

# How Project Controls Teams Can Have Full Traceability into Their Project Information

## Traceability = Successful Audits

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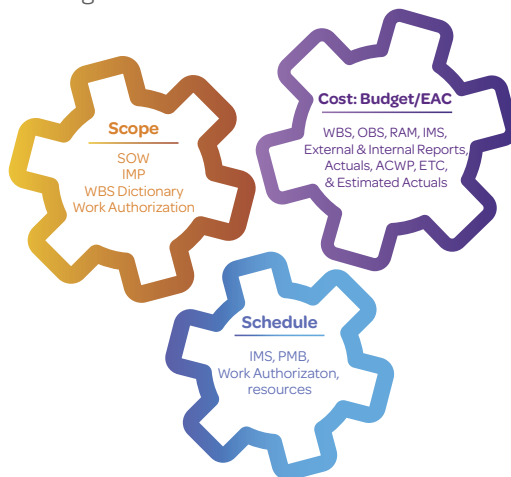
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### How often do project controls teams ask these questions?

- Where did these actuals come from?
- What is the authorizing document and when did it get signed?
- Has everyone approved the change request?
- How am I going to get through this audit?

To answer questions like these, project controls teams need full traceability into their project information.

How is traceability defined? Traceability is defined as “the ability to trace application, location, and history of an activity or item by means of recorded data.” It sounds simple; however, project controls teams know it is very challenging in actuality, and the results of poor visibility can be devastating to a project. Failed audits, overruns from scope oversights, and uninformed decision making are just a few of the consequences project teams suffer from if they do not have full traceability into their project management data.



### The Foundation of Traceability

The foundation of traceability is the combination of your processes and data. “It’s hard to imagine how you would go about delivering a project without program and project management discipline,” says Ron Kasbian, general manager at Intel. “Without a consistent approach and clear milestones, decision points and metrics to measure your success, you’re just flying by the seat of your pants.”

However, collecting all your project data can be incredibly time-consuming and inefficient. It is vitally important that companies think through how they want that data collected, assimilated, stored, and retrieved as there are multiple types of data that will be continually needed on a project: scope, schedule, budget, actuals and estimate.

### Project Management Data Traces

**Scope:** Scope is the starting point for any project and defines the purpose of the project. Documents that help define scope include Statement of work (SOW), Integrated Master Plan (IMP), WBS Dictionary and a Work Authorization.

**Schedule:** Schedules must represent all of the scope and should be coded to assure all scope is included. Schedules define the tasks and associated logic to complete the project. The schedule is made up of an Integrated Master Schedule (IMS) for the project, Performance Measurement Baseline (PMB), and a Work Authorization. Best practice is to also have all of the resources in the schedule as well as all of the coding.

**Budget:** The budget should come directly over from the schedule and will also have all the necessary coding (WBS, OBS, Work package ID). A Responsibility Assignment Matrix (RAM), IMS, Internal and External Reports can also be generated from the budget and associated coding. EACs: EAC = ACWP (ACWP = Actuals from ERP (labor, material, and subcontractor), + Estimated Actuals) + Estimate to Complete. Reports can then be generated for both internal and external use.

Scope, Schedule, Budget, and EACs contain the project management data needed for data traces. Each one of the gears is equally important in the project lifecycle. 1

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**Your Guide to Achieving Traceability**

Traceability can be established by organizations of all sizes, at various stages of project maturity, as long as these four key steps are followed:

**Step 1. Plan your project structures with the output you want in mind.**

It’s important that you invest the time to define your project costing structure so that you get the information you need to run your total business – thinking carefully about the end product the business wants to see. Only then can you can construct your projects with coding and work breakdown structures (WBS) that will support rapid collection of “like” information. You may be saying to yourself, “Hey the customer dictates our WBS.” While that may be true, today’s systems allow for alternate structures for WBS, organizational breakdown structures (OBS), and other coding fields unique to your business needs (CLINs, risk, and more). This step is critical and the payoff is huge.

**Step 2: Define and track project management processes.**

Having and adopting project management principles is the cornerstone of managing projects. All teams need a set of rules to live by that are tailorable to every project type. However, it is important to note that project management processes are not one size fits all – they must be structured for individual teams to follow. There are many tools today that can help automate your monthly business rhythm, pulling teams through required processes with confidence.

For example, work flow engines guide teams through typical project management processes. Deltek PM Compass is one such work flow engine, and is unique in the fact that it can actually perform work flows that help to update source systems. Additionally, PM Compass provides role-based dashboards with all of your project management information in one place and important notifications can be pushed directly to the dashboards

providing greater insight into overall project health (ex. SPI <.99). A “bottleneck” report (see Exhibit 1) from PM Compass shows who is assigned what process in the project and where in the workflow they currently are. This can help teams identify and fix problem process areas.

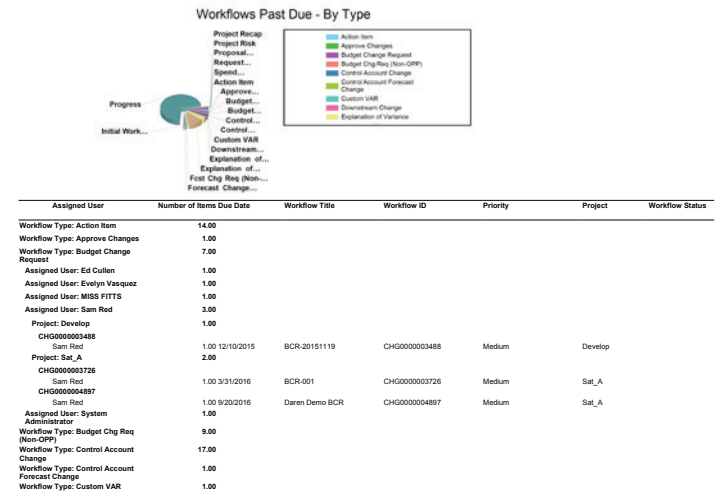


Exhibit 1: This report from Deltek PM Compass shows where Evelyn is on her Explanation of Variances.

**Step 3: Ensure data integrity.**

Data integrity can only be achieved by making sure your teams follow correct processes. If they don’t follow certain processes, you can bet your data will be wrong. Data integrity issues can also make your key performance indicators (KPIs) invalid. And the consequence of incorrect KPIs, is that you may make the wrong decision, potentially costing you and your customer time and money.

**Step 4: Perform regular data quality checks.**

You must perform regular data quality checks, and they must be done in the tools you use for project management. For example, there are tools today that will handle the data-driven requirements from Defense Contract Management Agency (DCMA), providing you with the metrics you need to know before sending auditors your data. In other words, you can quickly self-audit and correct to be prepared to defend your data anomalies. Some quick examples of self-audit reports are Actuals No Performance and Performance No Actuals. The key is to not only be able to see that an anomaly occurred, but being able to trace back to the exact offending work package with the click of a mouse.

**World Headquarters:**

**United States**

2291 Wood Oak Drive  
Herndon, VA 20171-2823  
800.456.2009

**Worldwide Locations:**

**Belgium**

+32 (0) 2 709 2191

**Denmark**

+45 35 27 79 00

**Germany**

Düsseldorf  
+49 (211) 52391

**Netherlands**

+31(0)30 7430014

**Norway**

+47 22 01 38 00

**Sweden**

+46 (0)8 587 077 00

**United Kingdom**

London  
+44 (0)20 7518 5010

deltek.com  
info@deltek.com

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**Data Mining Summary**

Condition	Projects	Occurrences
Cumulative actual costs exceed budget at complete (BAC)	11	1,302
Cumulative actual costs equal budget at complete (BAC)	14	2,241
Actual costs charged against completed Control account	7	273
Forecasted cost is zero for incomplete Control account	14	5,977
Cumulative actual costs exceed estimate at complete (EAC)	1	5
TCPI is greater than CPI by more than 0.35	13	1,384
Earned value has increased with no increase in actual costs	7	294
Actual costs have increased with no increase in earned value	13	455
Earned value present for current period with no actual cost for current period	8	317
SPI is less than 0.80	20	5,226
Negative actual cost in current period	3	76
CPI is less than 0.80	13	999
Planning Package inside the planning horizon of 2 months	2	52
Scheduled work package has not started	14	4,932
Percent spent EAC is greater than percent complete by more than 5	10	1,489
Percent spent BAC is greater than percent complete by more than 5	10	1,383
TCPI is greater than 1.05	11	1,378
Planned value (baseline) has changed for a control account that has actual costs	4	44
Planned value (baseline) has changed for a control account that has earned value	4	37
Actual costs have been charged to a control account that has no earned value	7	153
Current SV % greater than Project SV % threshold	23	4,863
Current CV % greater than Project CV % threshold	11	712
Cumulative SV % greater than Project SV % threshold	21	5,292
Cumulative CV % greater than Project CV % threshold	15	1,163
Control account not in schedule	3	333
Discrete work packages with no activity	7	5,080
Work package with no activity	7	5,113
Forecast not equal to actual costs for a completed work	1	10
Control account with budget and no approved work authorization item	30	2,339
Actual costs with no budget	1	64

Data Mining Was Last Run: 11/4/2016 10:17:59 AM

Exhibit 2: This report is a Data Mining Summary that describes various conditions and how many times they appear across an examples portfolio of projects.

**How to Satisfy Data Traces for Audits**

Data tracing is a technique utilized by auditing agencies (including DCMA and DCAA) to look for a break down or conflict in the relationships between data, processes and procedures. Here are the steps required to perform data traces successfully:

1. Have your process maps ready and provide to the audit team in advance.
2. When tracing, make sure you pick up each block on the process map so that it is easy for your auditors to follow. Many times the auditor is not familiar with your system or sometimes they are brand new to EVM so you really want to take the time to make this simple.

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3. Utilize screenshots from systems of record to which you may not have access. The cost analyst will typically be able to get these from the ERP systems (tracing actuals or a PO).
4. For project management data such as cost and schedule you will not need screenshots if you are utilizing a tool like Deltek PM Compass as all of your transactions can be traced right in your electronic CAM notebook. There are some instances where manual adjustments are made to the data and that is okay but you must be able to easily identify it and explain the process for making the entry. A good example of that is estimated actuals. Make sure that the project team all know how to pull the thread for all their cost and schedule inputs and results. DCMA audits have never been simpler.
5. Make sure your CAMs and PMs are familiar with the processes and practice having them walk through the traces with you. Practice makes perfect.

If you follow the steps above, data traceability and establish sound project management process you should pass your audits with flying colors.

For more information about how the Deltek Project & Portfolio Management suite can help you achieve complete data traceability at your organization, visit [deltek.com/ppm](http://deltek.com/ppm) or sign-up for a **personalized demo.**