AVEVA Edge™

Import Tool for PanelMate™

User Guide

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Introduction

AVEVA introduces the **AVEVA Edge Import Tool for PanelMate**™ — a powerful, flexible, easy-to-use tool that expands the capabilities of your installed plant floor systems. The **AVEVA Edge Import Tool** is a fast and intuitive wizard for importing applications created with PanelMate Plus™ software into AVEVA Edge (EDGE).
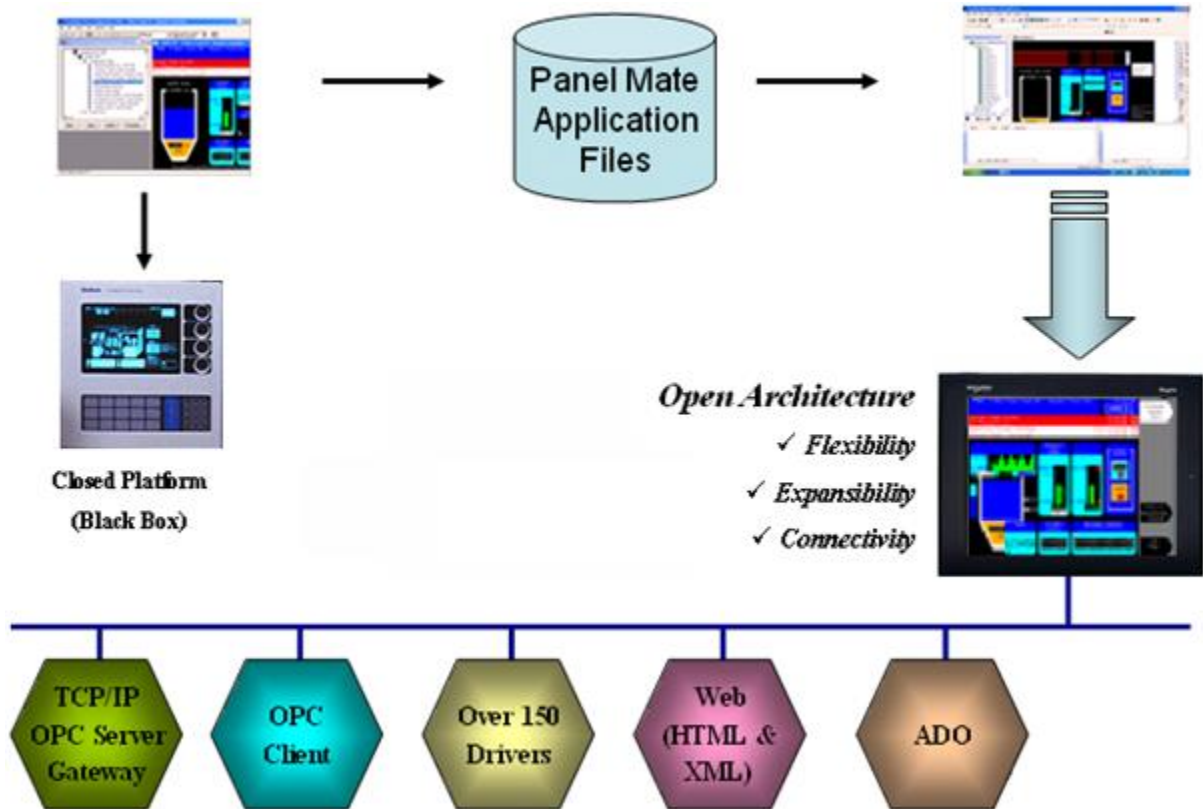
Using the AVEVA Edge Import Tool
to import PanelMate Applications to EDGE

> ✎ **Note:**
>
> The **AVEVA Edge Import Tool for PanelMate**™ is compatible with applications based on the the PanelMate Plus Configuration Editor – Version 4.01b0. Applications created with different versionf of this software may be incompatible with the import wizard.

> ➲ **Caution:**
>
> The **AVEVA Edge Import Tool for PanelMate**™ is an Add-On feature of EDGE. Your license needs to support this specific feature; otherwise, you will be unable to use it. Please consult your software vendor for further information.

After importing an application into AVEVA Edge, you can take advantage of these EDGE features:

- **Flexibility**: EDGE can run the application on any Microsoft® Windows® platform (7/8.1/10, Servers or Embedded). For example, you can run the application on devices powered with Windows Embedded Compact and Standard, such as HMI panels.

- **Expansibility**: You can use the AVEVA Edge development suite to add functionality to your application in the form of historical data, XML reports, math scripts, etc.

- **Connectivity**: Because the application is running under the AVEVA Edge runtime, you can take advantage of all connectivity tools embedded in the EDGE package, such as:

  – Communication drivers for several protocols from different manufacturers (Modbus, Profibus DP, DeviceNET, ControlNET, Siemens S7 – MPI/PPI, Siemens S5 – RK512, GE-Fanuc SNP/SRTP and many others)

  – OPC client and server interfaces

  – XML and ADO interfaces to exchange data with third-party systems, such as Enterprise Resource Planning (ERP) systems

  – API Toolkits to integrate the application with third-party programs written in any language that supports DLLs (VB, C, C++, and so on)

  – TCP/IP modules for redundant and networked applications

  – Web solution that provides remote access to your application using just a Web browser, through any TCP/IP link (intranet, internet, or dial-up connection)

  – Remote management and debugging tools that allow you to manage (download, upload, run, stop and debug) your application remotely from a development station

The **Import Tool's** greatest advantage is how easy it is to use, which can dramatically reduce the cost and hassle of modernizing the automation systems in your facility.

Import Wizard Requirements

To import a PanelMate application, you must install the following software on your computer:

1. AVEVA Edge with the **AVEVA Edge Import Tool** add-on
2. PanelMate programming software
3. PanelMate database files (.db files that are usually found in c:\pmconfig\model directory)

☞ **Note:**

You can install and run the AVEVA Edge project development software on Windows 7, Windows 8.1, Windows 10, and Windows Server operating systems. For more information about system requirements and the installation procedure, see *AVEVA Edge Technical Reference*.

When you install AVEVA Edge, make sure you select the **BDE for PanelMate Import Wizard** option. It installs the Borland Database Engine (BDE), which is required to read the PanelMate database files.

Import Wizard Procedure

The **Import Tool** provides a simple, straightforward wizard to guide you through the process of importing PanelMate projects into EDGE.

Use the following procedure to import the PanelMate application report into EDGE:

1. Find the AVEVA Edge program icon either on the desktop or in the Start menu (**Start → All Programs → AVEVA Edge → AVEVA Edge**). Right-click the program icon, select **Run as Administrator**, and then enter the appropriate credentials. You must run EDGE as an administrator in order to properly load the Borland Database Engine (BDE).

2. In the EDGE project development environment, on the **Home** tab of the ribbon, in the **Tools** group, click **Import Wizard**. The *Import Wizard* dialog box is displayed.

Opening the Import Wizard

> ✎ **Note:**
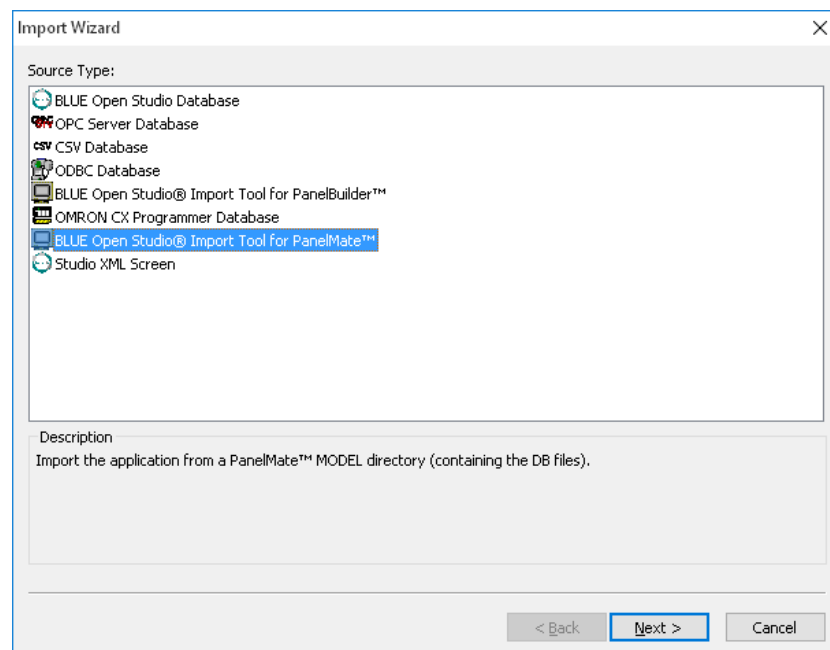>
> You can use the Import Wizard to import application data from sources other than PanelMate applications. For more information about importing other application types, see *AVEVA Edge Technical Reference.*

3. In the *Import Wizard* dialog box, select **AVEVA Edge Import Tool for PanelMate**™ from the **Source Type** list, and then click **Next**.
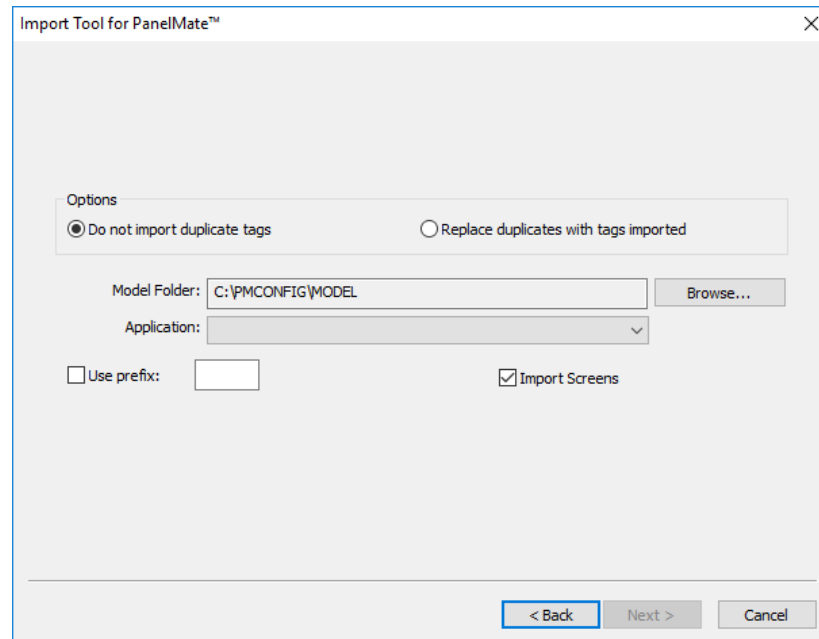

Selecting the Application to Import

> ✎ **Note:**
> If the AVEVA Edge license installed in your computer does not support the **AVEVA Edge Import Tool for PanelMate**™, you will be unable to proceed.

The *Import Tool for PanelMate™* dialog box is displayed:

Import Tool for PanelMate™ Wizard

4. Use this dialog box to specify the following import parameters, and then click **Next**.

    ▪ **Do not import duplicate tags** radio button: Select (enable) this option to prevent the *Import Tool for PanelMate™ Application Wizard* from importing tags with the same name as tags in the current EDGE project database.

    ▪ **Replace duplicates with tags imported** radio button: Select (enable) this option if you want the wizard to replace duplicate tag properties in the current EDGE project database.

    ▪ **Use prefix** check-box and text box: Select (enable) this option if you want to add a prefix to all imported tags. Because you can import multiple PanelMate applications into a single EDGE project, this feature is provided to help you identify where the imported application tags originated and to avoid duplications. Enter a prefix into the text field.

    ▪ **Import Screens** check-box and text field: Clear (disable) this option to prevent the wizard from importing the PanelMate application screens.

    ▪ **Model Folder** textbox: This field displays the path and name of the folder where the PanelMate application database is saved. The customary location is **C:\PMCONFIG\MODEL**, in a computer where the PanelMate programming software is installed. Click the **Browse** button to select a different folder.

    ▪ **Application** combo box: If you select a model folder containing a valid PanelMate application database, a list of all applications stored in the database will appear in this combo box. Click on the application you want to import.

The *Import Wizard* will read the database and then display a new dialog box listing all the tags in the report file (similar to the following figure).
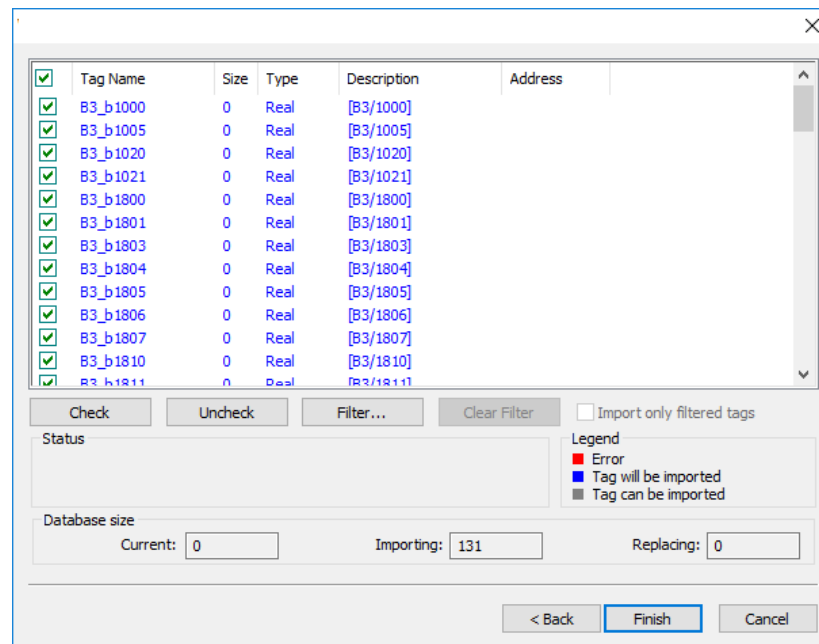
List of Tags in the PanelMate Application

The tags are color-coded to indicate which tags will be imported:

- **Blue tags** will be imported. (If you *do not* want to import one of these tags, simply click in the check-box to the left of the tag name.)

- **Red tags** will not be imported. (If you enabled the **Do not import duplicate tags** option, the wizard will not import tags that already exist in the EDGE project database.)

- **Gray tags** can be imported. Tags become gray in two circumstances:

  - You cleared the check-box to the left of an importable (blue) tag, which changes the blue tag to gray.

  - You have met, or exceeded, the number of tags allowed by your AVEVA Edge license. For example, if your license allows 1,500 tags, and you would exceed this limit by importing the grey tags, EDGE will not allow the wizard to add these tags to the EDGE database.

  You can import gray tags (by clicking in the check-box to the left of the tag name), as long as you do not exceed the number of tags allowed by your EDGE license.

5. Click the **Finish** button to import the application according to the import parameters you specified in the previous step.

Release Notes

The **Import Tool** can be enhanced for future versions; this first release implements the most important features.

Because both AVEVA Edge and AVEVA Edge CEView are much more powerful than PanelMate, it is possible to work around the items that are not imported by implementing some minor changes in the application. If, however, your application uses one of the features that the import wizard does not import, and you think that you will spend a lot of time implementing this feature in your application, please contact your AVEVA Edge representative or send an e-mail to your vendor. We will analyze the feasibility of implementing that specific feature.

Graphical Interface

The graphical tools offered by AVEVA Edge software surpass the capabilities of any other tool available on the market. Also, the same features can be available in several software products but implemented differently in each.

When you import a PanelMate application with the **Import Tool**, you will notice that the imported graphical interface may look slightly different from the original one. The text fonts may change, and scrollbars may appear inside some visual components. This occurs because the development philosophy at AVEVA Edge is to implement Windows standards; PanelMate applications are tied to other very specific hardware and software vendors and standards.

Despite these differences, the **Import Tool** creates an EDGE project that closely simulates the look and feel of the PanelMate user interface. After you have imported a PanelMate application, you can enhance its functionality by using the superior graphical components available in EDGE.

Graphical Objects

The **Import Tool** converts every page of a PanelMate application into an EDGE screen file named **ScreenXX.src**, where **XX** is the number of the page. The wizard creates additional screens, with names prefixed by **Screen** and **Crtl**. These screens provide support for the dynamics of many graphical elements, and must not be removed from the application.

EDGE graphic components are generally more sophisticated than PanelMate elements. In order to reproduce the appearance and behavior of a PanelMate application in the EDGE environment, the **Import Tool** translates most PanelMate templates into groups of several EDGE objects. These groups of objects contain dynamics and VBScript code that enable them to behave like their counterparts in PanelMate. crude

The next table lists all the objects supported by PanelMate, and briefly describes how these objects are mapped to EDGE components. Some features of these components are not supported in this release of the **Import Tool**.

PanelMate Plus original object	AVEVA Edge converted object	Limitations, Restrictions and Remarks
Line	Open Polygon	-
Rectangle	Rectangle	-
Ellipse	Ellipse	-
Arc	Open Polygon or Closed Polygon	The "arc" is created with consecutive lines, with a resolution of 5 degrees.
Polygon	Open Polygon or Closed Polygon	-
Text	Text or Bitmap	Text Font: Text in Normal, Double High and Quad fonts are converted to EDGE Text, with the standard Windows fonts. Text in Graphic fonts are converted to bitmaps.
Symbol	Group of Symbols	-
Bitmap	Bitmap	-
Indicator Template	Group of Symbols	-
Readout Template	Group of Symbols	The object does not change its color to red in an alarm condition.
Bar Template	Group of Symbols	Does not show the blinking warning (**ALARM!**) indicating the alarm condition
Table Template	-	This object is not converted at all.
Bar Trend Template or Line Trend Template	Group of Symbols	▪ Bar trends and Line Trends are converted into ActiveX controls. ▪ The object does not change its color to red in the alarm condition. ▪ Does not show the blinking warning (**ALARM!**) indicating the alarm condition
Display Template	Group of Symbols	Graphic, Double High or Quad font types are not supported. During the importing process, these fonts are converted to the available Windows font that best matches the PanelMate font.
Variable-Sized Indicator Template	Group of Symbols	-
Variable-Sized Readout Template	Group of Symbols	The object does not change its color to red in the alarm condition.
Variable-Sized Bar Template	Rectangle + Bargraph	The object does not change its color to red in the alarm condition.
Variable-Sized Display Template	Smart Message	Graphic, Double High or Quad font types are not supported. During the importing process, these fonts are converted to the available font that best matches the PanelMate font.
Variable-Sized Graphic Template	Group of Symbols	-
Variable-Sized Control Button	Pushbutton	-

> ✍ **Note:**
>
> Customizations implemented in the Normal font (PanelMate dialog Screen fonts) are ignored by the Import Tool.

Special Tags for Graphic Interface Support

Some auxiliary tags and classes are created to provide support for the dynamics of the screens and graphic elements.

- **Classes**
  cControlButton
  cControlKeypad
  cControlTrend

- **Tags**
  PMControlButton[4]
  PMControlKeypad
  PMControlTrend
  PMIsWebClient

> ➲ **Caution:**
>
> Do not remove the Classes and Tags mentioned in this chapter. If you do so, the application will not function properly.

Alarm Configuration

PanelMate offers two types of alarms: high-low (HiLo) alarm and conditional expression alarm. Both types are supported by the **Import Tool**.

An auxiliary alarm tag named `[Tag Prefix]ALR[XXXX]` is created for each alarm condition, where `[Tag Prefix]` is the prefix entered in the Wizard dialog, and `[XXXX]` is a sequential number with four digits.

- For hi-lo alarms, the auxiliary alarm tag is created and its hilimit and lolimit properties are set. A math sheet is created to fill this tag with the result of the alarm expression defined in PanelMate. Two alarm condition entries are created in the alarm worksheet: **Hi** and **Lo**.

- For conditional expression alarms, the auxiliary alarm tag is created, and its hilimit is set to **1**. A math sheet is created to fill this tag with the result of the alarm expression defined in PanelMate. One alarm condition entry is created in the alarm worksheet: **Hi**.

After the application is imported, two new alarm worksheets are created: one for Aknowledgable alarms and the other for Non-Aknowledgable alarms.

> ✎ **Note:**
> Deadband ranges for HiLo alarms are not imported. You must fill them manually, in the respective alarm worksheet.

Security System

The current version of Import Wizard does not import the security system automatically. After importing the application, you can reconfigure the security system manually, using the Security System editor from EDGE.

Communication Interface

This release implements the most important communication drivers. However, some communication settings may be different from the original configuration, due to the way that AVEVA Edge treats the information. Most of the applications should not be affected by these differences, but in some cases small changes will be required. The next table lists the drivers supported by the *Import Wizard*, along with their limitations.

Protocol	PanelMate Plus Driver Name	EDGE Driver Name	Limitations, Restrictions and Remarks
DF1 Serial	Allen-Bradley Serial	ABKE	▪ Format fields (specified after the # character in PLC Word References) are ignored. ▪ Addresses of only one PLC (the first in the list) are imported. ▪ Signed and Unsigned variables will be imported as signed. ▪ BCD 4 Data Type is not supported by EDGE (File Type D).
RIO (Remote I/O)	Allen-Bradley Remote I/O	STRIO	▪ In order to communicate using Allen-Bradley Remote I/O, you will have to acquire a specific board for these protocols. Please refer to the *AVEVA Edge STRIO Driver* documentation for more information about the hardware needed. ▪ Format fields (specified after the # character in PLC Word References) are ignored. ▪ Signed and Unsigned variables will be imported as signed. ▪ Double words are not supported. ▪ You cannot have PLCs from different families in the same network. ▪ PanelMate offers four directions for Active Block Transfer: **Read**, **Write**, **Common** and **Pass-Through**. Only **Read** and **Write** are supported by EDGE. The others are converted to **Read** in the import process. ▪ PanelMate supports up to 32 racks in its rack table. EDGE supports four racks, one for each channel. Only the four first racks in the table are imported.
Modbus Serial	Modicon ASCII or Modicon RTU	MODBU	▪ Format fields (specified after the # character in PLC Word References) are ignored. ▪ Addresses of only one PLC (the first in the list) are imported. ▪ Signed and Unsigned variables will be imported as signed. ▪ BCD Data Type is not supported. ▪ Char Array data types are not supported.
Modbus Plus	Modicon Modbus Plus	MODPL	▪ Format fields (specified after the # character in PLC Word References) are ignored. ▪ Addresses of only one PLC (the first in the list) are imported. ▪ Signed and Unsigned variables will be imported as signed. ▪ Global Data addresses (900xx and G00xx) are not imported.

> ✍ **Note:**
>
> Driver configuration can be imported only once into an EDGE project. If you change the communication settings of a PanelMate application and try to import it again over a previously imported application, the new settings will not be imported. You have to create a new blank EDGE project and import the modified PanelMate application into it.

Additional Notes

- The **AVEVA Edge Import Tool for PanelMate**™ is compatible with applications based on the the PanelMate Plus Configuration Editor – Version 4.01b0. Applications created with different versions of this software may be incompatible with the *Import Wizard*. This may occur because the way of storing these components in the database may change from one version to another, and the importer may not recognize them as valid components. If possible, try to convert your application to this version of PanelMate before importing it.

- **Security**: EDGE offers a security model that is very different from the one supported by PanelMate. Due to this difference, the PanelMate passwords and protection configuration are not imported. After importing the application, you can reconfigure the security system for the application using the EDGE scheme.

- **Alarms**: Alarms are also configured differently in EDGE and PanelMate. In PanelMate, the alarm configuration is made inside the graphical interface components, while EDGE offers separate worksheets for alarm definitions, in a more flexible architecture. For more information about alarms, look at the **Alarm Configuration** section in this document.

- **Message Library**: PanelMate has a message library, where the messages for all the display templates are stored. After the importing process is finished, these messages are copied into the file **Messages.csv**, in the **Symbol** directory. You can edit this file if you need to change the messages.

- **System Online Labels**: This feature is ignored by the **Import Tool**. The application is imported using the default system labels.

Revision Control

Revision	Author	Date	Comments
A	Eduardo Castro	2005-08-19	Initial Revision
B	Eduardo Castro	2005-10-20	Added notes.
C	Andre Bastos	2017-04-24	Updated text and screen shots for current vers.
D	Michael Hayden	2019-07-29	Updated text and screen shots for current vers.