.62	\$0.00	Planned	5/1/2011	7/31/2011
1.2.1.1	3	Testing and Documentation	\$181,107.28	\$0.00	\$0.00	\$0.00	Planned	8/1/2011	12/31/2011
1.2.1.1	RP002	Replanned Work Package	\$41,956.19	\$41,956.19	(\$5,011.43)	\$41,956.19	Completed	4/1/2011	7/31/2011

## Replanning in Deltek Cobra

### REPLAN PROJECT D – Results

In this last example, the option to create a new work package has been deselected. This has the effect of causing the existing work packages to use the cost classes to carry the adjustments. In other words, the work package doesn't split the completed work out to a new work package, rather it uses the budget and replanned classes to carry the values.



In the table below, you can see that the work package status hasn't changed for Final Coding. Instead, the following has occurred:

1. The budget class has been cleared of values up to the status date.
2. The future period budget values equal the original BAC, in this case \$151,508.45.
3. The BAC figure has increased to \$155,587.52.
4. The earned class' current period has been set to equal the actual cost value, \$41,956.19.
5. The Replanned class has been set to the sum of actual cost minus plan value to date, in this case \$4,079.07.

By increasing the planned value to date (BCWS) of \$37,877.11 to equal the actual cost of 41,956.19, it was necessary to add the increase (\$4,079.07) to the Replanned cost class. This has been done to increase the overall planned value to equal the actual costs.

## Replanning in Deltek Cobra

Resource Assignment:				Time Phase:				
	Description	Class	Class Description	Result	Units	TOTAL	04/30/2011	05/31/2011
Engineer	Software Engineer	Actual	Actual Costs (ACWP)	Percent		100.00	100.00	0.00
Engineer	Software Engineer	Budget	Current Budget (BCWS)	HOURS	HOURS	21.00	21.00	0.00
Engineer	Software Engineer	Earned	Performed (BCWP)	FTE	FTE	0.12	0.12	0.00
Engineer	Software Engineer	Forecast	Estimate To Complete (ETC)	DIRECT	\$	2,352.00	2,352.00	0.00
Engineer	Software Engineer	Replanned	Replanned Budget	OVERHEAD	\$	964.32	964.32	0.00
				GANDA	\$	762.75	762.75	0.00
				Total Currency		4,079.07	4,079.07	0.00

### REPLAN PROJECT

STATUS DATE: 4/30/2011

CA	WP	Description	BAC	Planned	Earned	Actual	Status	BL Start	BL Finish
1.2.1.1		Construction	\$449,160.69	\$154,422.07	\$163,512.58	\$165,493.84	In-progress	1/31/2011	12/31/2011
1.2.1.1	1	Initial Coding	\$116,544.96	\$116,544.96	\$116,544.96	\$123,537.66	Completed	1/31/2011	3/31/2011
1.2.1.1	2	Final Coding	\$151,508.45	\$37,877.11	\$46,967.62	\$41,956.19	In-progress	4/1/2011	7/31/2011
1.2.1.1	3	Testing and Documentation	\$181,107.28	\$0.00	\$0.00	\$0.00	Planned	8/1/2011	12/31/2011

### REPLAN PROJECT D

CA	WP	Description	BAC	Planned	Earned	Actual	Status	BL Start	BL Finish
1.2.1.1		Construction	\$460,232.46	\$165,493.84	\$165,493.84	\$165,493.84	In-progress	1/31/2011	12/31/2011
1.2.1.1	1	Initial Coding	\$123,537.66	\$123,537.66	\$123,537.66	\$123,537.66	Completed	1/31/2011	3/31/2011
1.2.1.1	2	Final Coding	\$155,587.52	\$41,956.19	\$41,956.19	\$41,956.19	In-progress	4/1/2011	7/31/2011
1.2.1.1	3	Testing and Documentation	\$181,107.28	\$0.00	\$0.00	\$0.00	Planned	8/1/2011	12/31/2011

All the prior options selected decreased the BAC for the work package. This last option increased the BAC for the in-progress work package by the variance of the actual cost. In other words, using this method will apply any cost overrun, or indeed under run, to the BAC of the work package.

If you have a cost overrun, this option will increase you budget by the amount of that overrun. Other options that allowed the creation of a new work package allowed Cobra to actually decrease the BAC.