Victoria Weaver Management Group, Inc.

LEARN AS YOU GO . . . EARNED VALUE

Presented by:

George Weaver
President
Victoria Weaver Management Group, Inc.

Agenda

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Simple Tools
Simple Database
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1. The Issue
2. Remember – It's Basic Math
3. Use Simple Tools to Learn
4. Simple Data Integration
5. Simplify the Process - Discipline
6. Learn As You Go

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You start thinking about EV . . .

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I WOULD LIKE TO LEARN . . .

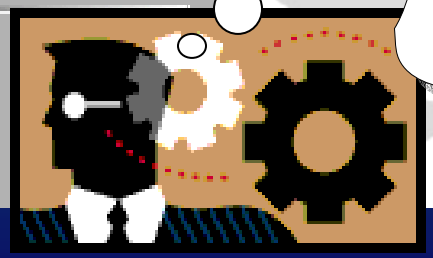
HOW TO USE AN EVMS

And

HOW EV WORKS FOR MY PROJECT

- Are there any existing, in-house, automated, tools I can use?
- Everyone uses expensive brand x – Can't afford it for a simple learning exercise?
- There will be ad-hoc reporting. Probably need a sophisticated report writer.
- How do I calculate BCWP anyway?
- I have a very detailed plan. Why doesn't MS Project do the EVMS calculations?
- I'll probably have to load the actual costs by hand. That'll be time consuming.
- Sure wish I knew something about how all this works before I bring in a "ready to camp" consultant. What will that cost?
- If I bring in a consultant, I'm going to get the "Full Validated System" approach, the "malpractice speech", and the "Sarbanes-Oxley scare" – I just want to see it work in my organization on my project.
- I really don't have time for this.
- I just wish I could test EV on my project in my environment at my pace and learn as I go.

EV IMPLEMENTATION IS TOO PAINFULL



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The Issue

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Earned Value

- **DON'T BE SCARED**
- **Testing EV does not have to mean . . .**
  - **High priced consultants**
  - **High priced tools and environments**
  - **Process re-engineering**
  - **Massive change in culture**
- **The TRUTH is . . .**
  - **It's basic math**
    - **You can teach yourself**
    - **You probably already have the tools necessary**
  - **It's a simple matter or process and discipline**
    - **Usually requires minimal changes to culture**

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It's Just Basic Math

We need to demystify EV

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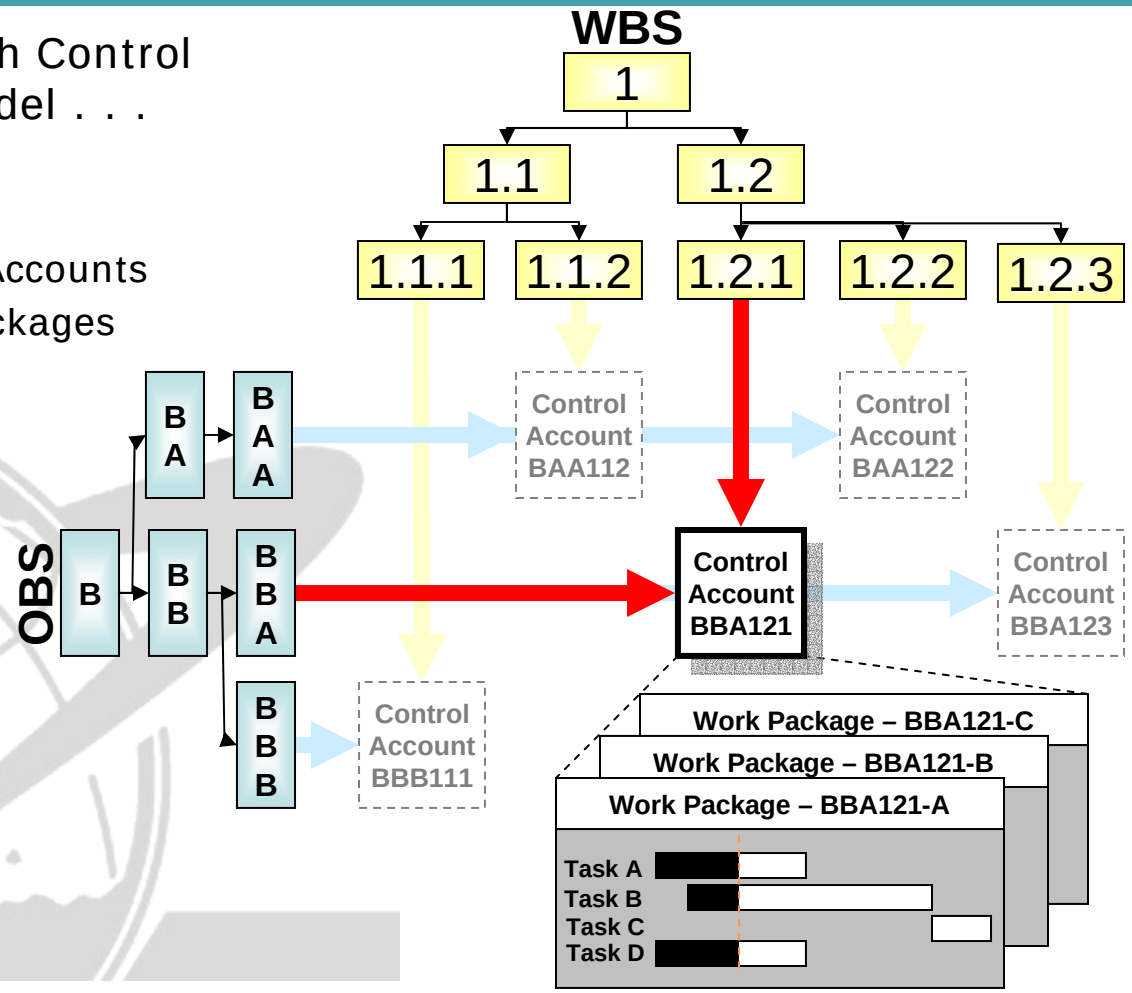
Assumptions

- Familiar with Control Account Model . . .
  - WBS
  - OBS
  - Control Accounts
  - Work Packages
  - Tasks



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Key Elements in Examples

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- **Task Types**
  - *Fixed Units*
  - *Fixed Work*
  - *Fixed Duration*
- **Resource Contours**
  - *Back loaded*
  - *Front loaded*
  - *Double peak*
  - *Early peak*
  - *Late peak*
  - *Bell*
  - *Turtle*
  - *Hand Loaded*
- **Resource Accrual Methods**
  - *Start*
  - *End*
  - *Prorated*

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Example A04 – **Fixed Duration**, Back Loaded, Prorated, Task

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PERIOD ➔	1	2	3	4	5	BAC
Original Schedule	Original – Saved Baseline Plan					
	6.25%	18.75%	33.33%	41.67%		
	$120	$360	$640	$800		$1,920

Task Assumptions
1 – DURATION - **4 Days**
2 – TYPE - **Fixed Duration** - *DU is fixed*

Resource Assumptions
1 – CONTOUR - **Back Loaded** – *heaviest effort at end*
2 – ACRUED AT - **Prorated**

Current Schedule (after day 1)			Current Plan – (Expected to take 5 days)					Current Forecast
Progress Monitoring	% Complete	4.17%	12.50%	20.83%	29.17%	33.33%		
	Actual Cost	$200	$300	$500	$700	$800		$2,500

Earned Value Analysis

Earned Value	BCWS	$120	"What was budgeted for the work that was scheduled?"
	BCWP	$80	"What was budgeted for the work performed?" (BAC * % Complete)
	ACWP	$200	"What was the actual cost for the work that was performed?"
Variances	CV	-$120	"What is the cost variance?" BCWP-ACWP
	SV	-$40	"What is the schedule variance?" BCWP-BCWS
Indexes	CPI	.40	"How much of every budget $ are we earning" BCWP/ACWP
	SPI	.67	"How much of every budget $ are we completing?" BCWP/BCWS
Estimate at Completion		$4,800	"What is the current Expected Cost?" ACWP+((BAC-BCWP)/CPI)

TIMENOW

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Example C07 – **Fixed Work**, Front Loaded, Prorated, Task

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PERIOD ➔	1	2	3	4	5	BAC
Original Schedule	Original – Saved Baseline Plan					
	41.67%	33.33%	18.75%	6.25%		
	$800	$640	$360	$120		$1,920

Task Assumptions
1 – DURATION - **4 Days**
2 – TYPE - **Fixed Work** - *Work is fixed*

Resource Assumptions
1 – CONTOUR - **Front Loaded** – *heaviest effort at start*
2 – ACRUED AT - **Prorated**

Current Schedule (after day 1)			Current Plan – (Expected to take 5 days)				Current Forecast
Progress Monitoring	% Complete	33.33%	29.17%	20.83%	12.5%	4.17%	
	Actual Cost	$200	$560	$400	$240	$80	$1,480

Earned Value Analysis

Earned Value	BCWS	$800	"What was budgeted for the work that was scheduled?"
	BCWP	$640	"What was budgeted for the work performed?" (BAC * % Complete)
	ACWP	$200	"What was the actual cost for the work that was performed?"
Variances	CV	440	"What is the cost variance?" BCWP-ACWP
	SV	-$160	"What is the schedule variance?" BCWP-BCWS
Indexes	CPI	3.20	"How much of every budget $ are we earning" BCWP/ACWP
	SPI	.80	"How much of every budget $ are we completing?" BCWP/BCWS
Estimate at Completion		$600	"What is the current Expected Cost?" ACWP+((BAC-BCWP)/CPI)

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Typical Earned Value Measurement Methods

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Easiest to Implement

Most Accurate

Method	Recurring	Non-recurring
Weighted Milestones		X
Fixed Formula		X
Percent Complete		X
Percent Complete w/Milestones		X
Equivalent Units	X	X
Earned Standards		X
Apportioned to Discrete Work		X
Level of Effort		?

Most Likely to be ABUSED

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Why is Percent Complete Abused in EV?

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- **Problem**
  - *Not tied to an agreed metric*
  - *Poor estimates*
    - *People are generally optimistic (run faster, jump higher, whatever it takes)*

- **Solution - *Resource Contour Percentage***
  - *Make the estimate based on the current schedule and a profile that was agreed to in the baseline?*
  - *Eliminates the need for all other measurement methods*

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Resource Contour Percentage

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Easiest to Implement

Method	Recurring	Non-recurring
Weighted Milestones		X
Fixed Formula		X
Percent Complete		X
Percent Complete w		X
Equivalent Units	X	
Earned Standards	X	
Apportioned to Discrete Work	X	
Level of Effort	?	?
Resource Contour Percentage	X	X

Most Accurate
At least 81 possible profiles

Least Likely to be ABUSED

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Use Simple Tools To Learn

Microsoft Project
Microsoft Access

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Understand Microsoft Project Options

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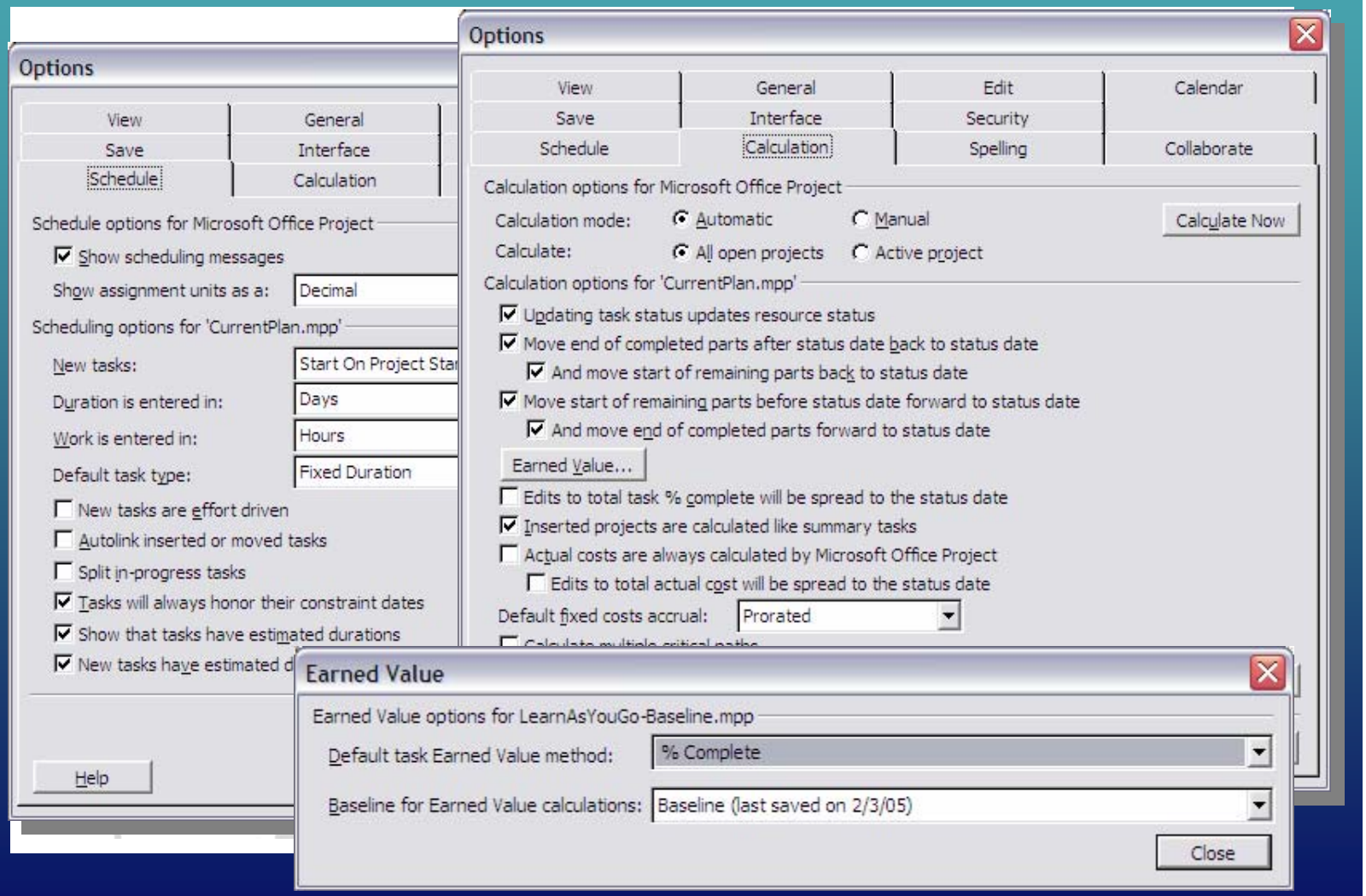

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Learn to Use Task Types

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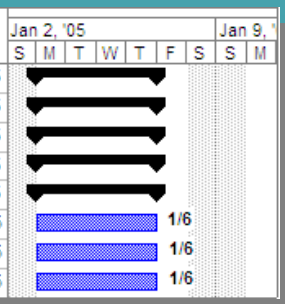
ID		OBS	WBS	WP	Task Name	Type	Duration	Start	Finish
1					Phase	Fixed Duration	4 days	1/3/05	1/6/05
2					System	Fixed Duration	4 days	1/3/05	1/6/05
3					Component	Fixed Duration	4 days	1/3/05	1/6/05
4					Segment	Fixed Duration	4 days	1/3/05	1/6/05
5					04,05,06 Backloaded / Prorated / Tasks	Fixed Duration	4 days	1/3/05	1/6/05
6		BBA	121	A	A - Fixed Duration	Fixed Duration	4 days	1/3/05	1/6/05
7		BBA	121	A	B - Fixed Units	Fixed Units	4 days	1/3/05	1/6/05
8		BBA	121	A	C - Fixed Work	Fixed Work	4 days	1/3/05	1/6/05



- You need to understand Task Type and include it in the table when you create your tasks.

(Duration x Units* = Work)

** Resource Assignment*

If Your Task Type Is	and you change . . . **UNITS**	and you change . . . **DURATION**	and you change . . . **WORK**
Fixed Units *I have a set number of resource hours per period applied to this task for as long as it takes*	Recalculate **Duration** (Work/New Units)	Recalculate **Work** (New Duration X Units)	Recalculate **Duration** (New Work/Units)
Fixed Work *I know the total number of resource units this task will take no matter what the duration is*	Recalculate **Duration** (Work/New Units)	Recalculate **Units** (Work / New Duration)	Recalculate **Duration** (New Work/Units)
Fixed Duration *I know how long this task takes – resources will change to the duration*	Recalculate **Work** (Duration X New Units)	Recalculate **Work** (New Duration X Units)	Recalculate **Units** (New Work/Duration)

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Learn Accrual Methods

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- The accrual method: Determines when the cost for a resource is incurred and when actual costs are charged to a project. You can incur costs at the;
  - Start [**Start**] or
  - Finish [**End**] or
  - Prorate [**Prorated**] during the life of the task based on percentage

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Accrual Method

Accrual Method

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ID		Resource Name	Type	Material Label	Initials	Group	Max. Units	Std. Rate	Ovt. Rate	Cost/Use	Accrue At	Base Calendar	Code
1		01 Prorated - FLAT	Work		01		3	$100.00/hr	$0.00/hr	$0.00	Prorated	Standard	
2		02 Start - FLAT	Work		02		3	$100.00/hr	$0.00/hr	$0.00	Start	Standard	
3		03 End - FLAT	Work		03		3	$100.00/hr	$0.00/hr	$0.00	End	Standard	
4		04 Prorated - BACK LOADED	Work		04		3	$100.00/hr	$0.00/hr	$0.00	Prorated	Standard	
5		05 Start - BACK LOADED	Work		05		3	$100.00/hr	$0.00/hr	$0.00	Start	Standard	
6		06 End - BACK LOADED	Work		06		3	$100.00/hr	$0.00/hr	$0.00	End	Standard	
7		07 Prorated - FRONT LOADED	Work		07		3	$100.00/hr	$0.00/hr	$0.00	Prorated	Standard	
8		08 Start - FRONT LOADED	Work		08		3	$100.00/hr	$0.00/hr	$0.00	Start	Standard	
9		09 End - FRONT LOADED	Work		09		3	$100.00/hr	$0.00/hr	$0.00	End	Standard	
10		10 Prorated - DOUBLE PEAK	Work		10		3	$100.00/hr	$0.00/hr	$0.00	Prorated	Standard	
11		11 Start - DOUBLE PEAK	Work		11		3	$100.00/hr	$0.00/hr	$0.00	Start	Standard	
12		12 End - DOUBLE PEAK	Work		12		3	$100.00/hr	$0.00/hr	$0.00	End	Standard	
13		13 Prorated - EARLY PEAK	Work		13		3	$100.00/hr	$0.00/hr	$0.00	Prorated	Standard	
14		14 Start - EARLY PEAK	Work		14		3	$100.00/hr	$0.00/hr	$0.00	Start	Standard	
15		15 End - EARLY PEAK	Work		15		3	$100.00/hr	$0.00/hr	$0.00	End	Standard	
16		16 Prorated - LATE PEAK	Work		16		3	$100.00/hr	$0.00/hr	$0.00	Prorated	Standard	
17		17 Start - LATE PEAK	Work		17		3	$100.00/hr	$0.00/hr	$0.00	Start	Standard	
18		18 End - LATE PEAK	Work		18		3	$100.00/hr	$0.00/hr	$0.00	End	Standard	
19		19 Prorated - BELL	Work		19		3	$100.00/hr	$0.00/hr	$0.00	Prorated	Standard	
20		20 Start - BELL	Work		20		3	$100.00/hr	$0.00/hr	$0.00	Start	Standard	
21		21 End - BELL	Work		21		3	$100.00/hr	$0.00/hr	$0.00	End	Standard	
22		22 Prorated - TURTLE	Work		22		3	$100.00/hr	$0.00/hr	$0.00	Prorated	Standard	
23		23 Start - TURTLE	Work		23		3	$100.00/hr	$0.00/hr	$0.00	Start	Standard	
24		24 End - TURTLE	Work		24		3	$100.00/hr	$0.00/hr	$0.00	End	Standard	
25		25 Prorated - HAND LOADED	Work		25		3	$100.00/hr	$0.00/hr	$0.00	Prorated	Standard	
26		26 Start - HAND LOADED	Work		26		3	$100.00/hr	$0.00/hr	$0.00	Start	Standard	
27		27 End - HAND LOADED	Work		27		3	$100.00/hr	$0.00/hr	$0.00	End	Standard	

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Learn Resource Contours

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WHAT ARE CONTOURS (Profiles)?

- When an assignment is first made, it has a flat work contour by default.
  - A flat work contour means that the work for the assignment is spread out evenly over the length of the assignment.
- You can distribute the total work (time, for work resource, or stock, for material resources) in a different way by choosing one of the following work contours:
  - **Back loaded**
  - **Front loaded**
  - **Double peak**
  - **Early peak**
  - **Late peak**
  - **Bell**
  - **Turtle**
  - **Manual**
    - If none of the preset contours meet your needs, you can create your own contour manually.

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Resource Contours

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ID		Resource Name	Work	Details	M	T	W	T	F
4		04 Prorated - BACK LOADED	57.6 hrs	Work	3.6h	10.8h	19.2h	24h	
		A - Fixed Duration	*19.2 hrs*	Work	1.2h	3.6h	6.4h	8h	
		B - Fixed Units	*19.2 hrs*	Work	1.2h	3.6h	6.4h	8h	
		C - Fixed Work	*19.2 hrs*	Work	1.2h	3.6h	6.4h	8h	

Assignment Information

General | Tracking | Notes

Task: A - Fixed Duration

Resource: 04 Prorated - BACK LOADED

Work: 19.2h

Units: 1

Work contour: Back Loaded

Start:

Finish:

Cost:

Booking type: Committed

Cost rate table: A

Flat
Back Loaded
Front Loaded
Double Peak
Early Peak
Late Peak
Bell
Turtle

OK | Cancel

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81 (named) Profiles Loading Methods – Unlimited Possibilities

Task [TYPE] - **Fixed DURATION**

Resource [CONTOUR] - **Flat Spread**
- [ACCRUED AT] - Prorated *(Example A01)*
- [ACCRUED AT] – Start *(Example A02)*
- [ACCRUED AT] – End *(Example A03)*

Resource [CONTOUR] - **Back Loaded**
- [ACCRUED AT] - Prorated *(Example A04)*
- [ACCRUED AT] - Start *(Example A05)*
- [ACCRUED AT] – End *(Example A06)*

Resource [CONTOUR] - **Front Loaded**
- [ACCRUED AT] - Prorated *(Example A07)*
- [ACCRUED AT] - Start *(Example A08)*
- [ACCRUED AT] – End *(Example A09)*

Resource [CONTOUR] - **Double Peak**
- [ACCRUED AT] - Prorated *(Example A10)*
- [ACCRUED AT] - Start *(Example A11)*
- [ACCRUED AT] – End *(Example A12)*

Resource [CONTOUR] - **Early Peak**
- [ACCRUED AT] - Prorated *(Example A13)*
- [ACCRUED AT] - Start *(Example A14)*
- [ACCRUED AT] – End *(Example A15)*

Resource [CONTOUR] - **Late Peak**
- [ACCRUED AT] - Prorated *(Example A16)*
- [ACCRUED AT] - Start *(Example A17)*
- [ACCRUED AT] – End *(Example A18)*

Resource [CONTOUR] - **Bell**
- [ACCRUED AT] - Prorated *(Example A19)*
- [ACCRUED AT] - Start *(Example A20)*
- [ACCRUED AT] – End *(Example A21)*

Resource [CONTOUR] - **Turtle**
- [ACCRUED AT] - Prorated *(Example A22)*
- [ACCRUED AT] - Start *(Example A23)*
- [ACCRUED AT] – End *(Example A24)*

Resource [CONTOUR] – **Hand Loaded**
- [ACCRUED AT] - Prorated *(Example A25)*
- [ACCRUED AT] - Start *(Example A26)*
- [ACCRUED AT] – End *(Example A27)*

Task [TYPE] - **Fixed UNITS**

Resource [CONTOUR] - **Flat Spread**
- [ACCRUED AT] - Prorated *(Example B01)*
- [ACCRUED AT] – Start *(Example B02)*
- [ACCRUED AT] – End *(Example B03)*

Resource [CONTOUR] - **Back Loaded**
- [ACCRUED AT] - Prorated *(Example B04)*
- [ACCRUED AT] - Start *(Example B05)*
- [ACCRUED AT] – End *(Example B06)*

Resource [CONTOUR] - **Front Loaded**
- [ACCRUED AT] - Prorated *(Example B07)*
- [ACCRUED AT] - Start *(Example B08)*
- [ACCRUED AT] – End *(Example B09)*

Resource [CONTOUR] - **Double Peak**
- [ACCRUED AT] - Prorated *(Example B10)*
- [ACCRUED AT] - Start *(Example B11)*
- [ACCRUED AT] – End *(Example B12)*

Resource [CONTOUR] - **Early Peak**
- [ACCRUED AT] - Prorated *(Example B13)*
- [ACCRUED AT] - Start *(Example B14)*
- [ACCRUED AT] – End *(Example B15)*

Resource [CONTOUR] - **Late Peak**
- [ACCRUED AT] - Prorated *(Example B16)*
- [ACCRUED AT] - Start *(Example B17)*
- [ACCRUED AT] – End *(Example B18)*

Resource [CONTOUR] - **Bell**
- [ACCRUED AT] - Prorated *(Example B19)*
- [ACCRUED AT] - Start *(Example B20)*
- [ACCRUED AT] – End *(Example B21)*

Resource [CONTOUR] - **Turtle**
- [ACCRUED AT] - Prorated *(Example B22)*
- [ACCRUED AT] - Start *(Example B23)*
- [ACCRUED AT] – End *(Example B24)*

Resource [CONTOUR] – **Hand Loaded**
- [ACCRUED AT] - Prorated *(Example B25)*
- [ACCRUED AT] - Start *(Example B26)*
- [ACCRUED AT] – End *(Example B27)*

Task [TYPE] - **Fixed WORK**

Resource [CONTOUR] - **Flat Spread**
- [ACCRUED AT] - Prorated *(Example C01)*
- [ACCRUED AT] – Start *(Example C02)*
- [ACCRUED AT] – End *(Example C03)*

Resource [CONTOUR] - **Back Loaded**
- [ACCRUED AT] - Prorated *(Example C04)*
- [ACCRUED AT] - Start *(Example C05)*
- [ACCRUED AT] – End *(Example C06)*

Resource [CONTOUR] - **Front Loaded**
- [ACCRUED AT] - Prorated *(Example C07)*
- [ACCRUED AT] - Start *(Example C08)*
- [ACCRUED AT] – End *(Example CA09)*

Resource [CONTOUR] - **Double Peak**
- [ACCRUED AT] - Prorated *(Example C10)*
- [ACCRUED AT] - Start *(Example C11)*
- [ACCRUED AT] – End *(Example C12)*

Resource [CONTOUR] - **Early Peak**
- [ACCRUED AT] - Prorated *(Example C13)*
- [ACCRUED AT] - Start *(Example C14)*
- [ACCRUED AT] – End *(Example C15)*

Resource [CONTOUR] - **Late Peak**
- [ACCRUED AT] - Prorated *(Example C16)*
- [ACCRUED AT] - Start *(Example C17)*
- [ACCRUED AT] – End *(Example C18)*

Resource [CONTOUR] - **Bell**
- [ACCRUED AT] - Prorated *(Example C19)*
- [ACCRUED AT] - Start *(Example C20)*
- [ACCRUED AT] – End *(Example C21)*

Resource [CONTOUR] - **Turtle**
- [ACCRUED AT] - Prorated *(Example C22)*
- [ACCRUED AT] - Start *(Example C23)*
- [ACCRUED AT] – End *(Example C24)*

Resource [CONTOUR] – **Hand Loaded**
- [ACCRUED AT] - Prorated *(Example C25)*
- [ACCRUED AT] - Start *(Example C26)*
- [ACCRUED AT] – End *(Example C27)*

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Baseline

Integrated Cost and Schedule

Control Account

Project Statistics for 'LearnAsYouGo-Baseline.mpp'

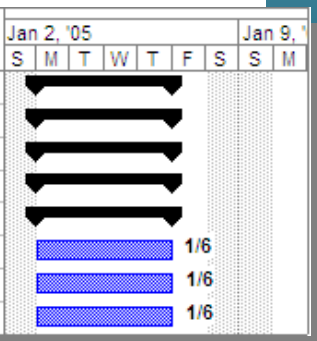
	Start	Finish
Current	1/3/05	1/6/05
Baseline	1/3/05	1/6/05
Actual	NA	NA
Variance	0d	0d

	Duration	Work	Cost
Current	4d	115.2h	$11,520.00
Baseline	4d	115.2h	$11,520.00
Actual	0d	0h	$0.00
Remaining	4d	115.2h	$11,520.00

Percent complete:
Duration: 0% Work: 0%

Close

ID		OBS	WBS	WP	Task Name	Type	Duration	Start	Finish
1					Phase	Fixed Duration	4 days	1/3/05	1/6/05
2					System	Fixed Duration	4 days	1/3/05	1/6/05
3					Component	Fixed Duration	4 days	1/3/05	1/6/05
4					Segment	Fixed Duration	4 days	1/3/05	1/6/05
5					04,05,06 Backloaded / Prorated / Tasks	Fixed Duration	4 days	1/3/05	1/6/05
6		BBA	121	A	A - Fixed Duration	Fixed Duration	4 days	1/3/05	1/6/05
7		BBA	121	A	B - Fixed Units	Fixed Units	4 days	1/3/05	1/6/05
8		BBA	121	A	C - Fixed Work	Fixed Work	4 days	1/3/05	1/6/05



ID		Resource Name	Work	Details	Jan 2, '05 S	M	T	W	T	F
4		04 Prorated - BACK LOADED	57.6 hrs	Cost		$360.00	$1,080.00	$1,920.00	$2,400.00	
		A - Fixed Duration	*19.2 hrs*	Cost		$120.00	$360.00	$640.00	$800.00	
		B - Fixed Units	*19.2 hrs*	Cost		$120.00	$360.00	$640.00	$800.00	
		C - Fixed Work	*19.2 hrs*	Cost		$120.00	$360.00	$640.00	$800.00	

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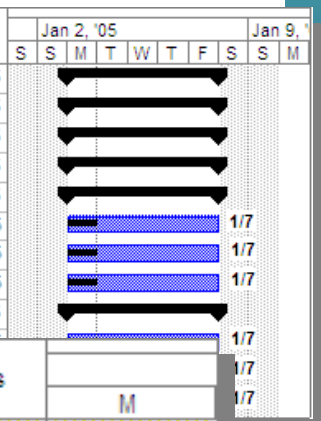
Project Information for 'CurrentPlan.mpp'

Start date:	1/3/05	Current date:	1/4/05
Finish date:	1/6/05	Status date:	1/3/05
Schedule from:	Project Start Date	Calendar:	Standard
All tasks begin as soon as possible.		Priority:	500

Help Statistics...

ID		OBS	WBS	WP	Task Name	Type	Duration	Start	Finish
1					**Phase**	**Fixed Duration**	**5 days**	**1/3/05**	**1/7/05**
2					**System**	**Fixed Duration**	**5 days**	**1/3/05**	**1/7/05**
3					**Component**	**Fixed Duration**	**5 days**	**1/3/05**	**1/7/05**
4					**Segment**	**Fixed Duration**	**5 days**	**1/3/05**	**1/7/05**
5					**04,05,06 Backloaded / Prorated / Tasks**	**Fixed Duration**	**5 days**	**1/3/05**	**1/7/05**
6		BBA	121	A	A - Fixed Duration	Fixed Duration	5 days	1/3/05	1/7/05
7		BBA	121	A	B - Fixed Units	Fixed Units	5 days	1/3/05	1/7/05
8		BBA	121	A	C - Fixed Work	Fixed Work	5 days	1/3/05	1/7/05
9					**07,08,09 Frontloaded / Prorated / Tasks**	**Fixed Duration**	**5 days**	**1/3/05**	**1/7/05**
10		BBA	121	A					
11		BBA	121	A					
12		BBA	121	A					



ID		Resource Name	Work	Details	M
4		04 Prorated - BACK LOADED	67.2 hrs	Act. Cost	$600.00
		A - Fixed Duration	*24 hrs*	Act. Cost	$200.00
		B - Fixed Units	*24 hrs*	Act. Cost	$200.00
		C - Fixed Work	*19.2 hrs*	Act. Cost	$200.00
5		05 Start - BACK LOADED	0 hrs	Act. Cost	
6		06 End - BACK LOADED	0 hrs	Act. Cost	
7		07 Prorated - FRONT LOADED	67.2 hrs	Act. Cost	$600.00
		A - Fixed Duration	*24 hrs*	Act. Cost	$200.00
		B - Fixed Units	*24 hrs*	Act. Cost	$200.00
		C - Fixed Work	*19.2 hrs*	Act. Cost	$200.00

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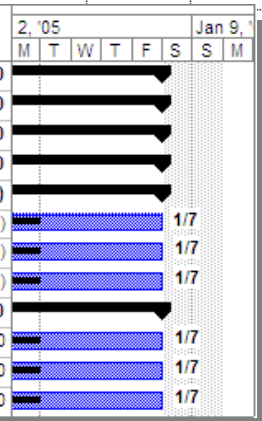
ID	Resource Name	Work	Details	M	T	W	T	F
4	04 Prorated - BACK LOADED	67.2 hrs	Cost	$600.00	$840.00	$1,400.00	$1,960.00	$2,240.00
			Act. Cost	$600.00				
			BCWS	$360.00				
			BCWP	$240.00				
			ACWP	$600.00				
			CV	($360.00)				
			SV	($120.00)				
	A - Fixed Duration	*24 hrs*	Cost	$200.00	$300.00	$500.00	$700.00	$800.00
			Act. Cost	$200.00				
			BCWS	$120.00				
			BCWP	$80.00				
			ACWP	$200.00				
			CV	($120.00)				
			SV	($40.00)				
	B - Fixed Units	*24 hrs*	Cost	$200.00	$300.00	$500.00	$700.00	$800.00
			Act. Cost	$200.00				
			BCWS	$120.00				
			BCWP	$80.00				
			ACWP	$200.00				
			CV	($120.00)				
			SV	($40.00)				
	C - Fixed Work	*19.2 hrs*	Cost	$200.00	$240.00	$400.00	$560.00	$640.00
			Act. Cost	$200.00				
			BCWS	$120.00				
			BCWP	$80.00				
			ACWP	$200.00				
			CV	($120.00)				

ID	Task Name	BCWS	BCWP	ACWP	SV	CV	EAC	BAC	VAC
1	**Phase**	**$2,760.00**	**$2,160.00**	**$1,200.00**	**($600.00)**	**$960.00**	**$6,400.00**	**$11,520.00**	**$5,120.00**
2	**System**	**$2,760.00**	**$2,160.00**	**$1,200.00**	**($600.00)**	**$960.00**	**$6,400.00**	**$11,520.00**	**$5,120.00**
3	**Component**	**$2,760.00**	**$2,160.00**	**$1,200.00**	**($600.00)**	**$960.00**	**$6,400.00**	**$11,520.00**	**$5,120.00**
4	**Segment**	**$2,760.00**	**$2,160.00**	**$1,200.00**	**($600.00)**	**$960.00**	**$6,400.00**	**$11,520.00**	**$5,120.00**
5	**04,05,06 Backloaded / Prorated / Tasks**	**$360.00**	**$240.00**	**$600.00**	**($120.00)**	**($360.00)**	**$14,400.00**	**$5,760.00**	**($8,640.00)**
6	A - Fixed Duration	$120.00	$80.00	$200.00	($40.00)	($120.00)	$4,800.00	$1,920.00	($2,880.00)
7	B - Fixed Units	$120.00	$80.00	$200.00	($40.00)	($120.00)	$4,800.00	$1,920.00	($2,880.00)
8	C - Fixed Work	$120.00	$80.00	$200.00	($40.00)	($120.00)	$4,800.00	$1,920.00	($2,880.00)
9	**07,08,09 Frontloaded / Prorated / Tasks**	**$2,400.00**	**$1,920.00**	**$600.00**	**($480.00)**	**$1,320.00**	**$1,800.00**	**$5,760.00**	**$3,960.00**
10	A - Fixed Duration	$800.00	$640.00	$200.00	($160.00)	$440.00	$600.00	$1,920.00	$1,320.00
11	B - Fixed Units	$800.00	$640.00	$200.00	($160.00)	$440.00	$600.00	$1,920.00	$1,320.00
12	C - Fixed Work	$800.00	$640.00	$200.00	($160.00)	$440.00	$600.00	$1,920.00	$1,320.00



	A - Fixed Duration	*24 hrs*	Cost	$200.00	$700.00	$500.00	$300.00	$100.00
			Act. Cost	$200.00				
			BCWS	$800.00				
			BCWP	$640.00				
			ACWP	$200.00				
			CV	$440.00				
			SV	($160.00)				
	B - Fixed Units	*24 hrs*	Cost	$200.00	$700.00	$500.00	$300.00	$100.00
			Act. Cost	$200.00				
			BCWS	$800.00				
			BCWP	$640.00				
			ACWP	$200.00				
			CV	$440.00				
			SV	($160.00)				
	C - Fixed Work	*19.2 hrs*	Cost	$200.00	$560.00	$400.00	$240.00	$80.00
			Act. Cost	$200.00				
			BCWS	$800.00				
			BCWP	$640.00				
			ACWP	$200.00				
			CV	$440.00				
			SV	($160.00)				

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Relational Data

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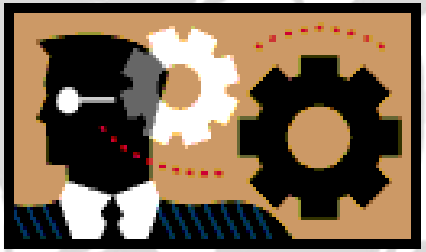
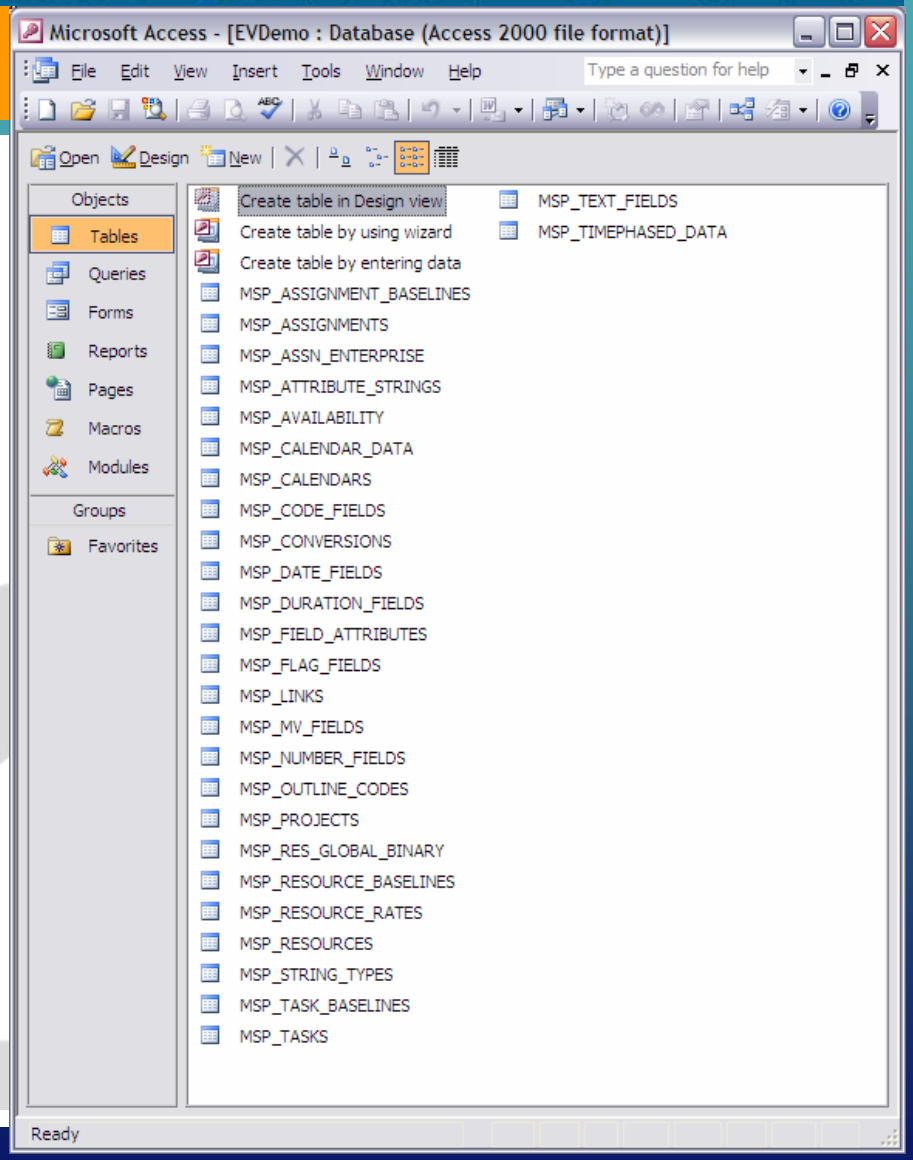
- Recognize that at this point you have already integrated cost and schedule.
- NOW – Learn to think of MS Project as a database and use the data tables stored in Microsoft Access





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Importing Actuals

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Actual Costs

Project	Charge Number			Actual Cost	Date
LBC03	BBA	127	A	$ 1,214.68	12/18/2004
LBC03	BBA	125	A	$ 234.57	12/19/2004
LBC03	BBA	124	A	$ 1,217.85	12/30/2004
LBC03	BBA	121	A	$ 1,219.23	1/2/2005
LBC03	BBA	123	A	$ 2,345.00	1/2/2005
LJC01	BBA	121	A	$ 200.00	1/3/2005
LJC01	BBA	121	A	$ 200.00	1/3/2005
LBC03	BBA	122	A	$ 210.00	1/3/2005
LJC01	BBA	121	A	$	
LJC01	BBA	121	A	$	
LJC01	BBA	121	A	$	
LBC03	BBA	126	A	$ 2	
LJC01	BBA	121	A		

User Defined sort, selection, summarization fields

Typically Outline Codes

Microsoft Access - [MSP_TASKS : Table]

File Edit View Insert Tools Window Help Type a question for help

Field Name	Data Type	Description
RESERVED_DATA	Text	
PROJ_ID	Number	
TASK_ACWP	Number	
TASK_B	Number	
TASK_BCWS	Number	
TASK_DUR_VAR	Number	
TASK_FINISH_VAR	Number	
TASK_OUTLINE_NUM	Text	
TASK_START_VAR	Number	
TASK_IS_OVERALLOCATED	Yes/No	
TASK_OVT_WORK	Number	
TASK_VAC	Number	
TASK_REG_WORK	Number	
TASK_NUM_OBJECTS	Number	
TASK_TOTAL_SLACK	Number	
EXT_EDIT_REF_DATA	Memo	
TASK_UID	Number	
TASK_ID	Number	
TASK_HAS_LINKED_FIELDS	Yes/No	
TASK_IS_MILESTONE	Yes/No	
TASK_IS_CRITICAL	Yes/No	
TASK_IS_SUMMARY	Yes/No	
TASK_IS_SUBPROJ	Yes/No	
TASK_IS_MARKED	Yes/No	
TASK_IGNORES_RES_CAL	Yes/No	
TASK_IS_ROLLED_UP	Yes/No	
TASK_IS_FROM_FINISH_SUE	Yes/No	
TASK_BAR_IS_HIDDEN	Yes/No	
TASK_IS_RECURRING	Yes/No	
TASK_IS_RECURRING_SUMM	Yes/No	
TASK_IS_EXTERNAL	Yes/No	
TASK_IS_EFFORT_DRIVEN	Yes/No	
TASK_IS_COLLAPSED	Yes/No	
TASK_HAS_NOTES	Yes/No	
TASK_IS_READONLY_SUBPR	Yes/No	
TASK_LEVELING_CAN_SPLIT	Yes/No	

ID	OBS	WBS	WP	Task Name	Type	Duration	Start	Finish
1				Phase	Fixed Duration	5 days	1/3/05	1/7/05
2				System	Fixed Duration	5 days	1/3/05	1/7/05
3				Component	Fixed Duration	5 days	1/3/05	1/7/05
4				Segment	Fixed Duration	5 days	1/3/05	1/7/05
5	BBA	121	A	Work Package BBA121-A	Fixed Duration	5 days	1/3/05	1/7/05
6	BBA	121		04,05,06 Backloaded / Prorated / Tasks	Fixed Duration	5 days	1/3/05	1/7/05
7	BBA	121	A	A - Fixed Duration	Fixed Duration	5 days	1/3/05	1/7/05
8	BBA	121	A	B - Fixed Units	Fixed Units	5 days	1/3/05	1/7/05
9	BBA	121	A	C - Fixed Work	Fixed Work	5 days	1/3/05	1/7/05
10		121		07,08,09 Frontloaded / Prorated / Tasks	Fixed Duration	5 days	1/3/05	1/7/05
11	BBA	121	A	A - Fixed Duration	Fixed Duration	5 days	1/3/05	1/7/05
12	BBA	121	A	B - Fixed Units	Fixed Units	5 days	1/3/05	1/7/05
13	BBA	121	A	C - Fixed Work	Fixed Work	5 days	1/3/05	1/7/05

Validation Rule
Validation Text
Required: No
Indexed: No
Smart Tags

Design view. F6 = Switch panes. F1 = Help.

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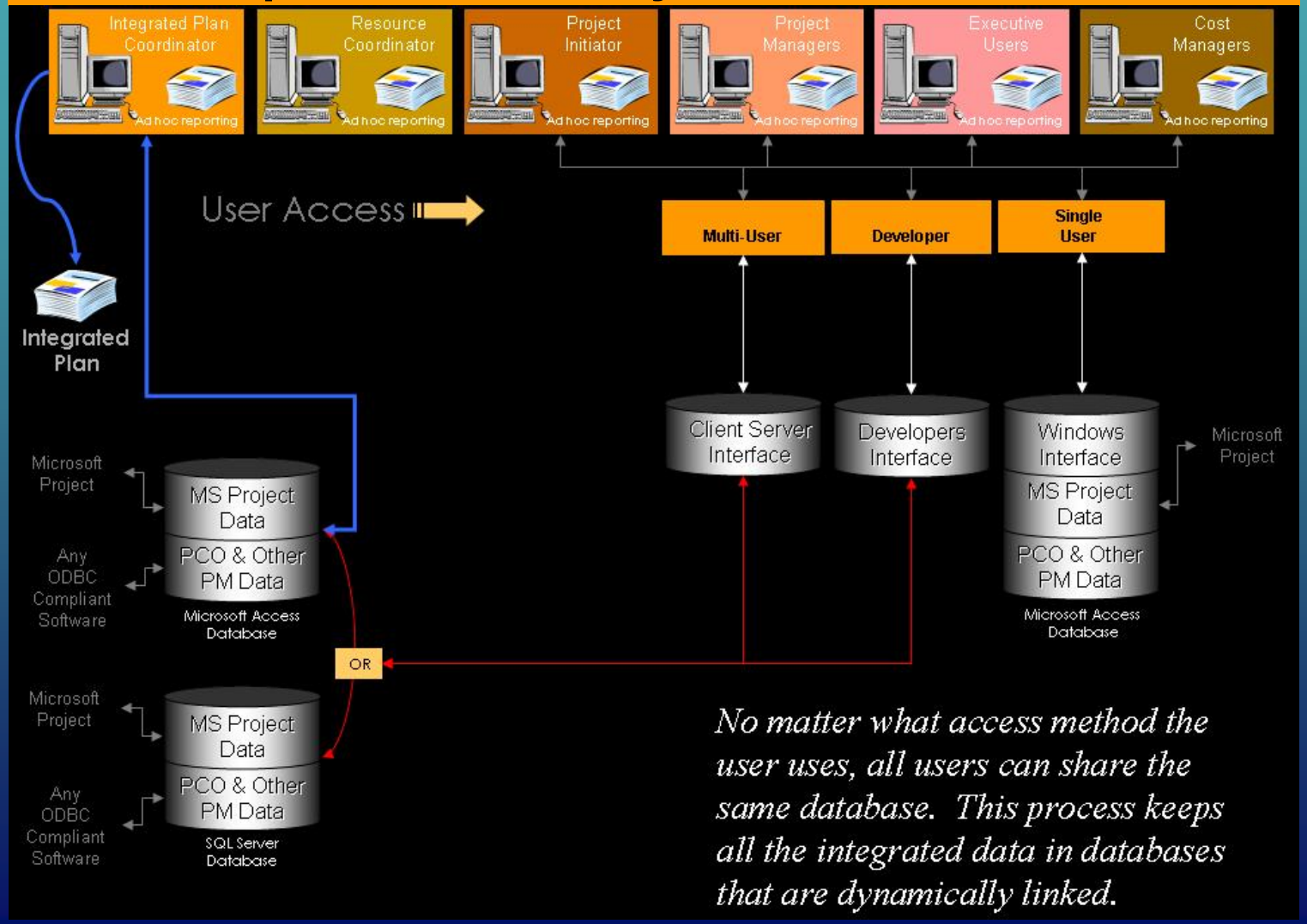
Example MS Project / MS Access



No matter what access method the user uses, all users can share the same database. This process keeps all the integrated data in databases that are dynamically linked.

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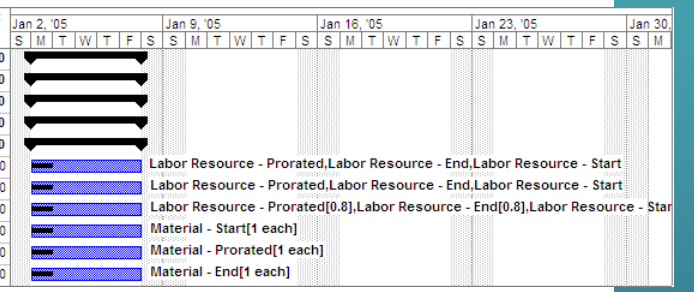
The Key – Progress Reporting

ID		% Complete	% Work Complete	Project WBS	Project OBS	Cost Account	Task Name	Type	Duration	Fixed Cost
1		20%	20%				Phase	Fixed Duration	5 days	$0.00
2		20%	20%				System	Fixed Duration	5 days	$0.00
3		20%	20%				Component	Fixed Duration	5 days	$0.00
4		20%	20%				Segment	Fixed Duration	5 days	$0.00
5		20%	20%	1011	BA	AAA-100-A	Work Package (Reporting Level Task)	Fixed Duration	5 days	$0.00
6		20%	20%	1011	BA	AAA-100-A	Detailed Task - Fixed Duration - Flat Contour	Fixed Duration	5 days	$0.00
7		20%	20%	1011	BA	AAA-100-A	Detailed Task - Fixed Units - Flat Contour	Fixed Units	5 days	$0.00
8		20%	20%	1011	BA	AAA-100-A	Detailed Task - Fixed Work - Flat Contour	Fixed Work	5 days	$0.00
9		20%	20%	1011	BA	AAA-100-A	Detailed Task - Material Start	Fixed Duration	5 days	$0.00
10		20%	20%	1011	BA	AAA-100-A	Detailed Task - Material Prorated	Fixed Duration	5 days	$0.00
11		20%	20%	1011	BA	AAA-100-A	Detailed Task - Material End	Fixed Duration	5 days	$0.00



ID	Resource Name	BCWS	BCWP	ACWP	SV	CV	EAC	BAC	VAC	Details	M	T	W	T	F
1	Labor Resource - Prorated	$2,400.00	$1,920.00	$2,100.00	($480.00)	($180.00)	$11,060.00	$9,600.00	($900.00)	Cost	$2,100.00	$2,240.00	$2,240.00	$2,240.00	$2,240.00
										Act. Cost	$2,100.00				
	Detailed Task - Fixed Duration - Flat Contour	*$800.00*	*$640.00*	*$700.00*	*($160.00)*	*($60.00)*	*$3,900.00*	*$3,200.00*	*($300.00)*	Cost	$700.00	$800.00	$800.00	$800.00	$800.00
										Act. Cost	$700.00				
	Detailed Task - Fixed Units - Flat Contour	*$800.00*	*$640.00*	*$700.00*	*($160.00)*	*($60.00)*	*$3,900.00*	*$3,200.00*	*($300.00)*	Cost	$700.00	$800.00	$800.00	$800.00	$800.00
										Act. Cost	$700.00				
	Detailed Task - Fixed Work - Flat Contour	*$800.00*	*$640.00*	*$700.00*	*($160.00)*	*($60.00)*	*$3,260.00*	*$3,200.00*	*($300.00)*	Cost	$700.00	$640.00	$640.00	$640.00	$640.00
										Act. Cost	$700.00				
2	Labor Resource - Start	$2,400.00	$1,920.00	$7,040.00	($480.00)	($5,120.00)	$7,040.00	$9,600.00	($25,600.00)	Cost	$7,040.00	$0.00	$0.00	$0.00	$0.00
										Act. Cost	$7,040.00				
	Detailed Task - Fixed Duration - Flat Contour	*$3,200.00*	*$640.00*	*$3,200.00*	*($2,560.00)*	*($2,560.00)*	*$3,200.00*	*$3,200.00*	*($12,800.00)*	Cost	$3,200.00	$0.00	$0.00	$0.00	$0.00
										Act. Cost	$3,200.00				
	Detailed Task - Fixed Units - Flat Contour	*$3,200.00*	*$640.00*	*$3,200.00*	*($2,560.00)*	*($2,560.00)*	*$3,200.00*	*$3,200.00*	*($12,800.00)*	Cost	$3,200.00	$0.00	$0.00	$0.00	$0.00
										Act. Cost	$3,200.00				
	Detailed Task - Fixed Work - Flat Contour	*$3,200.00*	*$640.00*	*$640.00*	*($2,560.00)*	*$0.00*	*$640.00*	*$3,200.00*	*$0.00*	Cost	$640.00	$0.00	$0.00	$0.00	$0.00
										Act. Cost	$640.00				
3	Labor Resource - End	$2,400.00	$1,920.00	$1,440.00	($480.00)	$480.00	$10,400.00	$9,600.00	$2,400.00	Cost	$1,440.00	$0.00	$0.00	$0.00	$8,960.00
										Act. Cost	$1,440.00				
	Detailed Task - Fixed Duration - Flat Contour	*$0.00*	*$640.00*	*$0.00*	*$640.00*	*$640.00*	*$3,200.00*	*$3,200.00*	*$0.00*	Cost	$0.00	$0.00	$0.00	$0.00	$3,200.00
										Act. Cost	$0.00				
	Detailed Task - Fixed Units - Flat Contour	*$0.00*	*$640.00*	*$800.00*	*$640.00*	*($160.00)*	*$4,000.00*	*$3,200.00*	*($800.00)*	Cost	$800.00	$0.00	$0.00	$0.00	$3,200.00
										Act. Cost	$800.00				
	Detailed Task - Fixed Work - Flat Contour	*$0.00*	*$640.00*	*$640.00*	*$640.00*	*$0.00*	*$3,200.00*	*$3,200.00*	*$0.00*	Cost	$640.00	$0.00	$0.00	$0.00	$2,560.00
										Act. Cost	$640.00				
4	Material - Prorated	$250.00	$200.00	$200.00	($50.00)	$0.00	$1,000.00	$1,000.00	$0.00	Cost	$200.00	$200.00	$200.00	$200.00	$200.00
										Act. Cost	$200.00				
	Detailed Task - Material Prorated	*$250.00*	*$200.00*	*$200.00*	*($50.00)*	*$0.00*	*$1,000.00*	*$1,000.00*	*$0.00*	Cost	$200.00	$200.00	$200.00	$200.00	$200.00
										Act. Cost	$200.00				
5	Material - Start	$250.00	$200.00	$1,000.00	($50.00)	($800.00)	$1,000.00	$1,000.00	($4,000.00)	Cost	$1,000.00	$0.00	$0.00	$0.00	$0.00
										Act. Cost	$1,000.00				
	Detailed Task - Material Start	*$1,000.00*	*$200.00*	*$1,000.00*	*($800.00)*	*($800.00)*	*$1,000.00*	*$1,000.00*	*($4,000.00)*	Cost	$1,000.00	$0.00	$0.00	$0.00	$0.00
										Act. Cost	$1,000.00				
6	Material - End	$250.00	$200.00	$0.00	($50.00)	$200.00	$800.00	$1,000.00	$0.00	Cost	$0.00	$0.00	$0.00	$0.00	$800.00
										Act. Cost	$0.00				
	Detailed Task - Material End	*$0.00*	*$200.00*	*$0.00*	*$200.00*	*$200.00*	*$800.00*	*$1,000.00*	*$0.00*	Cost	$0.00	$0.00	$0.00	$0.00	$800.00
										Act. Cost	$0.00				

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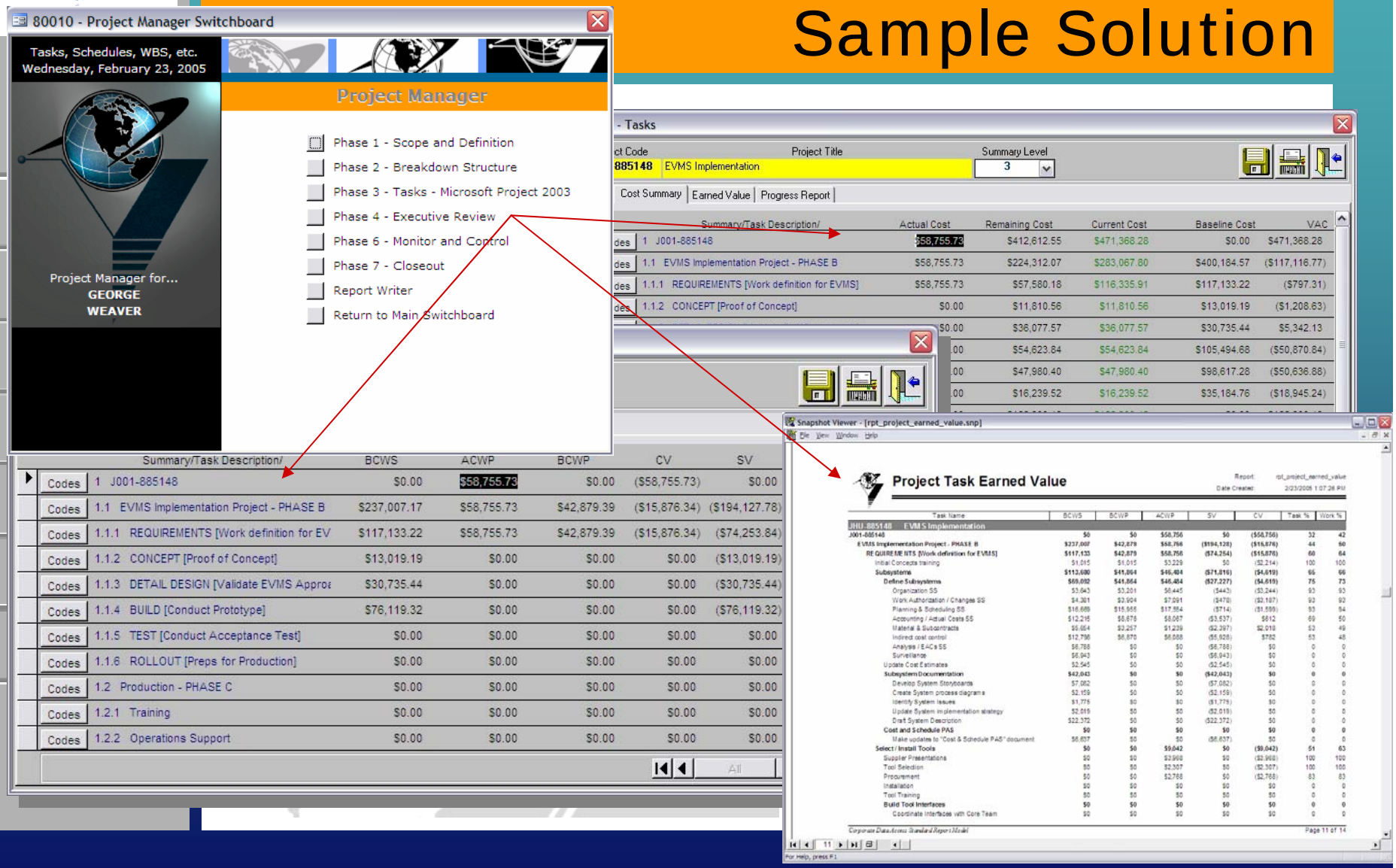
Sample Solution



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Questions - Answers

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