DRMcNATTY

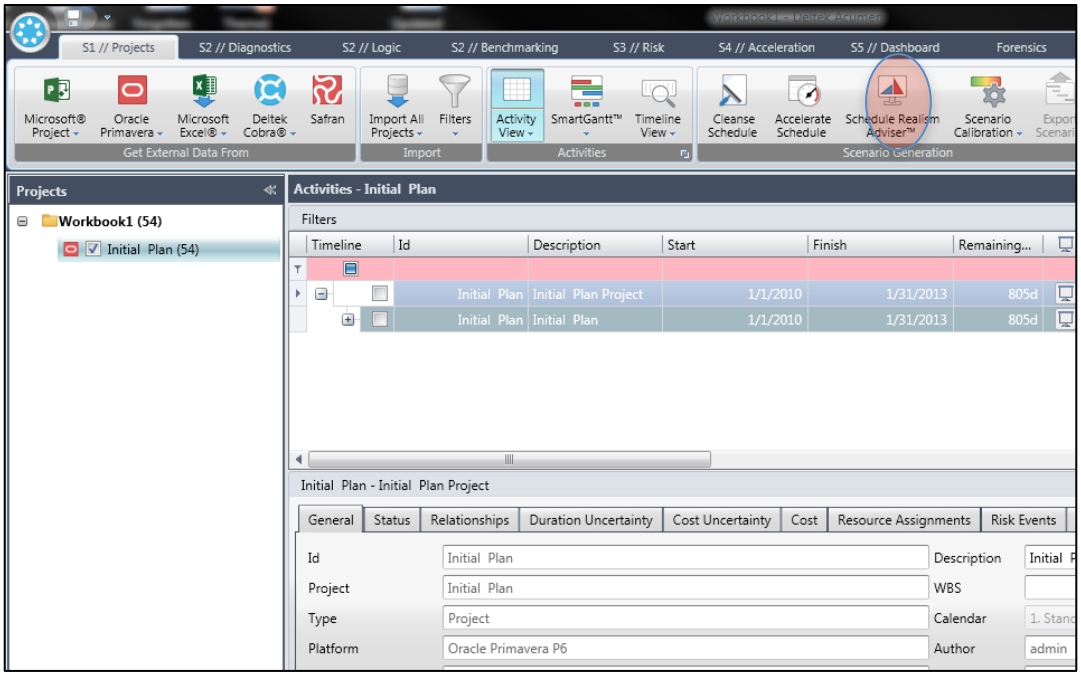
TECH TIP

ACCELERATION (360) SCHEDULE
DELTEK ACUMEN

Have you ever wanted to see if a project schedule could be completed sooner but were overwhelmed with the idea of manually plugging different durations into activities, recalculating estimates, and then finding out that it didn't make a bit of difference? On a large 10,000+ activity schedule, this becomes an even more daunting task. More often than not, the sections of the schedule that you felt would be easy to accelerate made such a small difference that it really wasn't worth the effort.

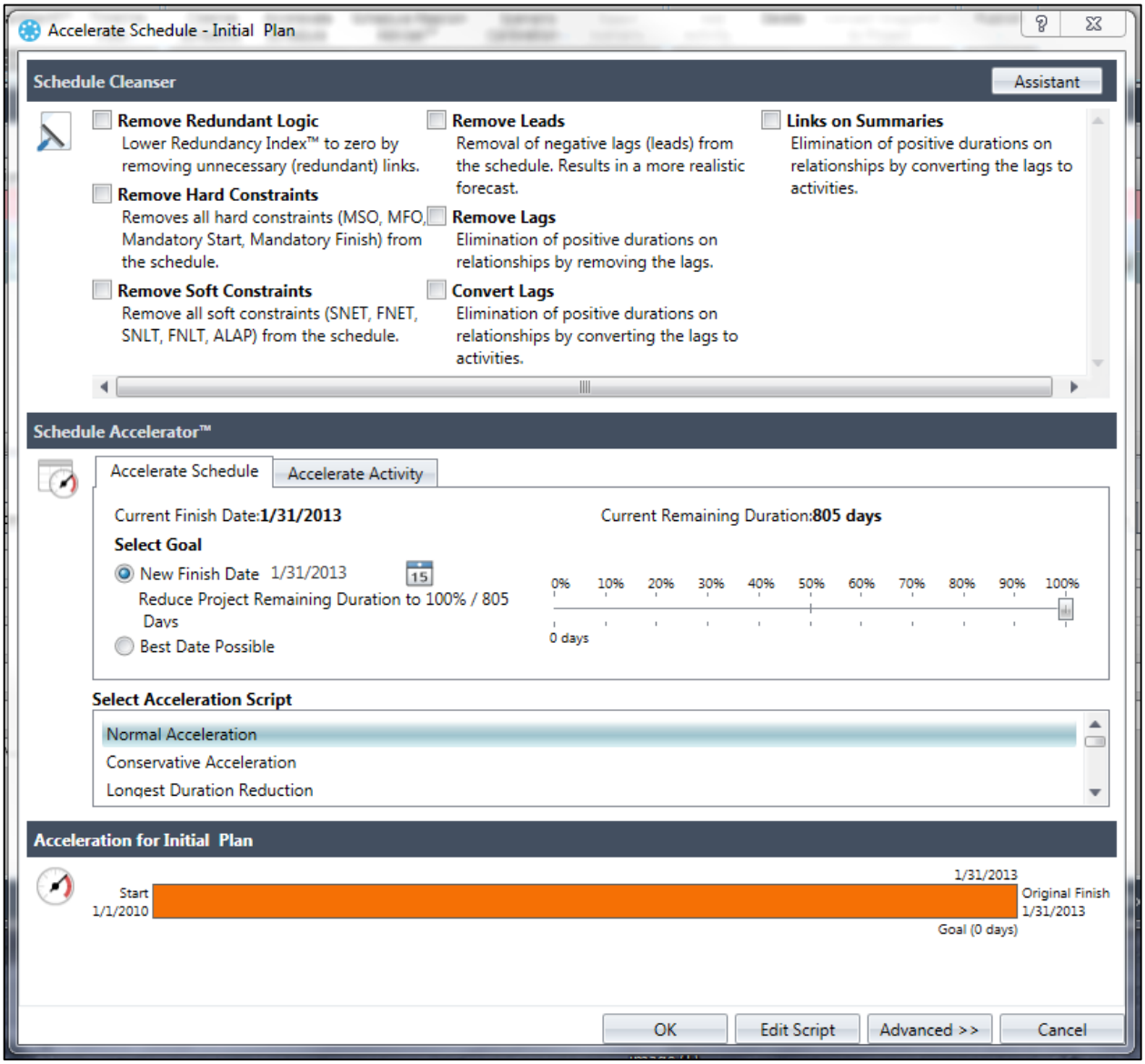
Deltek Acumen has a module called Acceleration (sometimes referred to as 360) which is a tool that creates scenarios to find the optimal acceleration for the given schedule. It can help determine if an acceleration is even possible. It can be accomplished by two different types, targeted/goal-based acceleration or interactive acceleration. This set of instructions will focus on the Targeted Acceleration approach.

Figure 1—Acumen S1 //Accelerate Schedule



Within the program, a specific end date or acceleration target is chosen. The Accelerate Schedule button is located in the S1//Projects tab.

Figure 2—Acumen Accelerate Schedule options



The steps for a Targeted Acceleration process are:

1. Schedule Cleanse (optional step)
2. Select the schedule or activity to accelerate
3. Select the Acceleration goal
4. Choose the Acceleration Script (many prebuilt ones are available)
5. Run the Acceleration
6. Compare the Results (to the original file)
7. Export the Scenario for schedule program (optional)

The Schedule Cleanse is optional and can be done independent of this exercise using the Cleanse Schedule button on the S1//Projects tab. Cleanse simplifies certain aspects of a schedule and cleans up attributes that would be deemed unhealthy for a schedule to have. These include:

- Redundant logic
- Hard constraints
- Soft constraints
- Remaining leads
- Remaining lags
- Links on summaries

See Tech Tip "Schedule Cleanse" for more information.

The Schedule Accelerator allows for the user to select the entire schedule or a specific activity selected from the pulldown under the Accelerate Activity tab.

The Acceleration goal can be a specific date, best possible date, a number of days acceleration or a percentage of the overall schedule duration. Typically, I use the percentage and move the slider to an earlier finish date.

Once that is selected, you can choose an Acceleration Script.

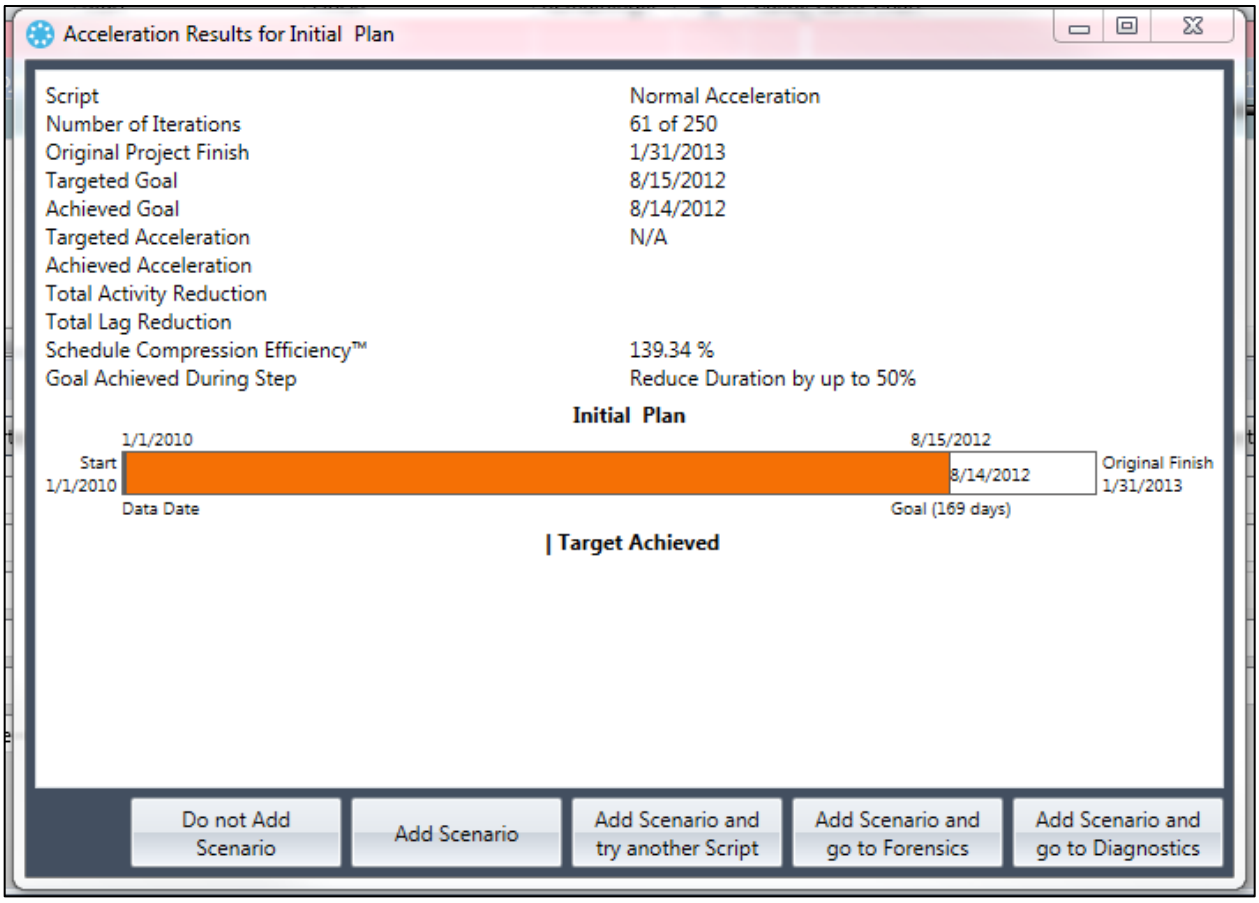
Figure 3—Acumen Acceleration Scripts (built-in)

Acceleration Script	Methodology
Normal	Reduce remaining durations by up to 50%
Conservative	Reduce remaining durations by up to 20%
Longest Duration Reduction	Reduce long durations by up to 50%
Front-end Duration Reduction	Reduce start of project activities remaining durations by 50%
Back-end Duration Reduction	Reduce end of project activities remaining durations by 50%
Lag-based Acceleration	Reduce predecessor and successor lags by 50%
Constraint Removal Only	Remove all consraints
Constraint Removal and Duration Reduction	Remove all constraints + reduce remaining durations by up to 50%
Extreme Acceleration	Remove all constraints + reduce predecessor and successor lags by 50% + reduce remaining durations by up to 100%
Planned Activity Acceleration	Reduce planned activity remaining durations by 50%

Several choices are pre-built. It is possible to customize a script for specific situations but typically the ones contained are sufficient.

Once happy with the selections, pick OK. Next, the Results box appears showing a summary of the iterations and specifics on Original Finish, Target Goal, Achieved Goal and a Graphic on Results
(see Figure 4).

Figure 4—Acumen Acceleration Results



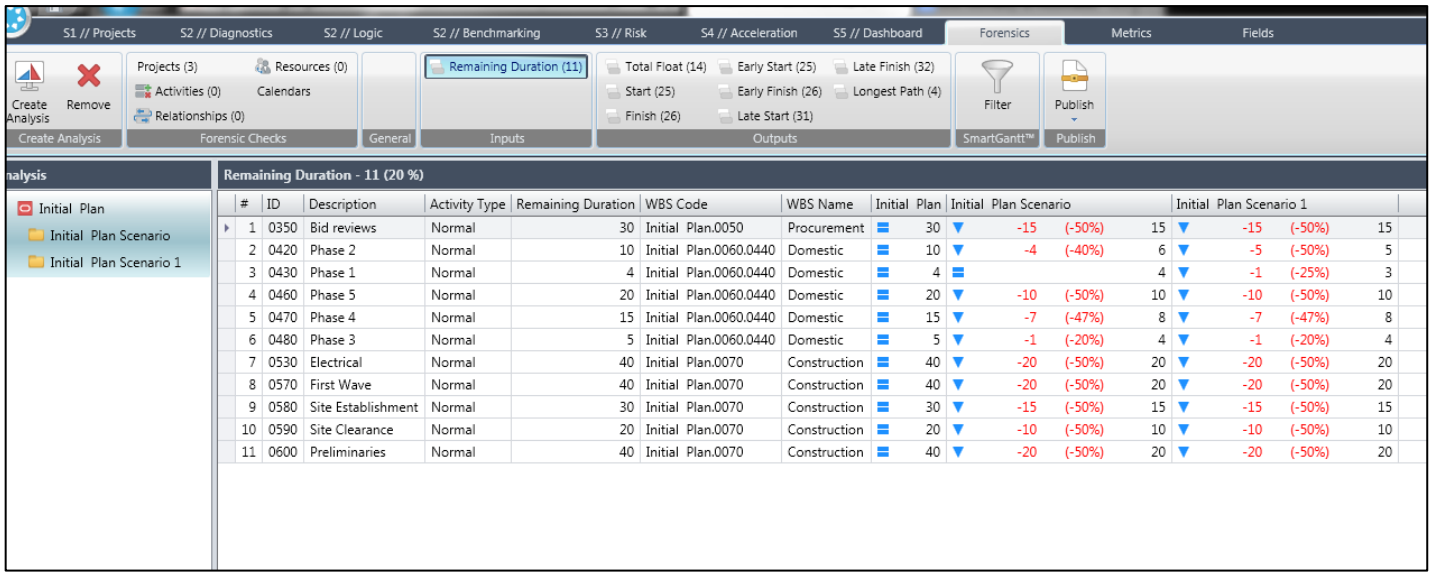
Once this box appears, the user has several options. If not happy with the current iteration, you can simply select Do not Add Scenario and it cancels the function.

Clicking:

- Add Scenario – creates a copy with these modified characteristics into the Workbook currently open in Acumen.
- Add Scenario and try another Script, which means, I'm ok with the answer but am curious by running a different script and if the results will vary.

- Add Scenario and go to Forensics – takes you to Forensics to see an immediate comparison of the original and modified file. Forensics would be my primary location to go after Accelerating the schedule. There I can review the remaining durations of the activities and see which activities were modified through this process. You can see in the right columns, the comparison between the Initial Plan and the Scenarios created.

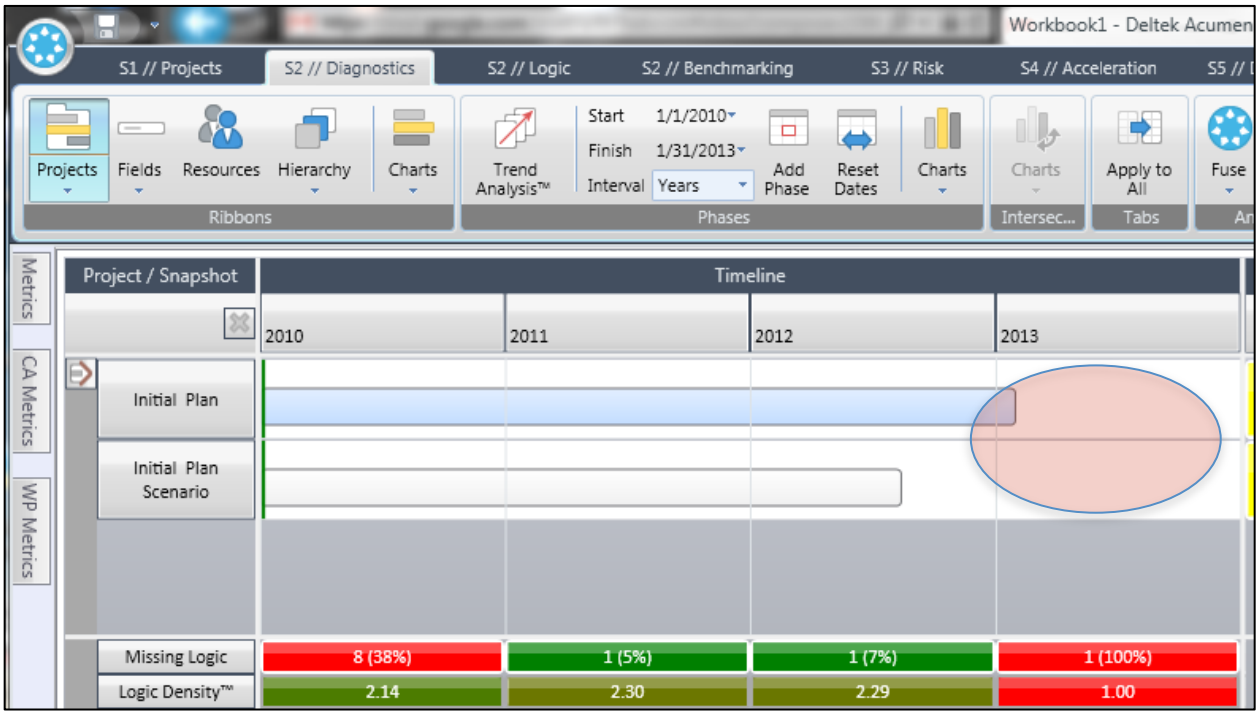
Figure 5—Acumen S2//Forensics



#	ID	Description	Activity Type	Remaining Duration	WBS Code	WBS Name	Initial Plan	Initial Plan Scenario			Initial Plan Scenario 1		
1	0350	Bid reviews	Normal	30	Initial Plan.0050	Procurement	30	-15	(-50%)	15	-15	(-50%)	15
2	0420	Phase 2	Normal	10	Initial Plan.0060.0440	Domestic	10	-4	(-40%)	6	-5	(-50%)	5
3	0430	Phase 1	Normal	4	Initial Plan.0060.0440	Domestic	4			4	-1	(-25%)	3
4	0460	Phase 5	Normal	20	Initial Plan.0060.0440	Domestic	20	-10	(-50%)	10	-10	(-50%)	10
5	0470	Phase 4	Normal	15	Initial Plan.0060.0440	Domestic	15	-7	(-47%)	8	-7	(-47%)	8
6	0480	Phase 3	Normal	5	Initial Plan.0060.0440	Domestic	5	-1	(-20%)	4	-1	(-20%)	4
7	0530	Electrical	Normal	40	Initial Plan.0070	Construction	40	-20	(-50%)	20	-20	(-50%)	20
8	0570	First Wave	Normal	40	Initial Plan.0070	Construction	40	-20	(-50%)	20	-20	(-50%)	20
9	0580	Site Establishment	Normal	30	Initial Plan.0070	Construction	30	-15	(-50%)	15	-15	(-50%)	15
10	0590	Site Clearance	Normal	20	Initial Plan.0070	Construction	20	-10	(-50%)	10	-10	(-50%)	10
11	0600	Preliminaries	Normal	40	Initial Plan.0070	Construction	40	-20	(-50%)	20	-20	(-50%)	20

- Add Scenario and go to Diagnostics – takes you to S2//Diagnostics to run the Metrics desired. Review the changes and improvements made by the scenario. Going to Diagnostics also allows graphically, at a project level, the view of improvements made by the Acceleration. At first glance it looks like a roughly 5-month improvement using the Normal Acceleration script.

Figure 6—Acumen S2//Diagnostics



If the scheduler had a large schedule file, this utility could be a big time saver in the first step to accelerating a project schedule. This tool would identify those activities most able to be shortened, focusing on the critical path activities. The user can then use this information in a couple different ways. The results could be exported out as an XER file for inclusion into the database. Typically, that file would be used as a baseline target to compare (not used to replace the actual current schedule). It could also be used as a starting point for modifying the actual schedule file. While both Acumen and MSProject, P6 or Deltek Open Plan are open, use the information from Acumen to input back into the schedule to accelerate in the live file one activity at a time. This allows the ability to be selective with the information gathered in Acumen, using only those items realistically able to be reduced. Only the scheduler and team know the real areas for potential reduction.