

**i-model Optimizer,
Product Preview v1.1**

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i-model Optimizer Overview

i-model Optimizer is Bentley's free app that gets installed on top of MicroStation or Bentley i-model Composer and lets you create **optimized i-models** from existing 3D i-models. The new optimized i-models can then be viewed or marked up on the iPad using Bentley Navigator for the iPad.

For this product preview, only MicroStation V8i (SELECTseries 2) or Bentley i-model Composer V8i (SELECTseries 3) is supported.

Installing the i-model Optimizer app adds a new task to the application with two tools for creating optimized i-models. These tools let you identify points on the i-model which the Bentley Navigator for the iPad user will select to view. These points are referred to as **points of interest**, and they will appear in the context of a **map** inside Bentley Navigator for the iPad. When you finish placing these points and start the optimization, a map containing the points of interest is created and stored inside a new file with the extension .OMIM. This is your optimized i-model.

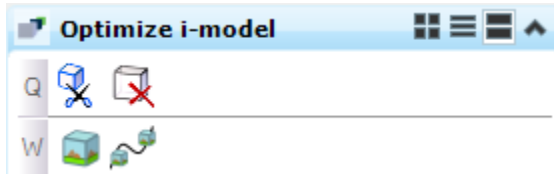
You can create optimized i-models from any 3D i-model or 3D DGN file. i-models are generally recommended as they will contain all the property data, but you can theoretically take any regular 3D DGN file and create an optimized i-model from it.

There are plans to eventually include the i-model Optimizer functionality with MicroStation and Bentley i-model Composer, but for now it is available from Bentley's iWare website:

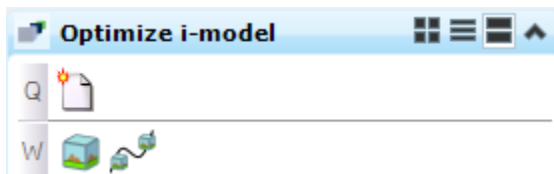
<http://www.bentley.com/en-US/Free+Software/>.

Optimize i-model Task

Contains tools to create optimized i-models, to be opened on the iPad using Bentley Navigator for the iPad. There are two new tools, plus existing tools complimentary to the optimization workflow.








Optimize i-model for iPad task, when a DGN file (or composition file) is open



Optimize i-model for iPad task, when an I.DGN file (i-model) is open

The following table describes the “as delivered” arrangement of the Optimize i-model tools.

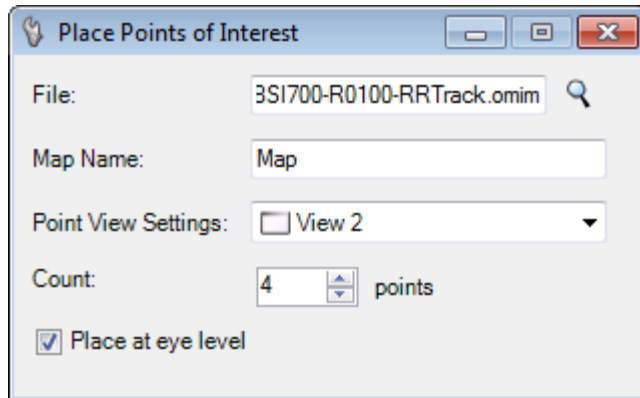
To	Select in the Task
Apply a clip volume	 <i>Apply or Modify Clip Volume</i> (existing MicroStation and Bentley i-model Composer tool - see their helps for details)
Clear the active clip volume	 <i>Clear Active Clip Volume</i> (existing MicroStation and Bentley i-model Composer tool - see their helps for details)
Create a composition file	 <i>New Composition File</i> (existing Bentley i-model Composer tool, but delivered with the app for use in MicroStation if needed)
Place points of interest individually	 <i>Place Point of Interest</i> (new tool)
Place points of interest along a path or element	 <i>Place Point of Interest Path</i> (new tool)

Place Point of Interest



Used to create an optimized i-model by placing points of interest individually in the open model. After placing points of interest, the view in which you place a final data point to accept becomes the map on which the points of interest will appear in the optimized i-model.

Key-in: PLACE PANO BYPOINTS



File

Sets the name and location in which the OMIM file containing the optimized i-model will be saved. By default, the OMIM file is saved in the same location as the file you have open, whether that file is stored in ProjectWise or the file system. Click the browse button next to the File field to change the default location if needed. If the original file is stored in ProjectWise and you want to change the default location, just make sure you store the new OMIM file somewhere in the same datasource as the original file.

Key-in: IMODELOPTIMIZER SET FILENAME <FileName>

Map Name

Sets the name of the map within the optimized i-model on which the points of interest will be placed. Each time you place points of interest and optimize the model, a new map is created. You can place all your points of interest on one map, or you can place them on different maps and name each map accordingly. The name you set here for the map will be seen by the user in Bentley Navigator for the iPad, so make your map names meaningful. If you do not change the map name, it will be named Map, Map1, Map2, and so on each time you optimize the model.

Key-in: IMODELOPTIMIZER SET MAPNAME <MapName>

Point View Settings

Used to select a view to apply to the points of interest. You should select a view that has the display settings you want to use when viewing the points of interest in Bentley Navigator for the iPad. You can select any of the default views or any saved view. Note that default views only appear in the Point View Settings list if they are also open in the view window.

Note: The view you select here does not have to be the same view you use to create the map.

Key-in: `IMODELOPTIMIZER SET PANOVIEWTEMPLATE NUMBEREDVIEW <ViewNumber>`

Key-in: `IMODELOPTIMIZER SET PANOVIEWTEMPLATE SAVEDVIEW <SavedViewName>`

Count

Sets the number of points of interest that you can place in the i-model before the i-model is optimized. The next data point you enter begins the optimization. The default count is 4.

Key-in: `IMODELOPTIMIZER SET COUNT <Number>`

Place at Eye Level

If on, a default offset height will be applied to the points of interest. The default “eye level” offset height is 1.7 meters. For example, if you place a point of interest by snapping a data point to some element at the floor level, then the view point when you open the point of interest will be 1.7 meters above the snap point. This allows you to snap to the floor and have the view point placed at eye level for the average person. To change the default offset height, create a configuration variable called `IMODELOPTIMIZER_HEIGHT`, set the desired height, and restart MicroStation or Bentley i-model Composer.

Key-in: `IMODELOPTIMIZER SET USEHEIGHT <ON/OFF>`

To Place a Point of Interest

1. Open an i-model in MicroStation or Bentley i-model Composer.
If users plan to mark up the optimized i-model on the iPad and later store the mark up in ProjectWise, you must start with an i-model stored in ProjectWise, and you must open the i-model into ProjectWise-integrated MicroStation or ProjectWise-integrated Bentley i-model Composer.
2. Open the view you want to be used to create the map.
3. Open the view you want to apply to the points of interest and configure the view’s display settings as needed (using the *Apply or Modify Clip Volume* tool or others as needed).
This can be the same as or different from the view used in step 2.
4. In the Tasks dialog, select the *Place Point of Interest tool* from the Optimize i-model task.
5. (Optional) Change the default name and location in which to save the OMIM file.
6. (Optional) Change the default map name.
7. From Point View Settings, select the view (configured in step 3) that you want to apply to the points of interest.

8. (Optional) In the Count field, change the number of points of interest to place.
9. (Optional) Turn off Place at Eye Level if you do not need to use an offset height for the points of interest.
10. In any view, enter data points on the model where you would like to place points of interest.
Enter the same number of data points as set in the Count field.
11. (Optional) Press <Ctrl-right-click> if you would like to place more points of interest, beyond the number set in the Count field.
12. Enter a final data point in the view opened in step 2 to create a map from that view and begin optimization.

If this is your first time optimizing this i-model, then the map containing the points of interest is stored in a new OMIM file. Repeat the procedure as needed to create a new OMIM file, or to create a new map within the same OMIM file. Leave the OMIM file name and location the same, in step 5, to create a new map within the same OMIM file.

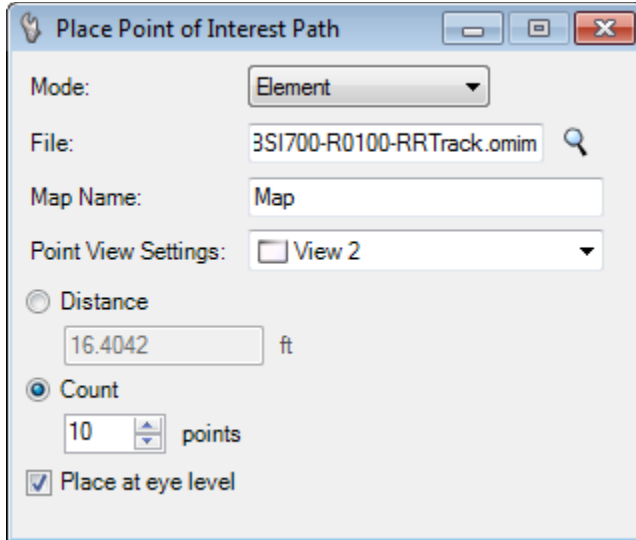
If you have the original i-model open in ProjectWise-integrated MicroStation or ProjectWise-integrated Bentley i-model Composer, then at this point the ProjectWise Check In dialog opens for you to check in the new OMIM file, or to check in the existing OMIM file to which you saved a new optimized i-model. Click Check In.

Place Point of Interest Path



Used to create an optimized i-model by placing points of interest along a path or along an element in the open model. After placing points of interest, the view in which you place a final data point to accept becomes the map on which the points of interest will appear in the optimized i-model.

Key-in: PLACE PANO BYPATH



The screenshot shows the 'Place Point of Interest Path' dialog box with the following settings:

- Mode: Element
- File: 3SI700-R0100-RRTrack.omim
- Map Name: Map
- Point View Settings: View 2
- Distance: 16.4042 ft (radio button is unselected)
- Count: 10 points (radio button is selected)
- Place at eye level: checked

Mode

Sets whether you want to place a point of interest path between two points or along an element.

- Points – If set, you can define a linear path along which points of interest are placed.
- Element – If set, you can select an element along which points of interest are placed. The element you select can be a closed element (such as a block or circle), or an open element (such as a line, line string, curve, arc, or B-spline curve).

Key-in: IMODELOPTIMIZER SET PATHMODE POINTS

Key-in: IMODELOPTIMIZER SET PATHMODE ELEMENT

File

Sets the name and location in which the OMIM file containing the optimized i-model will be saved. By default, the OMIM file is saved in the same location as the file you have open, whether that file is stored in ProjectWise or the file system. Click the browse button next to the File field to change the default location if needed. If the original file is stored in ProjectWise and you want to change the default location, just make sure you store the new OMIM file somewhere in the same datasource as the original file.

Key-in: IMODELOPTIMIZER SET FILENAME <FileName>

Map Name

Sets the name of the map within the optimized i-model on which the points of interest will be placed. Each time you place points of interest and optimize the model, a new map is created. You can place all your points of interest on one map, or you can place them on different maps and name each map accordingly. The name you set here for the map will be seen by the user in Bentley Navigator for the iPad, so make your map names meaningful. If you do not change the map name, it will be named Map, Map1, Map2, and so on each time you optimize the model.

Key-in: IMODELOPTIMIZER SET MAPNAME <MapName>

Point View Settings

Used to select a view to apply to the points of interest. You should select a view that has the display settings you want to use when viewing the points of interest in Bentley Navigator for the iPad. You can select any of the default views or any saved view. Note that default views only appear in the Point View Settings list if they are also open in the view window.

Note: The view you select here does not have to be the same view you use to create the map.

Key-in: IMODELOPTIMIZER SET PANOVIEWTEMPLATE NUMBEREDVIEW <ViewNumber>

Key-in: IMODELOPTIMIZER SET PANOVIEWTEMPLATE SAVEDVIEW <SavedName>

Distance

If on, points of interest will be automatically placed along the selected path or element at a set distance apart. The distance is in working units.

Key-in: IMODELOPTIMIZER SET PLACEMENT BYDISTANCE

Key-in: IMODELOPTIMIZER SET DISTANCE <Distance>

Count

If on, sets the number of points of interest that will be automatically placed, evenly spaced apart, along the selected path or element in the i-model. The default count is 4.

Key-in: IMODELOPTIMIZER SET PLACEMENT BYCOUNT

Key-in: IMODELOPTIMIZER SET COUNT <number>

Place at Eye Level

If on, a default offset height will be applied to the points of interest. The default “eye level” offset height is 1.7 meters. For example, if you place a point of interest by snapping a data point to some element at the floor level, then the view point when you open the point of interest will be 1.7 meters above the snap point. This allows you to snap to the floor and have the view point placed at eye level for the average person. To change the default offset height, create a configuration variable called `IMODELOPTIMIZER_HEIGHT`, set the desired height, and restart MicroStation or Bentley i-model Composer.

Key-in: IMODELOPTIMIZER SET USEHEIGHT <ON/OFF>

To Place a Point of Interest Path by Points

1. Open an i-model in MicroStation or Bentley i-model Composer.

If users plan to mark up the optimized i-model on the iPad and later store the mark up in ProjectWise, you must start with an i-model stored in ProjectWise, and you must open the i-model into ProjectWise-integrated MicroStation or ProjectWise-integrated Bentley i-model Composer.

2. Open the view you want to be used to create the map.
3. Open the view you want to apply to the points of interest and configure the view's display settings as needed (using the *Apply or Modify Clip Volume* tool or others as needed).

This can be the same as or different from the view used in step 2.

4. In the Tasks dialog, select the *Place Point of Interest Path* tool from the Optimize i-model task.
5. Set the Mode to Points.
6. (Optional) Change the default name and location in which to save the OMIM file.
7. (Optional) Change the default map name.
8. From Point View Settings, select the view (configured in step 3) that you want to apply to the points of interest.
9. To place points of interest at a set distance apart, select Distance and enter a value.
or
To place a set number of points of interest, evenly spaced along the path, select Count and enter a value.
10. (Optional) Turn off Place at Eye Level if you do not need to use an offset height for the points of interest.
11. Enter a data point where you want your path to begin.
12. Enter a data point where you want your path to end.

or

Press <Ctrl> and enter a data point as many times needed to create a multi-segment path.

Points of interest are placed along the path. The number of points placed depends on whether Distance or Count is selected.

13. Enter a final data point in the view opened in step 2 to create a map from that view and begin optimization.

If this is your first time optimizing this i-model, then the map containing the points of interest is stored in a new OMIM file. Repeat the procedure as needed to create a new OMIM file, or to create a new map within the same OMIM file. Leave the OMIM file name and location the same, in step 6, to create a new map within the same OMIM file.

If you have the original i-model open in ProjectWise-integrated MicroStation or ProjectWise-integrated Bentley i-model Composer, then at this point the ProjectWise Check In dialog opens for you to check in the new OMIM file, or to check in the existing OMIM file to which you saved a new optimized i-model. Click Check In.

To Place a Point of Interest Path by Element

1. Open an i-model in MicroStation or Bentley i-model Composer.

If users plan to mark up the optimized i-model on the iPad and later store the mark up in ProjectWise, you must start with an i-model stored in ProjectWise, and you must open the i-model into ProjectWise-integrated MicroStation or ProjectWise-integrated Bentley i-model Composer.

2. Open the view you want to be used to create the map.
3. Open the view you want to apply to the points of interest and configure the view's display settings as needed (using the *Apply or Modify Clip Volume* tool or others as needed).
This can be the same as or different from the view used in step 2.
4. In the Tasks dialog, select the *Place Point Interest Path* tool from the Optimize i-model task.
5. Set the Mode to Element.
6. (Optional) Change the default name and location in which to save the OMIM file.
7. (Optional) Change the default map name.
8. From Point View Settings, select the view (configured in step 3) that you want to apply to the points of interest.
9. To place points of interest at a set distance apart, select Distance and enter a value.
or
To place a set number of points of interest, evenly spaced along the element, select Count and enter a value.
10. (Optional) Turn off Place at Eye Level if you do not need to use an offset height for the points of interest.
11. Select an element.
Points of interest are placed along the element. The number of points placed depends on whether Distance or Count is selected.
12. If Distance is selected, or if Count is selected and the element is a closed element, move the cursor along the element to line up the points as needed, then enter a data point to anchor the points.
13. Enter a final data point in the view opened in step 2 to create a map from that view and begin optimization.

If this is your first time optimizing this i-model, then the map containing the points of interest is stored in a new OMIM file. Repeat the procedure as needed to create a new OMIM file, or to create a new map within the same OMIM file. Leave the OMIM file name and location the same, in step 6, to create a new map within the same OMIM file.

If you have the original i-model open in ProjectWise-integrated MicroStation or ProjectWise-integrated Bentley i-model Composer, then at this point the ProjectWise Check In dialog opens for you to check in the new OMIM file, or to check in the existing OMIM file to which you saved a new optimized i-model. Click Check In.

Using the *New Composition File* tool

Installing the i-model Optimizer app adds three other existing Bentley tools to the Optimize i-model task:

- *New Composition File*
- *Apply or Modify Clip Volume*
- *Clear Active Clip Volume*

The two clip volume tools are already delivered with MicroStation and Bentley i-model Composer and are added to the task here as a matter of convenience.

The *New Composition File* tool is already delivered with Bentley i-model Composer and is added to the task as a matter of convenience, but is not delivered by MicroStation at all. So installing the app on top of MicroStation adds this tool to MicroStation. The tool works the same in either application.

The purpose of the *New Composition File* tool is so that the user can set up the view when they go to create a packaged i-model. Normally, they would not be able to do this in an i-model because the i-model is read-only. However users can use the *New Composition File* tool to create a new DGN file called a composition file, which automatically references the original i-model. Users can then set up the view in the composition file as needed and create a packaged i-model from it.

This is the general workflow for using the other tools in the Optimize i-model task:

1. Open an i-model into MicroStation or Bentley i-model Composer.
2. Select the *New Composition File* tool from the Optimize i-model task.
3. Create the composition file when prompted.
4. Use the *Apply or Modify Clip Volume* tool from the Optimize i-model task, or other view controls, to set up the view for your points of interest as needed.
5. Now use either of the *Place Point of Interest* tools to create an optimized i-model from the composition file.

Adding or Removing the App

When you install the i-model Optimizer app, the installer lets you select which application you want to install on top of – MicroStation or Bentley i-model Composer. If you have both of those applications installed and you want to install this app on top of both applications, you will need to run the app installer twice – once to install it on top of the first application, a second time to install it on top of the second application.

If you want to remove the app, go to Programs and Features > View installed updates. The i-model Optimizer app is listed as an update under the application(s) you installed on top of. If you installed the app on top of both MicroStation and Bentley i-model Composer, you can remove the app from one or both applications as needed (you can remove the app from one application without removing it from the other).