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XPDL Plugin Users Guide



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XPDL plugin

The XPDL plugin provides input and output of XPDL 2.0 and limited support for XPDL 1.0.

About the XPDL plugin

The XPDL plugin reads and writes XPDL 2.0 files. The XPDL plugin adds an **.xpdl** Package file type to the workspace.



You can view and edit **.xpdl** files by double-clicking on them in which case they are edited in XML syntax.

To export an XPDL package

Right-click on the diagram you wish to export and then choose the **Export as XPDL 2.0 package...** menu.

Figure 1. Exporting to XPDL

| 0 | Open "Pattern 1 - Simplest process" diagram. | | |
|---|--|--------|--|
| ۲ | Export as XPDL 2.0 package | | |
| ð | Import section | | |
| H | Export section | | |
| b | Сору | Ctrl+C | |
| X | Cut | Ctrl+X | |
| 0 | Paste | Ctrl+V | |
| × | Delete | Del | |
| | New | , | |
| 5 | Reset diagram information | | |
| H | Export to Microsoft Project | | |
| - | Export to HTML | | |

To import an XPDL package

Right-click on a MeasurePoint in a process model and then choose the **Import XPDL package...** menu item.

Figure 2. Importing from XPDL

| Import diagram from Excel worksheet Import XPDL package Import section Export section | | The measurepoint becomes the anchor locat | |
|---|--|--|---|
| | | | in the process model where the BPMN diag will be created. |
| | | Сору | Ctrl+C |
| Cut | Ctrl+X | version of XPDL is being used. | |
| Paste | Ctrl+V | | |
| Delete | Del | | |
| New | 1 | • | |
| Print Diagrams | | | |
| Export to HTML | | | |
| | Import diagram from Exce Import XPDL package Import section Export section Copy Cut Paste Delete New Print Diagrams Export to HTML | Import diagram from Excel worksheet Import XPDL package Export section Export section Copy Ctrl+C Cut Ctrl+X Paste Ctrl+V Delete Del New Print Diagrams Export to HTML | |

XPDL Plugin Preferences

The XPDL preferences let you customize the behaviour of the XPDL plugin.

| XPDL plugin | | |
|---|--|---|
| 1 2 | | _ |
| Identifiers Canonical Identifiers Node Scapping | True | |
| Canvas persistence | False | |
| Include Categories Include Metrics | True | |
| Canvas persistence | | |
| Save canvas shape persistence | data in the XPUL. | |
| | XPDL plugin Identifiers Canonical Identifiers NodeGraphics Canvas persistence Publish Include Categories Include Metrics | XPDL plugin Identifies Identifies Canonical Identifiers NodeGraphics Canvas pessistence Publish Include Categories Include Metrics True Save canvas shape persistence data in the XPDL. |

Figure 3. The XPDL plugin preferences page

Canonical Identifiers (for round tripping)

Within a single process model file, object identifiers must be unique. Normally identifiers based on GUIDs (Globally Unique Indentifiers) are used, for example dif6db6247fb0b47509d34389e8d187864 is a typical Diagram object identifier.

When Avantage reads from an XPDL package, it defers to the identifiers contained within the package instead of using automatically generated identifiers.

What would happen if you exported a BPMN diagram to XPDL and then reimported it back to the same process model? You would see an error in the Log View window with a message directly or indirectly related to a duplicate ID. This is because as far as Avantage is concerned there is already a diagram present with that identifier.

BPMN dot notation to the rescue

BPMN objects can be identified by their **position** in the BPTree, for example **My diagram.Main.Lane A.Task A** identifies the BPMN Task object named "Task A" which occurs in "Lane A" which occurs within "Main" pool which occurs within "My Diagram".

If you set **Canonical Identifiers** to **TRUE** then the XPDL plugin does not write real BPObject indentifiers into the xpdl package and instead writes their dot notation location equivalents.

Figure 4. Dot notation identifiers

```
<xpdl:Transition Id="Pattern 4 - Activity with conditional
choice.Main.Start.Action 1" From="Pattern 4 - Activity with conditional
choice.Main.Start" To="Pattern 4 - Activity with conditional
choice.Main.Make choice" Name="Action 1" Quantity="1"/>
```

When the XPDL plugin reads a package with Canonical indentifiers, the XPDL plugin creates BPObjects with automatically assigned identifiers instead.

The default setting for Canonical Identifiers is **TRUE** which is suitable for round tripping between Avantage.

➡ Note: You will most likely get errors in the log if you attempt to import 3rd party XPDL files with Canonical identifiers TRUE.

Canvas Persistence (for round tripping)

When this setting is **TRUE**, the diagram editor's shape persistence information is emitted in the xpdl in the form of an extended attribute for the entity. This information is richer than **NodeGraphicsInfos** (which are also supported).

This setting is intended for Avantage round-tripping and is ignored by other XPDL software so there is no harm in enabling it. This setting preserves details like shape color gradients, color fill transparency, fill patterns, line widths, font names and sizes and more.

Include Categories

If the Process Analytics bundle is installed you can optionally enable the output of Category meta data if it is present in your process.

Figure 5. Categories meta data

```
<Category Name="Edit, process paper" Id="2"
backgroundColor="Color [LightGreen] | labelPrefix="PV"/>
       <Category Name="Approve on paper" Id="3" backgroundColor="Color
[LightGreen] | labelPrefix="PV"/>
       <Category Name="Carry paper" Id="4" backgroundColor="Color
[PaleGreen] " labelPrefix="P"/>
       <Category Name="Hardware operation" Id="5"
backgroundColor="Color [LemonChiffon]" labelPrefix="MV"/>
       <Category Name="Data entry" Id="6" backgroundColor="Color
[LemonChiffon] " labelPrefix="MV"/>
       <Category Name="Edit, software operation" Id="7"
backgroundColor="Color [LemonChiffon]" labelPrefix="MV"/>
       <Category Name="Approve on system" Id="8" backgroundColor="Color
[LemonChiffon] " labelPrefix="MV"/>
       <Category Name="Machine Operation" Id="9" backgroundColor="Color
[CornflowerBlue] " labelPrefix="MV"/>
       <Category Name="Engineering" Id="10" backgroundColor="Color
[PaleVioletRed] " labelPrefix="MV"/>
       <Category Name="Telephony" Id="11" backgroundColor="Color
[SandyBrown] | labelPrefix="HV"/>
       <Category Name="Oral communications" Id="12"
backgroundColor="Color [SandyBrown]" labelPrefix="HV"/>
       <Category Name="Transportation" Id="13" backgroundColor="Color
[SandyBrown] " labelPrefix="-"/>
       <Category Name="Mixed" Id="14" backgroundColor="Color
[SandyBrown] " labelPrefix="-"/>
</xpdl:ExtendedAttribute>
```

Include Metrics

If the Process Analytics bundle is installed you can optionally enable the output of Metrical analysis meta data if it is present in your process.

Figure 6. Metrics extended attributes

```
<xpdl:ExtendedAttributes>
```

```
<xpdl:ExtendedAttribute Name="KT.AM.Metrics" Value="Metrics">
                         I:ExtendedAttribute Name="KT.AM.Metrics" Value="Metrics">

<Metric Name="Time Based Unit Cost" Id="KT.AM.Metrics.Properties.Cost.UnitCost.TimeBased" DefaultValue="0"/>

<Metric Name="Wait Time Unit Cost" Id="KT.AM.Metrics.Properties.Cost.UnitCost.WaitTime" DefaultValue="0"/>

<Metric Name="Wait Time Total Cost" Id="KT.AM.Metrics.Properties.Cost.TotalCost.WaitTime" DefaultValue="0"/>

<Metric Name="Time Based Total Cost" Id="KT.AM.Metrics.Properties.Cost.TotalCost.TimeBased" DefaultValue="0"/>

<Metric Name="Unit Variable Cost(non-time)" Id="KT.AM.Metrics.Properties.UnitCost.Variable" DefaultValue="0"/>

<Metric Name="Total Variable Cost(non-time)" Id="KT.AM.Metrics.Properties.TotalCost.Variable" DefaultValue="0"/>

<Metric Name="Fixed Cost" Id="KT.AM.Metrics.Properties.Cost.FixedCost" DefaultValue="0"/>

<Metric Name="Total Cost" Id="KT.AM.Metrics.Properties.Cost.TotalCost" DefaultValue="0"/>

</Metric Name="Total Cost" Id="KT.AM.Metrics.Properties.Cost.TotalCost" DefaultValue="100"/>

</Metric Name="Total Cost" Id="KT.AM.Metr
                           <Metric Name="External Yolume" Id="KT.AM.Metrics.Properties.Volume.ExternVolume" DefaultValue="1000"/>
<Metric Name="Internal Yolume" Id="KT.AM.Metrics.Properties.Volume.InternVolume" DefaultValue="0"/>
<Metric Name="Time Period" Id="KT.AM.Metrics.Properties.Volume.TimePeriod" DefaultValue="0"/>
                          <Metric Name="Tunit Time" Id="KT.AM.Metrics.Properties.Time.UnitTime" DefaultValue="5m"/>
<Metric Name="Total Time" Id="KT.AM.Metrics.Properties.Time.TotalTime" DefaultValue="83h 20m"/>
<Metric Name="Wait Time" Id="KT.AM.Metrics.Properties.Time.WaitTime" DefaultValue="83h 20m"/>

                                Metric Name="Wait Per Unit" Id="KT.AM.Metrics.Properties.Time.WaitPerUnit" DefaultValue="False"/>
</xpdl:ExtendedAttribute>
```

For help with using process metrics please refer to the Metrics plugin guide.

Use of the Log View

All operations of the XPDL plugin are written into the log. It is useful to **pin** the Log View to the bottom of your workspace so that it it pops up only when you want to look at the results of an operation. You can double-click on an entry to see more details about the entry.

Figure 7. Log View pinned to bottom of workspace

| Pre Edit View Analysis Version Control Window Help Workspace Navigator Workspace Navigator Pattern 4 - Actitional choice Pattern 5 - Swin lange Pattern 5 - Swin lange Pattern 4 - Actitional choice Pattern 5 - Swin lange < | ActiveModeler Avantage | | | | | |
|--|---|---|--|------|------------------|-------------|
| Workspace Navigator Image: Control of the second secon | File Edit View Analysis Ver | sion Control Window Help | | | | |
| Workspace Navigator Image: Control of the second of th | NO NO OX BA | 2212 | | | | |
| *zml version="1.0" encoding="utt-8"> *xml version="1.0" encoding="utt-8"> *xpl:1/Pools *xp | Workspace Navigator 🛛 🤻 🗙 | Pattern 4 - Acitional choice | 4 10 2 | × SC | W-COSO Inspector | 4 × |
| Properties Browser | Pattern 6 - Automated Automate | <pre>>Pattern 4 - Accational choice</pre> | | • | 00000 | <u>ତ</u> ହି |
| Image: Strate in the second | Properties Browser 🛛 🗘 🗙 | <td>Coordinates XCoordinate="10" Y eGraphicsInfo></td> <td></td> <td></td> <td></td> | Coordinates XCoordinate="10" Y eGraphicsInfo> | | | |
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| Log view | Name Pattern 4 - Activi RelativeURI Pattern 4 - Activi URI E:\Develop\Platfo | <xpdi:workflowprocesses> <xpdi:workflowprocesses> <xpdi:processth <xpdi:activities: <xpdi:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: <xpd:activities: Activities:</xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpd:activities: </xpdi:activities: </xpdi:activities: </xpdi:processth </xpdi:workflowprocesses></xpdi:workflowprocesses> | s Id="Pattern 4 - Activity with - ader/> ity Id="Pattern 4 - Activity with Event> <xpdiendevent ir<br="" result="None">di-Swart></xpdiendevent> | | <u>]</u> 2∔ ⊡ | |
| | Log view | | | | | -19 × |
| Message V P V XPDL Export: Writing XPDL file E:\Develop\Platform3\4M3\4M3\bin\Debug\Projects\More\PDL\Sequence_Conditions.xpdl V XPDL Export: Creating proxy model of BPD_Diagram 'Sequence_Conditions' V Reacting C C C C C C C C C C C C C C C C C C C | ⊡- ₩ <u>A</u> 8 | | | | | |
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| 1 NAME IN THE REPORT OF THE RE | Ready | | | | | |

To discover where the file has been written

Choose the "**Explore project folder**" menu action. This will open an Explorer Window displaying the contents of your project folder.



Figure 8. Exploring the project folder

Adding XPDL package files to the Workspace

It is convenient to work with the xpdl file in the Avantage workspace. To add an xpdl package to the workspace, right click on the project and choose the "Add existing XPDL package..." action.

| 🚔 Existing category file | |
|---------------------------------------|---|
| Existing organization file | |
| Existing process model file | |
| 📔 Existing text file | |
| Existing Autoshape BPMN strategy file | |
| Existing lua script file | |
| 😰 Existing XML sample file | |
| 🍅 Existing XPDL package | |
| SOX | • |

To view an XPDL package

You can view/edit an XPDL package by clicking on its icon in the navigator tree.

Figure 9. XPDL Package in editor window

```
d b ×
Intermediate_Event_Test  Exception_flow
 <?xml version="1.0" encoding="utf-8"?>
<xpdl:Package xmlns:xpdl="http://www.wfmc.org/2004/XPDL2.0alpha" xmlns:xs="http://www.w3.org/2001/XMLSchema-instance" xml
      <xpdl:PackageHeader>
           <xpdl:XPDLVersion>2.0</xpdl:XPDLVersion>
<xpdl:Vendor>KAISHA-Tec Co. Ltd. Japan</xpdl:Vendor>
           <xpdl:Created>Monday, 18 June 2007</xpdl:Created>
            <xpdl:Description/>
      </xpdl:PackageHeader>
<xpdl:RedefinableHeader>
           <xpdl:Author>chris</xpdl:Author>
           <xpdl:Version>1.6</xpdl:Version>
            <xpdl:Codepage/>
      <xpdl:Countrykey>en-AU</xpdl:Countrykey>
</xpdl:RedefinableHeader>
      <xpdl:Pools>
           <xpdl:Pool Id="Exception_flow.Main" Name="Main" Orientation="HORIZONTAL" Process="Exception_flow.Main.Main_process" E
                 <xpdl:NodeGraphicsInfos
                     <xpdl:Coordinates XCoordinate="10" YCoordinate="10"/>
                      </xpdl:NodeGraphicsInfo>
                 </xpdl:NodeGraphicsInfos>
            </xpdl:Pool>
      </xpdl:Pools>
      <xpdl:WorkflowProcesses>
            <xpdl:WorkflowProcess Id="Exception_flow.Main.Main_process" Name="Main_process" AccessLevel="PUBLIC" ProcessType="Noi
                 <xpdl:ProcessHeader/
                 <xpdl:Activities>
                      <xpdl:Activity Id="Exception_flow.Main.Task 256" Name="Task 256" Status="None" StartQuantity="1" IsATransaction=
                           <xpdl:NodeGraphicsInfos:</pre>
                                </xpdl:NodeGraphicsInfo>
                           </xpdl:NodeGraphicsInfos>
                      </xpdl:Activity:
                      <xpdl:Activity Id="Exception_flow.Main.End event 35" Name="End event 35" Status="None" StartQuantity="1" IsATrar
                           <xpdl:Event
                           <xpdl:EndEvent Result="None" Implementation="Unspecified"/>
</xpdl:Event>
                           <xpdl:NodeGraphicsInfos>
                                <xpdi:\coordinates XCoordinate="SS8" YCoordinate="132"/>
                                 </xpdl:NodeGraphicsInfo>
                           </xpdl:NodeGraphicsInfos>
                      </xpdl:Activity>
                      <xpdl:Activity Id="Exception_flow.Main.Start event 28" Name="Start event 28" Status="None" StartQuantity="1" IsAT
                           xpdl:Event>
                                <xpdl:StartEvent Trigger="None" Implementation="Unspecified"/>
                           </xpdl:Event>
                           <xpdl:NodeGraphicsInfos>
                                <xpdl:NodeGraphicsInfo ToolId="Avantage" IsVisible="true" Page="Exception_flow" LaneId="Exception_flow
<xpdl:Coordinates XCoordinate="53" YCoordinate="147"/>
                                 </xpdl:NodeGraphicsInfo
                           </xpdl:NodeGraphicsInfos>
                      </xpdl:Activity>
                      <xpdl:Activity Id="Exception_flow.Main.Task 255" Name="Task 255" Status="None" StartQuantity="1" IsATransaction=
                           <xpdl:NodeGraphicsInfos:
                                <xpdl:NodeGraphicsInfo ToolId="Avantage" IsVisible="true" Page="Exception_flow" LaneId="Exception_flow
<xpdl:Coordinates XCoordinate="384" YCoordinate="60"/>
                                </xpdl:NodeGraphicsInfo>
                           </xpdl:NodeGraphicsInfos>
                      </xpdl:Activity>
                      xpdi:Activity Id="Exception_flow.Main.Task 254" Name="Task 254" Status="None" StartQuantity="1" IsATransaction=
                           <xpdl:NodeGraphicsInfos
                                <xpdl:NodeGraphicsInfo ToolId="Avantage" IsVisible="true" Page="Exception_flow" LaneId="Exception_flow
<xpdl:Coordinates XCoordinate="156" YCoordinate="144"/>
                                </xpdl:NodeGraphicsInfo>
                                                                                                                                          >
```

Limitations

→ XPDL 2.0 is not the penultimate process model interchange standard. It is basically a committee based hack of the XPDL 1.0 standard in order to try to make it fit better with BPMN.

→ The plugin **does not** support XPDL 1.0 export.

➔ The plugin pays little regard to reading XPDL 1.0 packages comprehensively, because the focus is on XPDL 2.0. The plugin will construct a BPMN diagram consisting of the Pools, Lanes, Tasks and connections from the XPDL 1.0 document.

→ The XPDL plugin writes NodeGraphicsInfo (graphical shape coordinate/location, information (see example below).

This allows other vendor's XPDL 2.0 software to read the shape position and size information from Avantage BPMN process diagrams.

→ The XPDL plugin discards NodeGraficsInfo elements when importing. Instead, the plugin flags the newly created diagram as 'needing layout' and the diagram is automatically layed out before it is first displayed.

✓ Vendor XPDL 2.0 implementations which are not fully W3C compliant in the XML department can cause trouble with data bindings. For example, one vendor generates this kind of error when validated:

```
Element
'{http://www.wfmc.org/2004/XPDL2.0alpha}DataMapping'
cannot be empty according to the DTD/Schema.
```

Another vendor's XPDL 2.0 when validated has this kind of error:

Incorrect definition for the root element in schema.