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Valor™ ODB++Design Viewer User Guide

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Chapter 1
ODB++Design Viewer

You can use the Valor ODB++Design Viewer to examine the step of a product model that is stored in an ODB++ directory structure. You can open a step in an ODB++ directory structure that has been compressed into any of these file types: *tgz*, *gz*, *Z*, *tar*, or *zip*. You can view the graphic of the step and information about each layer of the step.

Release Notes

Resolved issues are listed for versions of ODB++Design Viewer since Version 2211.

Version 2211 Resolved Issues

ID	Resolved Issue
EBS-136010	Error when using a double click to open a tgz file with ODB++ Viewer
EBS-135571	ODB++ Viewer will not open multiple files if product model names are the same
EBS-108855	ODB++ Viewer will not run if installed in *C:\Program Files*

Opening a Product Model Step

When you first open ODB++Design Viewer, you choose the step you want to view. Subsequently, you can choose a different step to view, from within ODB++Design Viewer.

The procedure for opening a product model step depends on whether you are working in direct mode or in database mode.

- **Direct mode** — If your product models do not reside in a database, you can import each product model into the ODB++Design Viewer Product Model List and open a product model step from the list.
- **Database mode** — Some Valor applications maintain a database where ODB++ product models are cataloged. User access to these product models is managed by the application. If your product models reside in such a database, ODB++Design Viewer runs in database mode, and the Product Model List dialog box lists the product models in the database. You can open a product model that is cataloged in the database, or you can import a product model from an ODB++ directory structure or compressed file into the database, and then open it in ODB++Design Viewer.

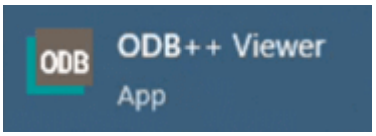
  When ODB++Design Viewer opens in database mode, it requires a username and password with rights to access the database. At some sites, the Valor application that maintains the database has been set up to bypass the login screen and to provide a valid username and password silently.

Opening the Step in Direct Mode

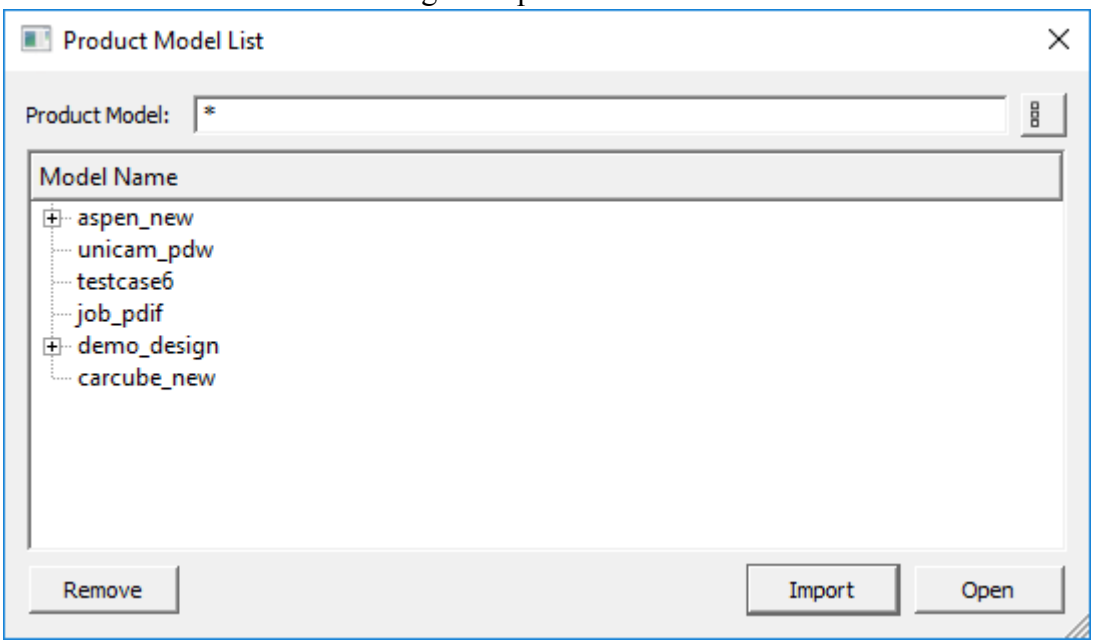
You can open a step in a product model that resides in an ODB++ directory structure, or in an ODB++ product model that has been compressed to one of these file types: *tgz*, *gz*, *Z*, *tar*, or *zip*.

Procedure

1. Open the Product Model List dialog box.

If you want to...	Do the following:
Open ODB++Design Viewer and open the step	Open ODB++Design Viewer in one of the following ways: • From the desktop icon  • From the Windows **Start** menu 
Open a different step in ODB++Design Viewer	In ODB++Design Viewer, choose **File > Open Job**.

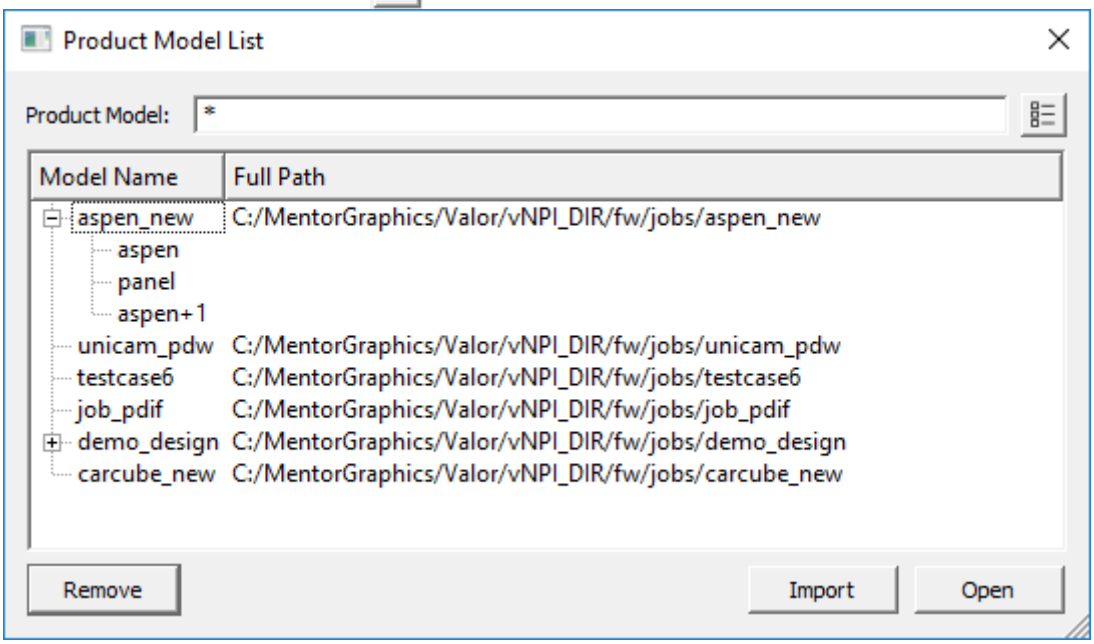
The Product Model List dialog box opens.



The list displays the locations of the ODB++ product models that have recently been imported into ODB++Design Viewer.

You can expand a product model node to list the steps of the product model.

By default, the Product Model List appears as a simple list of product models. Also available is the “details” mode, which lists the product model names and full paths. You can use the toggle button to switch between the modes.



To restrict the Product Model List, type a string in the Product Model field.

To import a product model into the Product Model List, click **Import**.

To remove a product model location from the Product Model List, select it and click **Remove**.

2. In the Product Model List dialog box, double-click the product model or step you want to open, or select the step and click **Open**.

Related Topics

Filtering the Product Model List

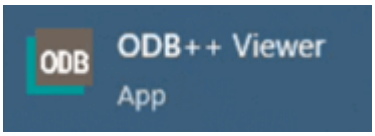
Importing ODB++Design Data

Opening the Step in Database Mode

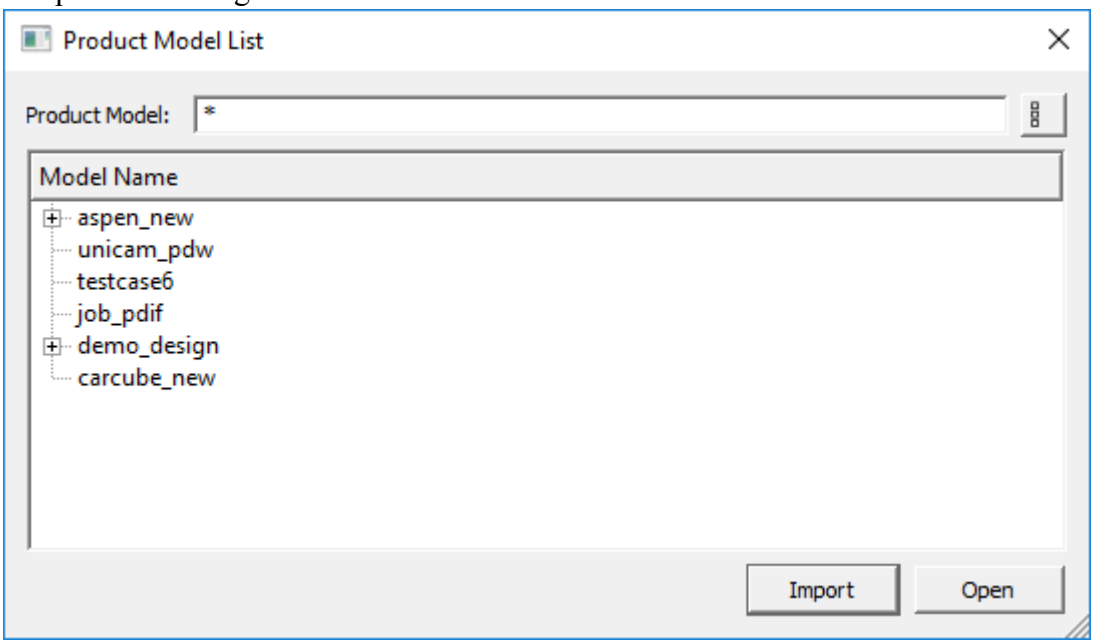
If you are working in database mode, you can open a product model that resides in an ODB++ database. You can import a product model from disk into the database. Product models can be imported from an ODB++ directory structure, or from one of these compressed file types: *tgz*, *gz*, *Z*, *tar*, or *zip*.

Procedure

1. Open the Product Model List dialog box.

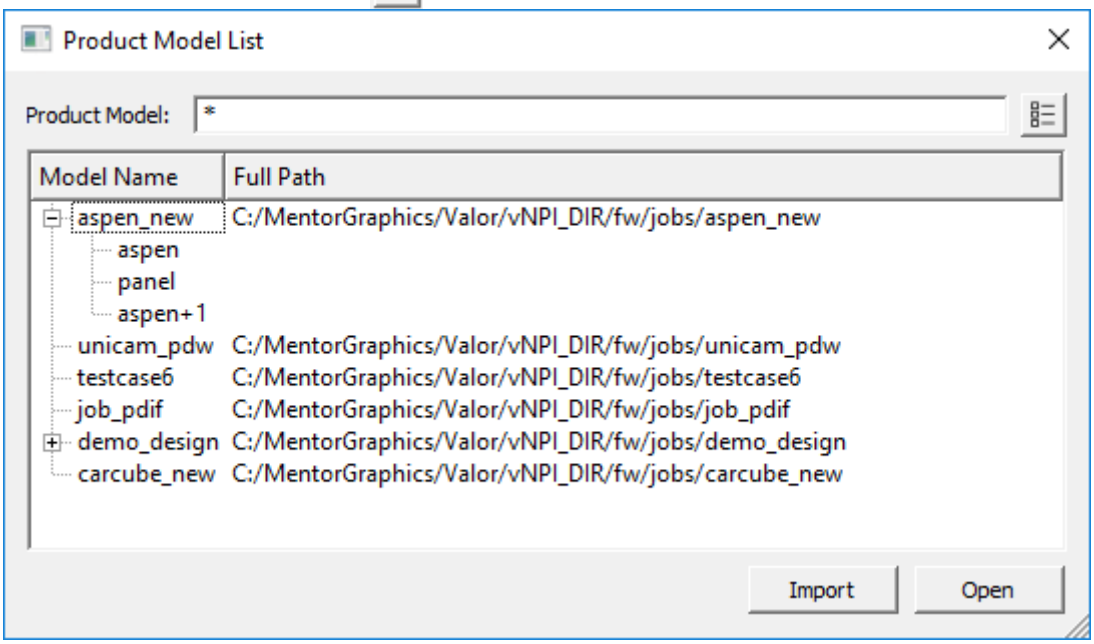
If you want to...	Do the following:
Open ODB++Design Viewer and open the step	Open ODB++Design Viewer in one of the following ways: • From the desktop icon  • From the Windows **Start** menu  When ODB++Design Viewer opens in database mode, it requires a username and password with rights to access the database. At some sites, the Valor application that maintains the database has been set up to bypass the login screen and to provide a valid username and password silently.
Open a different step in ODB++Design Viewer	In ODB++Design Viewer, choose **File > Open Job**.

The Product Model List dialog box lists the product models in the database that was specified during installation.



You can expand a product model node to list the steps of the product model.

By default, the Product Model List appears as a simple list of product models. Also available is the "details" mode, which lists the product model names and full paths. You can use the toggle button to switch between the modes.



To restrict the Product Model List, type a string in the Product Model field.

To import a product model into the database, click **Import**.

2. In the Product Model List dialog box, double-click the product model or step you want to open, or select the step and click **Open**.

Related Topics

Filtering the Product Model List

Importing ODB++Design Data

Filtering the Product Model List

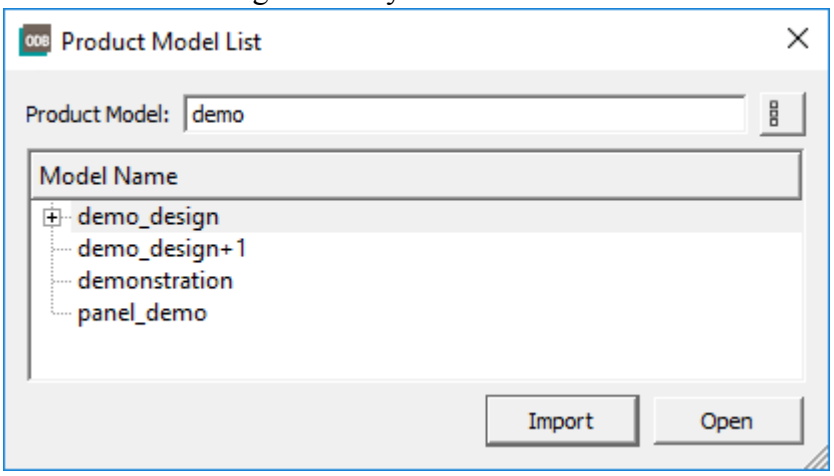
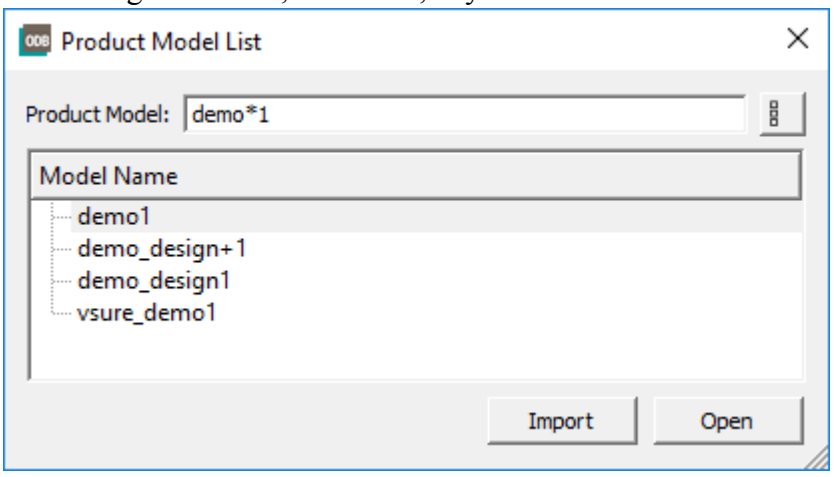
You can restrict the Product Model List to show only product models whose name contains a constant string, or intervening characters at specific locations.

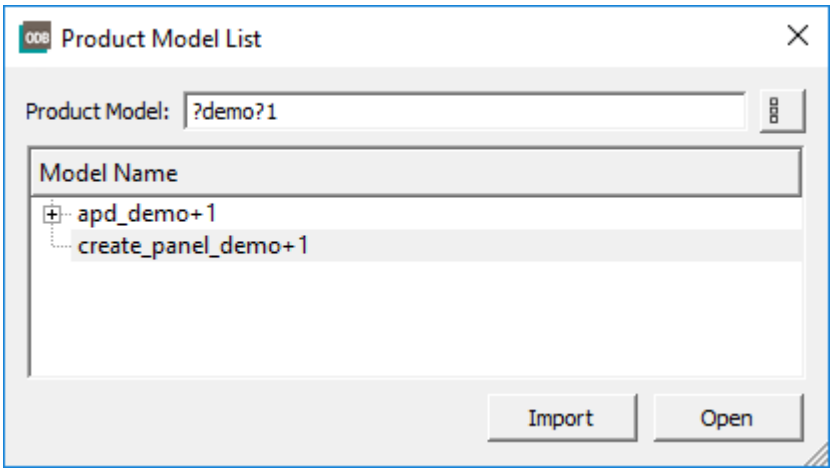
Prerequisites

You have opened the Product Model List dialog box as described in "Opening the Step in Direct Mode" on page 6 or "Opening the Step in Database Mode" on page 8.

Procedure

Use the appropriate filtering option:

If you want to...	Do this:
List product models containing a constant string	Enter the constant string in the filter. For example, entering the string demo lists product models whose names include the string demo anywhere in the name. 
List product models whose names may contain intervening characters at specific locations	Enter a string containing asterisks (*) to indicate where there may be intervening characters. For example, entering the string demo*1 lists product models with names including the string demo, and then any intervening characters or no intervening characters, and a one, anywhere in the name. 

If you want to...	Do this:
List product models whose names contain intervening characters at specific locations	Enter a string containing question marks (?) to indicate where there must be intervening characters. For example, entering the string ?demo?1 lists product models with names including the string demo, and then some intervening characters, and a one, where the string demo is not at the beginning of the product model name. 

Importing ODB++Design Data

You can import an ODB++Design product model residing in an ODB++ directory structure or compressed to one of the following file types: *tgz*, *gz*, *Z*, *tar*, *zip*.

Prerequisites

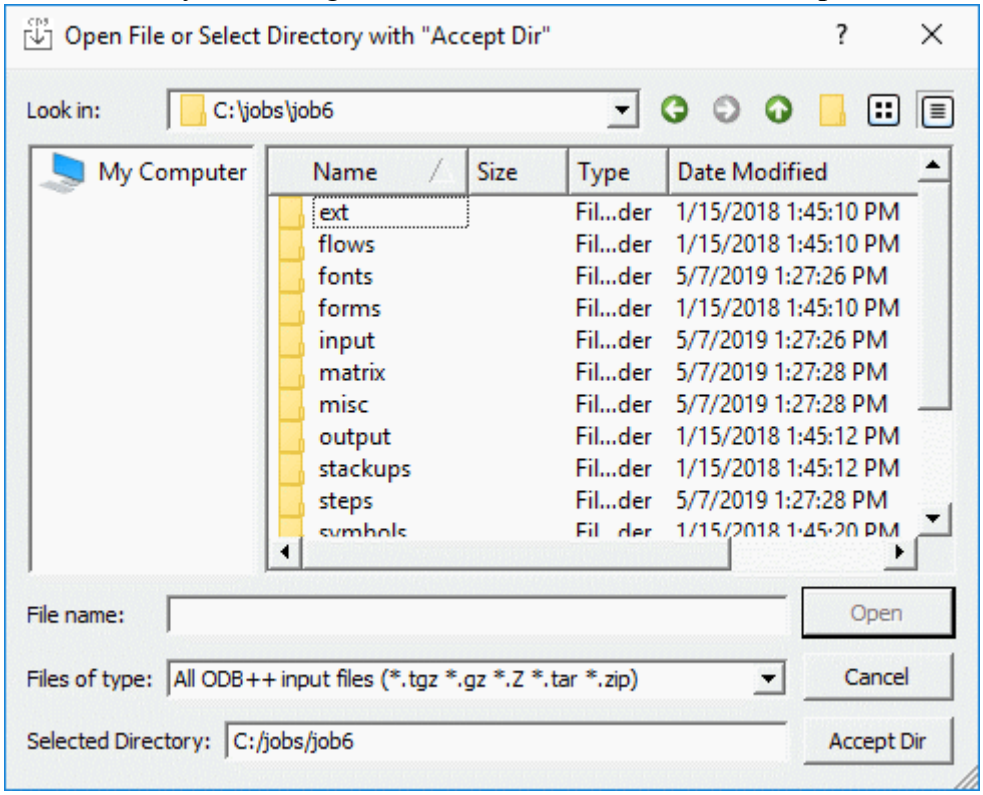
You have opened the Product Model List dialog box as described in "Opening a Product Model Step" on page 6.

Procedure

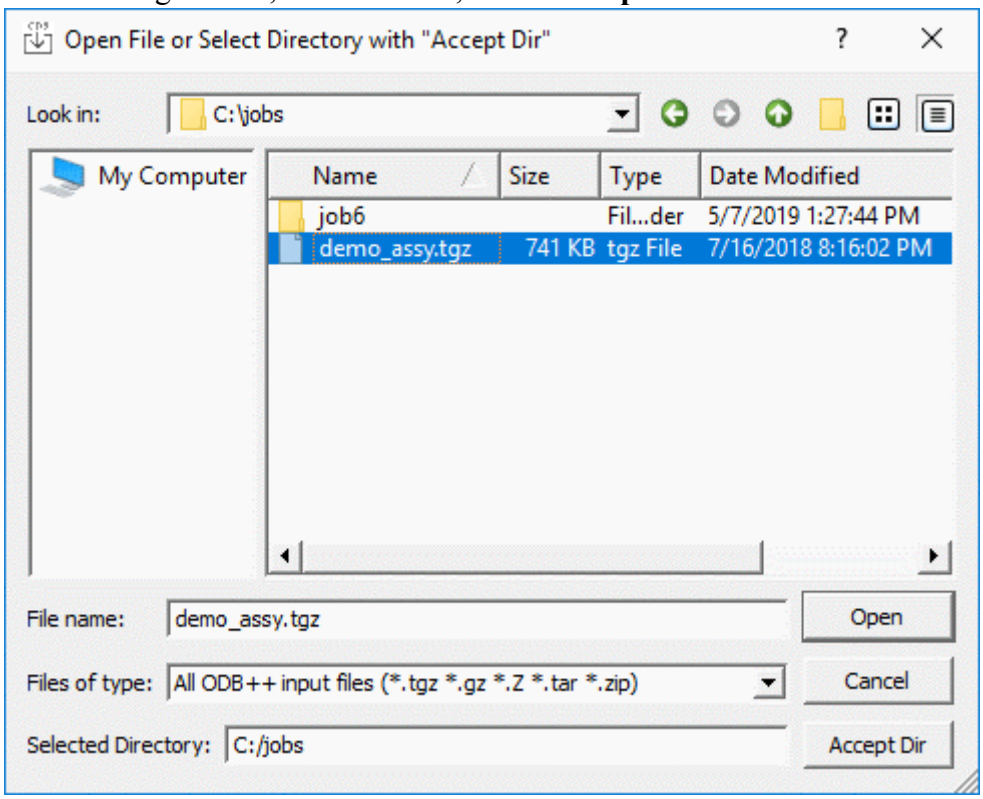
1. In the Product Model List dialog box, click **Import**.

2. In the Open File or Select Directory with “Accept Dir” dialog box, use one of these options:

   - To import a product model that resides in an ODB++ directory structure, browse to the directory containing the ODB++ structure and click **Accept Dir**.



- To import a product model that is compressed to a file, browse to the directory containing the file, select the file, and click **Open**.



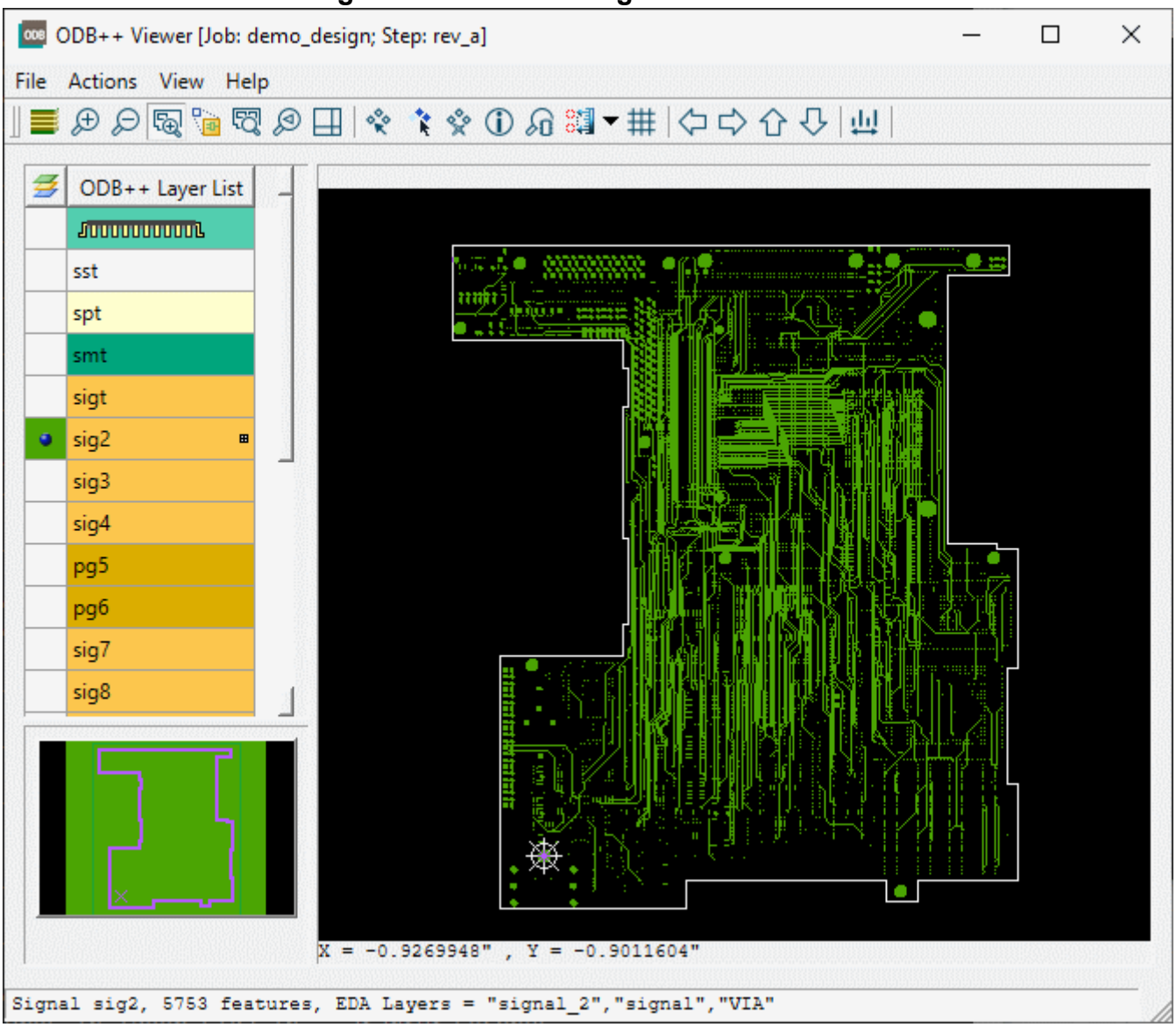
Results

The newly imported product model is added to the top of the Product Model List.

ODB++Design Viewer Window

You use the ODB++Design Viewer to view the graphic of the product model step, and information about the layers of the step.

Figure 1-1. ODB++Design Viewer Window



Objects

Table 1-1. ODB++Design Viewer Window - Panes

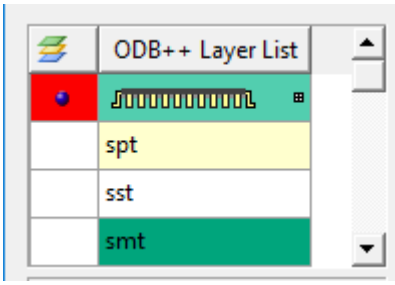
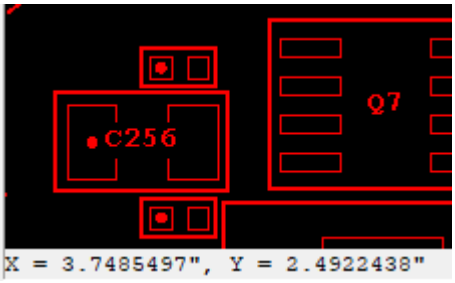
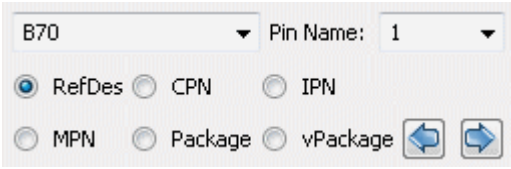
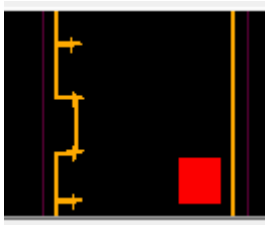
Pane	Description
ODB++ Layer List 	Used to choose layers to be displayed in the board viewer. The color of the cell in the layer column ( ) indicates the color in which the layer is displayed. You can use the feature histogram or the component histogram of a layer to highlight groups of entities in the graphic area. See "Using the Features Histogram to Select or Highlight Features" and "Using the Components Histogram to Select or Highlight Components" in *Getting Started With ODB++Design*.
Board Viewer pane 	Displays the graphic representation of the chosen layers. The X and Y coordinates of the current mouse pointer position are displayed below the graphic.
Component Filter 	To display this pane, choose **View > Component Filter** or click the **Component Filter** tool ( ). See Using the Component Filter Pane to Find Components" in *Getting Started With ODB++Design*.
Overview pane 	Use the **Zoom area** tool ( ) to drag a rectangle in this pane, or in the board viewer, to zoom to that area in the board viewer.

Table 1-1. ODB++Design Viewer Window - Panes (cont.)

Pane	Description

Data bar
`Highlighted: 119; BOT #41 TP106`
`Part: ??? Pkg: TP30 BOT 1 Pins`
`X=3.162 Y=-2.377`
`L=0.075 W=0.075 H=0 Rot=0.0 T= P=0`
	The data bar at the bottom of the window displays information about highlighted features or components.
	When multiple features or components are highlighted by double-click, the number of highlighted features or components is prefixed to the details of the first feature or component.

Table 1-2. ODB++Design Viewer Window - File Menu Options

Tool	File Menu Option	Description
-	Open Job	Opens the Product Model List dialog box so you can open a product model whose steps you want to view.
-	Open Step	Lists the steps of the current product model, so you can open the step you want to view. This option is unavailable if the product model has only one step.
-	Exit	Exit the ODB++Design Viewer.

Table 1-3. ODB++Design Viewer Window - Actions Menu Options

Tool	Actions Menu Option	Description
-	View Orientation	Open the "View Orientation" dialog box that enables you to rotate, mirror, or flip the board view.
	Highlight Highlight-2	Click the tool and click a feature to be highlighted in the colors set for Highlighted and Highlighted-2. A symbol in the Color of features for each layer column of the ODB++ Layer List indicates whether one or two features are highlighted on the layer. 

Table 1-3. ODB++Design Viewer Window - Actions Menu Options (cont.)

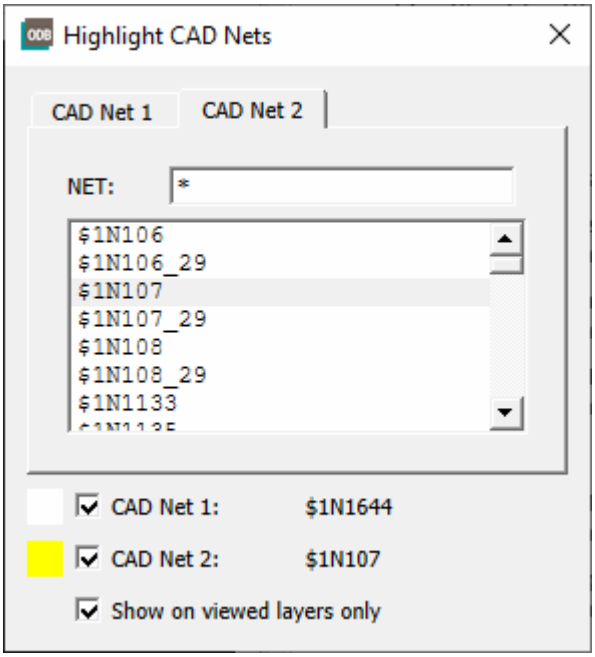
Tool	Actions Menu Option	Description
	Highlight NET	Open the Highlight CAD Nets dialog box in which you can use two tabs to highlight CAD nets in two different colors. Choose a tab and select a CAD net to be highlighted, or press Shift or Ctrl to select multiple nets. The legend lists the names of the selected nets separated by semi-colons (;). The color in which the selected nets are displayed is indicated.  To view the features of the highlighted net on the currently displayed layers only, select the option "Show on viewed layers only".
	Clear Highlighted	Clear highlighting applied using Highlight or Highlight-2.
	Measure Between Points Measure Between Features Measure Between Nets Measure Annular Rings	Opens a sub-menu where you can choose whether to measure between points, features, nets, or annular rings. See "Measuring Distances" in *Getting Started With ODB++Design*.

Table 1-3. ODB++Design Viewer Window - Actions Menu Options (cont.)

Tool	Actions Menu Option	Description
	Snap	Open the Snap dialog box in which you can define snap and grid options.

Table 1-4. ODB++Design Viewer Window - View Menu Options

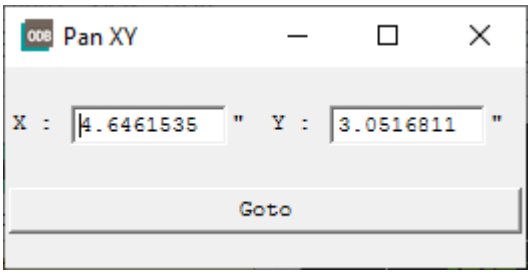
Tool	View Menu Option	Description
-	Step & Repeat Table	See "Viewing the Step and Repeat Table" on page 23.
	Matrix	Opens the "Matrix" window displaying the layer construction, layer types and subtypes, polarity, drill intersection with board layers (for drilled via holes), and sub-panel nesting.
	Zoom In, Zoom Out	Zoom in or zoom out.
	Zoom Area	Invoke the zoom area tool for drawing a zoom rectangle in the board viewer or overview pane.
	Zoom PopView	Display a magnified view of a section of the board. You can open more than one popview window at the same time. See "Zooming and Panning" in *Getting Started With ODB++Design*.
	Zoom Home	Zoom to a view that fits the board in the graphic area.
	Previous Zoom	Returns to the zoom factor that was in effect before the most recent zoom action.
	Pan XY	Open the Pan XY dialog box.  Type the X and Y coordinates to be brought to the center of the graphic area and click **Goto**.
	Pan Left, Pan Right, Pan Up, Pan Down	Pan left, right, up, or down. (shortcuts: keyboard arrow keys).

Table 1-4. ODB++Design Viewer Window - View Menu Options (cont.)

Tool	View Menu Option	Description
	View Properties	Open the "Component Information" or "Feature Information" dialog box to view detailed information about the selected item.
	Component Filter	Open the component filter pane. See "Using the Component Filter Pane to Find Components" in *Getting Started With ODB++Design*.
	Color Settings	Open the "Colors" dialog box that enables you to set colors for displaying items in the graphic area.
-	Component Options	Open the "Component Display Options" dialog box that enables you to configure some aspects of how components are displayed in component layers.
-	Show Populated Components Only / Show All Components	Toggle between showing all components and showing only populated components.
-	Control	Open the "Control" dialog box that enables you to control the display of data in the graphic area.

Table 1-5. ODB++Design Viewer Window - Help Menu Options

Tool	View Menu Option	Description
-	View Help	Opens documentation for the ODB++Design Viewer. (shortcut: F1)
-	About	Displays ODB++Design Viewer version and system information.

Table 1-6. ODB++Design Viewer Window - Board Viewer Right-Click Menu Options

Option	Description
Zoom area	Invokes the zoom area tool so you can drag a zoom rectangle in the board viewer pane or overview pane. Equivalent to clicking the **Zoom Area** () tool.
Popview	Display a magnified view of a section of the board. You can open more than one popview window at the same time. See "Zooming and Panning" in *Getting Started With ODB++Design*.

Table 1-6. ODB++Design Viewer Window - Board Viewer Right-Click Menu Options (cont.)

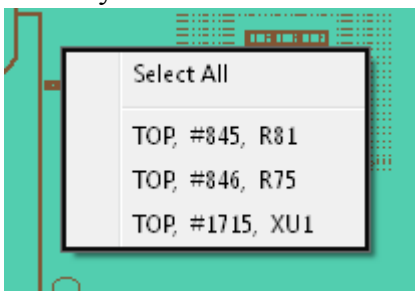
Option	Description
Measure	Invokes the measure tool so you can measure the distance between two points. Equivalent to clicking the **Measure** ( ) tool. See "Measuring Distances" in *Getting Started With ODB++Design*.
Highlight	Invokes the highlight tool so you can highlight a feature or component. Equivalent to clicking the **Highlight a feature or a component** ( ) tool.
Clear highlighted	Clears all highlighted features and components. Equivalent to clicking the **Clear Highlighted** ( ) tool.
Toggle pile-up selection	Overlapping features make it difficult to choose an individual feature from among them. Pile-up selection mode provides a list of overlapping features that are at the board location at which you clicked, from which you can choose the feature you want. 

Table 1-7. ODB++Design Viewer Window - Board Viewer Shortcuts

Shortcut	Description
Ctrl+a	Invokes the Zoom area tool for one actuation. After you have dragged a rectangle in the board viewer pane or in the overview pane, the tool that was previously in effect is in effect.
Ctrl+d down arrow	Pan down with 90% overlap.
Ctrl+e	Click on the board graphic and press Ctrl+e to pan the board viewer pane to center that point in the pane.
Ctrl+h Ctrl+Home	Zooms to a view that fits the entire board in the graphic area.
Ctrl+i Page Up	Zooms in. Equivalent to clicking the **Zoom In** tool ( ).

Table 1-7. ODB++Design Viewer Window - Board Viewer Shortcuts (cont.)

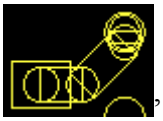
Shortcut	Description
Ctrl+l left arrow	Pan left with 90% overlap.
Ctrl+m	Toggles between a four layer display and more than four layers.
Ctrl+o Page Down	Zooms out. Equivalent to clicking the **Zoom Out** tool ( ).
Ctrl+r right arrow	Pan right with 90% overlap.
Ctrl+Shift+d Shift+down arrow	Pan down with 10% overlap.
Ctrl+Shift+l Shift+left arrow	Pan left with 10% overlap.
Ctrl+Shift+r Shift+right arrow	Pan right with 10% overlap.
Ctrl+Shift+Space	Returns to the zoomed display in memory after zooming other areas.
Ctrl+Shift+u Shift+up arrow	Pan up with 10% overlap.
Ctrl+Space	Copies the current zoomed display to memory.
Ctrl+u up arrow	Pan up with 90% overlap.
Ctrl+w	Toggles the view of features among these modes: full  , outline  , or width off 

Table 1-7. ODB++Design Viewer Window - Board Viewer Shortcuts (cont.)

Shortcut	Description
middle-click	The middle button can be used for these pan and zoom functions: • **Center in Graphic Area** — Middle-click a point in the graphic area. The click point is panned to the center of the graphic area. • **Zoom Out** — With the middle button, drag a diagonal up and to the right, ending at the point you want in the center of the graphic area. • **Zoom In** — With the middle button, drag a diagonal down and to the left, ending at the point you want in the center of the graphic area. • **Zoom to Area** — With the middle button, drag a diagonal down and to the right, so that the start and end of the line you drag define a rectangular area to which you want to zoom. • **Zoom Home** — With the middle button, drag a diagonal up and to the left. The view zooms so that the whole board is displayed centered in the graphic area.
Shift+Home	Zooms to a view that fits the highlighted component in the board area. Equivalent to clicking the **Zoom Home** tool ().

Usage Notes

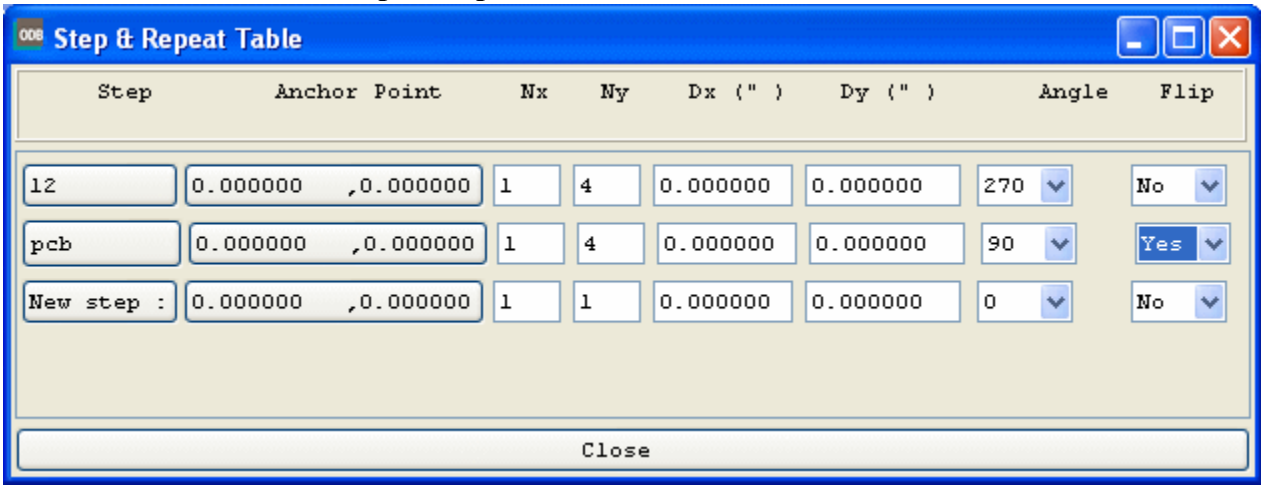
- Click one or more layers in the ODB++ Layer List to display them in the board viewer.
- To use the board viewer shortcuts, you must place the mouse pointer in the board viewer pane.
- Click the **Toggle Units** tool () on the toolbar to toggle the measurement units displayed in the X and Y coordinates under the board viewer, and for the Measure tool, between inches and mm.

Viewing the Step and Repeat Table

If your product model contains step and repeat data, you can view panelization information in the Step & Repeat Table dialog box.

Procedure

1. Choose **View > Step & Repeat Table**.



2. View the panelization information in the table:

Column	Description
Step	Name of the step.
Anchor Point	Anchor point of the step.
Nx, Ny	Number of steps in the X and Y directions.
Dx, Dy	Distance between steps in the X and Y directions, in the indicated units of measure.
Angle	Rotation angle for the step inside the panel.
Flip	Indication of whether the step is flipped about the Y-axis.

Troubleshooting

If the ODB++Design Viewer does not run as expected, review the suggested troubleshooting topics.

Cannot Open ODB++Design Archive File on Windows 7

If you cannot open a *tgz* file in ODB++Design Viewer, this is most likely caused by incorrectly set permissions with the database. This problem can also affect your vendors and make the files unusable to them as well.

Symptoms

When attempting to open a *tgz* file, Windows 7 displays this error message:

ERROR: gen_txt-6003-Unable to open file

Causes

Incorrect permission settings in Windows 7.

Solution

To correct the permission problems with the database, perform these steps:

1. In Windows Explorer, right-click the directory where your design resides and choose **Properties**.
2. Click the Security tab.
3. Click **Edit**.
4. Add Write privileges to the appropriate users. In this case, Everyone.

Note

This procedure provides only a temporary fix for the *tgz* file you are attempting to open. As a long-term solution, your IT department must ensure that permissions are set correctly for everyone.

ODB++Design Viewer on Linux 64 Bit Fails to Open a Product Model

If the ODB++Design Viewer fails to open a product model (job), this is most likely due to compatibility issues between Valor NPI and the 64-bit Linux operating system.

Symptoms

The attempt to open a product model (job) fails. The Linux console log may display an error message. For example:

```
...
gunzip: stdin: invalid compressed data--crc error
```

Causes

The compress and expand utilities provided with the Valor NPI installation are incompatible with the 64-bit Linux system.

Solution

Enter the following command to install the 32-bit library:

```
yum install glibc.i686
```

If the problem persists, replace the *gunzip*, *gzip*, and *compress* files in the Valor NPI installation directory with their official versions available on your machine. Enter these commands:

```
cp /bin/gunzip <vNPI installation EDIR>/misc/
cp /bin/gzip <vNPI installation EDIR>/misc/
cp /bin/compress <vNPI installation EDIR>/misc/
```

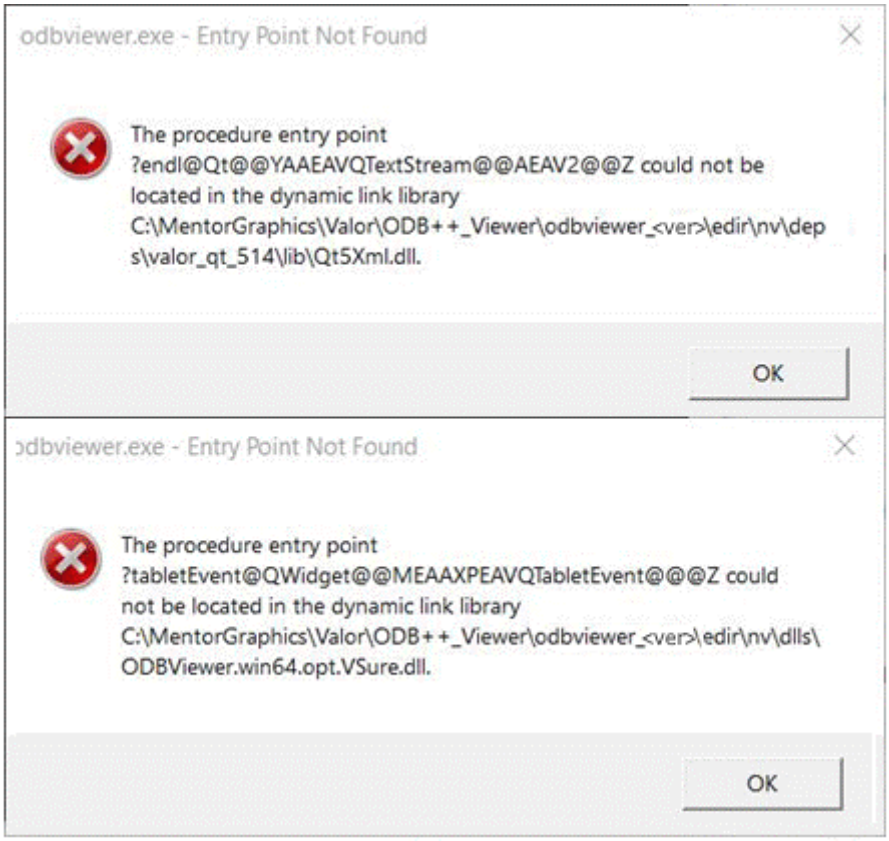
Where <*vNPI installation EDIR*> is the path to your Valor NPI installation directory.

Entry Point Errors Due to Wrong DLL Usage

After successful install of ODB++Design Viewer, you may receive Entry Point Not Found errors when trying to run the program.

Symptoms

Examples of Entry Point Not Found error messages:



Causes

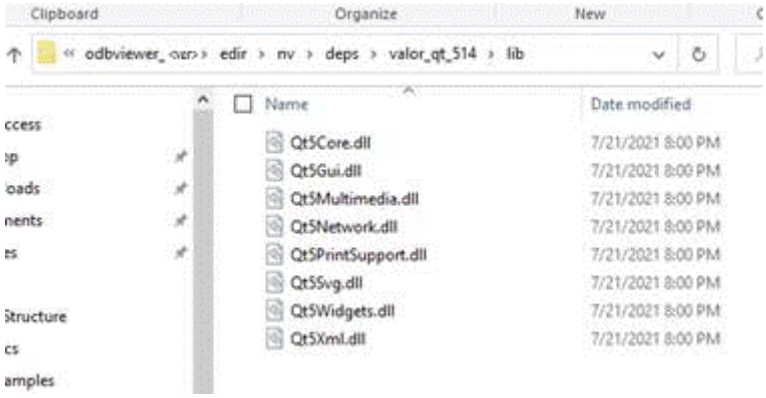
External QT DLLs are found in the *C:\Windows\System32* location, which always has the highest PATH priority. As a result, the wrong DLL files are loaded when the software is started.

Solution

Place the QT files supplied with the installation next to the main executable:

1. Copy all the files from:

   ../odbveiwer_<ver>/edir/nv/deps/valor_qt_514/lib



2. Paste the copied files to:

   ../odbveiwer_<ver>/get