

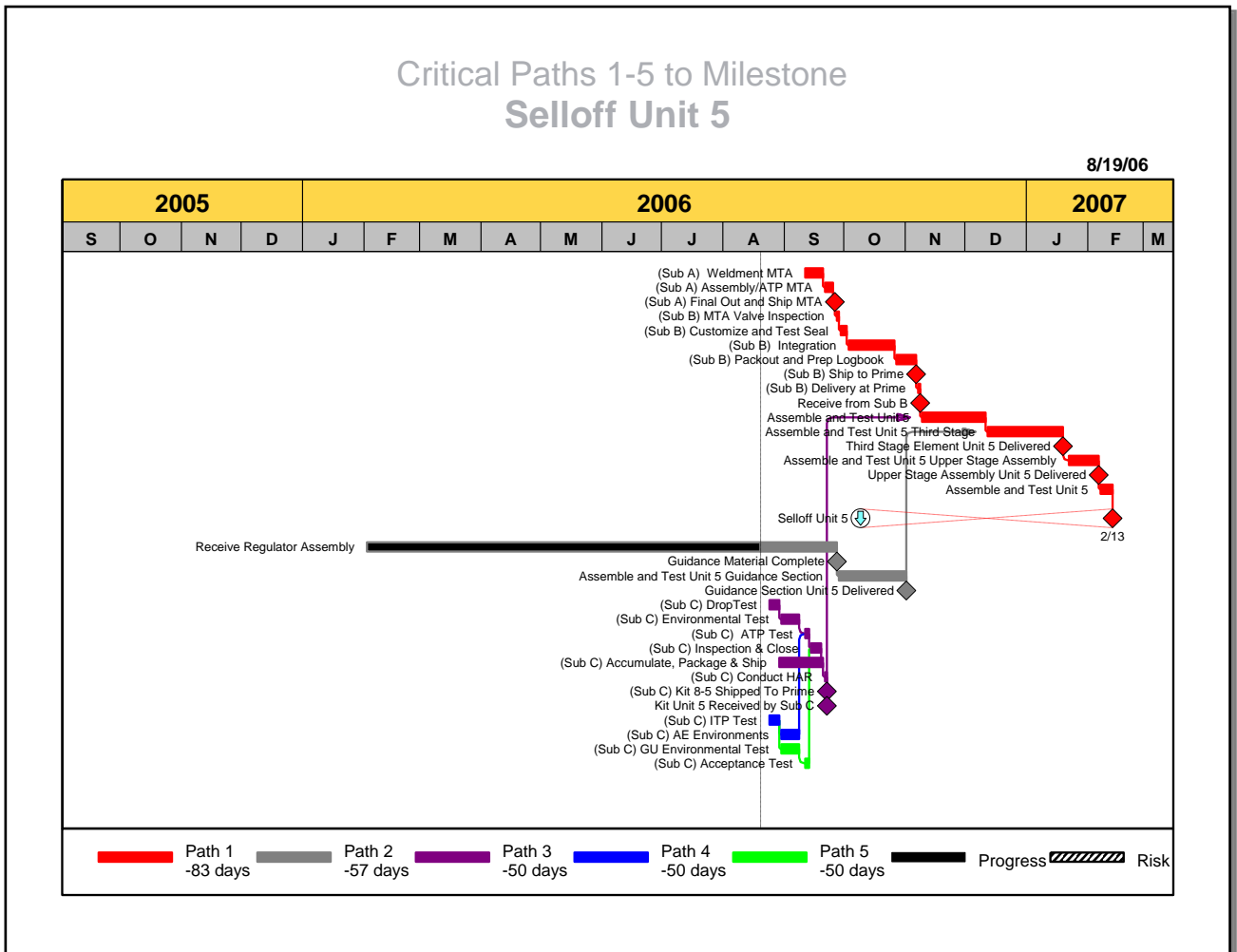
# OPDEC Critical Path Tool

Version 2020



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**Summary:** A critical path is defined as the longest duration of a set series of activities to a major event will produce the critical path. The OPDEC Critical Path tool is an add-on to Microsoft Project that displays a graphic representation of up to 5 critical paths and their associated integration points. It provides a quick analysis of the critical paths to major events in the Integrated Master Schedule (IMS).



**Example:** (Critical Paths 1-5 to Selloff Unit 5”), displays the top 5 critical paths to the event. The legend, (Path 1, Path 2, etc.), shows the float (slack) for each path. The user is now equipped with the required reference points to enable quick analysis of the IMS mapping network.



### **Minimum Software Requirements:**

- Milestones Professional 2008 ([www.kidasa.com](http://www.kidasa.com))
- Microsoft Project 2010
- Microsoft Windows 7



### **Installation and Activation**

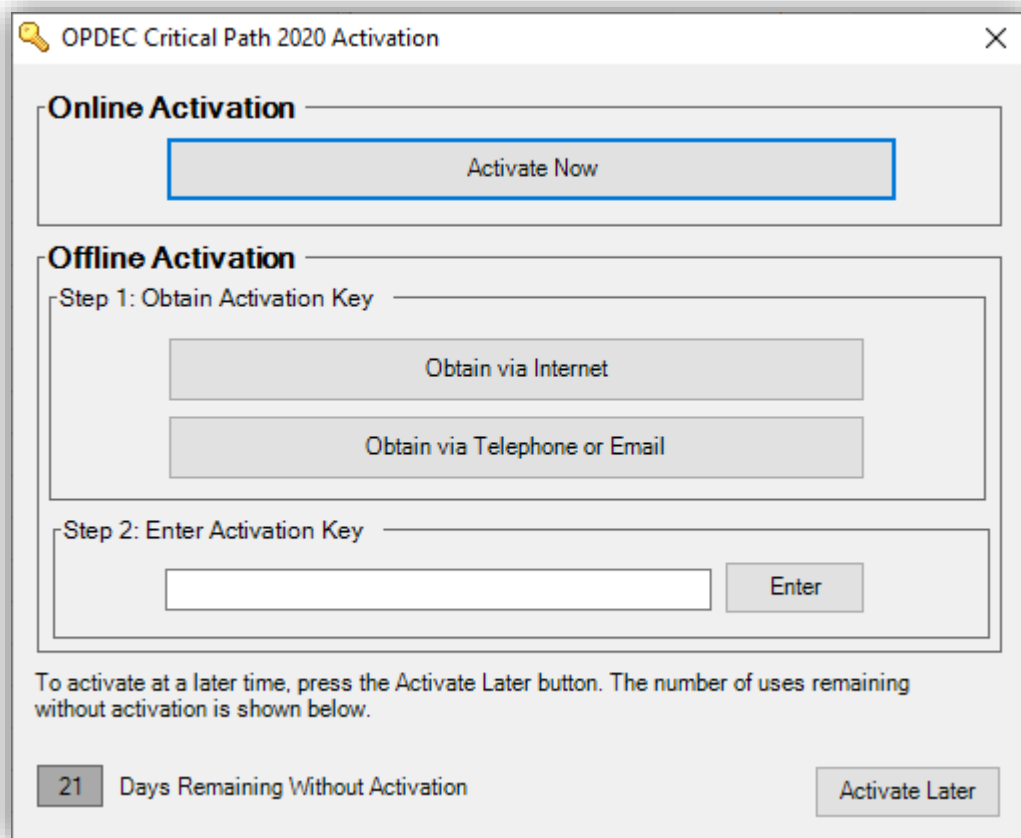
#### **Installation**

- 1) Download the installation file from [www.opdec.com/ms-project-tools/critical-path-tool](http://www.opdec.com/ms-project-tools/critical-path-tool)
- 2) Run the file to begin setup
- 3) Follow the on-screen prompts indicating installation location and the end user license agreement

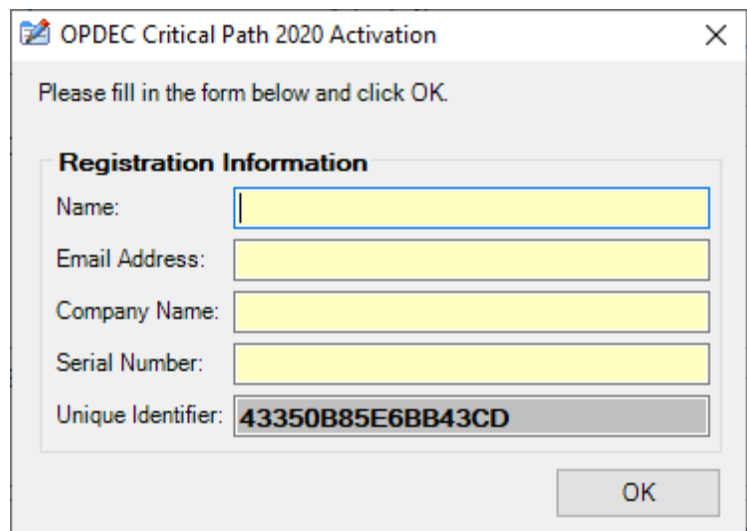
#### **Activation**

- 1) Open Microsoft Project
- 2) Navigate to the “OPDEC” ribbon and click the “Critical Path 2020” button in the “2020 Base Tools” group.

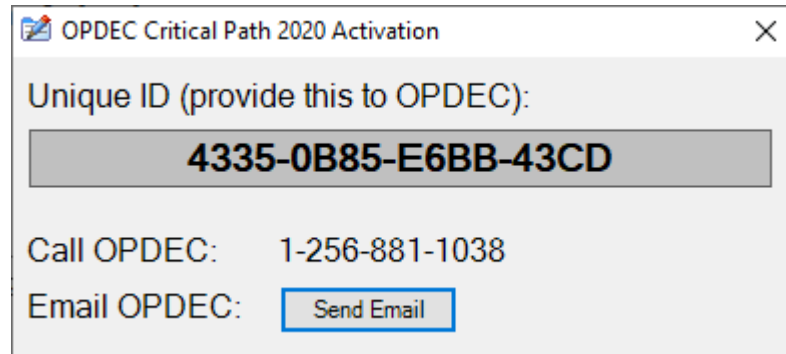
- 3) Upon first launch, you will be presented with the activation window. The activation process can be delayed for up to 30 days using the “Activate Later” button.



- 4) If you have an internet connection on your PC, click “Activate Now”
- a. Fill in your name, email, company, and assigned serial number provided upon purchase of the software. It is an 8-digit, alphanumeric code separated by a dash (e.g. a1b2-c3d4).



- b. Click “OK” and your activation will be complete. Note that sometimes internet security measures will prevent the online activation. Please see #5 below.
- 5) If you do not have an internet connection, click “Obtain via Telephone or Email” in “Step 2: Offline Activation”
- a. A popup will appear displaying your PC’s unique identifier.

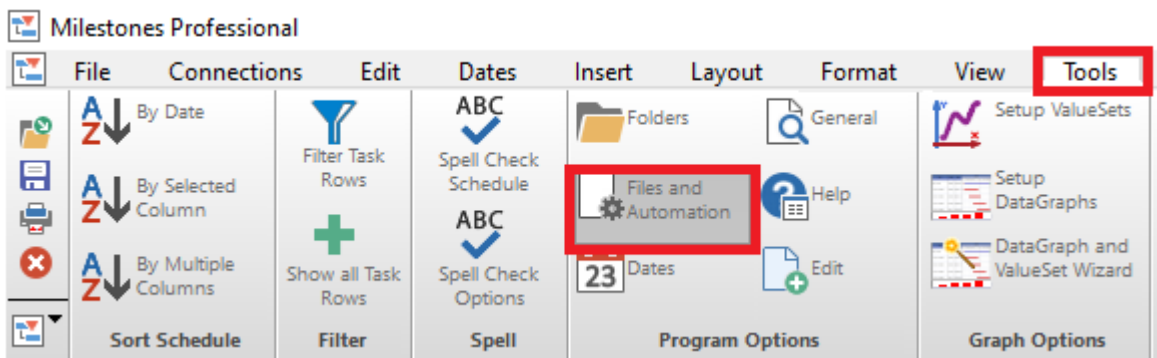


- b. You will need to provide this to OPDEC Support along with your serial number in order to receive an activation key. You can email us at [support@opdec.com](mailto:support@opdec.com) using the “Send Email” button, or call us at (256) 881-1038.

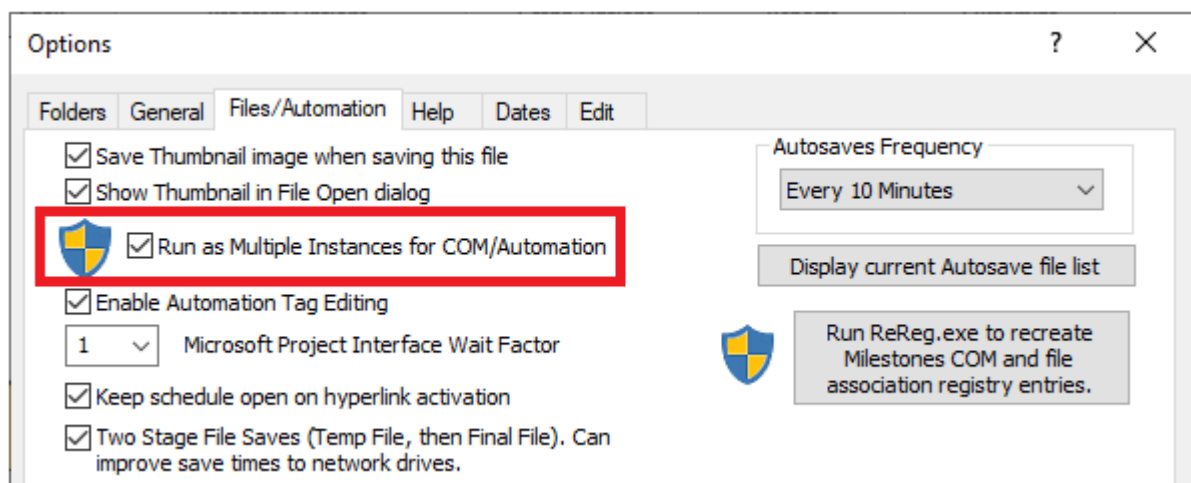
## Milestones Professional Setup

The options below help configure Milestones Professional to operate correctly when used in conjunction with the Critical Path tool.

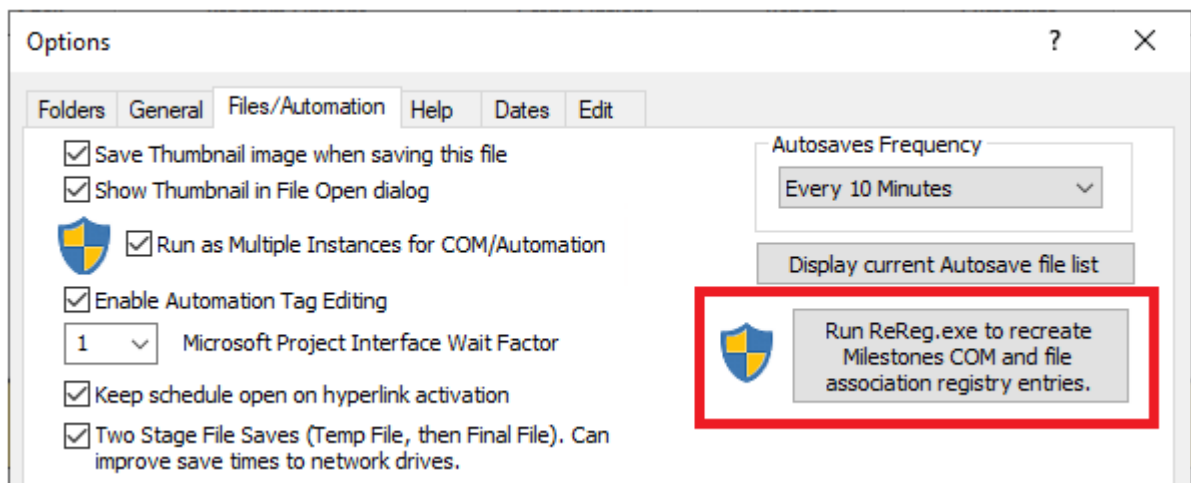
1. Open Milestones Professional
2. Navigate to the “Tools” ribbon, and select the “Files and Automation” button in the “Program Options” subgroup.



3. Check the “Run as Multiple Instances for COM Automation” as seen below. Setting this option will require administrator privileges on your PC. **Enabling this setting helps resolve Common Error #4.**

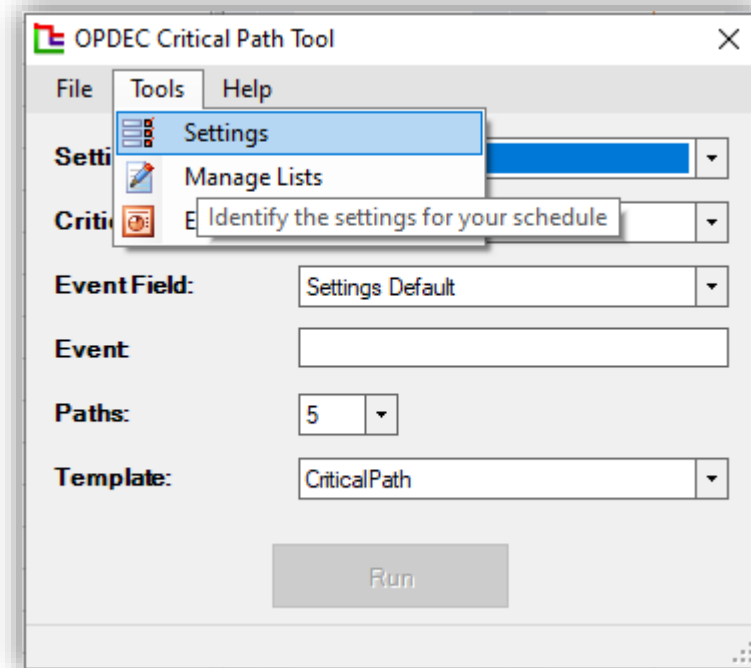


4. Click the “Run ReReg.exe to recreate Milestones Com and file association registry entries.” button. This button runs a process that recreates the registry keys needed for the application to run correctly. These help the Critical Path tool detect that Milestones Professional is installed on the device and helps the Critical Path tool automate Milestones Professional.



## Configuring the Critical Path Settings

To begin using the tool, the first step is to configure the required settings, and to create a settings profile. After the tool is launched, click on the “Tools” menu option, and then select “Settings”.

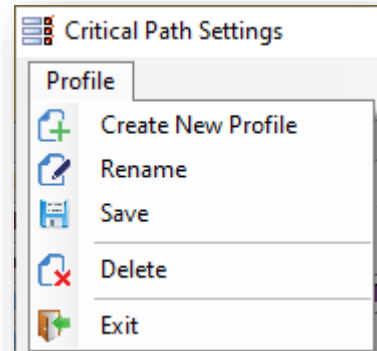


These settings will identify key information within your schedule that the tool needs in order to perform its calculations. Multiple settings profiles may be created by the user in order to quickly change the tool’s settings to work with multiple schedules. On first launch, the “Default Profile” will be selected.

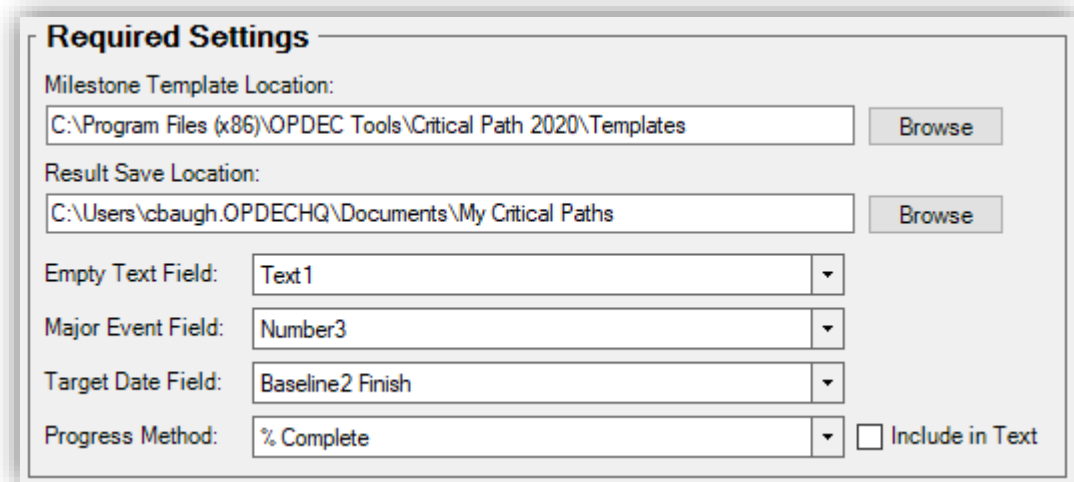


## Settings Profile

At the top of the settings form, you will see the “Settings Profile” option. To fill this list with multiple settings profiles (for use with multiple schedules), you can use the “Profile” menu option and its available actions to create a new profile as well as rename, save, or delete the currently selected profile.



## Required Settings



**Required Settings**

Milestone Template Location:

Result Save Location:

Empty Text Field:  ▼

Major Event Field:  ▼

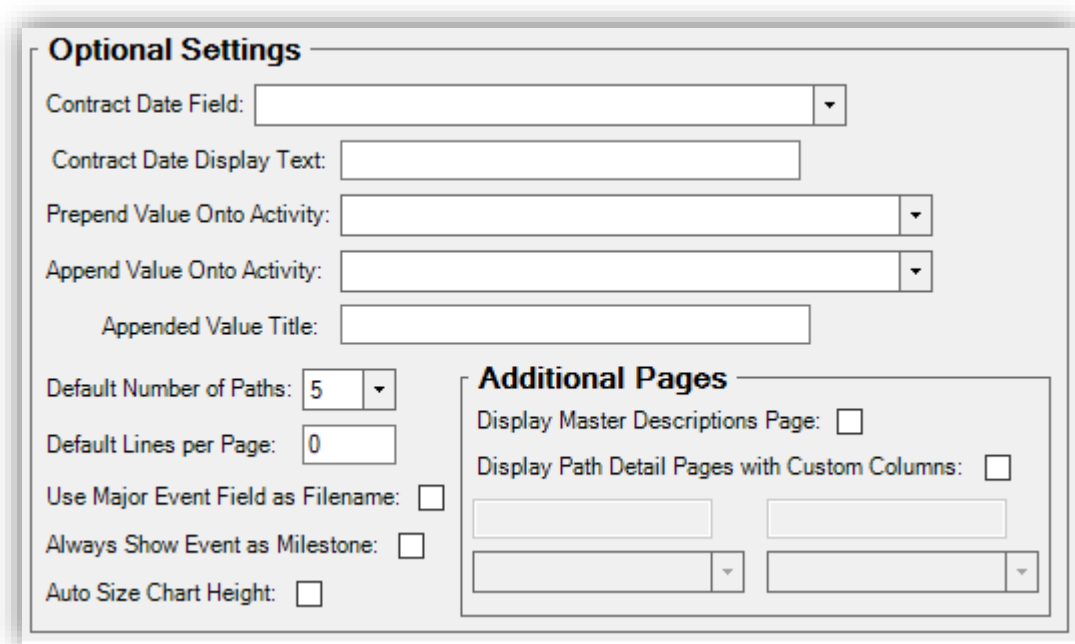
Target Date Field:  ▼

Progress Method:  ▼  Include in Text

- Milestone Template Location
  - This setting should identify the directory containing your Milestones Professional templates used by the tool. These are installed to the location provided during installation in the “Templates” folder as seen in the image above.
- Result Save Location
  - This setting identifies where the tool will save the files it produces.
- Empty Text Field
  - This setting should target a custom text field within Microsoft Project that the tool can utilize. The tool will store path identification data in this field, and will clear the contents of this field repeatedly during processing.
- Major Event Field
  - This setting should target a custom text or number field within Project that identifies the Major Event tasks (aka Milestones) of the schedule. The identification is made by the user entering a unique value in the field. This is the most complicated setting to understand. Major Event tasks are often (but not always) 0-day duration tasks that mark significant progress in a schedule. These are the tasks that a user will typically be running critical paths to. Every task marked as a Major Event will have any constraints or deadlines removed during the tool’s calculations. This is done to assess the critical path based purely upon duration and slack, disregarding tasks artificially held at a point in time. If the user wants to honor a constraint or deadline in their critical path chart, they can leave the Major Event field blank (if Text) or equal to 0 (if Number).

- Target Date Field
  - This setting specifies the date the targeted task (that the critical path is being run to) must be complete by. If you are unsure, the “Baseline Finish” field is a good starting point. However, all date fields within Project are available as options, since many users prefer their end dates to be customized. Alternatively, the user may manually enter their own custom date by selecting “User Defined Date”. Selecting this option will result in a textbox appearing that allows the manual entry.
  
- Progress Method
  - This setting is used to determine how progress will be displayed on the chart. A task’s duration will be filled, partially or completely, with a black bar indicating the amount of progress made on the task. Available options are the built-in Project fields “% Complete”, “Physical % Complete”, and “Status Date”; alternatively, the user may utilize custom Number fields to indicate a percentage of progress (e.g. “CAM % Complete”).

### Optional Settings



**Optional Settings**

Contract Date Field:

Contract Date Display Text:

Prepend Value Onto Activity:

Append Value Onto Activity:

Appended Value Title:

Default Number of Paths:

Default Lines per Page:

Use Major Event Field as Filename:

Always Show Event as Milestone:

Auto Size Chart Height:

**Additional Pages**

Display Master Descriptions Page:

Display Path Detail Pages with Custom Columns:

- Contract Date Field
  - This setting is used to display a contract date on the resulting Critical Path chart. The value given in the date field specified will be used as the contract date. A symbol (circled blue diamond) will be drawn on the chart on the same row as the targeted task’s finish

date, and a crisscrossing dotted red line will be drawn from the contract date symbol to the target finish date. This is to illustrate and emphasize whether the task's estimated finish date will be before or after the contract date.

- Contract Date Display Text
  - If you would like the contract date to be displayed with some identifying text (e.g. “Final Completion Date”), you may enter that custom text here. Whatever value you enter will be shown to the left of the contract date symbol. This setting is only utilized if the user also specifies a Contract Date Field.
  
- Prepend Value Onto Activity
  - By default, the tool will display the Task Name to the left of each task bar shown along a critical path. If you would like to display additional information, you can specify that here. Common values for this setting are ID or Unique ID, allowing the chart's viewer to not only see which tasks are contained within a critical path, but also the corresponding ID used in the Project file. This data will be displayed within parentheses, and will precede the task name.
  
- Append Value Onto Activity
  - While the task name and Prepend Value are shown to the left of a task, you can also specify information to be displayed to the right of a task. To append additional data from a custom text field, you can specify those values here.
  
- Title of Appended Value
  - Only works in conjunction with the “Append Value onto Activity” setting. Whatever text you enter here will be displayed before the value specified in the “Append Value” setting.
  
- Default Number of Paths
  - This option allows the user to specify a default value for the “Paths” option on the main form.
  
- Default Lines per Page
  - This setting allows the user to specify the number of rows contained on one page of the resulting Milestones Professional chart. Increasing the number of rows will allow room for compressed charts, but may cause the chart to flow onto multiple pages of Milestones Professional. By default, the tool will force the entire chart to be displayed on one page.
  
- Use Major Event Field as Filename

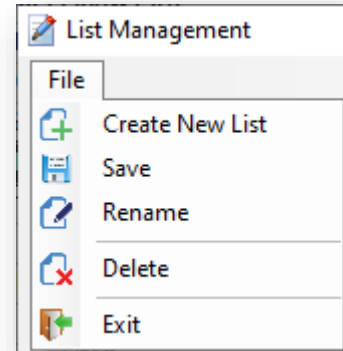
- The filenames of charts produced by the tool will be automatically named “[Unique ID] Master”. To change this to instead include the value contained within the Major Event field (identified in the Required Settings), you may check this box.
- Always Show Event as Milestone
  - The target event by default will always be shown as a milestone (a diamond symbol with no duration). If your targeted task has duration and you wish that to be represented in the result, you may uncheck this box to show it as a normal task, displayed as a bar instead of a diamond representing a single point in time.
- Display Master Descriptions Page
  - To create a text result along with your visual critical path chart, check this box. An additional file will be generated along with every critical path that details the chart in text form. This is a higher level detail than the “Path Detail Pages”, simply dictating the total duration of each path and the number of tasks within it as seen below.
- Display Path Detail Pages
  - To create a text result file for each path of the critical path, check this box. Up to five files will be generated (one for each sub-path). Each of these will dictate the tasks within a path, their duration, and other notable details about them. It is similar to the “Master Descriptions Page”, but instead of detailing the entire critical path and its sub-paths, it will be focused on each sub-path and the tasks within it.
  - When using this option, up to 2 additional columns may be shown on the Path Detail pages. You may specify these fields and what their column headers will be in the additional options that appear when this box is checked.
- Auto Size Chart Height
  - Checking this option will cause the tool to increase the chart’s height based upon the number of rows required for the critical path to be shown; specifically, every row over 60 will grow the default chart height by an additional 0.16 inches. **Note** that it will most likely render the chart unable to be printed as the default template height is already set to standard paper dimensions (8” x 11”). If the charts need to be printed, try using the **Default Lines per Page** setting instead.

## **Critical Path Lists**

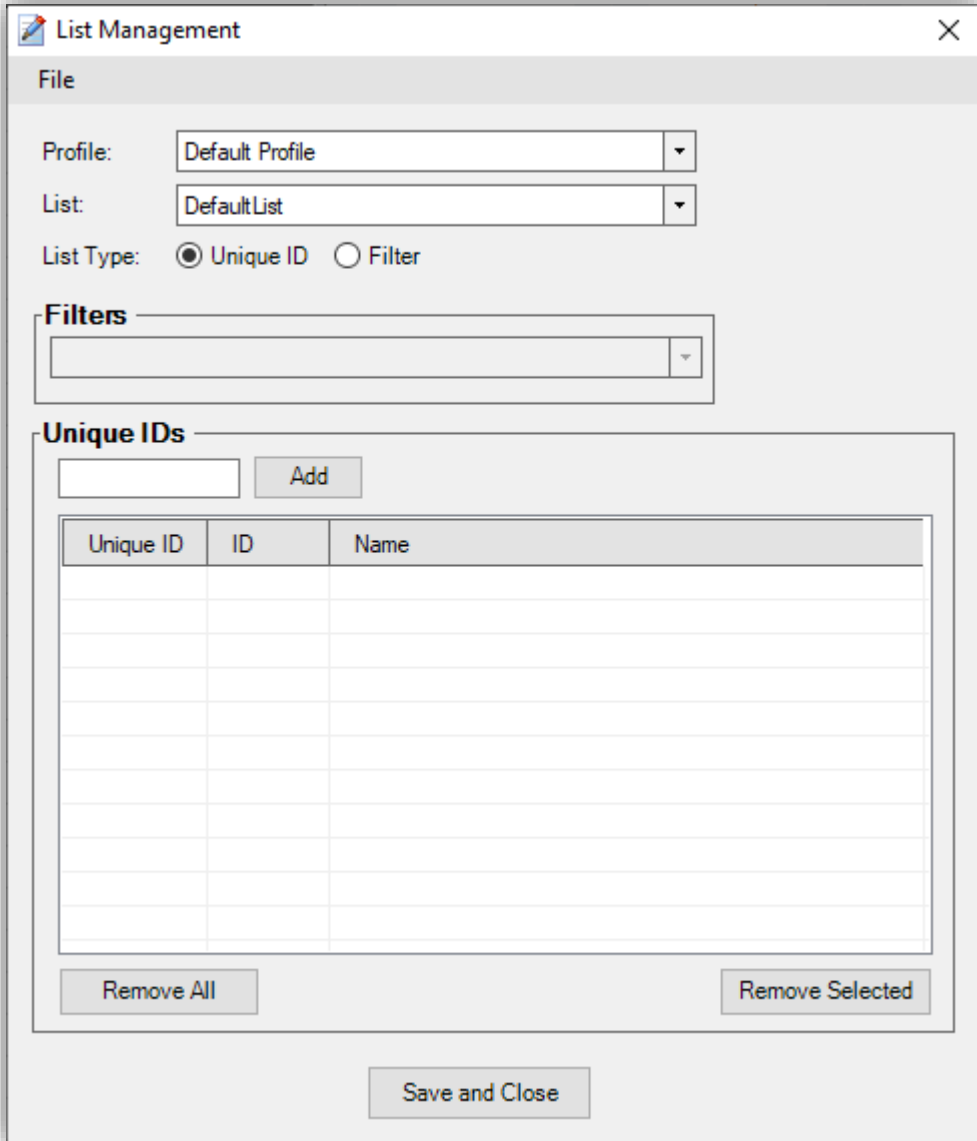
The tool provides the user with the ability to run many critical paths with one button click. This reduces the manual effort required to run critical path charts for every desired task within a schedule. To get started, select the “Tools” menu option, and then select “Manage Lists”.

## **Multiple Lists**

The List Management area allows you to create multiple lists of tasks to run critical paths to. Each list must correspond to a settings profile. What settings profile used can be changed through the “Profile” dropdown located near the top of the form. The “File” menu option can be used to create new lists and rename, save, or delete the currently selected list.



## Creating a List



The screenshot shows a 'List Management' dialog box with the following elements:

- File** section:
  - Profile: Default Profile (dropdown)
  - List: DefaultList (dropdown)
  - List Type:  Unique ID  Filter
- Filters** section: A dropdown menu.
- Unique IDs** section:
  - An input field and an 'Add' button.
  - A table with columns: Unique ID, ID, Name.
  - 'Remove All' and 'Remove Selected' buttons.
- Save and Close** button at the bottom.

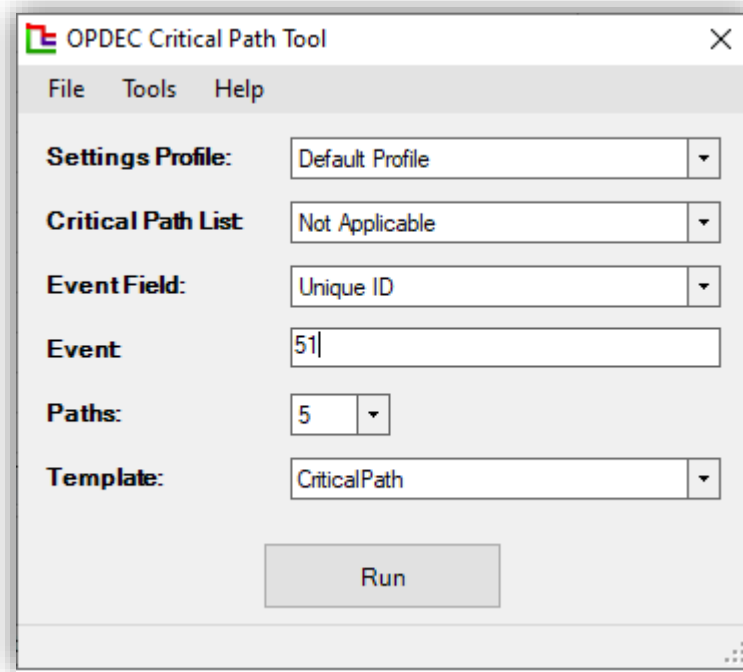
- List Type
  - Filter
    - If the “Filter” option is selected, the list type will use a Project filter that the user has already created. The Filter dropdown below will become enabled, and within it will be displayed all filters known to the active schedule. In this way, for instance, a user could create a Project filter called “Major Events” with a criteria to filter down the schedule to only display tasks with a Major

Event value assigned (as identified in the Critical Path Settings). The tool will run a critical path to every task meeting the criteria specified in the given task filter.

- Unique ID
  - If the “Unique ID” option is selected, the list will contain the manually entered Unique IDs from the “Unique IDs” area below. The user may enter as many as desired using the textbox provided, and either pressing the Enter key or clicking the “Add” button. If a Unique ID needs to be removed, you may select the desired row and click “Remove Selected”. Likewise, the “Remove All” button will clear the list, and the user may start again.
    - Note: If a Unique ID is not found within the active schedule, the “Unique IDs” area will not be able to display its Task Name or ID.



## Chart Creation



OPDEC Critical Path Tool

File Tools Help

Settings Profile: Default Profile

Critical Path List: Not Applicable

Event Field: Unique ID

Event: 51

Paths: 5

Template: CriticalPath

Run

- 1) Select the Settings profile applicable to the current schedule.
- 2) Enter the critical path you would like to create a chart for. If creating a single chart, use the Event Field and Event options. If creating multiple charts, select which Critical Path List to use. Select the “Not Applicable” list to use the Event Field and Event options; only one may be used at a time, so if a list is selected, the Event Field and Event options are disabled.
  - a. Critical Path lists come from the List Management form. Please see the above section, **Creating a List**, for more information.
  - b. To create a single critical path chart, enter the field that contains the event you are going to measure. Options are Unique ID, ID, or the Settings Default which would be the “Major Event” field specified in the settings. Next, enter the event in which to measure (Unique ID, ID, or the text/number values contained within the Major Event field).
- 3) Select the number of paths to display
- 4) Identify the template to use in creating the critical path chart. Typically, the default “CriticalPath” template will be used. However, if only a Master Detail or Path Detail chart is

required, you may select the “CriticalPathDesc” or “CriticalPathItemDesc” templates respectively. Also, any custom templates made by the user will be displayed here (provided they are placed within the “Milestone Template Location” folder specified to the selected settings profile).

- 5) Click the Run button. The status bar at the bottom of the form will update the user on the tool’s progress, and the resulting chart will be displayed (if a single chart is run). If multiple charts are processed using a critical path list, then Milestones Professional will close after finishing, and the user must navigate to their “Result Save Location” folder to find the produced files.
- 6) Hyperlinks can be selected from each symbol to show further detail for that path if the path detail files were created (as set in your Settings Profile). The selection of the target event hyperlink will bring you to a page detailing the top path issues.

## Export Milestone Professional files

Export to PowerPoint ✕

Hide Custom Settings

C:\Users\MyUserName\Documents\My Schedule PowerPoints Browse

Select All Files  Search Subdirectories Find Now

File Name	Date Modified	Size (KB)	Folder

Export to PowerPoint
 Resize Images To Fit Slide  
 Force (4:3) Aspect Ratio

**Custom Size and Position Settings**

Key Word/Phrase in File Name	Horizontal	Vertical	Height	Width
<input style="width: 100%;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>
<input style="width: 100%;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>
<input style="width: 100%;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>
<input style="width: 100%;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>

The tool provides a utility to export Milestones Professional images to a Microsoft PowerPoint presentation. Each file selected will be placed on slide in the resulting presentation. To get started, click on the "Tools" menu item and then click on the "Export to PPT" menu item.

- Directory – The text field at the top of the form tells the utility where to find Milestone Professional files. This field is defaulted to the save directory specified in the Critical Path settings dialog. The browse button will allow you to select a different directory.
- Search Subdirectories – This option lets the “Find Now” action know whether to only search files within the immediate folder location specified, or whether it should search all subfolders within the directory.
- Find Now – This button searches the directory (and if specified, its subdirectories) for all Milestones Professional files. Each file found will be loaded as a checked item in the file display grid below it.
- File Display – This list displays all files found by the search. Each file can be checked/unchecked to indicate whether it should be exported to PowerPoint.
- Show/Hide Custom Settings – This menu option will expand the export utility interface to include the Custom Settings area at the bottom of the interface. These settings will dictate the size and position of the image in PowerPoint.
  - The **Keyword** column contains fields where the user may enter any unique word or phrase that will be in the Milestones Professional files' name. Any file name that contains the keyword entered will have the corresponding size and position settings applied to it when the image is exported to PowerPoint.
  - The **Horizontal** column should contain how many inches from the left you would like your image placed on the PowerPoint slide. This field should correspond to the "Horizontal" field in the "Size and Position" window of the image in PowerPoint.
  - The **Vertical** column should contain how many inches from the top you would like your image placed on the PowerPoint slide. This field should correspond to the "Vertical" field in the "Size and Position" window of the image in PowerPoint.
  - The **Height** column should contain the desired height in inches you would like your image to be once the image has been placed in PowerPoint. This field should correspond to the "Height" field in the "Size and Position" window of the image in PowerPoint.
  - The **Width** column should contain the desired width in inches you would like your image to be once the image has been placed in PowerPoint. This field should

correspond to the "Width" field in the "Size and Position" window of the image in PowerPoint.

- Export to PPT – This button will create MS Power Point slides for each file in the file listing. Each page of a Milestone Professional file will become a single MS Power Point slide. The generated PowerPoint is not saved, but left open and displayed to the user.
- Force (4:3) Aspect Ratio – This checkbox will configure the resulting PowerPoint into a standard (4:3) resolution (intended for standard monitors, not widescreen ones). If your images look stretched or with extra room on the slide, try setting this option to improve the results.
- Resize Images to Fit Slide – This option will force the chart image inserted into the PowerPoint to cover the entire slide it's put on. This may be helpful especially in conjunction with charts produced using the "Auto Size Chart Height" setting, as these larger images can extend beyond the slide's width/height. This option can either shrink or grow the image, and does not regard the original aspect ratio of the image.

### **Utilizing Milestone Professional Templates**

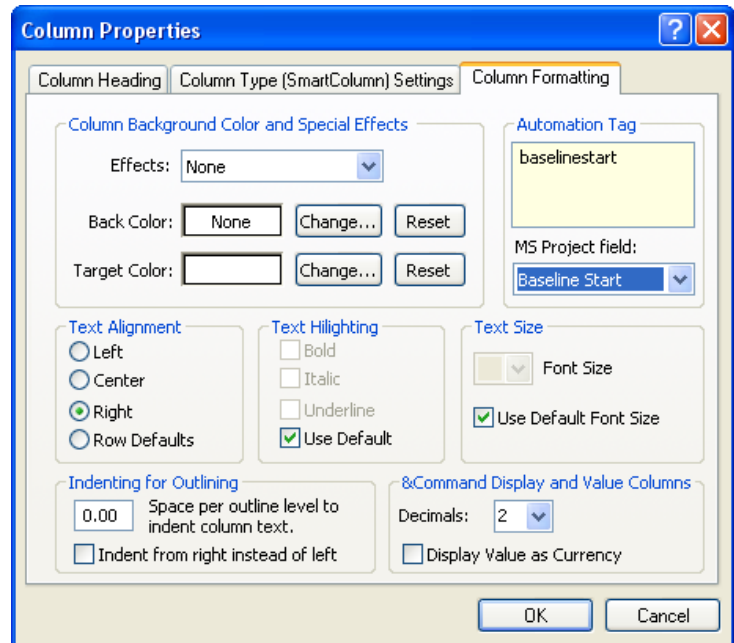
The Critical Path Tool displays data from MS Project by utilizing Milestones Professional templates. While a default chart template is provided with the tool, it can be configured to display and report various types of information. Some of the more common attributes that are manipulated via the template are as follows:

- Text sizes and placement
- Graphical indicators
- Symbol manipulation (for Gantt charts)
- Introduction of company and/or program logos
- Legend entries
- Row shading
- Much, Much, More

To learn more about utilizing Milestone Professional templates, contact KIDASA software @ 1-800-765-0167 or OPDEC support @ 256-881-1038

## Column Properties

To change the data being populated into a templates' column, double-click the column's header and then the Column Formatting tab (Figure 10). The automation tag is used by the Critical Path Tool to determine the type of MS Project data that should be populated into it. This tag can be automatically populated by selecting the 'MS Project field' dropdown and selecting the field you would like to display. Doing this will automatically populate the automation tag with the appropriate value. In this example, the 'Baseline Start' date was selected. Notice that the automation tag shows 'baselinestart'. This is exactly how the field values needs to be displayed in order for it to be picked up by the tool.



**Figure 10**

## Symbols and Connectors

Connectors and symbols (Figure 11) can be modified within the Milestones

Professional personal template. The default template is named "CriticalPath.MTP" and

located in your installation directory (default is C:\Program Files\OPDEC Tools\Critical Path).

- 1) The horizontal symbols and task connectors for activities can be changed by modifying rows 1-5 from the toolbar
- 2) The milestone symbols that are used within the 5 paths can be changed by modifying rows 6-10
  - a. The status symbol is found on row 8 column 4
  - b. The target finish milestone symbol is found on row 9 column 2
  - c. The forecast finish milestone symbol is found on row 9 column 4
  - d. The contract milestone symbol is found on row 10 column 2
- 3) The horizontal connector between the target finish and the forecast finish is found at row 9 column 3
- 4) The vertical connections between the paths can be change by modifying row 17 and row 18 at column 1.

Note: Symbols can also be manipulated to display values being populated within the columns of the chart (regardless if they visible or hidden).

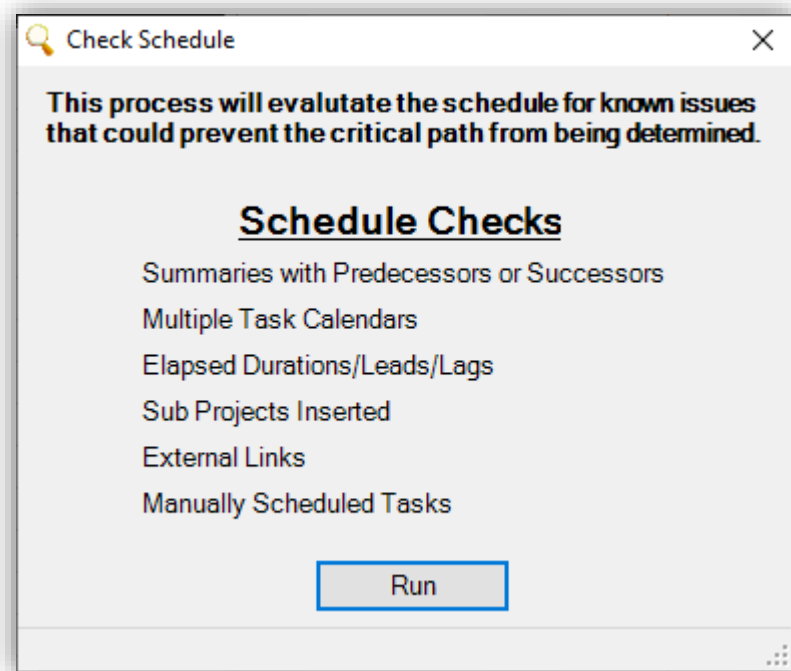


**Figure 11**

## **Check Schedule**

The Critical Path 2020 tool comes with a utility that will check your schedule file for potential problems that may obstruct the true Critical Path from revealing itself. To use this utility, click on the "Tools" menu item, and select "Check Schedule" from the list to display the Check Schedule user interface.

The checklist that the utility goes through will first appear grayed out. Once the "Run" button is clicked, the utility will enable the items in the list as the utility checks them, turning the text black. The number to the left of each list item references how many issues were found. Optimally, all of these items will have a "0" next to them to indicate that no issues were detected.



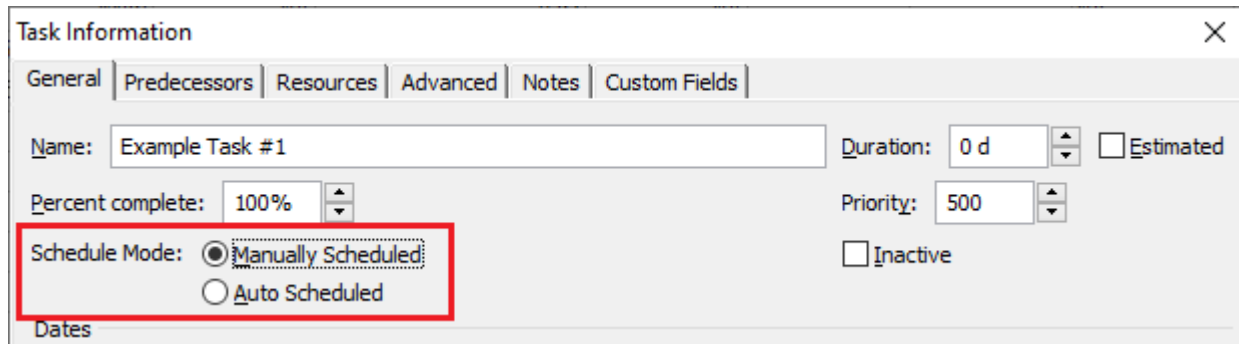
- Summaries with Pred/Succ - Indicates the number of summary tasks with a predecessor or successor.
- Multiple Task Calendars - Indicates the number of task calendars currently utilized. View the "task calendar" field for more information.
- Elapsed Durations/Leads/Lags - Indicates the number of activities that are using elapsed days/weeks/minutes/etc in the duration field or in leads/lags.
- Sub Projects Inserted - Indicates the number of sub projects contained within your schedule.
- External Links - Indicates the number of external links utilized in the schedule.



## Common Errors

1. MSID Not Found in the First Path – This error means that the task you are measuring a critical path to (the MSID or “Milestone ID”) was not found in the first path. Your target task must be in the first path in order for the tool to perform its calculations. Unfortunately, this error has no clear resolution. To diagnose the cause, please see the Manual Critical Path Steps at the bottom of this section. When you constrain the target task to twenty years prior to its target date, it should have the same total slack value as the rest of the tasks in its first path.
2. Unable to determine the connection type for [Task ID] – This error is usually caused by either subprojects or external links within the schedule. The tool is unable to connect to those external files, and the predecessor/successors relationships cannot be determined properly. Other Project features that interfere with Total Slack calculations like hard constraints or levelled resources can also drive this error. The tool will assume a Finish-to-Start relationship by default, but there may be errors in the resulting chart. You can use the **Check Schedule** feature to find how many subprojects/external links are present to resolve the issue; the only way to do so is to merge the schedules into a single file.
3. Unable to determine Path # connection with previous paths – This error is typically caused by constraints or deadlines along one path that prevent its total slack from aligning with other paths. To investigate, follow the manual critical path steps until Step #3. When identifying individual paths based on negative Total Slack, check the Constraint Type, Constraint Date, and Deadline columns. If there are any present along the path on tasks that are NOT identified as Major Events, it could be skewing calculations and obscuring the path connections. Try removing the deadlines or setting the Constraint Type to “As Soon As Possible” to produce a more accurate chart.
4. Error: ‘462-Remote server machine does not exists’ or ‘462-RPC does not exist’ – This error is typically caused by the tool losing its connection to Milestones Professional. Enabling the “Run as Multiple Instances for COM/Automation” setting within Milestones Professional may resolve the problem. A detailed explanation of this setting can be found in the **Milestones Professional Setup** section of this document.
5. Cannot remove constraints/deadlines on major event tasks that are manually scheduled – This error means that the tool found tasks in your schedule that were labelled as major events (as per the field identified in your settings profile) but were also marked as being Manually Scheduled. One of the first steps the tool takes is to release all major events in the schedule; this means that all constraint types are set to “As Soon As Possible” and all deadlines are set to “NA”. With manually scheduled tasks, Project disables these options,

and the tool cannot set any values without encountering errors. The solution to this problem is to either set these tasks back to being Auto Scheduled, or to stop identifying these manually scheduled tasks as major events (set to blank if Text field or set to 0 if Number field). Please see the image below for an example of this task option.



Task Information

General | Predecessors | Resources | Advanced | Notes | Custom Fields

Name: Example Task #1 Duration: 0 d  Estimated

Percent complete: 100% Priority: 500  Inactive

Schedule Mode:  Manually Scheduled  Auto Scheduled

Dates

6. Error: 429-Cannot Create ActiveX Component – This error usually indicates the tool is having difficulty automating Milestones Professional, which is the application our tool interfaces with to generate the critical path chart. You may be able to resolve the problem by following the steps detailed in the **Milestones Professional Setup** section of this document.

## **Manual Critical Path Steps**

Below are the manual steps you can take to calculate the same critical path as the tool. Following these can be helpful in diagnosing problems when running a particular critical path and can highlight variances between the critical path chart and the schedule. Please see below for the full step-by-step guide.

1. Release (remove any constraints or deadlines) all major events (the field is identified in your settings)
2. Constrain the event that's being measured with a "Finish No Later Than" type, and set it to Finish No Later Than the Target Date minus 20 years.
3. Sort your schedule on total slack and identify the paths by float value (the first path will be the smallest series of unique total slack values).
  - a. At this point, your schedule should look something the image below. The identification ("This is Path #") is being made in a custom text field by looking at the different sets of Total Slack values.

	UID	cons	Text24	Total Slack	Constraint Date
9	33415	Finish No Later Than	This is Path 1	-4963 days	5/31/98
142	34177	As Soon As Possible	This is Path 1	-4963 days	NA
143	34178	As Soon As Possible	This is Path 1	-4963 days	NA
1271	25931	As Soon As Possible	This is Path 1	-4963 days	NA
1272	25932	As Soon As Possible	This is Path 1	-4963 days	NA
1273	25933	As Soon As Possible	This is Path 1	-4963 days	NA
2723	25975	As Soon As Possible	This is Path 1	-4963 days	NA
2724	25976	As Soon As Possible	This is Path 1	-4963 days	NA
2725	25977	As Soon As Possible	This is Path 1	-4963 days	NA
2726	25978	As Soon As Possible	This is Path 1	-4963 days	NA
2727	25979	As Soon As Possible	This is Path 1	-4963 days	NA
2728	25980	As Soon As Possible	This is Path 1	-4963 days	NA
4539	33601	As Soon As Possible	This is Path 1	-4963 days	NA
4550	25938	As Soon As Possible	This is Path 1	-4963 days	NA
7116	33894	As Soon As Possible	This is Path 1	-4963 days	NA
7136	25981	As Soon As Possible	This is Path 1	-4963 days	NA
140	34175	As Soon As Possible	This is Path 2	-4960 days	NA
141	34176	As Soon As Possible	This is Path 2	-4960 days	NA
1264	25834	As Soon As Possible	This is Path 2	-4960 days	NA
1265	25835	As Soon As Possible	This is Path 2	-4960 days	NA
1266	25836	As Soon As Possible	This is Path 2	-4960 days	NA
2711	25878	As Soon As Possible	This is Path 2	-4960 days	NA
2712	25879	As Soon As Possible	This is Path 2	-4960 days	NA
2713	25880	As Soon As Possible	This is Path 2	-4960 days	NA
2714	25881	As Soon As Possible	This is Path 2	-4960 days	NA
2715	25882	As Soon As Possible	This is Path 2	-4960 days	NA
2716	25883	As Soon As Possible	This is Path 2	-4960 days	NA
4527	33600	As Soon As Possible	This is Path 2	-4960 days	NA
4538	25841	As Soon As Possible	This is Path 2	-4960 days	NA
7095	33893	As Soon As Possible	This is Path 2	-4960 days	NA
7115	25884	As Soon As Possible	This is Path 2	-4960 days	NA
138	34173	As Soon As Possible	This is Path 3	-4957 days	NA
139	34174	As Soon As Possible	This is Path 3	-4957 days	NA
1257	25737	As Soon As Possible	This is Path 3	-4957 days	NA
1258	25738	As Soon As Possible	This is Path 3	-4957 days	NA
1259	25739	As Soon As Possible	This is Path 3	-4957 days	NA
2699	25781	As Soon As Possible	This is Path 3	-4957 days	NA

4. Change the constraint date on the event being measured to the target date. Leave the Constraint Type as "Finish No Later Than".
5. Filter down the visible tasks to only show those identified as part of a path (in Step 3).
6. Sort the following fields in the following order: path identification field (Empty Text Field in your Settings), Finish, Start
7. Re-evaluate each paths' logic to check for multiple paths within each unique float value
8. Restore major event constraints

## **Frequently Asked Questions**

In this area, we will address some common questions and problems when running the Critical Path tool.

### **1. Does the Critical Path tool work with schedules with multiple calendars?**

No. The tool calculates the critical path based purely on task duration and total slack. Utilizing two different calendars (e.g. a five-day work week and a seven-day work week) within the same path results in inaccuracies in the Total Slack, and the tool will not be able to properly distinguish individual paths. The calendars must be normalized, and start/finish dates and durations adjusted accordingly in order to be compatible with the tool.

### **2. Does the Critical Path tool work with lower level schedules that flow up into a master schedule via subprojects/external links?**

No. The tool is unable to determine connections between tasks across multiple Project files. The connection type (e.g. Finish-to-Start, Finish-to-Finish) between successors and predecessors is unclear, and the total slack calculations within Project are also inaccurate. The tool will typically either give errors or produce inaccurate results.

### **3. My critical path has a long sequence of tasks, and the resulting chart has overlapping task names. Can I extend the chart to make the task names readable?**

Yes. There are three ways to do this. By default, the tool will utilize as many rows as needed to complete the chart, but the template is sized to be printable. Sometimes this results in the text of the task names overlapping rendering it unreadable. There are a couple ways to fix this issue.

- i. Use the “Default Lines per Page” option in the Critical Path Settings. Setting this value in your settings will cause the chart to be created on multiple pages. For instance, if your compressed, unreadable chart has 90 rows on one page in Milestones Professional, setting this option to 30 will cause the chart to flow onto three separate, readable pages.
- ii. Use the “Auto Size Chart Height” checkbox in your Settings profile. This option will attempt to adjust the chart’s vertical height to give the chart enough room to be visible. The “Defaults Line per Page” option will allow the user to spread the chart over multiple, printable sheets, while this option will extend the chart vertically

without regard to its printability. Specifically, for every row over 60 rows in the chart, the vertical height will be extended by 0.16 inches. This allows the text to not overlap, but you may get a resulting chart that is very long.

- iii. Change the resulting chart's height and width manually. The default size of the template is 8.5 x 11, and increasing those values in Milestones Professional will cause the chart to increase in size and therefore making the text readable. The chart will be on one page, but may not be printable.

#### **4. Can I export my Settings Profiles to another user or another PC?**

Yes. The settings profiles are stored within the registry, and these registry entries can be exported and loaded as desired. Please see below for a step-by-step on the process.

- i. Open Registry Editor by typing "regedit" into Windows search (be sure to "Run As Administrator" from the right-click menu)
- ii. Navigate to the registry directory below
  1. Computer\HKEY\_CURRENT\_USER\Software\OPDEC
- iii. Export the entire OPDEC folder
  1. Select the key (it looks like a folder in the Registry Editor)
  2. Right-click, and select "Export"
  3. A file (\*.reg) will be created. Use the prompt to choose a save location of your preference.
- iv. Place the generated registry file onto the PC you wish to have the settings profiles and double-click it. The file will load those settings into the current user's registry, and they will appear upon next launch of the tool.

#### **5. Can I export my Critical Path Lists to another user or another PC?**

Yes. The Critical Path Lists can be found in the directory below by default (subject to change depending on root drive and Windows user name). Simply copy/paste the text files found within into the same directory on the target PC. Note that the "AppData" folder may be hidden; if you cannot see this folder, click on the "View" tab of File Explorer and check the "Hidden Items" textbox in the "Show/Hide" group.

- i. C:\Users\[Your Username]\AppData\Local\OPDEC Tools\CP Lists

## **Revision History**

- V20.0.0 (02/07/2020)
  - Initial release of the 2020 version of the Critical Path Tool.
- V20.1.0 (03/24/2020)
  - Resolved issues with form visibility on low resolution monitors and PCs utilizing Windows 7 zoom features.
- V20.2.1 (05/11/2020)
  - Updated to allow for activation on FIPS-compliant systems.
- V20.2.2 (01/26/2021)
  - Important update to resolve issue of the add-in failing to load into the Microsoft Project ribbon.
- V20.2.3 (07/01/2022)
  - Update to resolve issue with users installing the application without .NET Framework 3.5.
- V20.2.4 (04/07/2023)
  - Fixed a bug with the External Links check in the Check Schedule causing normal tasks to be flagged as externally linked in some configurations of Microsoft Project.
  - Fixed a bug causing tasks to be displayed with hashed lines if the user utilized the “Append Onto Activity” setting. Tasks will now never be shown in this hashed-line format.
  - Fixed a bug causing the offline help documentation to not be launched from the Help menu.
  - Improved the tool’s ability to handle an unexpected error while running multiple charts in a Critical Path List.
- V20.2.5 (5/25/2023)
  - Fixed a bug where “SF” (Start-To-Finish) logical links were not recognized, causing the tool to error on paths where they exist.
  - Improved “MSID Not Found in the First Path” error messaging.
- V20.2.6 (10/13/2023)
  - Added additional information on Common Error #6 to the tool and guidance for its resolution to this help doc.
  - Resolved error resulting from clicking the Run button multiple times.