#### 4-6 October, Nationals Park, Washington DC



How Deltek Can Help Maintain Schedule / Cost Integration



## **Topics**

- Introduction
- Schedule / Cost Integration Overview
- Scheduling Techniques / Approaches
  - And their impact on cost baseline
- Setup vs Monthly Maintenance
- Methods to Improve Quality Data
  - Deltek Touchstone
  - Deltek PM Compass
  - Deltek wInsight
- Q&A



### Introduction - Meet the Speaker



Mary Major Senior Principal Solutions Engineer, Deltek

Mary is a Senior Principal Solutions Engineer at Deltek focusing on Deltek's PPM products. Prior to Deltek, Mary worked 27 years in the Aerospace and Defense industry in various positions within finance, program management and information technology organizations. Mary was the functional expert/system administrator of the PPM suite (Open Plan, Cobra, winsight and PM Compass) and directed several migrations, upgrades, and implementations. Mary's PPM experience includes EVMS implementation and validation, including System Description design to adoption, user training and customer/DCMA coordination. In addition, Mary was a key IT resource with expertise in various financial aspects of ERP tools – Costpoint and Time & Expense. Mary was a core team member of various Costpoint implementation projects. Mary received a bachelor's degree in Mathematics from Frostburg State University. Mary is currently working towards a master's degree in Business Data Analytics at West Virginia University.



# Schedule / Cost Integration Overview



## Schedule / Cost Integration Overview

#### Start with the schedule

- Logically connected activities (durations, relationship types)
- Resource loaded
- Tied to WBS (scope), OBS (organization) and Control Account Manager (CAM)
- Other attributes important to the program or company
  - IMP
  - SOW
  - Reporting structure, CWBS, Internal WBS

#### Use the schedule to build the cost baseline

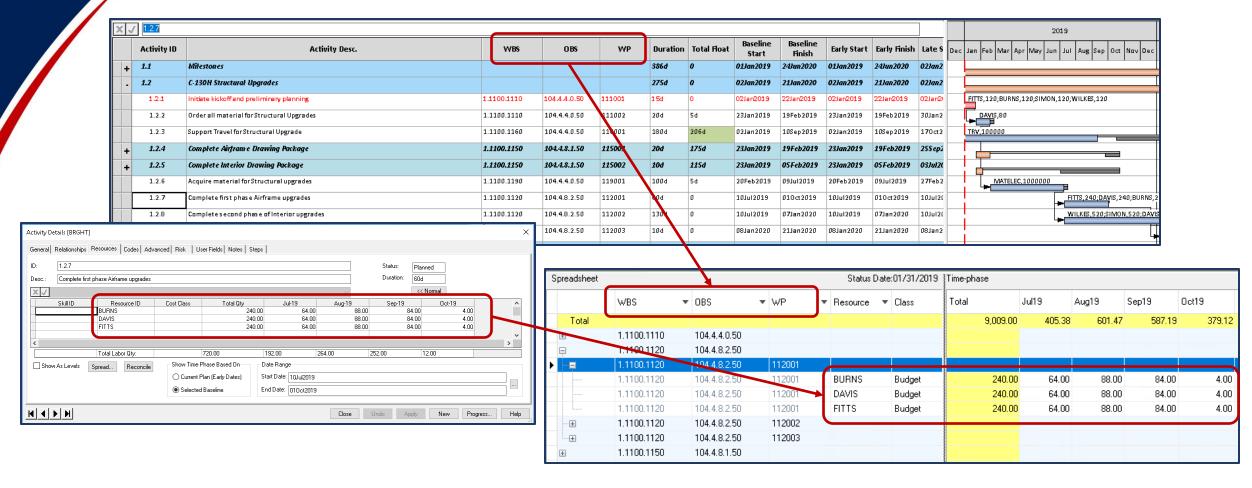
- Deltek Cobra has direct integrations to Deltek Open Plan, MS Project (Professional and Server), Oracle Primavera P6 and MS Excel (for non-schedule generated data, e.g. MRP-type data)
- Eliminates dual-entry and typical data-entry errors

#### Automated process can be easily repeated

- Monthly updates
- Repetitive what-if exercises



# Schedule / Cost Integration Overview





# Scheduling Techniques / Approaches



## Scheduling Techniques / Approaches

- Resource loaded schedule
  - Best practice, but not necessary control account/work package key information (dates, percent complete, etc.) can be integrated from schedule to cost baseline
- Resource assignments at activity level vs summary level
  - Best practice is at activity level
- ALL scope included in schedule
  - Level of Effort
  - Materials
- Level of detail for non-labor
  - Materials (or any purchased item or service) at PO line or total
  - Critical vs non-critical materials



# Resource Assignments at Activity Level vs Summary Level

1	BURNS											Apr 19				May 19	9			Jui	n 19	
	Resource ID	Res. Desc.	Activity ID	Activity Desc.	Duration	Rem. Dur.	Early Start	Early Fini	30	06	13	20	27	04	11	18	25	01	08	15	22	29
	121001A							:														
	BURNS	Burns	1.3.1A.1	CS001: Console electronics	20d	0	17Apr2019	14May201				24	40	40	40	16 16						
l	CERNAN	Cernan	1.3.1A.4	CS003: Communication	50d	0	17Apr2019	25Jun2019				12	20	20	20	20	20	20	20	20	20	8
	DAVIS	Davis	1.3.1A.2	CS002: Wiring	30d	0	17Apr2019	28May201				24	40	40	40	40	40	16 16				
	FITTS	Fitts	1.3.1A.2	CS002: Wiring	30d	0	17Apr2019	28May201				24	40	40	40	40	40	16 16				
	LINDSTROM	Lindstrom	1.3.1A.4	CS003: Communication	50d	0	17Apr2019	25Jun2019 				12	20	20	20	20	20	20	20	20	20	8
	PHOENIX	Phoenix	1.3.1A.1	CS001: Console electronics	20d	0	17Apr2019	14May201				3000	5000	5000	5000	2000 2000						
	PHOENIX	Phoenix	1.3.1A.3	CS003: Navigation	25d	0	17Apr2019	21May201,				3000	5000	5000	5000	5000	2000 2000					
	PHOENIX	Phoenix	1.3.1A.2	CS002: Wiring	30d	0	17Apr2019	28May201				3000	5000	5000	5000	5000	5000	2000 2000				
	PHOENIX	Phoenix	1.3.1A.4	CS003: Communication	50d	0	17Apr2019	25Jun2019				3000	5000	5000	5000	5000	5000	5000	5000	5000	5000	2000 2000
	SIMON	Simon	1.3.1A.3	CS003: Navigation	25d	0	17Apr2019	21May201				24	40	40	40	40	16 16					
	WILKES	Wilkes	1.3.1A.3	CS003: Navigation	25d	0	17Apr2019	21May201				12	20	20	20	20	8					
	WILKES	Wilkes	1.3.1A.1	CS001: Cansale electronics	20d	0	17Apr2019	14May201				12	20	20	20	8						

#### **Activity Level**

- Resource assignments at activity level time-phased resources align with each activity
- Provides accurate cost baseline profile, especially if one activity is "different" than the others
  - Longer or shorter duration
  - Significantly more or fewer resources



# Resource Assignments at Activity Level vs Summary Level

5		BURNS			Apr 19					May 19					Jun 19				<b>=</b>					
		Resource ID	Res. Desc.	Activity ID	Activity Desc.	Duration	Rem. Dur.	Early Start	Early Fini	30	06	13	20	27	04	11	18	25	01	08	15	22	29	Summary Level
	- 1:	21001B																						"
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ı		BURNS	Burns	1.3.1B	Complete Systems Technical Documents	50d	0	17Apr2019	25Jun2019				22	36	36 	36	36	36	36	36	36	36	14 14	
		DAVIS	Davis	1.3.1B	Complete Systems Technical Documents	50d	0	17Apr2019	25Jun2019				26	44	44	44	44	44	44	44	44	44	18 18	
		FITTS	Fitts	1.3.1B	Complete Systems Technical Documents	50d	0	17Apr2019	25Jun2019				14	24	24	24	24	24	24	24	24	24	10 10	
		PHOENIX	Phoenix	1.3.1B	Complete Systems Technical Documents	50d	0	17Apr2019	25Jun2019				7500	12500 1	2500	12500	12500	12500	12500	12500	12500	12500	5000 5000	
		SIMON	Simon	1.3.1B	Complete Systems Technical Documents	50d	0	17Apr2019	25Jun2019 				12	20	20	20	20	20	20	20	20	20	8	
		WILKES	Wilkes	1.3.1B	Complete Systems Technical Documents	50d	0	17Apr2019	25Jun2019				11	18	18	18	18	18	18	18	18	18	7 7	

- Resource assignments at summary level resource assignments are spread across the range of activities, not each specific activity
- This "peanut butter" spread can skew the cost baseline profile, especially if one activity is "different" than the others
  - Longer or shorter duration
  - Significantly more or fewer resources



# Setup vs Monthly Maintenance



## Setup vs Monthly Maintenance

- Setting up and maintaining an earned value schedule / cost baseline is hard work
  - Hard work (and time) setting up a schedule (and cost baseline) will pay off monthly processing
- Best Practice is to resource load the schedule at the activity level
  - As the schedule progresses, forecast start and finish dates will update
  - Resource assignment time-phasing will stay aligned with their activities
- Resource loading at a summary level may seem easier to setup...
  - Time-phasing will require manual review and updates each month
- There is no such thing as a free lunch!
  - Shortcuts during setup will cause extra work on a monthly basis
  - Hard work during setup will simplify monthly processing



## Setup vs Monthly Maintenance

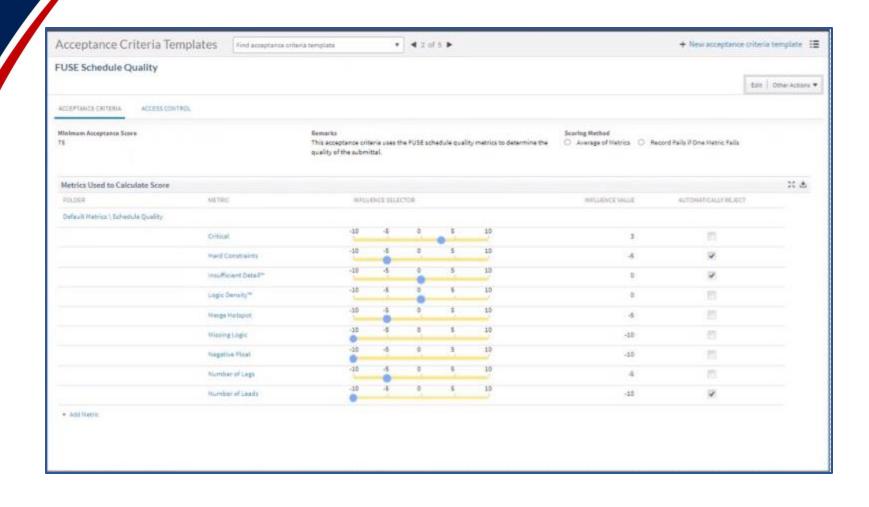
- Level of Effort (LOE) and Other Direct Costs (ODC) in the schedule or not?
  - There are as many good reasons to include LOE /ODC in the schedule as there are reasons to exclude it
  - Either way, it's important to understand the source of all earned value data
- How much material (purchased items) or subcontracts (services) detail should be included in the schedule?
  - Too much detail (every single purchase order line is a schedule activity) will cause extra effort during monthly processing
  - Too little detail (one number for all materials) will cause extra analysis drilling into the details to identify root cause of an issue
  - Include critical items (material and subcontracts) as their own activities; organize everything else into logical
    activities
- Cost baseline reconciliation process can be complicated if cost data comes from different sources
  - Use functionality in your cost system to segregate data by source in Deltek Cobra use different cost classes or control account / work package codes



# Methods to Improve Quality Data



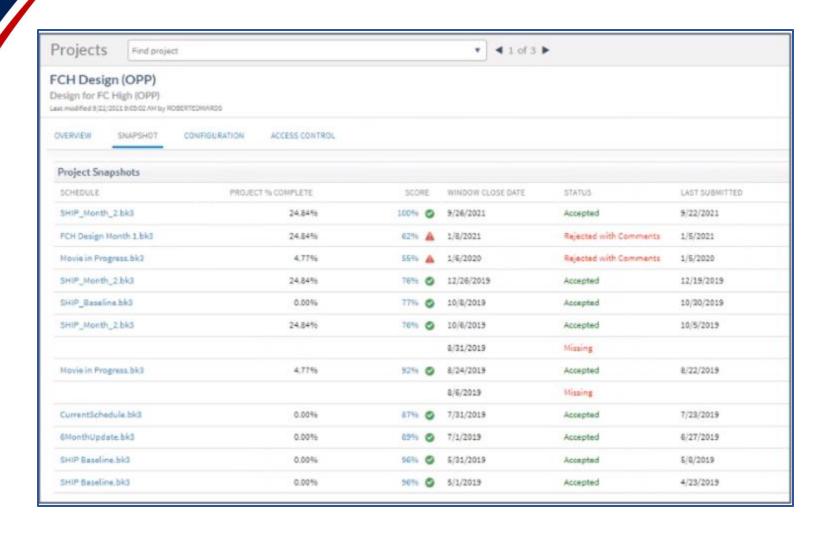
# Deltek Touchstone – Acceptance Criteria



- Sliders can be used to define acceptance (and rejection) criteria by metric type
- Identifies schedule quality issues before integration into the cost baseline



# Deltek Touchstone - Project Snapshots



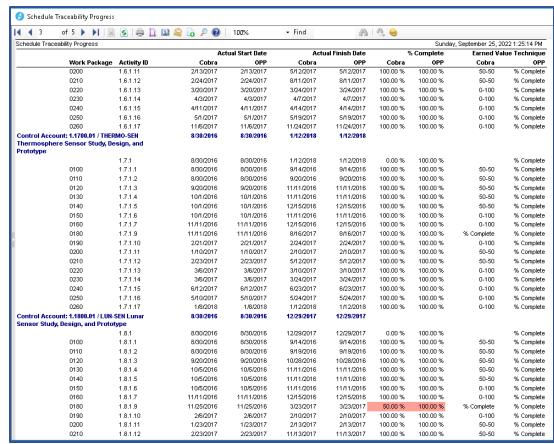
- Project Snapshots are maintained
- Valuable compliance tool for internal and external schedules



## Deltek PM Compass - Schedule Traceability Reports

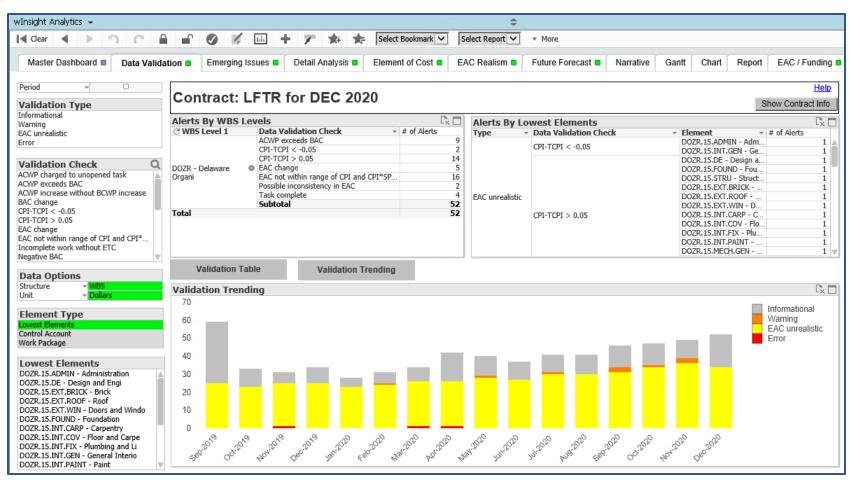
- Schedule Traceability Reports
  - Dates
  - Progress
  - Resource Assignments

Schedule Traceability													_ ×
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Schedule Traceability Date	S									r 25, 2022 1:22			
			e Start Date		e Finish Date		Start Date		Finish Date		al Start Date		ıl Finish Date
Work Package	Activity ID	Cobra	OPP	Cobra	OPP	Cobra	OPP	Cobra	OPP	Cobra	OPP	Cobra	OPP
0230	1.2.1.14	2/7/2017	4/11/2017	2/13/2017	4/17/2017		4/24/2017		4/28/2017	4/24/2017	4/24/2017	4/28/2017	4/28/2017
0240	1.2.1.15	2/14/2017	4/18/2017	2/28/2017	5/1/2017		9/4/2017		9/29/2017	9/4/2017	9/4/2017	9/29/2017	9/29/2017
Subsurface Sensor Stu	.01 / SUB-SEN Water Body	2/28/2017	5/2/2017	12/31/2017	2/15/2018		4/3/2017		12/14/2018	4/3/2017	4/3/2017	12/14/2018	12/14/2018
Substitute Selisor Stu	1.3.1	2/28/2017	5/2/2017	12/31/2017	2/15/2018		4/3/2017		12/14/2018	4/3/2017	4/3/2017	12/14/2018	12/14/2018
0100	1.3.1.1	2/28/2017	5/2/2017	3/20/2017	5/22/2017		4/3/2017		6/5/2017	4/3/2017	4/3/2017	6/5/2017	6/5/2017
0110	1.3.1.2	2/28/2017	5/2/2017	3/27/2017	5/29/2017		5/15/2017		6/5/2017	5/15/2017	5/15/2017	6/5/2017	6/5/2017
0120	1.3.1.3	3/28/2017	5/30/2017	4/24/2017	6/26/2017		6/12/2017		8/4/2017	6/12/2017	6/12/2017	8/4/2017	8/4/2017
0130	1.3.1.4	4/25/2017	6/27/2017	5/22/2017	7/25/2017		6/12/2017		10/20/2017	6/12/2017	6/12/2017	10/20/2017	10/20/2017
0140	1.3.1.5	5/23/2017	7/26/2017	6/19/2017	8/22/2017		8/7/2017		12/1/2017	8/7/2017	8/7/2017	12/1/2017	12/1/2017
0150	1.3.1.6	6/20/2017	8/23/2017	7/3/2017	9/5/2017		9/11/2017		9/22/2017	9/11/2017	9/11/2017	9/22/2017	9/22/2017
0160	1.3.1.7	7/4/2017	9/6/2017	7/10/2017	9/12/2017		9/25/2017		9/29/2017	9/25/2017	9/25/2017	9/29/2017	9/29/2017
0180	1.3.1.9	7/11/2017	9/13/2017	9/4/2017	11/7/2017		10/2/2017		11/9/2018	10/2/2017	10/2/2017	11/9/2018	11/9/2018
0190	1.3.1.10	9/5/2017	11/8/2017	9/11/2017	11/14/2017		11/13/2017		11/17/2017	11/13/2017	11/13/2017	11/17/2017	11/17/2017
0200	1.3.1.11	9/12/2017	11/15/2017	10/2/2017	12/5/2017		11/20/2017		8/6/2018	11/20/2017	11/20/2017	8/6/2018	8/6/2018
0210	1.3.1.12	10/3/2017	12/6/2017	10/23/2017	12/27/2017		1/8/2018		11/14/2018	1/8/2018	1/8/2018	11/14/2018	11/14/2018
0220	1.3.1.13	10/24/2017	12/28/2017	10/30/2017	1/4/2018		12/4/2017		12/15/2017	12/4/2017	12/4/2017	12/15/2017	12/15/2017
0230	1.3.1.14	10/31/2017	1/5/2018	11/6/2017	1/11/2018		12/1/2017		12/8/2017	12/1/2017	12/1/2017	12/8/2017	12/8/2017
0240	1.3.1.15	11/7/2017	1/12/2018	11/20/2017	1/25/2018		2/12/2018		2/23/2018	2/12/2018	2/12/2018	2/23/2018	2/23/2018
0250	1.3.1.16	11/21/2017	1/26/2018	11/27/2017	2/1/2018		1/22/2018		1/26/2018	1/22/2018	1/22/2018	1/26/2018	1/26/2018
0260	1.3.1.17	11/28/2017	2/2/2018	12/31/2017	2/15/2018		12/3/2018		12/14/2018	12/3/2018	12/3/2018	12/14/2018	12/14/2018
Control Account: 1.1400	.01 / SURF-SEN Water	12/12/2017	2/16/2018	1/1/2019	11/30/2018		1/15/2018	2/1/2019	3/25/2019	1/15/2018	1/15/2018	12/28/2018	12/28/2018
Body Surface Sensor St													
0100	1.4.1.1	12/12/2017	2/16/2018	1/1/2018	3/8/2018		1/15/2018		2/16/2018	1/15/2018	1/15/2018	2/16/2018	2/16/2018
0110	1.4.1.2	12/12/2017	2/16/2018	1/8/2018	3/15/2018		3/19/2018		4/27/2018	3/19/2018	3/19/2018	4/27/2018	4/27/2018
0120	1.4.1.3	1/9/2018	3/16/2018	2/5/2018	4/12/2018		5/7/2018		7/20/2018	5/7/2018	5/7/2018	7/20/2018	7/20/2018
0130	1.4.1.4	2/6/2018	4/13/2018	3/5/2018	5/10/2018		6/4/2018		9/14/2018	6/4/2018	6/4/2018	9/14/2018	9/14/2018
0140	1.4.1.5	3/6/2018	5/11/2018	4/2/2018	6/7/2018		8/20/2018		10/5/2018	8/20/2018	8/20/2018	10/5/2018	10/5/2018
0150	1.4.1.6	4/3/2018	6/8/2018	4/16/2018	6/21/2018		12/24/2018		12/28/2018	12/24/2018	12/24/2018	12/28/2018	12/28/2018
0160	1.4.1.7	4/17/2018	6/22/2018	4/23/2018	6/28/2018		7/2/2018		7/13/2018	7/2/2018	7/2/2018	7/13/2018	7/13/2018
0180	1.4.1.9	4/24/2018	6/29/2018	1/1/2019	8/24/2018		9/3/2018	2/1/2019	2/1/2019	9/3/2018	9/3/2018		
0190	1.4.1.10	6/19/2018	8/27/2018	6/25/2018	8/31/2018		8/6/2018		8/17/2018	8/6/2018	8/6/2018	8/17/2018	8/17/2018
0200	1.4.1.11	6/26/2018	9/3/2018	1/1/2019	9/21/2018		10/22/2018	1/29/2019	1/29/2019	10/22/2018	10/22/2018		
0210	1.4.1.12	7/17/2018	9/24/2018	1/1/2019	10/12/2018		2/4/2019	1/1/2019	2/25/2019	10/22/2018			
0220	1.4.1.13	8/7/2018	10/15/2018	8/13/2018	10/19/2018		10/8/2018		10/19/2018	10/8/2018	10/8/2018	10/19/2018	10/19/2018
0230	1.4.1.14	8/14/2018	10/22/2018	8/20/2018	10/26/2018		11/12/2018		11/23/2018	11/12/2018	11/12/2018	11/23/2018	11/23/2018
0240	1.4.1.15	8/21/2018	10/29/2018	9/3/2018	11/9/2018		2/26/2019		3/11/2019	11/12/2018		11/23/2018	
0250	1.4.1.16	9/4/2018	11/12/2018	9/10/2018	11/16/2018		11/5/2018		11/16/2018	11/5/2018	11/5/2018	11/16/2018	11/16/2018
0260	1.4.1.17	9/11/2018	11/19/2018	9/30/2018	11/30/2018		3/12/2019		3/25/2019	12/3/2018		12/14/2018	





## Deltek wInsight - Data Validations



- Validation Checks and Types are maintained in a MS Excel spreadsheet
- New Validation Checks can be established (by defining formula)
- Validation Types can be reorganized



Q&A



# THANK YOU

