Full Monte 2017 R1 for Microsoft Project Release Notes

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Introduction

This document describes the new and updated features in Full Monte 2017 R1 for Microsoft Project. The primary focus of this release is performance and stability.

Installation

If you have Full Monte 2016 or Full Monte 2017 then this must be uninstalled before installing Full Monte 2017 R1. Please note that the format of the data stored by Full Monte 2017 R1 is different to any earlier version. Full Monte 2017 R1 will automatically convert Full Monte 2016/2017 data into the newer format. Once converted it will no longer be recognized by Full Monte 2016/2017. Please refer to the Full Monte for Microsoft Project Installation Guide for information regarding converting from Full Monte 2.1 or earlier.

Field Mappings

Full Monte for Microsoft Project stores duration uncertainty and result information in Microsoft Project custom fields and uses a process called 'mapping' to choose which custom fields contain Full Monte data. In Full Monte 2016/2017 the system default was to try to use Text1 through Text14. Many customers already used those fields for their own information. Full Monte would detect these conflicts and would then suggest alternate mappings which was found complex by inexperienced users. For Full Monte 2017 R1 we have reduced the number of custom text fields mapped by default and now try to use Text26 through Text30. The only mandatory field that must be mapped remains Full Monte Input Data.

> *Note: This change only affects new projects never opened by Full Monte and will not change existing implementations where User Default Mappings have previously been defined.*

Risk Analysis

For Full Monte 2017 R1 for Microsoft Project, the Risk Analysis dialog has been updated as shown in Figure 1.
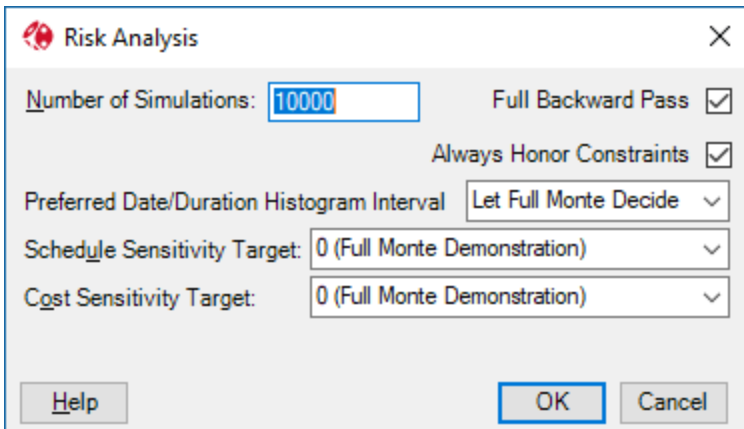
Figure 1

Use Fixed Seed (removed)

This feature has been removed from the dialog as it served no practical purpose. In theory it allowed two separate runs of the risk analysis to produce identical results, but this was only true if no changes were made to the source project and the applied uncertainty. The rationale behind this type of feature dates to the 1960's, when the only way to print a second copy of a report was to repeat the entire risk analysis process, and it was necessary to reproduce the exact same results. There are now better ways to produce multiple copies!

'Fast Backward Pass' replaced by 'Full Backward Pass'

In Full Monte 2017, we introduced the option for the 'Fast Backward Pass'. This reduced the time to complete a sequence of simulations by not calculating Late Dates and Slack/Floats. Full Monte would still calculate early dates, sensitivity, criticality, and basis information in this mode.

Reducing the time for simulations is important because it allows more simulations to be performed in a given amount of time. The more simulations that are performed the better the fidelity of the results, especially at the ends of the confidence curves on the histograms.

In Full Monte 2017 R1 we have inverted the purpose of the option and it is now called 'Full Backward Pass'. For new projects, this will default to unchecked. Effectively this makes the 'Fast Backward Pass' the new default. Late Dates and Slack/Float can still be calculated by checking the option for the 'Full Backward Pass'.

> Note: if any tasks with a constraint type of 'As Late As Possible' (ALAP) are encountered when opening the project in Full Monte, the option for a 'Full Backward Pass' will be automatically enabled as the 'Full Backward Pass' is required to correctly analyze ALAP tasks.

'Ignore Hard Constraints' replaced by 'Always Honor Constraints'

The 'Ignore Hard Constraints' option has been replaced by 'Always Honor Constraints' to align with the 'Tasks will always honor their constraint dates' setting on the Schedule tab of the Microsoft Project options dialog.

If the Microsoft Project setting 'Tasks will always honor their constraints dates' is set (checked), then the 'Always Honor Constraints' option in Full Monte will also be set however the user can choose to unset the option to allow Full Monte to more realistically forecast future dates by treating constraints as follows:

Constraint Type	Treated As
Must Start On	Start No Earlier Than
Must Finish On	Finish No Earlier Than
Start No Later Than	Ignored
Finish No Later Than	Ignored

If the Microsoft Project setting 'Tasks will always honor their constraint dates is not set, then the 'Always Honor Constraints' option in Full Monte will also be unset and the option disabled.

It is considered a poor scheduling practice to use Must Start/Finish On or Start/Finish No Later Than constraints in Microsoft Project as, when the setting 'Tasks will always honor their constraints dates' is set, future dates may not be logic driven and may be entirely unattainable. By allowing the user to turn off this setting in Full Monte we are allowing risk analysis to produce more realistic results even when the option is set in Microsoft Project.

> Note: It is a best practice to use the Microsoft Project **Deadline** Date in place of Finish No Later Than or Must Finish On constraints as Deadline dates still allow the schedule to be logic driven.

Performance

The performance of the risk analysis engine has also been improved especially for larger, more complex, projects.

File Import/Export

The import of duration uncertainty information from Microsoft Project custom fields and the export of Full Monte results to Microsoft Project custom fields has been enhanced.

The import/export settings are now saved after a successful import/export and become the initial setting the next time the import/export dialog is opened.
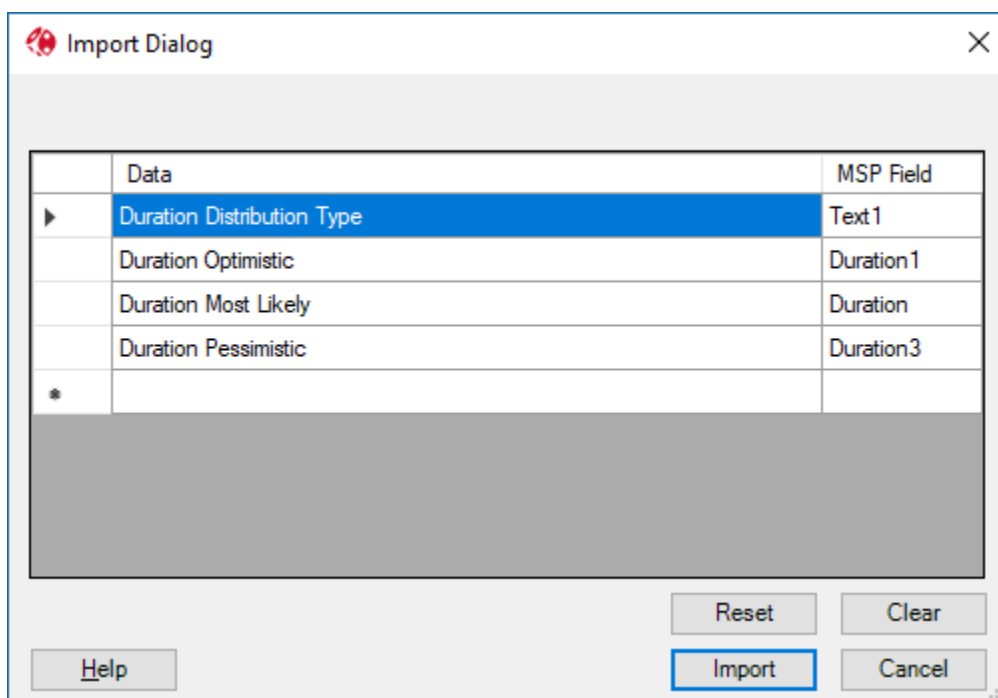

Figure 2

The 'Clear' button can be used to clear the current contents of the dialog. The 'Reset' button resets the dialog to the last good saved configuration undoing any current changes made since the dialog was opened.

Duration Most Likely

The Duration Most Likely field is now automatically included when any Duration Uncertainty fields are added to the dialog.

The Duration Most Likely can now be set to the Microsoft Project task Duration field as shown in Figure 2. Previously, if you wished to use the Microsoft Project task Duration as the most likely value, it had to be copied to a custom Duration field (1-10) to be accessible to the import.

Project Server Enterprise Fields

Support for Microsoft Project Server Enterprise Fields has been extended to include inserting any type of Enterprise Field as a column in Full Monte spreadsheet views and allowing them to be used in Filters.

There are also significant performance improvements when many Enterprise Fields are defined.

Messages

Full Monte now displays messages related to schedule quality or data issues when the project is first opened rather than at the end of each Risk Analysis.

If messages are generated when the project is opened, the following dialog is displayed:
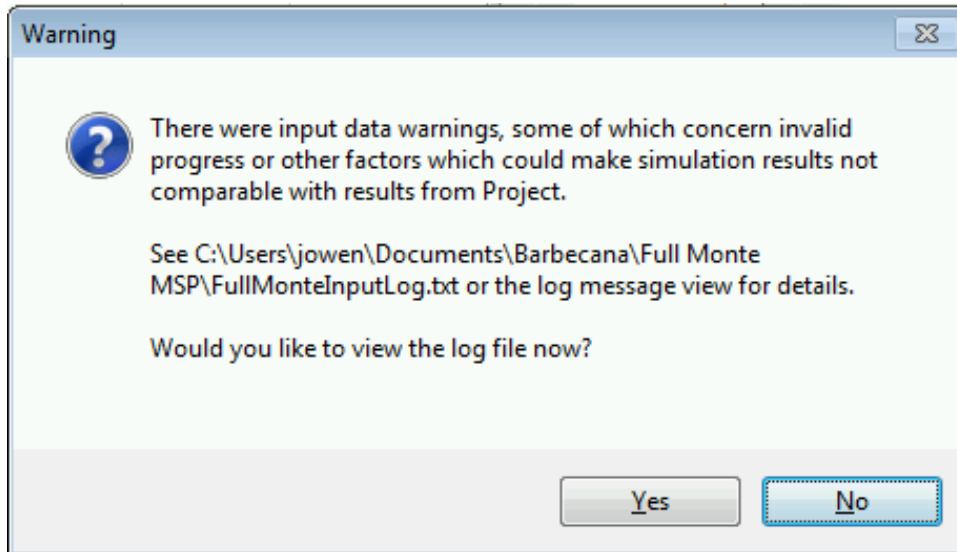

Figure 3

These 'input' messages are stored in 'FullMonteInputLog.txt'.

The format of messages has been enhanced to include the source project and task ID to make it easier to find and resolve issues when linked projects are opened.

Message may include:

<Project Name>\<ID> (<Task Name>): Task started but FS predecessor <ID2> has not finished.
<Project Name>\<ID> (<Task Name>): Milestone flag ignored on summary task.

Unique ID (Raw)

In the context of linked projects, the Task Unique ID (UID) displayed by Full Monte is displayed in a hierarchical format showing the project and individual task UID. However, Microsoft Project displays special UIDs in the context of linked projects which made it hard to locate specific tasks using the UID from Full Monte. We have added a new Full Monte field called Unique ID (Raw) that displays the UID in the same format as Microsoft Project.

The example in figure 4 shows tasks from 3 linked projects in Microsoft Project. Note the Unique ID. It is coincidental that the ID and Unique ID are the same for tasks numbered 1,2 and 3.

	Task Name	ID	Unique ID
1	Master Task 1	1	1
2	◢ **msproj11**	**2**	**2**
1	Ext 2 Task 2	1	8388609
3	◢ **msproj11**	**3**	**3**
1	Ext 1 Task 1	1	12582913

Figure 4

Figure 5 shows the same data in Full Monte. Note the new Unique ID (Raw) field.

ID	Task Name	Unique ID	Unique ID (Raw)
0	⊟ msproj11	0	0
1	Master Task 1	1	1
2	⊟ msproj11	2	2
2.1	Ext 2 Task 2	2.1	8388609
3	⊟ msproj11	3	3
3.1	Ext 1 Task 1	3.1	12582913

Figure 5

Bug Fixes

Original Release (3.2.18122.2) May 2018.

Resolved an issue where in-progress tasks would be started at project start rather than actual start if the 'Split in-progress tasks' setting was not enabled in Microsoft Project.

Improved the performance and stability of the field mapping process when opening new projects in Full Monte for the first time and deleting and adding new mappings to an existing project.

Resolved an issue where duration uncertainty values specified as durations were not correct pro-rated as a task was progressed.

Resolved an issue where File, Import would incorrectly warn about invalid uncertainty data during an import.

Corrected a situation where sensitivity data was not correct for tasks with an ALAP constraint type.

Resolved an issue where the message 'An item with the same key has already been added' might be encountered when opening linked projects. The problem was caused by conflicting calendar/resource data in the linked projects.

Improved memory management to reduce the potential for an out-of-memory condition when opening large linked projects.

Fixed a graph display issue where X-axis markers could overwrite the cumulative Y axis markers.

Bug Fix Release (3.2.18155.1) June 2018.

Fixed an issue with Material Costs

Removed messages related to LOE tasks from the log file

Removed messages related to Summary Tasks flagged as Milestones

Bug Fix Release (3.2.19036.1) February 2019

Signed VSTO add-in for secure installations that don't allow unsigned add-ins

Fixed an exception if Optimistic/Pessimistic durations were deleted and left blank in the spreadsheet