

---

## Full Monte SRA for Microsoft Project – Release Notes version 3.5

---

For the release notes of previous versions please scroll down through this document or visit our web site here: <https://www.barbecana.com/full-monte/support/> (click the Version Information tab).

### Table of Contents

<b>Full Monte SRA for Microsoft Project – Release Notes version 3.5</b> .....	1
Introduction .....	2
Installation .....	2
Data Compatibility .....	3
Enterprise Fields.....	3
Manually Scheduled Tasks .....	3
Minor Enhancements.....	3
Bug Fixes .....	3
<b>Full Monte SRA for Microsoft Project – Release Notes version 3.4</b> .....	5
Introduction .....	5
Installation .....	5
Microsoft Project Inactive Task option .....	5
File, Import.....	7
Work (Labor) Cost Calculations.....	8
Default Edit View – Duration Confidence Interval.....	8
There is no data to show.....	8
Sensitivity Tornado Views .....	8
Bug Fixes .....	9
<b>Full Monte SRA for Microsoft Project – Release Notes version 3.3</b> .....	11
Introduction .....	11
Installation .....	11
Field Mappings.....	11
File, Import.....	11
Bug Fixes .....	12
<b>Full Monte 2017 R1 (3.2) for Microsoft Project Release Notes</b> .....	14
Introduction .....	14

Installation .....	14
Field Mappings .....	14
Risk Analysis .....	15
File Import/Export.....	16
Project Server Enterprise Fields .....	17
Messages.....	17
Unique ID (Raw) .....	18
Bug Fixes .....	19
<b>Full Monte 2017 (3.1) Release Notes .....</b>	<b>21</b>
Introduction .....	22
Installation .....	22
Tabular View Sorting.....	22
Risk Analysis .....	23
Risk Path Analysis.....	24
Input Milestones .....	25
Task Existence .....	26
Expected Cost Calculations in Full Monte 2017 .....	29
Filters & Highlights .....	31
History Report.....	32
Enterprise Fields (Microsoft project) .....	33
Level of Effort.....	33

## Introduction

This document describes the new and updated features in Full Monte SRA 3.5 for Microsoft Project.

**Important Note:** *If you are upgrading from Full Monte version 3.3, also known as Full Monte 2017 R2, or earlier, please review the Full Monte 3.4 Release Notes for important information about changes to the handling of Inactive tasks.*

## Installation

Full Monte 3.5 is being distributed with an entirely new installation mechanism. For standalone installations, the process is similar to earlier versions, but the installation now supports upgrading existing installations without first uninstalling older versions.

For corporate installation, the installation process now better supports ‘push’ installations and allows the corporate license information to be pushed with the installation.

Please see the Full Monte 3.5 Installation Guide for Microsoft Project for further information.

## Data Compatibility

Data stored and used by Full Monte 3.5 is backward compatible with Full Monte 3.3, and 3.4. Data from versions earlier than 3.3 will be converted on first use and will no longer be recognized by version 3.2 or earlier. Data conversion from Full Monte 2.x or earlier is no longer supported.

## Enterprise Fields

We now support the use of Lookup Tables on Project Enterprise Fields (Project Server or Project Online) for Duration Distribution Type and uncertainty templates assigned from an Enterprise Text field.

The product now better adapts information being saved to Enterprise Duration fields. For example, if duration optimistic uncertainty was specified as 90% of a Remaining Duration of 10 days, the Optimistic Duration will now be saved as 9 days if the Enterprise Optimistic Duration field is of type Duration since a field with type Duration cannot store percentages.

## Manually Scheduled Tasks

In previous versions of Full Monte, if tasks set to Manually Scheduled in Microsoft Project were detected when the data was opened in Full Monte, a warning was issued, and the task schedule mode was treated as Auto Scheduled. This could result in different dates calculated by Full Monte. We have changed this behavior to treat the task as 'constrained' with either a Must Start On (Summary Tasks) or Must Finish On (regular tasks/milestones) to better replicate the results from Project. A warning is still issued.

## Minor Enhancements

Removed (None) as a selectable option when mapping fields in the File, Import dialog.

We now trim (remove unnecessary spaces) from around Template Names specified in custom text columns so assigning Templates from a Text field will not fail if there is a leading or trailing space.

Updated the About Full Monte dialog to support Corporate Deployments and provide some basic memory diagnostic information.

## Bug Fixes

### Original Release Full Monte SRA for Microsoft Project 3.5 (March 2021)

Fixed an issue where, if a task with discrete duration uncertainty (specified using durations not percentages) was promoted to a Summary Task in Microsoft Project, an exception would occur as Full Monte does not allow uncertainty defined using Duration values on Summary Tasks. A warning is now issued, and the uncertainty is set to None.

Fixed an issue when inserting the Microsoft Project WBS field as a column in Full Monte. The column would display the parent summary task name rather than the numeric Project WBS. The field 'Parent' can still be used to show the parent summary task name.

Resolved an issue where Graph views (Histograms) would be scaled too small where the users primary monitor is 4K resolution with a high scaling factor. This fix does not correct poorly sized columns in tabular views on 4K monitors. The workaround is to manually adjust the column size and, if prompted, save the changes to the view.

## Table of Contents

Introduction .....	5
Installation .....	5
Microsoft Project Inactive Task option .....	5
File, Import.....	7
Work (Labor) Cost Calculations.....	8
Default Edit View – Duration Confidence Interval.....	8
There is no data to show.....	8
Sensitivity Tornado Views .....	8
Bug Fixes .....	9

## Introduction

This document describes the new and updated features in Full Monte SRA 3.4 for Microsoft Project.

**Important Note:** *The treatment of Inactive tasks, the calculation of Work (Labor) Costs, and the treatment of Manually Scheduled tasks has been altered in this latest version of Full Monte based on customer feedback. Before implementing Full Monte 3.4, please familiarize yourself with these changes as results may differ from earlier versions.*

## Installation

Any earlier versions of Full Monte must be uninstalled before installing Full Monte 3.4. The Full Monte data stored by Full Monte 3.4 is backward compatible with Full Monte 3.2 and 3.3. Data from earlier versions of Full Monte (prior to 3.2) will be converted to 3.4 format on first use. Once converted it will no longer be recognized by those older versions. Please refer to the Full Monte for Microsoft Project Installation Guide for information regarding converting from Full Monte 2.1 or earlier.

## Microsoft Project Inactive Task option

In Microsoft Project 2010 **Professional** and later, Microsoft added a feature to allow Tasks to be marked as **Inactive**. When marked as Inactive, tasks are treated as zero duration with no cost impact on the schedule.

*Note: Although Microsoft Project **Standard** editions do not allow the Inactive flag to be modified, the Standard Edition will respect any changes made to the Inactive flag using the Microsoft Project **Professional** edition.*

The screenshot shows the 'Task Information' dialog box with the following details:

- Task Name:** Initiate
- Duration:** 5 days
- Priority:** 500
- Schedule Mode:** Auto Scheduled (selected)
- Inactive Flag:** Checked (circled in red)
- Start Date:** 6/1/20 8:00 AM
- Finish Date:** 6/5/20 5:00 PM
- Other Options:** Display on Timeline, Hide Bar, Rollup (all unchecked)

In versions of Full Monte prior to 3.4, tasks marked as Inactive were always treated as Active, and an appropriate warning issued when a project was opened if Inactive tasks were encountered. Our reasoning at the time was that Inactive tasks could be used to model the impact of risks in Full Monte and therefore should be considered as Active.

Customers could set the task Probability of Existence to 0% (zero) if they also wanted Full Monte to treat these tasks as zero duration with no cost impact.

In practice we are now finding that customers, who use the Inactive flag, do so to exclude scope that is not required or not currently approved and should not be considered by either Microsoft Project or Full Monte.

**Therefore, for Full Monte 3.4 we have modified the handling of the Inactive flag as follows:**

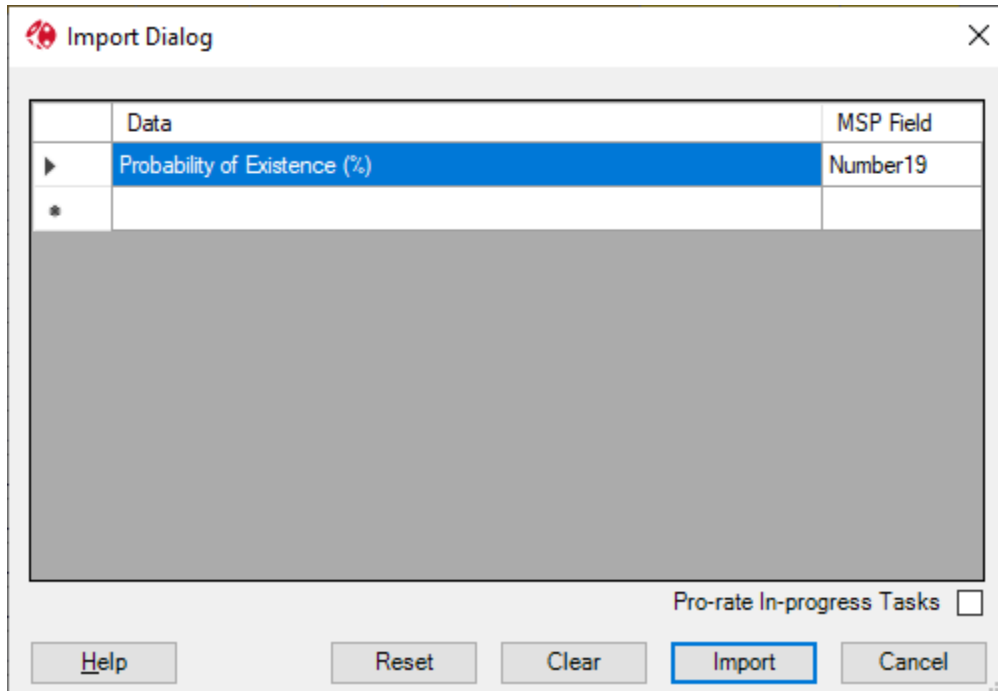
When a project is first opened in Full Monte, the task Probability of Existence will be set based on the status of the Inactive flag. If the Task is marked as Inactive, then the Probability of Existence will be set to 0%. If the Task is marked as Active, then the Probability of Existence will be set to 100%. No warnings are issued.

If the Probability of Existence is subsequently modified by the user, then the user specified value will be saved and will take precedence over the setting of the Inactive flag when the project is reopened. A warning will be added to the log file if the saved Probability of Existence is not consistent with the setting of the Inactive Flag. The data is considered inconsistent if the task is marked as Inactive but the Probability of Existence is not zero or if the task is marked as Active and the Probability of Existence is 0 (zero).

*Note: Earlier versions of Full Monte always saved the Task Probability of Existence, usually 100%, when task Duration Uncertainty information was updated (Distribution Type, Optimistic, Pessimistic etc.). Full Monte 3.4 will consider this user entered data and use it in preference to the current setting of the Inactive flag until Duration Uncertainty is updated in the new version. So, to ensure the new Full Monte 3.4 behavior is used with projects previously used with Full Monte 3.3 or earlier, we recommend re-applying duration uncertainty to all tasks using the new version and saving the project.*

## File, Import...

The File, Import feature has been updated to allow task Probability of Existence to be imported independently of other duration uncertainty information.



The task Probability of Existence can be imported from either a Microsoft Project custom **Number** or custom **Text** field.

The behavior for the two types of field is slightly different:

When importing from a custom **Text** field, values that are blank will result in no change to the existing Probability of Existence values in Full Monte. This supports only populating the specific tasks where the Probability of Existence needs to be imported. Values of, for example, 100 and 100% are both valid.

When importing from a custom **Number** field, the field must be updated for all tasks as there is no concept of a blank number field. If the value is 0 (zero) then the relevant Probability of Existence will be set to 0 (zero). Number fields do not allow the percentage sign to be entered and it is not required.

The Pro-rate In-Progress Tasks option has no effect on imported Probability of Existence values.

## Work (Labor) Cost Calculations

In Microsoft Project 2010 and later, Microsoft removed functionality that recalculated assigned Units when Total Work was modified. This allows the assigned Units to be inconsistent with the total Work.

Full Monte cost calculations for Work (Labor) resources have always been on assigned Units and this might not be consistent with total Work because of the above change.

In Full Monte 3.4 we have revised the calculation of Work resource assignment costs to be based on Work/Duration rather than Units. This matches the costs calculated by Microsoft Project.

## Default Edit View – Duration Confidence Interval

For Full Monte 3.4, we have removed the column ‘Duration Confidence Interval (%)’ from the default configuration of the Task Edit view. View configurations created/modified by users are not affected by this change.

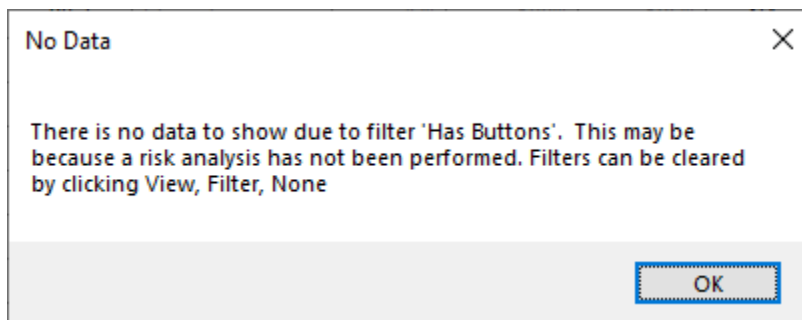
This change was made based on feedback from customers. Barbecana recommends that the Duration Confidence Interval is set to 100% for all tasks.

Users should be aware that the Duration Confidence Interval is **not** related to predicting results at a specific level of confidence. A full explanation can be found here <https://www.barbecana.com/full-monte/full-monte-documents/>, in the document ‘The Duration Confidence Interval Explained (and why not to use it)’.

## There is no data to show...

Several Full Monte views including the ‘Graphs’ and ‘Tornado’ views would offer to cancel their default filters if no data was available to display. The most common reason for no data was not having previously performed a risk analysis. Unnecessarily cancelling the filter would make the view less useful in the future.

Full Monte 3.4 no longer prompts to clear the filter and instead suggests why there may be no data and instruction on how to manually clear the filter if appropriate.

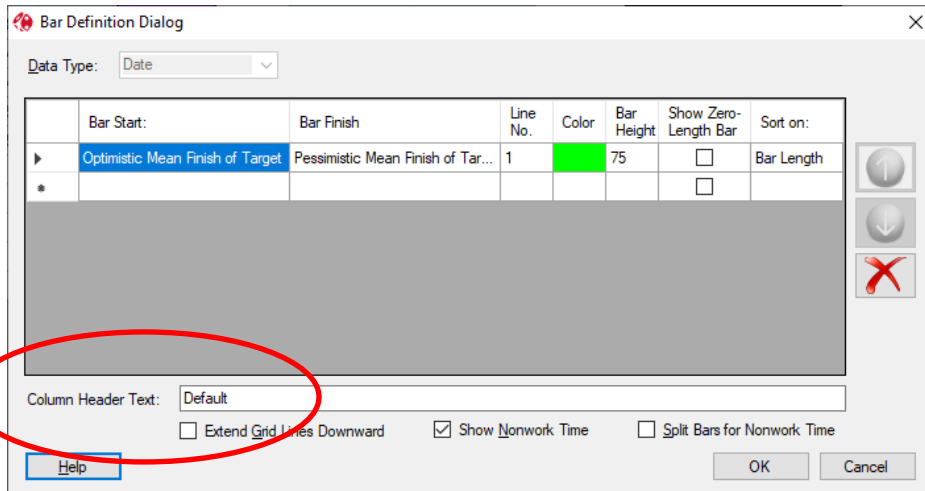


## Sensitivity Tornado Views

A new option has been added to Sensitivity Tornado views to allow the mean finish of the selected schedule sensitivity target to be displayed as a header on the split bar column.



The option is enabled by setting the Column Header Text to 'Default'.



The view will then display the sensitivity target and mean finish date in the column header.

Activity ID	Activity Name	Remaining Duration	Percent Critical	Percent Critical (Sensitivity)	Sensitivity Index	Sensitivity Index	Optimistic Mean Finish of Project	Pessimistic Mean Finish of Project	Project Mean Finish 08-Aug-17 10:54
A1010	HW Task 1	20 days	89%	89%	58%	50.0	03-Aug-17 13:27	15-Aug-17 10:54	2017 Jul   Aug 30   06   13
A1040	HW Task 4	20 days	89%	89%	58%		03-Aug-17 13:27	15-Aug-17 10:54	
A1020	HW Task 2	20 days	45%	45%	29%		07-Aug-17 13:49	14-Aug-17 11:58	
A1030	HW Task 3	20 days	44%	44%	28%		07-Aug-17 14:05	14-Aug-17 11:33	
A1000	Initiate	5 days	97%	97%	16%		07-Aug-17 11:13	09-Aug-17 12:54	
A1090	Integration	5 days	97%	97%	16%		07-Aug-17 11:13	09-Aug-17 12:54	
A1080	SW Task 4	18 days	8%	8%	5%		08-Aug-17 10:33	10-Aug-17 09:01	
A1050	SW Task 1	18 days	8%	8%	5%		08-Aug-17 10:33	10-Aug-17 09:01	
A1070	SW Task 3	18 days	4%	4%	2%		08-Aug-17 10:47	09-Aug-17 13:06	
A1060	SW Task 2	18 days	4%	4%	2%		08-Aug-17 10:47	09-Aug-17 12:55	
A1110	Brochure Development	10 days	3%	3%	1%		08-Aug-17 10:52	08-Aug-17 15:31	

## Bug Fixes

### Original Release Full Monte SRA for Microsoft Project 3.4.20162.x (June 2020)

Fixed a defect where the Early Finish and Late Start dates were transposed for Foreign Tasks when the linked project was not available.

Fixed an issue with the calculation of Material resource costs for in-progress Tasks.

Modified the Full Monte installer to use a temporary location accessible by the Windows 'System' account for file extraction to facilitate silent push installs using Microsoft System Center Configuration Manager (SCCM).

### Update Release Full Monte SRA for Microsoft Project 3.4.20275.x (October 2020)

Fixed an issue where the Sensitivity Tornado views bar column did not correctly show the sensitivity target split date if the selected Sensitivity Target was changed by running Risk Analysis from within the Tornado Chart.

Improved the presentation of Finish dates where the activity finished on the last working period of a day, but the finish date was being shown as the first working period of the following working day.

Fixed an issue where changing the size/location of views did not prompt the user to save changes to the view.

Modified the behavior of Manually Scheduled tasks when processed by Full Monte. In all previous versions of Full Monte, manually scheduled tasks were treated as auto-scheduled which could result in significantly different results compared to Microsoft Project. We now impose a constraint on the manually scheduled tasks to better reproduce the results from Microsoft Project. Several customers explained that there might be manually scheduled tasks in third party schedules provided to them over which they had no control, but their successor logic could be tied to those tasks.

Fixed an issue where European decimal separator characters (commas) failed to save correctly when used for duration uncertainty percentages and durations.

#### **Update Release Full Monte SRA for Microsoft Project 3.4.20289.x (October 2020)**

Added improved exception diagnostic information when saving Enterprise custom fields and reading resource rates (currencies).

#### **Update Release Full Monte SRA for Microsoft Project 3.4.20321.x (November 2020)**

Added support for a registry option to revert the Inactive task functionality back to Full Monte 3.3 (where Inactive tasks were treated as Active) using the following String value:

```
[HKEY_CURRENT_USER\SOFTWARE\Barbecana\Full Monte\MSP]
"Make Inactive Active"="TRUE"
```

This option was requested by a customer using Full Monte branching where they set tasks to Inactive but needed Full Monte to consider all tasks active in the context of branching.

Fixed an issue when saving Discrete Risk task assignments.

Added additional informational messages when opened projects contain data from different versions of Full Monte.

Fixed an issue where integer numbers displayed as NA by Full Monte would cause an exception when saving results to MS Project Enterprise Fields. NA values are now set to zero (0) in Enterprise Fields.

Improved the warning when invalid template names are found in Microsoft Project custom Text Fields or P6 Activity Codes when assigning Templates. It now identifies the value that is not a valid template name.

## Table of Contents

Introduction .....	11
Installation .....	11
Field Mappings.....	11
File, Import.....	11
Bug Fixes .....	12

## Introduction

This document describes the new and updated features in Full Monte 3.3 for Microsoft Project.

## Installation

Any earlier versions of Full Monte must be uninstalled before installing Full Monte 3.3. The Full Monte data stored by Full Monte 3.3 is backward compatible with Full Monte 3.2. However, data from earlier versions of Full Monte will be converted on first use. Once converted it will no longer be recognized by those older versions. 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 3.0/3.1 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 3.2/3.3 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.*

## File, Import...

The File, Import... capability used to load duration uncertainty information from Microsoft Project custom fields has been enhanced with a new option to ‘Pro-rate In-Progress Tasks’.

In earlier versions, data was always imported exactly as it appeared in the source fields. This meant that, if the original data was re-imported once a task was in-progress, the imported uncertainty data

would reset the uncertainty data previously modified by Full Monte to take into account progress. This would result in greater uncertainty than perhaps was expected.

The new option allows Full Monte to pro-rate the imported data to consider progress in the same way that it automatically pro-rates uncertainty previously set in Full Monte as tasks are progressed.

The new option can be seen above the Cancel button in Figure 1.

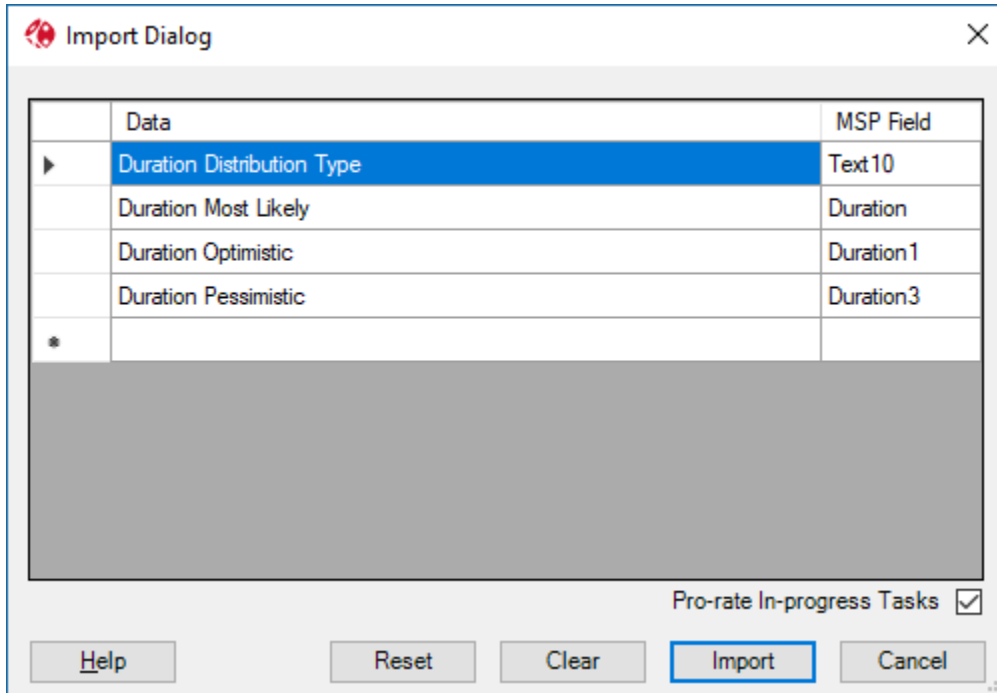


Figure 1

The import mechanism has also been enhanced to completely ignore tasks where the imported Duration Distribution Type stored in a custom text field is blank.

Note: This change only affects cases where the Duration Distribution Type is imported from a custom Text field. Data in a custom Numeric field cannot be blank. If the numeric field is cleared it becomes a zero which represents a Duration Distribution Type of (None).

This change allows generic uncertainty to be specified for groups of tasks using Full Monte Templates and then specific discrete Duration values to be loaded for known high risk tasks.

## Bug Fixes

### Original Release Full Monte 2017 R2 (May 2019 version 3.3.19123.2)

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.

Signed the 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.

Resolved an issue with File, Export settings not being correctly persisted between sessions.

**Updated Release Full Monte 2017 R2 (June 2019 version 3.3.19158.1)**

Fixed an issue with Probabilistic Branching.

Improved support for Foreign Language version of Microsoft Project.

Corrected an issue with Edit Pane sizing when screen scaling was used.

**Updated Release Full Monte 2017 R2 (September 2019 version 3.3.19249.1) (aka 2017 R2)**

Enhanced File Export to convert percentages to durations when the target User Field is a Duration field.

Enhanced the History View to automatically scale the X-Axis.

Fixed a Costs issue where resources had manual profiles and cost escalation.

Updated the Code Signing Certificate and added the certificate to the VSTO file for secure environments.

**Updated Release Full Monte SRA 3.3 (September 2019 version 3.3.20097.2)**

Name change to Full Monte SRA.

Dropped the use of the '2017 Rx' version name. We now use the internal major/minor version (3.3)

Trial period reduced from 30 to 14 days.

Exported Durations honor the default units specified in Full Monte.

Resolved a crash in the Filter Dialog.

## Table of Contents

Introduction .....	14
Installation .....	14
Field Mappings.....	14
Risk Analysis .....	15
File Import/Export.....	16
Project Server Enterprise Fields.....	17
Messages.....	17
Unique ID (Raw) .....	18
Bug Fixes .....	19

## 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.

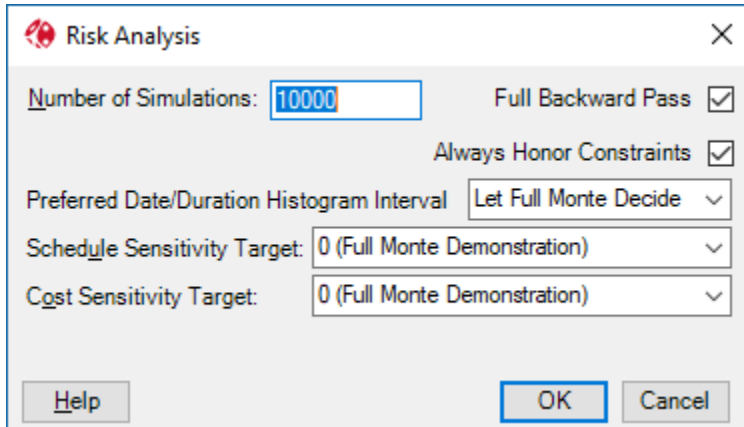


Figure 1

### 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:

<b>Constraint Type</b>	<b>Treated As</b>
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.



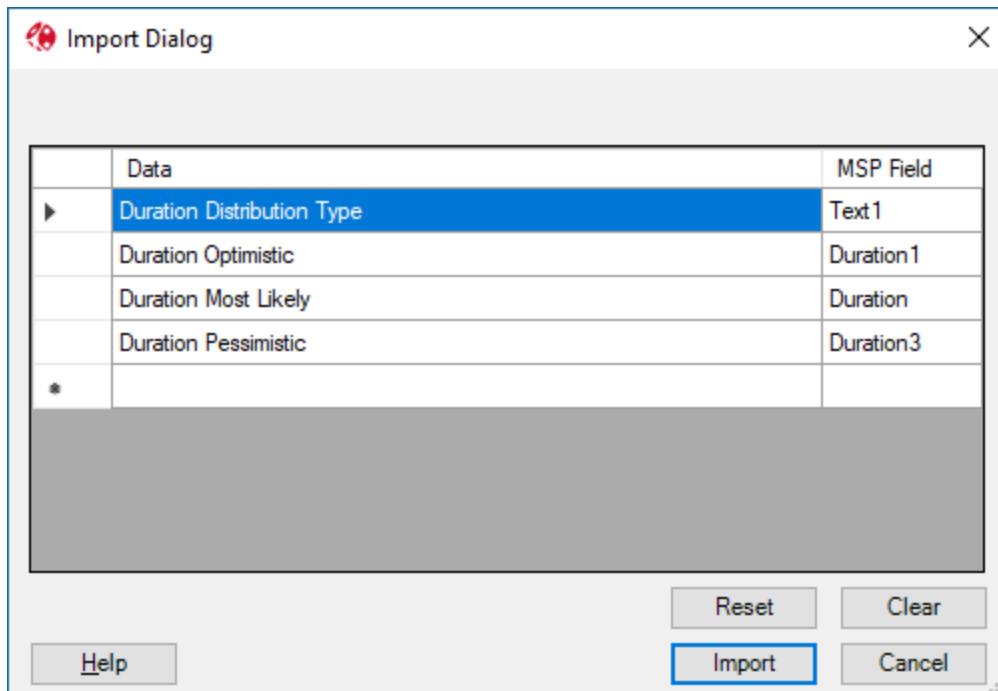


Figure 2

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:

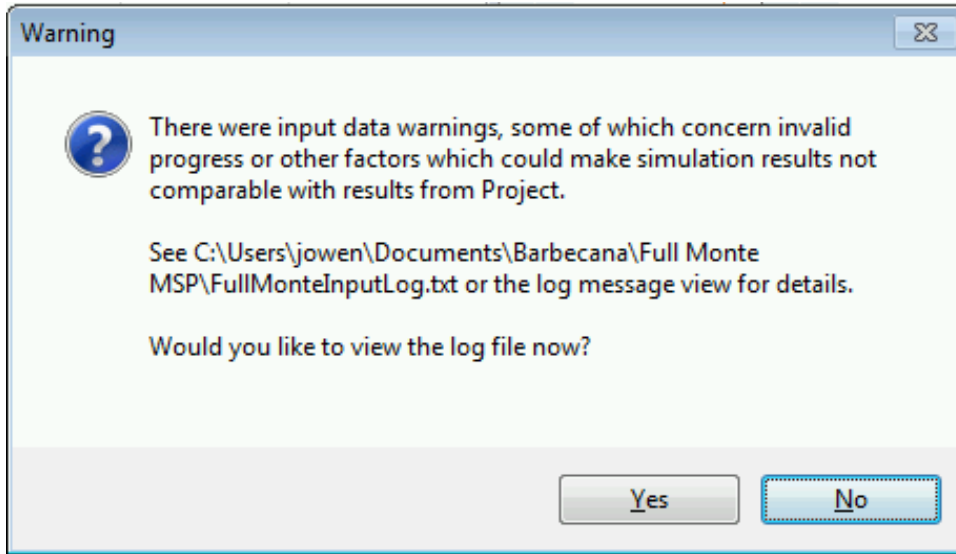


Figure 3

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

---

## Full Monte 2017 (3.1) Release Notes

---

### Table of Contents

Introduction .....	22
Installation .....	22
Tabular View Sorting.....	22
Risk Analysis .....	23
Risk Path Analysis.....	24
Input Milestones .....	25
Task Existence .....	26
Expected Cost Calculations in Full Monte 2017 .....	29
Filters & Highlights .....	31
History Report.....	32
Enterprise Fields (Microsoft project) .....	33
Level of Effort.....	33

## Introduction

This document describes the new features in Full Monte 2017.

## Installation

If you have Full Monte 2016 then this must be uninstalled before installing Full Monte 2017. Please note that the format of the data stored by Full Monte 2017 is different to any earlier version. Full Monte 2017 will automatically convert Full Monte 2016 (and Full Monte 2014 P6 data) data into the newer format. Once converted it will no longer be recognized by Full Monte 2016/2014. Please refer to the Full Monte for Microsoft Project Installation Guide for information regarding converting from Full Monte 2.1 or earlier.

### Microsoft Project Configuration

An additional Full Monte field ('Full Monte Results 2') has been added to the default system field mappings. This field will **not** be automatically mapped for projects previously used with Full Monte 2016. Currently the only data stored in Full Monte Results 2 is the diagnostic data shown in Early Start Basis, Early Finish Basis, Critical Predecessors, Critical Successors, Last Finish Basis, Last Start Basis fields. If Full Monte Results 2 is not mapped, then this information will not be available until a Risk Analysis has been performed in the current session.

It is no longer mandatory to map the field 'Full Monte Results'. This makes 'Full Monte Input Data' the only mandatory mapped field in Full Monte 2017. If the standard results and histogram fields are not mapped, then that data will not be available in a new Full Monte session until a Risk Analysis is performed.

Please see the Full Monte for Microsoft Project Installation Guide for further information.

### Oracle Primavera P6 Configuration

A new Primavera user defined field called 'Full Monte Risk Path' is automatically created (if undefined) and populated with the Full Monte Risk Path data when a project is saved after performing a Risk Analysis. This field can be used to group tasks by criticality to either project completion or an interim milestone.

Please see the Full Monte User Guide for more information on Risk Path analysis.

## Tabular View Sorting

The options to Sort in ascending and descending order have been removed from the right-click context menus for column headings in tabular views. Columns can be sorted simply by clicking on the column heading and by using Ctrl+Click to sort on multiple columns. There is also a new Sort dialog on the View menu.

## Risk Analysis

For Full Monte 2017, new features have been added to the Risk Analysis dialog as shown in Figure 1.

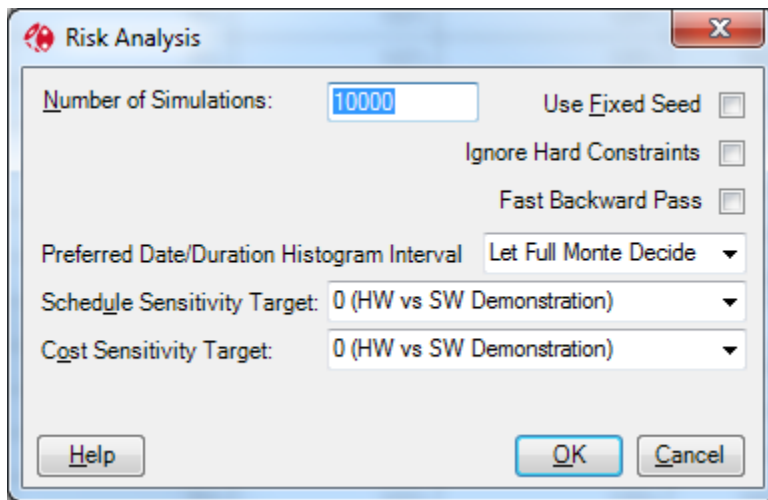


Figure 1

### Ignore Hard Constraints

It has always been a best practice to remove ‘hard’ constraints from a schedule prior to performing a Monte Carlo simulation. While the term ‘hard’ constraint is not formally defined, it is often used to describe a constraint (target) date that will prevent the early dates moving into the future. Examples include Start No Later Than, Finish No Later Than, Start On, Finish On, Must Finish On etc.

Tools exist (such as Barbecana’s Schedule Inspector) that can automate the removal of such constraints but if these are not available then manually removing the constraints can be tedious. Full Monte 2017 now features a risk analysis option to ignore such constraints during the simulation. This can result in a far more realistic assessment of future schedule dates.

### Fast Backward Pass

While Full Monte already utilizes a very fast simulation engine it can still take some time to run thousands of simulations on larger schedules. The Fast Backward Pass option can reduce processing times by around 50% at the expense of not calculating Late Date data and Floats. Full Monte will still calculate all Early Date data, sensitivity, percent critical (criticality), and diagnostic aids such as the Critical Predecessor and Early Start/Finish Basis fields.

## Risk Path Analysis

A new Full Monte field, Risk Path, has been added and is calculated during risk analysis. Similar in concept to float tracing tools, the Full Monte Risk Path number is unique in grouping tasks by their criticality to the project (or interim milestone) outcome after considering uncertainty. An example is shown in Figure 2.

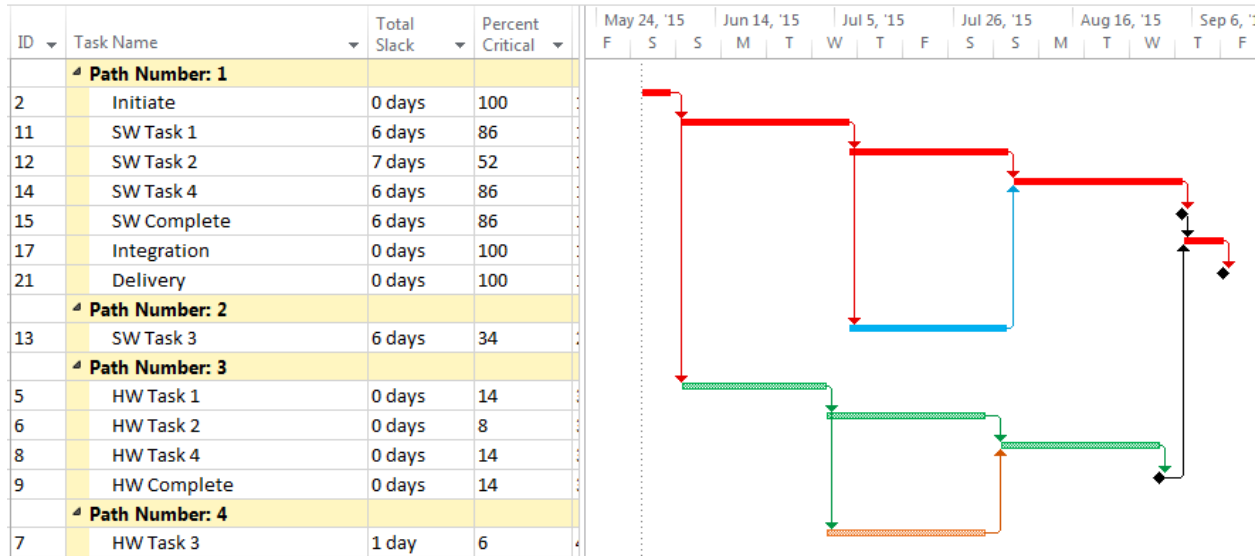


Figure 2

Note that while the tasks shown on Path Number 1 have more float than those in Path Number 3 they are more important to the project outcome after taking into account uncertainty.

The example in Figure 2 was produced in Microsoft Project by mapping the Full Monte Risk Path field to a Microsoft Project Custom Number field. For Primavera P6, a new integer user field called 'Full Monte Risk Path' is automatically created when risk analysis results are saved.

The path numbers will be calculated relative to the sensitivity target task selected in the risk analysis dialog.

Risk Path analysis can be used alongside traditional Sensitivity Tornado charts as an aid to understanding what is driving an outcome. Path analysis has the advantage that it will include tasks with no uncertainty provided they affect the outcome (are on the critical path) at least some of the time during the simulations.



## Input Milestones

Many projects are dependent on external inputs from both clients and subcontractors. These are often modelled with an input milestone with a constraint/target date to represent the expected date of receipt. Until now it has not been possible to easily enter a range of dates during which the deliverable might be expected. With Full Monte 2017 the capability to enter a range of dates together with an uncertainty distribution has been added where a task is defined as a milestone, has a zero duration, and has a Start No Earlier (or similar) constraint/target date. Dates can be entered either in the spreadsheet or edit pane as shown in Figure 3.

The screenshot shows the 'Task Edit' window for 'Design Delivery' in Full Monte. The main table lists tasks with columns for ID, Task Name, Remaining Duration, Early Finish Histogram, Risk Path, Duration Distribution Type, and three duration values (Optimistic, Most Likely, Pessimistic) along with their confidence intervals. The 'Design Delivery' task (ID 17) is highlighted in orange and has a Beta distribution type. The edit pane on the right shows the distribution type set to 'Beta' and a target date of 8/17/2015 1:00 PM. A graph displays a bell-shaped curve with the target date at the peak. The status bar at the bottom indicates 27 rows, no filter, and 10000 simulations.

ID	Task Name	Remaining Duration	Early Finish Histogram	Risk Path	Duration Distribution Type	Duration Optimistic	Duration Most Likely	Duration Pessimistic	Duration Confidence Interval (%)
3	Development	12 wks	Graph		Triangular	75%	100%	125%	100%
4	Hardware	12 wks	Graph		Triangular	75%	100%	125%	100%
7	HW Task 3	4 wks	Graph	1	Triangular	75%	100%	125%	100%
8	HW Task 4	4 wks	Graph	1	Triangular	75%	100%	125%	100%
5	HW Task 1	4 wks	Graph	1	Triangular	75%	100%	125%	100%
6	HW Task 2	4 wks	Graph	2	Triangular	75%	100%	125%	100%
9	HW Complete	0	Graph	1	Triangular				
10	Software	54 days	Graph		Triangular	75%	100%	125%	100%
13	SW Task 3	18 days	Graph	4	Triangular	75%	100%	125%	100%
14	SW Task 4	18 days	Graph	3	Triangular	75%	100%	125%	100%
11	SW Task 1	18 days	Graph	3	Triangular	75%	100%	125%	100%
12	SW Task 2	18 days	Graph	3	Triangular	75%	100%	125%	100%
15	SW Complete	0	Graph	3	Triangular				
16	Suppliers	0	Graph		Triangular	75%	100%	125%	100%
17	Design Delivery	0	Graph	Beta	Beta	14Aug15	17Aug15	18Aug15	100%
20	Marketing	3 wks	Graph		Triangular	75%	100%	125%	100%
21	Brochure Development	2 wks	Graph	5	Triangular	75%	100%	125%	100%
22	Brochure Printing	1 wk	Graph	5	Triangular	75%	100%	125%	100%
18	Integration	1 wk	Graph		Triangular	75%	100%	125%	100%

Figure 3

## Task Existence

In previous versions of Full Monte, risks (threats) could be modelled by using Probabilistic Branching. While this was especially useful if a number of tasks were used to model the threat (or opportunity), the process was unnecessarily complex if the threat could be modelled with a single task.

Consider the example of making something, testing it, fixing if faulty and then delivering.

The Probabilistic Branching example is modelled with a 20% chance of executing successor Task 4 and an 80% chance of proceeding directly to Task 5 as shown in Figure 4.

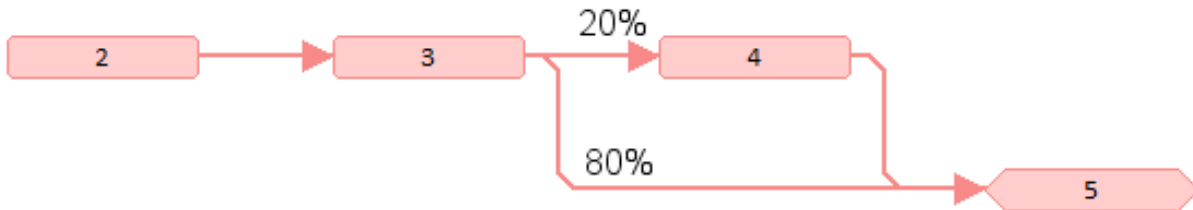


Figure 4

The Task Existence model is simpler with no additional logic as shown in Figure 5. Task 9 has a 20% chance of existing/occurring.



Figure 5

Full Monte 2017 allows both a simple probability of existence for a single task as well as a definition for a shared risk that can affect multiple tasks using a simple risk register.

When a task has a probability of existence specified (either directly or by a shared risk) then Full Monte will only consider it as affecting the outcome for the specified percentage of the simulations. For the remainder of the simulations it will be treated as a zero duration task with no cost impact.

The probability of a task existing (occurring) can be entered by clicking the 'Existence' button on the task edit pane or by adding the column 'Probability of Existence' to the spreadsheet as shown in figure 6.

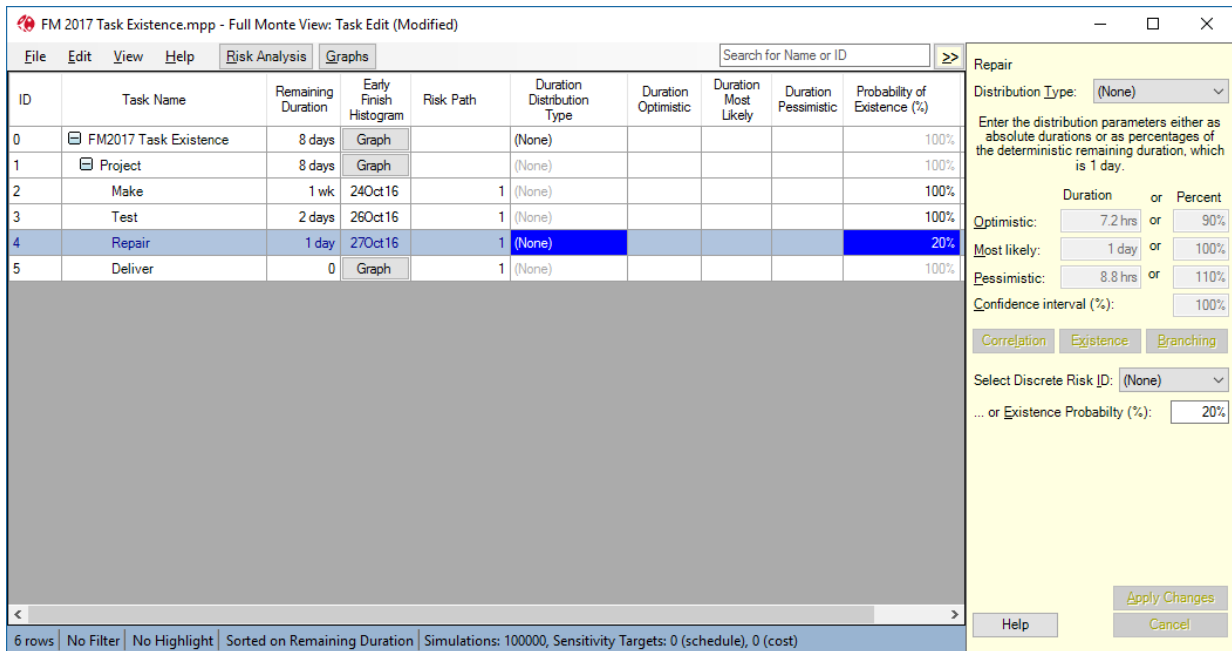


Figure 6

*Note that probability of occurrence is independent of any duration uncertainty information assigned to the task. In the example above the only uncertainty is regarding whether items will fail testing. Duration uncertainty information, if specified, will only have any effect in the simulations where the task exists.*

If the Discrete Risk ID is set to '(None)' then the Existence Probability is unique to the selected task however a shared risk can be defined under Edit, Manage Risks and selected from the drop down list as shown in Figure 7.

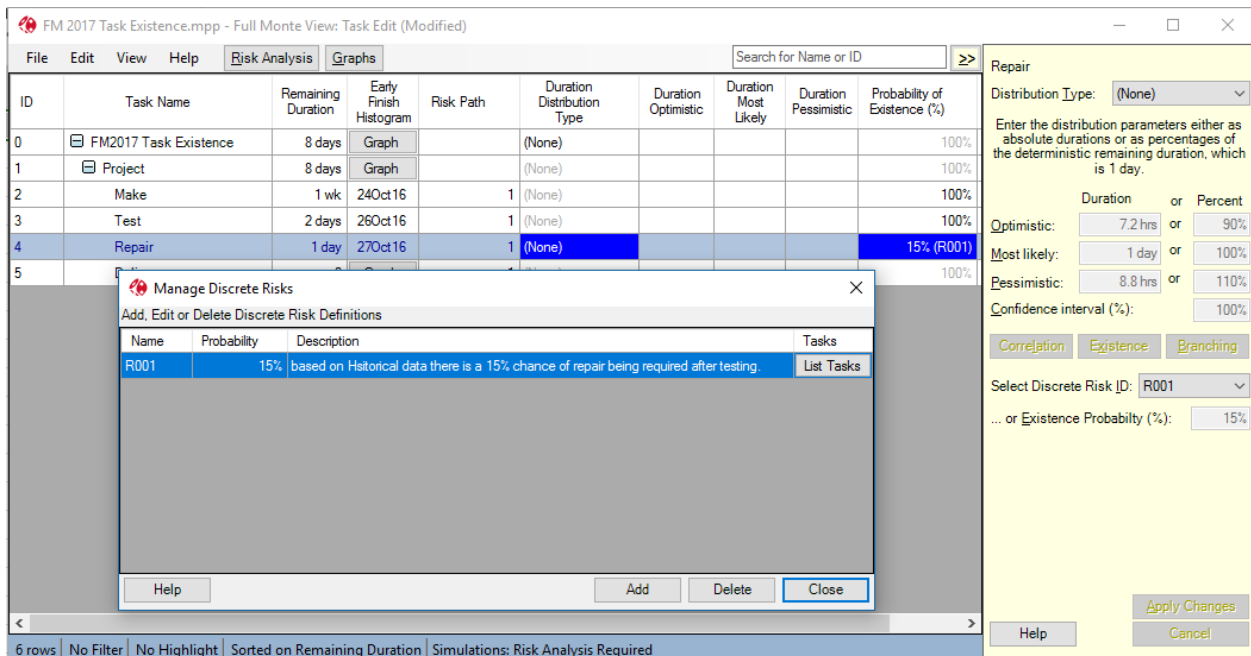


Figure 7

*Note that the Probability of Existence column shows both the probability and the source risk ID.*

## Expected Cost Calculations in Full Monte 2017

The calculation of costs for tasks that do not always occur has been changed in Full Monte 2017. In earlier versions of Full Monte (2.x and 2016), the Cost Expected Value for tasks that did not always occur was not modified to take into account the tasks Percentage Active. So a Task with a budget cost of \$1,600 would display a Cost Expected Value of \$1,600 even if it was only active say 20% of the time. However, the cost rolled up to higher level summary tasks would be modified to reflect the percentage Active. In Full Monte 2017, the Cost Expected Value is modified by the tasks Percentage Active. Examples of previous and current results are shown in Figure 8.

Task Name	Duration	Start	Finish	Predecessors	Cost	Cost Expected Value (FM 2.1 and 2016)	Cost Expected Value (FM 2016 R1)
▾ Probabilistic Branching	8 days	Thu 4/21/16	Mon 5/2/16		\$6,400.00	\$5,120.00	\$5,120.00
Make	5 days	Thu 4/21/16	Wed		\$4,000.00	\$4,000.00	\$4,000.00
Test	1 day	Thu 4/28/16	Thu 4/28/16	2	\$800.00	\$800.00	\$800.00
Remedial Work	2 days	Fri 4/29/16	Mon 5/2/16	3	\$1,600.00	\$1,600.00	\$320.00
Deliver	0 days	Mon 5/2/16	Mon 5/2/16	3,4	\$0.00	\$0.00	\$0.00
▾ Probability of Occurrence	8 days	Thu 4/21/16	Mon 5/2/16		\$6,400.00	\$5,120.00	\$5,120.00
Make	5 days	Thu 4/21/16	Wed		\$4,000.00	\$4,000.00	\$4,000.00
Test	1 day	Thu 4/28/16	Thu 4/28/16	7	\$800.00	\$800.00	\$800.00
Remedial Work	2 days	Fri 4/29/16	Mon 5/2/16	8	\$1,600.00	\$1,600.00	\$320.00
Deliver	0 days	Mon 5/2/16	Mon 5/2/16	9	\$0.00	\$0.00	\$0.00

Figure 8

*Note that the results shown in Figure 8 for Probability of Existence costs are simulated for earlier versions of Full Monte since they did not include that feature.*

This change has one other effect, cost histograms for tasks that are not always active will now contain a bar for occurrences of zero cost as shown in Figure 9.

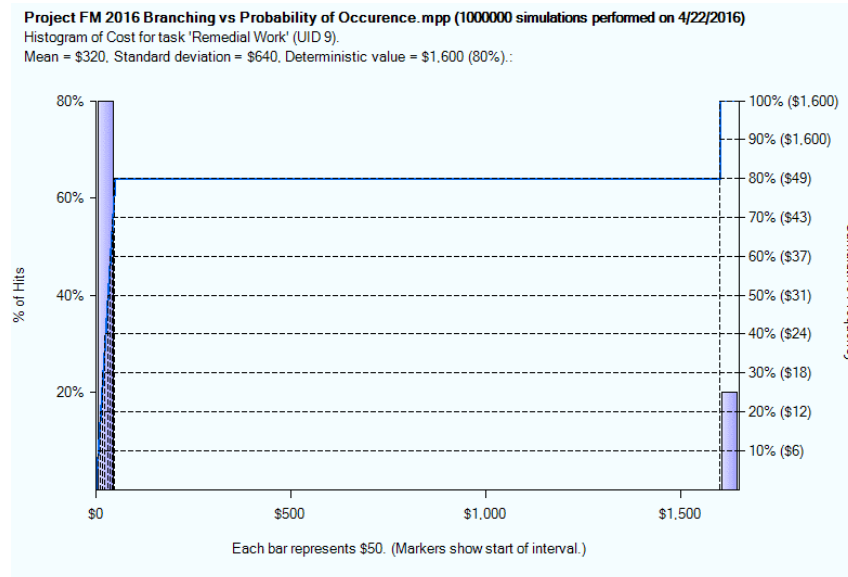


Figure 9

The graph shows that 20% of the time (left axis) the task cost (right axis) was \$1,600.

*Note: The odd right Y-Axis values (\$12, \$18, \$24, \$31, \$37, \$43, \$49) are due to the fact that intermediate values are interpolated. The values are being derived as the S-Curve crosses the \$0 bar.*

## Filters & Highlights

Users can now select which tasks are displayed in tabular views and apply conditional highlighting. Please see the Full Monte User Guide sections 3.2 and 3.3 for details. The example shown in Figure 12 is highlighting any tasks where the Early Finish Percentile (80%) is later than a Task Deadline date.

The screenshot displays the 'Full Monte View: Task Edit' window. The main task list is as follows:

ID	Task Name	Duration	Type	Description	Optimistic	Most Likely	Pessimistic
7	HW Task 3				75%	100%	
8	HW Task 4		Task	Tasks with a Risk Path number	75%	100%	
5	HW Task 1		Task	P80 date later than Deadline date	75%	100%	
6	HW Task 2						
9	HW Complete						
10	Software						
13	SW Task 3						
14	SW Task 4						
11	SW Task 1						
12	SW Task 2						
15	SW Complete						
18	Marketing	3 wks	Graph	NA			
19	Brochure Development	2 wks	Graph	NA			
20	Brochure Printing	1 wk	Graph	NA			
16	Integration	1 wk	Graph	NA			
17	Integration	1 wk	Graph	NA			
2	Initiate	1 wk	Graph	NA			
21	Delivery	0	Graph	04Aug17 11Aug17	75%	100%	

The 'Filter Definition' dialog box shows the following configuration:

- Type: Task
- Name: Missed Deadline
- Description: P80 date later than Deadline date
- Criteria:
 

And/Or	Field Name	Test	Value	Case Sens.
And	Early Finish Percentile (80%)	is after	Deadline	<input type="checkbox"/>
And				<input type="checkbox"/>

The status bar at the bottom indicates: 22 rows | No Filter | Highlight: Missed Deadline (1 rows) | Sorted on Remaining Duration | Simulations: 10000, Sensitivity Targets: 0 (schedule), 0 (cost)

Figure 12

## History Report

The history report, used to review past performance against estimated durations, now has an option to set boundaries for the data to be included. This allows unrepresentative outliers to be excluded and makes it easier to discern values that can be used for duration uncertainty on future work as shown in Figure 11.

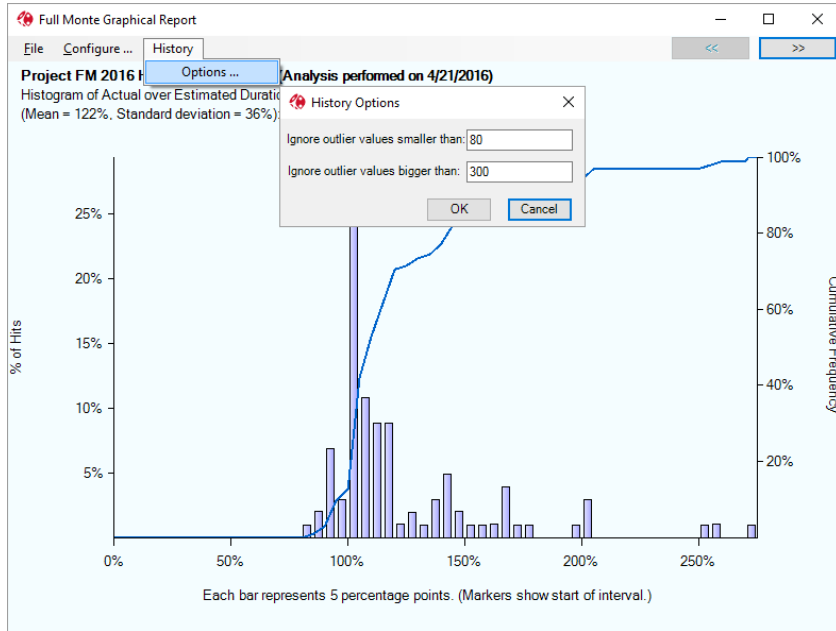


Figure 11



## Enterprise Fields (Microsoft project)

When assigning Templates based on Custom Fields, Full Monte will now include any available Enterprise text fields in the menu as shown in Figure 10.

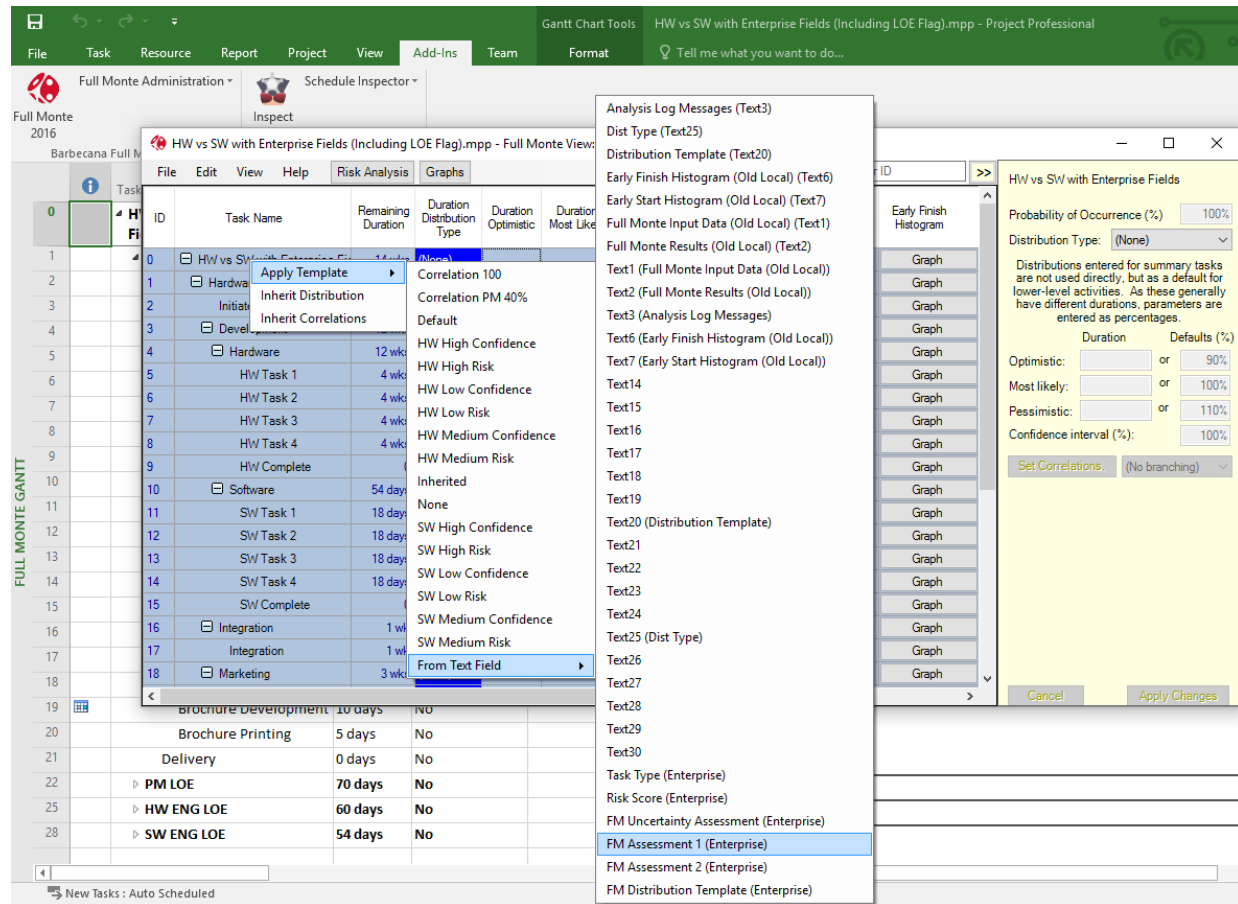


Figure 10

## Level of Effort

While Primavera P6 has a special activity type (Level of Effort) to model overhead/support resources, Microsoft Project does not. This can lead to Level of Effort (LOE) support work being modelled using regular tasks. This can be hard to maintain, as the LOE duration must be manually adjusted to reflect changes to the underlying discrete work, and can result in LOE tasks being shown on the critical path. LOE tasks should not be on the critical path.

A Full Monte field called 'Level of Effort' can be mapped to a Microsoft Project Flag field to identify LOE tasks. The LOE task must be linked with Start-to-Start/Finish-to-Finish logic to the relevant start/finish of the discrete work. Full Monte will derive the duration of the LOE task from the underlying discrete work on each simulation and calculate costs accordingly. The Percent Criticality of the LOE task will be zero. For further information see Appendix F in the Full Monte User Guide.