NEXML™

Reference Manual

ARTWORK SYSTEMS

www.artwork-systems.com

Introduction

NeXML is a software package for Nexus version 8 and above, which allows users to automate Nexus workflows using data from database systems such as Management Information Systems (MIS), Job Management Systems, etc., or to apply a number of settings based on the choise of Hotfolder, or the NeXML file attached.
The NeXML automation is built around a system that allows XML jobtickets (coming from an external source) to override parameters in Nexus-NeXML workflows.

I. License Terms and Copyrights

The use of NeXML and this manual is covered by Artwork Systems' General License Terms which are included in the Software Installation.

II. In this manual

This manual has been divided into multiple chapters:

- ***About XML and NeXML***
  An overview of the history and use of XML files in general, and NeXML files in specific
- ***Creating & Editing NeXML files***
  This chapter describes the various ways to create & edit NeXML files, either by saving settings, or creating manually.
- ***Applying NeXML files***
  This chapter describes the various ways to apply a NeXML file on a Workflow: reading it in when editing a WorkFlow, adding it to a file in ArtPro, append it to a HotFolder or Printer, attach it when using the Run File, using the XML activity or using the ArtLink Updater activity.
- ***Indepth knowledge about NeXML***
  This chapter gives more in depth information about NeXML: the various tags that can be used, the variables that can be in a NeXML, the use of conditionals, the use and importance of labels, and how multiple NeXML files on the same WorkFlow will be handled.
- ***Shuttle and NeXML***
  This chapter explains the more elaborate use of NeXML's when submitting jobs from Shuttle, including dropdown menus and conditionals.

1. About XML and NeXML

1.1. A brief overview of XML

XML stands for Extensible Markup Language. Basically, it is a SGML (Standard Generalized Markup Language), just like HTML (Hyper Text Markup Language) is.
A Markup Language is a language that contains information on the contents in tags, meant to be interpreted into its final form, based on a DTD (Document Type Definition).
For example, HTML contains code on the contents, and the browser (Explorer, Safari, ...) interprets this code, and presents the result on screen. If the HTML file you open, contains e.g. <h1>Title</h1>, every browser (and its DTD) will understand that the word "Title" needs to be shown as a heading.
Although evolving rapidly, the code and tags to be used in HTML are defined by general standards. XML however, is "Extensible", meaning that different manufacturers can define different standards, leaving XML to be useable in a wide variety of applications.

1.2. What is NeXML ?

A NeXML file is an XML file, using the default XML syntax and extended with tags that can be used in a Nexus Workflow system. This means that the DTD enclosed in Nexus' Control application, Nexus Manager and the XML Gateway are able to interpret and apply the codes and tags in the XML file.

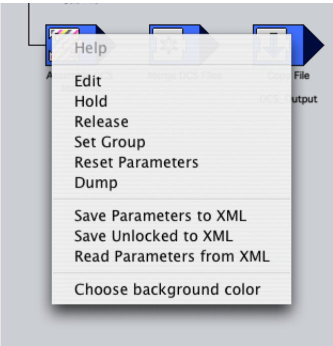
A NeXML file can contain settings for one activity, for a number of activities, or even for a complete workflow.

NeXML can be used to save the settings from one activity, and apply them on a similar activity in another workflow, which can make the creation of WorkFlows a lot easier.
The biggest advantage however, is the ability to diversify WorkFlows. Without using NeXML, a workflow has a fixed number of steps, and each step has fixed settings.
When using NeXML, a workflow still has a fixed number of steps, but the NeXML defines the settings to be used. This advantage may reduce the amount of Nexus workflows.

2. Creating & Editing NeXML files

2.1. Save Parameters to XML

In the Nexus WorkFlow Editor, it is possible to save the settings of a Nexus Activity, of the selected Activities, or the settings of a complete workflow.



This XML file can be used to load in another workflow (for the corresponding activities), to attach in ArtPro or to embed in an exported PDF by ArtPro, to apply it to a WorkFlow HotFolder or Printer or to apply on a workflow with the XML Activity.
It can also be used as a “base” file to create an XML file manually.
When saving an XML file, a browse window will open, allowing to define the name and location. By default, the location will be the XML folder as defined in NexusManager Preferences, and the default name will be “Activity [label of the activity].xml” or “Workflow [name of the workflow].xml”.

2.1.1. Save Parameters to XML

When using the “Save Parameters to XML” function, all parameters of the selected activity or WorkFlow will be included in the XML file.

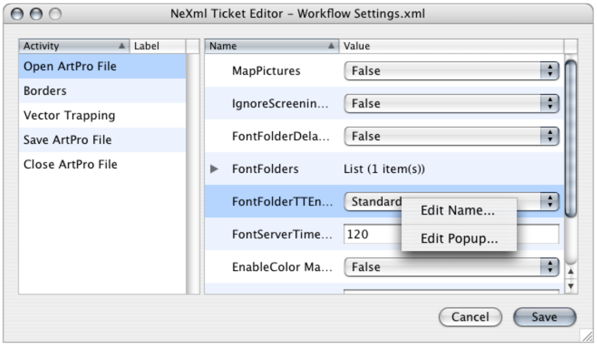
2.1.2. Save Unlocked to XML

When using “Save Unlocked to XML”, only the parameters that are unlocked (the padlock is open) will be included in the XML. Keep in mind that parameters that don’t have a padlock, are considered “locked” and they will not be saved in the XML. This is the case for most of the settings in Nexus Processor.

2.2. Text Editors

NeXML files can be created from scratch in any text editor. As a NeXML file must follow all syntax rules in order to work properly, this is not the most advised method. For more info on this, see 4. Indepth Knowledge on NeXML on page 11. However, a Text editor can be used to make modifications to a NeXML file saved from a WorkFlow or Activity, or a NeXML file created e.g. by a MIS system.

2.3. NeXML Editor


NeXml Ticket Editor – Workflow Settings.xml

Activity	Label
Open ArtPro File	
Borders	
Vector Trapping	
Save ArtPro File	
Close ArtPro File	

Name	Value
MapPictures	False
IgnoreScreenin…	False
FontFolderDela…	False
▶ FontFolders	List (1 item(s))
FontFolderTTEn…	Standard
FontServerTime…	120
EnableColor Ma…	False

In the Edit menu of Nexus Manager, you can launch the NeXml Editor. The same editor window is opened to edit a NeXml file in the Monitor tab or when running a file (see Run File).
As from Nexus 8.4, drag & dropping a NeXML file on NexusManager will automatically open this NeXML file in the NeXML Editor.
Multiple NeXml Ticket windows can be opened, and it is possible to copy activity settings (not individual settings) by dragging and dropping them from one window onto another.

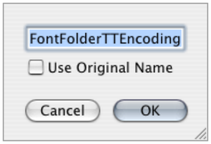
2.3.1. Change Settings

The NeXml Editor allows to change the settings in the NeXml file. No settings can be added. The selected entry can be deleted using - BACKSPACE. This can be used to remove unnecessary settings from the XML file.

2.3.2. Edit Labels

In the list on the left, all activities for which settings are defined in the NeXml file, and their labels. The labels, which can be very important to define on what activity the settings need to be applied (see 4.2. Labels on page 13), can be edited. By selecting an activity, the settings for that activity are shown on the right. If possible, the available values are represented in dropdown menus.

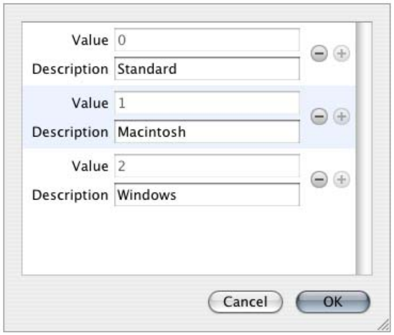
2.3.3. Edit Name


FontFolderTTEncoding

☐ Use Original Name

Editing the Name (in the contextual menu) allows to enter a “localised.name” value in the NeXML file. This is the label that will be shown (in Nexus and Shuttle) to the user. The original name is included in the NeXML file as well, allowing to use the Original Name.

2.3.4. Edit Popup


Value	Description
0	Standard
1	Macintosh
2	Windows

Using the “Edit Popup” (in the contextual menu), the labels shown in a popup dialog can be changed, or the available options can be changed. It can also be used to create a popup for a setting with an input field.

The + sign can be used to add a popup value and its description. The - sign can be used to remove a value from the list.

The Value is the actual value that will be sent to Nexus. The Description is the label that will be shown in the popup itself.

Note that for “Enumeration” settings, i.e. settings referring to a fixed popup menu in Nexus-Manager, only the Description can be changed. The “Value” is fixed. It is not possible to add any values, but you can remove options from the list.

2.4. MIS system

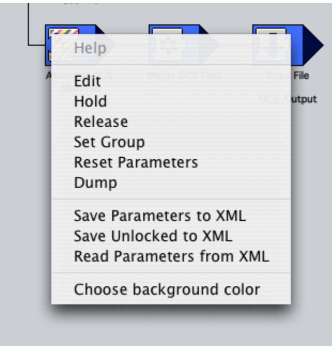
It is possible to create NeXML files from within an MIS system. The settings depending on decisions made in the MIS (e.g. what screening will be used, what calibration files will be used, etc.) can be included in the NeXML generated by the MIS system. This NeXML file also needs to comply with the NeXML syntax.

3. Applying NeXML files

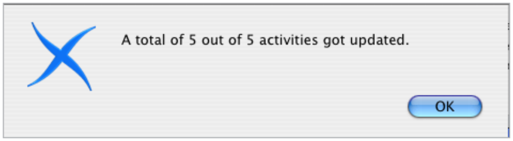
There are several ways to apply the settings defined in a NeXML files. You can read the parameters from an XML file in the WorkFlow Editor, add the NeXML file to a file in ArtPro (either ArtPro file or PDF file, append it to a HotFolder or Printer, attach it when using the Run File, or use the XML activity.

3.1. Read Parameters from XML

In the Nexus WorkFlow Editor, the contextual menu of a WorkFlow allows to “Read Parameters from XML”. You can also drag and drop a NeXML file on the workflow or activity.
When settings from a NeXML file are read, they will always overwrite earlier settings, even when the padlock is locked. The Padlock function only applies on creating PPD’s.
This means the XML will be read, and Nexus will search the XML file for activities corresponding to the selected activity, or to activities in the selected workflow. When corresponding activities are found, the settings from the XML file will be applied on those activities.
Keep in mind that activities are “corresponding” if they have the same label. For more information on labels, see 4.2. Labels on page 13.



The dialog box will show how much activities were read from the XML file. If no activity in the XML file matches the selected activity or the activities in the selected workflow, a warning will be generated.


A total of 5 out of 5 activities got updated.

This “Read Parameters from XML” can be used in combination with the “Save Parameters to XML” as a Save and Load option, to apply the same settings on several activities in multiple workflows.
If e.g. you need the same printer settings on multiple workflows, you can set them once, save the parameters to an XML file, and apply the XML to every printing activity that needs to use the same settings.

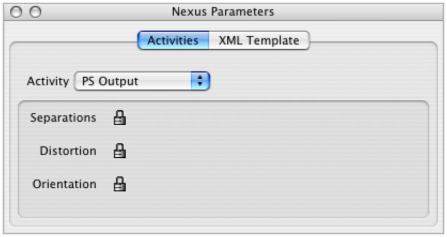
3.2. Adding Nexus Parameters in ArtPro

ArtPro allows to include a number of settings in an ArtPro file or PDF file created from ArtPro. These settings will be applied to all activities AFTER the one opening the ArtPro file, or after the Import activity importing the PDF file..

The Nexus Parameters dialog in ArtPro, allows to include settings in the ArtPro file or PDF file when sending it to a Nexus Workflow system. The “Activities” can be used to overwrite settings made in the Nexus Processor activities.
The XML Template tab allows to select an XML file and embed it in the ArtPro file. As it is embedded, the XML file doesn’t need to be sent to the Nexus server.

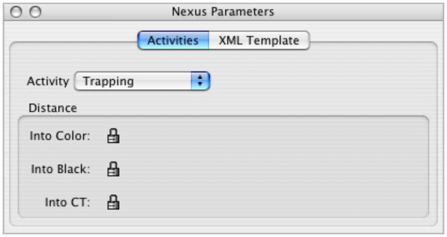
3.2.1. Activities

- ***PS Output / PDF Export / Gravure Tiff***
  Separations, Distortion and Orientation can be locked or unlocked.
  When unlocked, the Separation setup, defined in the Print dialog in ArtPro, will be saved in the ArtPro file, and will be overwriting the Separation setup in the corresponding (Print to File, Export PDF or Export Gravure Tiff) activity in the workflow.
  Distortion and Orientation work in the same way.
  For Gravure Tiff, only the Separations can be unlocked.



Activity: PS Output

- ***Trapping***
  If the Distance Into Color, Into Black or Into CT is unlocked, the values as said in the Automatic Trapping dialog in ArtPro, will be included in the ArtPro file.
  If the file is submitted to a WorkFlow containing a Vector Trapping activity, the values from the ArtPro file will overwrite the settings made in the WorkFlow.



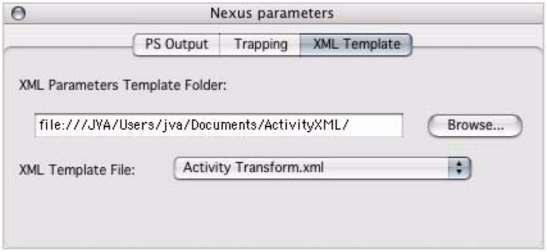
Activity: Trapping

3.2.2. XML Template

This option allows to include an XML ticket into the ArtPro file, which then can be used when opening the ArtPro file in Nexus.

The browse button allows to select the XML folder.
The drop down will show all XML files in the selected folder, and allows to choose a specific XML file.

The XML Template embeds the XML file in the ArtPro file upon saving.

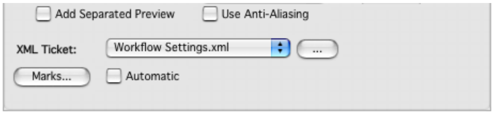


XML Parameters Template Folder: file:///JVA/Users/jva/Documents/ActivityXML/

XML Template File: Activity Transform.xml

3.2.3. Export PDF

To include an XML file in a PDF file exported from ArtPro, the Export PDF dialog contains a “...” button to select an XML folder, and a drop down to select an XML file.



□ Add Separated Preview □ Use Anti-Aliasing

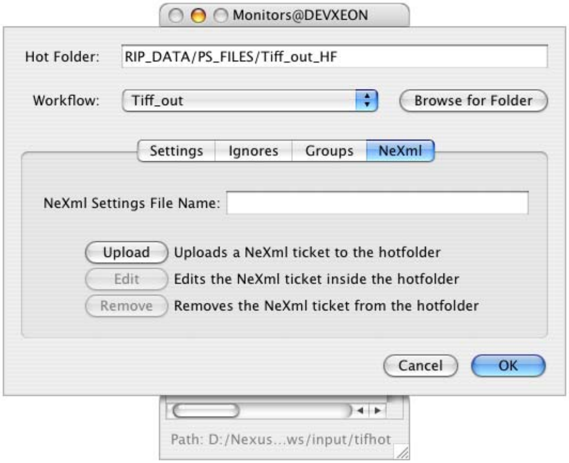
XML Ticket: Workflow Settings.xml

□ Automatic

3.3. NeXML in a Hotfolder

In the Hotfolder setup dialog in “Monitors”, it is possible to add a NeXML file to a Hotfolder.
By defining multiple hotfolders for a single workflow, each containing a specific NeXML file, it is possible to apply different settings on a file, based on the hotfolder the files are dropped in.

NeXML files defined in a Hotfolder are applied on the complete workflow, including all branches.


Monitors@DEVXEON

Hot Folder: RIP_DATA/PS_FILES/Tiff_out_HF

Workflow: Tiff_out

NeXml Settings File Name:

Upload — Uploads a NeXml ticket to the hotfolder
Edit — Edits the NeXml ticket inside the hotfolder
Remove — Removes the NeXml ticket from the hotfolder

Path: D:/Nexus...ws/input/tifhot

3.3.1. NeXml Settings File Name

The NeXml Settings File Name allows to define the NeXml file to be used in this HotFolder. The actual NeXml file needs to be inside the HotFolder.
If a NeXML file is added using the Upload button, the name is shown in this field.

3.3.2. Upload

The Upload button allows to upload (copy) a file into the HotFolder, and set its name as “NeXml Settings File Name”. A Browse dialog will open allowing to select the NeXML file to be used.

3.3.3. Edit

The Edit button allows to open the current NeXML Settings file in Nexus’ NeXML Editor. For more information on the NeXML Editor, see 2.3. NeXML Editor on page 4.

3.3.4. Remove

The Remove button allows to physically remove the NeXML file from the HotFolder, and remove its name from the NeXml Settings File Name field.

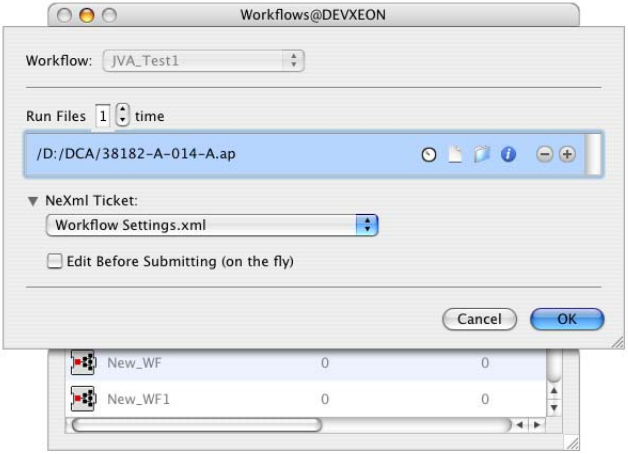
3.4. NeXML in a Printer Spooler

It is possible to add a NeXML file to a Printer Spooler, by adding it in the Printer folder on the Nexus server, next to the spooler folder
The name of the NeXML file MUST be “NeXML.xml”.
By defining multiple Printer Spooler for a single workflow, each containing a specific NeXML file, it is possible to apply different settings on a file, based on the Printer the files are sent to.

NeXML files defined in a Printer Spooler are applied on the complete workflow, including all branches.

3.5. Run File

When running a file manually through a workflow, or from a Mnemo database, you have the possibility to attach an XML file, using all settings from the NeXML file on the complete workflow. The drop down will show all NeXML files in the NeXml Template folder, while the “Browse” option allows to find an XML file using a browse dialog..


Workflows@DEVXEON

Workflow: JVA_Test1

Run Files 1 time

/D:/DCA/38182-A-014-A.ap

▼ NeXml Ticket:

Workflow Settings.xml

□ Edit Before Submitting (on the fly)

New_WF	0	0
New_WF1	0	0

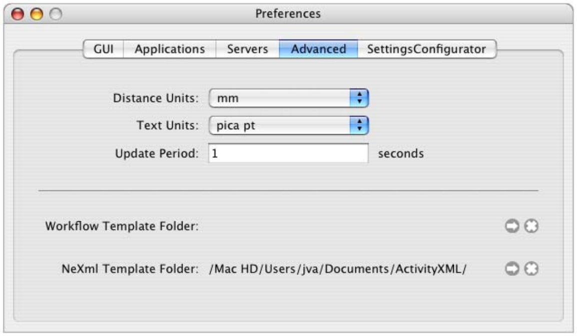
3.5.1. Edit Before Submitting (on the fly)

The option “Edit Before Submitting (on the fly)” allows to change the values of the selected NeXml file before running the file through the workflow. If the option is on, clicking ok will open the NeXml Editor. Note that changes made here, will only affect the file being processed, and changes will NOT be saved in the NeXml file !

When using the “Edit Before Submitting” option, the same options (conditionals, etc) become available as when using Shuttle : see 5. Shuttle and NeXML on page 14.

3.5.2. NeXML Template Folder

The NeXml Template Folder is set in the Preferences, in the Advanced tab. Please note that the drop down menu will only show the XML files found in the template folder at the momen of the selection. When an XML file is added to the NeXML Template Folder, it will only be shown when the NeXml Template Folder is refreshed (i.e. redefined).


Preferences

Distance Units: mm

Text Units: pica pt

Update Period: 1 seconds

Workflow Template Folder:

NeXml Template Folder: /Mac HD/Users/jva/Documents/ActivityXML/

3.6. XML Activity

The XML Activity allows to load the parameters from an XML file, and apply them on the following workflow activities in the same line. Other “branches” will NOT be changed. In most cases, the XML activity will be preceeded by a Select File activiy to select the XML file.

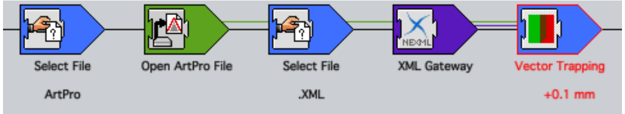
3.6.1. Workflow sequence

The XML activity only affects activities on the same line. This means that multiple XML activites can be used to set different branches of a workflow.

This also means that there should be no Select File activity AFTER the XML activity, since a Select File activity starts a new branche. Keep also in mind that the XML can only be applied on activities shown at the time of applying it. An “Open ArtPro” activity is preferably before the XML Gateway, since the activities following the “Open ArtPro file” are only shown after the ArtPro file is opened.

Here is an example of a useable order :

1. Select File to select the file to be processed (e.g. ArtPro file)
2. Open ArtPro File (file dependent to 1)
3. Select File to select the appropriate XML file (order depentent to 2.)
4. XML activity (file dependent to 3.)
5. First processing activity (e.g. Trapping) (Order Dependent to 4. and memory dependent to 2.)

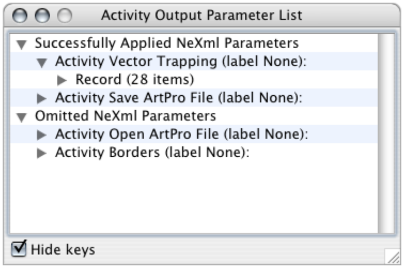


3.6.2. Output Parameters

The Output Parameters for the XML activity will indicate precisely what settings were loaded, and what settings where omitted. In the example, the Borders Activity settings were not applied, as the activity was in the XML file, but not in the workflow on which the XML was applied.

The Output Parameters can be opened from the contextual menu in the Job Editor.

The “Hide keys” allows to hide the actual keys from the Output Parameter List view.


Activity Output Parameter List

▼ Successfully Applied NeXml Parameters
  ▼ Activity Vector Trapping (label None):
    ▶ Record (28 items)
  ▶ Activity Save ArtPro File (label None):
▼ Omitted NeXml Parameters
  ▶ Activity Open ArtPro File (label None):
  ▶ Activity Borders (label None):

☑ Hide keys

3.6.3. Hold, Abandon, Release

It is possible to hold, release or abandon activities in the job workflow, using the XML Gateway. You can even abort an activity, or make it fail.

This is the code necessary in the XML. It can be added to any activity :

```
<aws.activity Key="XGWA" Label="" Name="XML Gateway" Version="2.0">
   <Preference Key="pSta" Name="Status" Type="Enumeration">
      <ValueDescription Key="Held">Held</ValueDescription>
      <ValueDescription Key="Dorm">Release</ValueDescription>
      <ValueDescription Key="Aban">Abandon</ValueDescription>
      <ValueDescription Key="Abrt">Abort</ValueDescription>
      <ValueDescription Key="UhOh">Fail</ValueDescription>
      <Value>Held</Value>
   </Preference>
</aws.activity>
```

This code can be obtained very easily by putting an activity on “Hold”, and then save the parameters to XML.

By changing the <Value>Held</Value> line, you can set it to Release, Abandon, Abort or Fail.

3.6.4. Mnemo connection

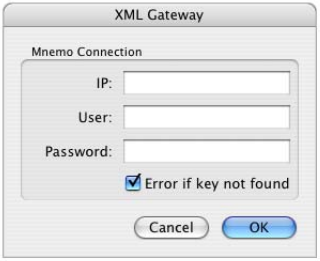
An XML can contain keys to parameters that has to be loaded from a Mnemo database. Therefor, the XML activity allows settings for the Mnemo server to be used : IP address, user name and password.

If the option “Error if key not found” is on, Nexus will generate an error if the XML file contains a reference to a key that was not found in the Mnemo server.

To load a value from Mnemo, this code needs to be entered in the XML :

```
< ....  Mnemo="jobname.property">
```

It is not necessary that the Mnemo Server is running. It will work as long as Nexus has access to theMySQL database.



☑ Error if key not found

4. Indepth Knowledge on NeXML

4.1. File Structure

4.1.1. Comment

Comment can be added in an XML file, which can be useful if the XML needs to be edited later on. This is the code to be used:

```
<!-- this is comment -->
```

4.1.2. Declaration Tag

XML starts with a declaration tag, indicating the version of XML subset made by the W3C organisation.

```
<?xml version = "1.0" ?>
```

4.1.3. Root Tag

The Root Tag indicates the start of the XML file. The XML ends with a Root End tag. All information between the Root tag and the Root End tag are elements.

```
<aws.activities Version="1.0">
    ...
</aws.activities>
```

4.1.4. Element

An element always contains a start tag and an end tag. The start tag indicates the type of Element, e.g. an Activity (containing a number of settings), a Preference (containing one or more settings), a ValueDescription (the available options in a dropdown) or a Value (the value to be used from the dropdown list).

- ***AWS Activity***

  An AWS Activity element groups all settings for a specific activity. It starts by a start tag, containing the name (aws.activity), attributes such as Key (a 4 character code indicating the type of activity), Label and Name, and a Version number. For XML, version number should be 2.0.
  It can contain a number of preferences, and ends by an End tag.

```
<aws.activity Key="Trap" Label="" Name="Vector Trapping" Version="2.0">
    ....
</aws.activity>
```

- ***Preference***

  A Preference element defines one setting. It starts by a start tag, containing the name (Preference), a Key (a 4 character code indicating the type of setting), Name, and a Type. The different types are explained in 4.1.5. Types on page 12.
  The Preference element contains a value, and an end tag.

```
<Preference Key="DBlk" Name="DistanceIntoBlack" Type="Unit">+10. mm
</Preference>
```

4.1.5. Types

- ***Boolean***

  A value of type “Boolean” refers to a checkbox : either true (on) or false (off)

```
<Preference Key="Sgra" Name="SplitGradation" Type="Boolean">True</Preference>
```

- ***Long***

  A value of type “Long” is an integer, either positive or negative, without unit.

```
<Preference Key="TBMa" Name="BlackMargin" Type="Long">85</Preference>
```

- ***Double - Float***

  A value of type “Double” and “Float” is a floating point number, using a dot, not a comma. It can be either positive or negative, without unit.

```
<Preference Key="FlRe" Name="FlatteningResolution" Type="Double">304.8</Preference>
```

- ***Unit***

  A value of type “unit” is a floating point number, using a dot, not a comma. It can be either positive or negative, and has a unit indication, such as mm, inch, ...

```
<Preference Key="DBlk" Name="DistanceIntoBlack" Type="Unit">+0.14mm</Preference>
```

- ***Enumeration***

  If a Preference has Type=“Enumeration”, it refers to a dropdown containing several possibilities. The Preference element will contain a number of ValueDescription elements indicating the possible values (in between a start and end tag), and a Value, indicating which value of the ValueDescriptions (indicated by its Key) should be used. The Value will also be in between a start and end tag.

```
<Preference Key="TVer" Name="TrapperVersion" Type="Enumeration">
   <ValueDescrition Key="0">Packaging (Version 1)</ValueDescription>
   <ValueDescrition Key="1">Commercial (Version 2)</ValueDescription>
   <ValueDescrition Key="2">4Stage</ValueDescription>
   <Value>2</Value>
</Preference>
```

  Note that when defining a dropdown by the user (see 5.1. Dropdown Menus on page 14 and 2.3.4. Edit Popup on page 4), the Type should NOT be changed to “Enumeration”, as this should only be used for values already in a dropdown in NexusManager.

- ***String - URL***

  A String is a list of characters, whereas special characters are allowed. A URL is a path written according to XML standards. Special characters will have a specific notation.

```
<Preference Key="Inkb" Name="InkBook" Type="URL">file:///E%3a/Nexus/Pantone%20solid.ink</Preference>
<Preference Key="FTPc" Name="Path" Type="String">/E:/Nexus/Tiff Output/^JNNE/TIFFs</Preference>
```

- ***Record***

  A Preference with type Record is a group of activity parameters. This is mostly used in RIP activities, to group all settings on e.g. screen angles

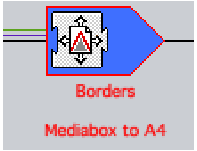
- ***List***

  A Preference with type List is a group of Records. Lists are also in activities shown as a list, e.g. screen angle rotation list

- ***Subpreferences***

  Subpreferences allows to group activity preferences in the XML file, used e.g. to group the EPS options, the Tiff options, etc.

4.2. Labels



Labels, the “name” that can be entered for an activity, allowing to indicate exactly what it does, can be very important when using NeXML.
If no label is entered, the most important setting for the activity is shown as “label”, but this is not taken in account when applying a NeXML.

For applying a NeXML, the settings for a certain activity will be applied if the label in the NeXML file and the label in the workflow match exactly. This also means that if no label is defined in the NeXML file, but a label has been set in the WorkFlow, the settings for that activity will NOT be loaded ! If more than one activity have matching labels, the parameters will be applied on all these activities.
This can be used in several ways. If e.g. a workflow contains 2 “Print To File” activities, you can use the same name for both (or leave it empty) to apply the same settings to both activities, or you can give them unique labels (and use the same labels in the NeXML file) to have different settings for the two activities.

4.2.1. Nexus Parameters in ArtPro

When applying Nexus Parameters in ArtPro (without including a NeXML file in the ArtPro file or PDF file), these parameters will use a “wildcard” for the activity label. This means they will be applied to every activity involved, regardless of its label.
Since the activity label in an XML file is set, attaching an XML file to an ArtPro file or an ArtPro PDF file works the same as for a regular XML file, as explained above.

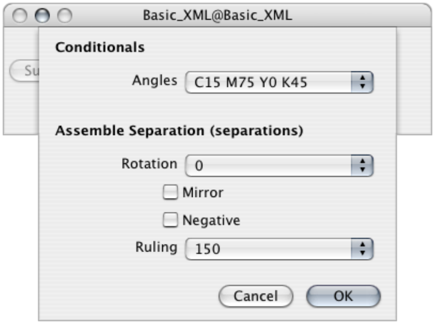
4.3. Applying multiple NeXML files

It is possible that a file running through a workflow encounters more than one NeXML file to be applied . There can be e.g. a NeXML attached to a hotfolder, a NeXML file included in the ArtPro or PDF file, and the Workflow can contain an XML Gateway activity.

The order in which the settings are applied (and possibly overwrite settings made earlier) is defined by the chronological order.
A NeXML file applied from the Hotfolder or Printer Spooler is applied on the complete workflow before the processing starts
An XML file included in an ArtPro or PDF file is applied when opening the ArtPro or PDF file.
An XML Gateway activity applies the settings to all known activities within the same workflow branch.
In most cases this is the order in which the XML files will be applied, so the settings from the last XML file applied, can overwrite settings from the ones before.

5. Shuttle and NeXML

By using Shuttle, it is possible to submit and monitor jobs through Nexus Workflows, either from within Neo or ArtPro, or from the Shuttle standalone application.
How to set up and use Shuttle is described in the Nexus documentation, so for more information on Shuttle, we refer to those documents.
When submitting a job using Shuttle, to a Hotfolder with a NeXML file attached, the parameters as defined in the NeXML file can be edited “on the fly”.
However, in this case, the NeXML file can be optimised (using conditionals, dropdown menus etc), so that submitting a file using Shuttle, allows to include all necessary settings, and even replace printing a file to a workflow, based on a PPD.



Conditionals

Angles C15 M75 Y0 K45

Assemble Separation (separations)

Rotation 0

□ Mirror

□ Negative

Ruling 150

5.1. Dropdown Menus

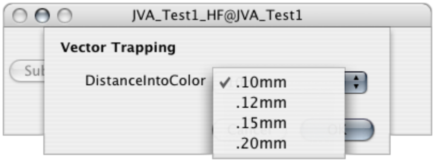
When using Shuttle to submit jobs to a Nexus Workflow, we don’t want every user to have the possibility to enter arbitrary settings e.g. for distortion, for trapping, etc.
Therefor it can be useful to replace the input fields by dropdown menus, containing predefined settings.
This can be done either directly in the NeXML file (see below) or in the NeXML Editor in NexusManager (see 2.3.4. Edit Popup on page 4)
If we take for example the Trapping distance : By saving the XML from the Trapping activity, this XML code can be found :

```
<aws.activities Version="1.0">
   <aws.activity Key="Trap" Label="" Name="Vector Trapping" Version="2.0">
      ...
      <Preference Key="DCol" Name="DistanceIntoColor" Type="Unit">+0.1mm</Preference>
      ...
   </aws.activity>
</aws.activities>
```

This XML will set the Trapping distance to 0.1 when using the XML activity or when including the XML in the ArtPro file. However, if a file is a submitted using Shuttle, the Trapping Distance will be an input field, set by default to 0.1mm.
To create a Dropdown menu from it, the Preference element needs to remain unchanged (DON’T change the Type !).
After the Preference code, enter all ValueDescriptions, defining the available options in the dropdown.
Next, enter the default value. This default value will be used if the XML is used in another way than using shuttle.
The code should then look like this :

```
<aws.activities Version="1.0">
   <aws.activity Key="Trap" Label="" Name="Vector Trapping" Version="2.0">
      ...
      <Preference Key="DCol" Name="DistanceIntoColor" Type="Unit">
         <ValueDescription> Key="0.10mm">.10mm</ValueDescription>
         <ValueDescription> Key="0.12mm">.12mm</ValueDescription>
         <ValueDescription> Key="0.15mm">.15mm</ValueDescription>
         <ValueDescription> Key="0.20mm">.20mm</ValueDescription>
         <Value>.10mm</Value>
      </Preference>
      ...
   </aws.activity>
</aws.activities>
```

When submitting a job from Shuttle, this dialog will appear :



Vector Trapping

DistanceIntoColor .10mm

5.2. Conditionals

Conditionals allow to make a number of settings, based on one single choice. This can be used to set up the NeXML so that the user can choose e.g. a plate size when submitting the job from Shuttle, and this single choice will adjust settings in the Print To File activity, in the Borders activity and in the File Copy activity (copying the file to the correct folder.

To create conditionals, the NeXML file needs to be edited manually, and all settings to be included, needs to be known. Therefor it might be easy to save the settings to an XML file from the Workflow editor, and use this as a base to create the NeXML.

5.2.1. Conditional element

To use Conditionals, every possible choice in the Conditionals dropdown needs to be defined as a single Conditional element.
Just like any element in the NeXML, a Conditional element starts and ends by a tag. The start tag will contain the Parameter and Value (see below). In between the start and end tag, you can find all settings (devided by their activity) that need to be set if this choice is made.

5.2.2. Conditional Parameter

Every Conditional Parameter that is being used, will result in a dropdown allowing to select any of the corresponding values.
The Conditional Parameter is the “naming” field that will be used in the Shuttle dialog.
Keep in mind that for different values to be in the same dropdown, the Parameter needs to be EXACTLY the same (including caps)

5.2.3. Conditional Value

The Value is the name that will appear in the dropdown for the corresponding Parameter.

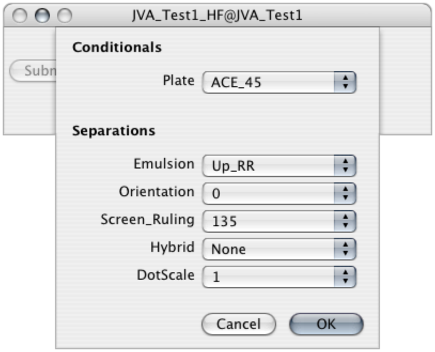
5.2.4. IsDefault

By adding the IsDefault=”true” code in the start tag of (exactly) one of the values for a Conditional Parameter, this value will be selected by default.

5.2.5. Example

In the following example, a Conditional Parameter “Plate” is set. By selecting a plate, the calibration curve is selected, and the output is sent to the correct subfolder.
There are also a number of dropdown menus to select ruling, etc.

The resulting dialog when submitting a job in shuttle will look like this :



Conditionals

Plate: ACE_45

Separations

Emulsion: Up_RR
Orientation: 0
Screen_Ruling: 135
Hybrid: None
DotScale: 1

This is the actual NeXML file. Notice the comments, and the definition of the Conditional Parameter and Values.

```
<?xml version = "1.0" ?>
<aws.activities Version="1.0">
   <!-- Plate type drives not only the calibration file but the file copy destination path as well -->
   <!-- ACE_45 -->
   <Conditional Parameter="Plate" Value="ACE_45" IsDefault="True">
      <aws.activity Key="cAse" Label="" Name="Separations" Version="2.0">
         <Preference Key="Pcal" Name="Calibration" Type="Record">
            <Preference Key="Pfcf" Name="PlateBump" Type="String">/NEXUS_OSX/Cal/CDI_Bump_files/ACE_45_File
            </Preference>
         </Preference>
      </aws.activity>
      <aws.activity Key="AtFC" Label="" Name="CDI" Version="2.0">
         <Preference Key="pDst" Name="Plate" Type="String">/ACE_45/</Preference>
      </aws.activity>
   </Conditional>
   <!-- ACE_67 -->
   <Conditional Parameter="Plate" Value="ACE_67">
      <aws.activity Key="cAse" Label="" Name="Separations" Version="2.0">
         <Preference Key="Pcal" Name="Calibration" Type="Record">
            <Preference Key="Pfcf" Name="PlateBump" Type="String">/NEXUS_OSX/Cal/CDI_Bump_files/ACE_67_File
            </Preference>
         </Preference>
      </aws.activity>
      <aws.activity Key="AtFC" Label="" Name="CDI" Version="2.0">
         <Preference Key="pDst" Name="Plate" Type="String">/ACE_67/</Preference>
      </aws.activity>
   </Conditional>
   <!-- DFH_45 -->
   <Conditional Parameter="Plate" Value="DFH_45">
      <aws.activity Key="cAse" Label="" Name="Separations" Version="2.0">
         <Preference Key="Pcal" Name="Calibration" Type="Record">
            <Preference Key="Pfcf" Name="PlateBump" Type="String">/NEXUS_OSX/Cal/CDI_Bump_files/DFH_45_File
            </Preference>
         </Preference>
      </aws.activity>
      <aws.activity Key="AtFC" Label="" Name="CDI" Version="2.0">
         <Preference Key="pDst" Name="Plate" Type="String">/DFH_45/</Preference>
      </aws.activity>
   </Conditional>
   <!-- Regular preferences -->
   <aws.activity Key="cAse" Label="" Name="Separations" Version="2.0">
      <Preference Key="Pump" Name="Emulsion" Type="Boolean">
         <ValueDescription Key="False">Up_RR</ValueDescription>
         <ValueDescription Key="True">Down_RR</ValueDescription>
         <Value>False</Value>
      </Preference>
      <Preference Key="Poro" Name="Orientation" Type="Enumeration">
         <ValueDescription Key="0">0</ValueDescription>
         <ValueDescription Key="1">90</ValueDescription>
         <Value>0</Value>
      </Preference>
      <Preference Key="SCRN" Name="Screening" Type="Record">
         <Preference Key="Plsl" Name="Screen_Ruling" Type="Float">
            <ValueDescription Key="101">104</ValueDescription>
            <ValueDescription Key="120">118</ValueDescription>
            <ValueDescription Key="137">135</ValueDescription>
            <ValueDescription Key="155">156</ValueDescription>
            <Value>137</Value>
         </Preference>
         <Preference Key="HYBS" Name="Hybrid" Type="Long">
            <ValueDescription Key="0">None</ValueDescription>
            <ValueDescription Key="2">Quantum</ValueDescription>
            <ValueDescription Key="3">AutoBlend</ValueDescription>
            <Value>0</Value>
         </Preference>
         <Preference Key="FMSC" Name="DotScale" Type="Long">
            <ValueDescription Key="1">1</ValueDescription>
            <ValueDescription Key="2">2</ValueDescription>
            <ValueDescription Key="3">3</ValueDescription>
            <ValueDescription Key="4">4</ValueDescription>
            <ValueDescription Key="5">5</ValueDescription>
            <ValueDescription Key="6">6</ValueDescription>
            <ValueDescription Key="7">7</ValueDescription>
            <ValueDescription Key="8">8</ValueDescription>
            <ValueDescription Key="9">9</ValueDescription>
            <ValueDescription Key="10">10</ValueDescription>
            <ValueDescription Key="11">11</ValueDescription>
            <ValueDescription Key="12">12</ValueDescription>
            <ValueDescription Key="13">13</ValueDescription>
            <ValueDescription Key="14">14</ValueDescription>
            <ValueDescription Key="15">15</ValueDescription>
            <Value>1</Value>
         </Preference>
      </Preference>
   </aws.activity>
</aws.activities>
```

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NeXML