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**ePS Metrix 22.1**

**Tech Note:  
Metrix 22.1 MXML Changes**

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 Metrix | Tech Note: Metrix 22.1 MXML Changes

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## Introduction

ePS Metrix is an industry-leading job planning engine that transforms big data into actionable data in the most proven end-to-end integrated solution with a holistic view into manufacturing. With over 1,200 Metrix users in 25 countries and 17 years of continuous, aggressive development, Metrix is recognized as the de facto industry standard for dynamic, intelligent production planning, and automated imposition. Metrix 22.2 introduces new features and enhancements and addresses issues found in previous releases.

## Contact Information

### ePS Support

<b>Web Site:</b>	<a href="https://communities.efi.com">https://communities.efi.com</a>
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Metrix Support hours are 8:00 am to 5:00 pm Eastern Standard Time (Eastern Daylight Time during summer), Monday – Friday. You may contact support at the above numbers or via our customer portal at [communities.efi.com](https://communities.efi.com).

Regular European Service Desk hours are 9:00 am to 5:15 pm Greenwich Mean Time (British Summer Time during summer), Monday – Friday.

**Note** For problems involving infrastructure (i.e., computers, networks, operating systems, backup software, printers, third-party software, etc.), contact the appropriate vendor. ePS cannot support these types of issues.

# MXML Changes in Metrix 22.1

## About This Guide

There are several changes to the MXML file format to support the new features in Metrix 22.1. The specific changes are listed below.

## Requirements

Metrix 22.1

## Additional Sources

The complete MXML spec documents can be found at:

[Metrix 22.1 Release MXML Spec \(Inches and Millimeters\) HTML files.zip](#)

[Metrix 22.1 Release MXML Spec \(Inches\).pdf](#)

[Metrix 22.1 Release MXML Spec \(Millimeters\).pdf](#)

[ePS Metrix Tech Note-Bundling MXML.pdf](#)

## Resource Pool

There are two new entries in ResourcePool.

<xs:element ref="AllSeparationsMarkColor" minOccurs="0" maxOccurs="unbounded"/>

<xs:element ref="SpotColorMarkColor" minOccurs="0" maxOccurs="unbounded"/>

## MultiAutoPlan Command for iQuote and Automation Server

This is in the <Run> block. MultiPlan uses the same attributes as AutoPlan.

Attribute / Sub Element	Use	Description
<i>MultiAutoPlan</i>	Optional	MultiAutoPlan iterates through every stock and sheet provided in the Resources block and performs an AutoPlan on the project for each one. The result of each AutoPlan is exported to MXML and all the resulting MXML files are zipped into a single output file.

## New AutoPlan Attributes

Attribute / Sub Element	Use	Description
SeparateOneSided	Optional	If true, AutoPlan will make one pass processing all the One-sided products, then make a separate pass for the Two-sided products. This means that there will never be a layout that has both. One-sided products will always be on a One-sided layout.
<i>useBundling</i>	Optional	This may be used to disable use of the Bundle definitions in the project. If this is set to False, Bundling will be ignored during AutoPlan. Setting to true will be ignored if the project doesn't have bundling data defined

<i>bundleNewSheet</i>	Optional	If bundling is being used, this allows overriding the "Bundle starts on a new Sheet" setting in the bundle. Set to "Default" to use the setting from the bundle data, otherwise set to "True" to force each bundle to start on a new sheet, or "False" to allow multiple bundles on a sheet.
<i>bundleSepMark</i>	Optional	If bundling is being used, and bundles aren't started on new sheets, this controls if a separator mark is placed between bundles. True, False, or Default to use whatever is defined in the Bundle definition.
<i>bundleMarkSpace</i>	Optional	If Bundle Separator marks are being used, this is how much space to leave between the mark and the content. If not specified, the default for the Bundle definition will be used.
<i>allowBlocksAlgorithm</i>	Optional	This allows overriding the setting of the Allow Blocks preference. If this is set to "True", Blocks algorithm will be allowed, "False" to disallow it, "Default" to use the preference setting. NOTE: This is also available as a AutoProduction attribute.
<i>autoAlignOutsideCuts</i>	Optional	This allows overriding the setting of the Auto Align Outside Cuts preference. If this is set to "True", Outside cuts will be aligned, "False" to not do that, "Default" to use the preference setting.
<i>AutoCenterHorizontally</i>	Optional	Default may be set by the autoCenterHorizontal preference. Setting this to True automatically centers all layouts horizontally.
<i>AutoCenterVertically</i>	Optional	Default may be set by the engine.autoCenterVertical preference. Setting this to False, CenterOnSheet, or CenterInImageableArea to override the preference setting. Leave blank or omit to use preference setting.
<i>AutoPageToBleedGap</i>	Optional	True or False.
<i>enableForBundling</i>	Optional	When False and a Layout has Bundles, AutoProduction will not be performed. NOTE: AutoProduction attribute, not AutoPlan

## BarcodeProperties

In BarcodeProperties, the names of attributes that are in Point no longer have the word "Points" in them.

Attribute / Sub Element	Use	Description
<i>TextPointSize</i>	Required	Human-readable text point size. Valid range: 0 – 144 points.
<i>BarHeight</i>	Required	Barcode height. Valid range: 0 – 144 points.
<i>MinimumBarWidth</i>	Required	The calculated width of the barcode mark. Valid range: 0 – 6 points.
<i>SideQuietZone</i>	Required	Blank space to leave at the sides of the barcode. Valid range: 0 – 72 points.
<i>TopQuietZone</i>	Required	Blank space to leave at the top of the barcode. Valid range: 0 – 72 points.



## CheckProject Command

Attribute / Sub Element	Use	Description
<i>OnlySucceedIfStatusAtLeast</i>	Optional	If the Project status is less than or equal to the given status, the Project will Succeed, otherwise it will Fail. Defaults to always succeed.

## ExportReportOptions

Attribute / Sub Element	Use	Description
<i>LayoutBundles</i>	Optional	Select if LayoutBundles (Names of Bundles on Layout) is to be included in the report.

## AutoLayout

Attribute / Sub Element	Use	Description
<i>allowBlocksAlgorithm</i>	Optional	This allows overriding the setting of the Allow Blocks preference. If this is set to "True", Blocks algorithm will be allowed, "False" to disallow it, "Default" to use the preference setting.

## SetObjectProperty

Added the "Fail" option.

Attribute / Sub Element	Use	Description
<i>Property</i>	Required	The name of the property to set.
<i>Value</i>	Required	The "NeedsAttention" flag on the project to the "Value", or "Fail" to fail the automation (only for Value="True"). Controlled by OnlyDolfExporting.

## BarcodeParams

Attribute / Sub Element	Use	Description
<i>AllSeparationsMarkColorRef</i>	Required	If the mark is to be imaged in all separations, a reference to the relevant AllSeparationsMarkColor element in the ResourcePool. The mark must have one and only one reference to a color element, either an AllSeparationsMarkColor, a SpotColorMarkColor, or a ProcessColorMarkColor. NOTE: Any 1 of the 3 ColorRefs is required
<i>SpotColorMarkColorRef</i>	Required	If the mark is to be imaged in a spot color, a reference to the relevant SpotColorMarkColor element in the ResourcePool. The mark must have one and only one reference to a color element, either an AllSeparationsMarkColor, a SpotColorMarkColor, or a ProcessColorMarkColor.
<i>ProcessColorMarkColorRef</i>	Required	If the mark is to be imaged in process colors, a reference to the relevant ProcessColorMarkColor element in the ResourcePool. The mark must have one and only one reference to a color element, either an AllSeparationsMarkColor,



		a SpotColorMarkColor, or a ProcessColorMarkColor.
<i>BarcodeText</i>	Required	User-definable text to include in the barcode. Up to 999 characters.
<u><i>Text</i></u>	Required	Deprecated - use BarcodeText. Text may stop working in the future.

## Mark Colors

Added missing definitions for 2 types of colors for marks.(LineMark, TextMark, RectangleMark)

Attribute / Sub Element	Use	Description
<i>SpotColorMarkColor</i>	Required	
<i>InkRef</i>	Required	A reference to a CMYKColor element in the ResourcePool that can be used to represent this ink color on-screen. A reference element has a single rRef attribute matching the ID attribute of the CMYKColor element.
<i>ID</i>	Required	An identifier for the element, unique within the scope of the MXML document. The ID attribute can be used as a reference to the element from elsewhere in the MXML document. Up to 250 characters.
<i>Screen</i>	Optional	Required if using AllSeparationsMarkColorRef or SpotColorMarkColorRef
<i>SSiCustomColor</i>	Optional	Only used with SpotColorMarkRef
<i>AllSeparationsMarkColorRef</i>	Required	If the mark is to be imaged in all separations, a reference to the relevant AllSeparationsMarkColor element in the ResourcePool. The mark must have one and only one reference to a color element, either an AllSeparationsMarkColor, a SpotColorMarkColor, or a ProcessColorMarkColor.
<i>SpotColorMarkColorRef</i>	Required	If the mark is to be imaged in a spot color, a reference to the relevant SpotColorMarkColor element in the ResourcePool. The mark must have one and only one reference to a color element, either an AllSeparationsMarkColor, a SpotColorMarkColor, or a ProcessColorMarkColor.
<i>ProcessColorMarkColorRef</i>	Required	If the mark is to be imaged in process colors, a reference to the relevant ProcessColorMarkColor element in the ResourcePool. The mark must have one and only one reference to a color element, either an AllSeparationsMarkColor, a SpotColorMarkColor, or a ProcessColorMarkColor.

## TextMark

Added missing attributes to TextMark.

Attribute / Sub Element	Use	Description
<i>MarkBaseAttributes</i>	Required	

<i>Rotation</i>	Required	
<i>FontSize</i>	Required	
<i>Text</i>	Required	

## ComponentInstance

ComponentInstance may now have a BundleName.

### Example showing BundleName for ComponentInstance

```
<ComponentInstance Bottom="9" BundleName="Bundle.1" Flipped="false" Left="4" Orientation="0"/>
```

Attribute / Sub Element	Use	Description
<i>BundleName</i>	Optional	If Bundling was used to create this instance, this is the name of the Bundle it is in.

## Bundle Definitions

Attribute / Sub Element	Use	Description
<i>Count</i>	Optional	
<i>Bundle</i>	Optional	
<i>Name</i>	Required	
<i>Count</i>	Optional	
<i>ProductBundles</i>	Optional	
<i>Bundle</i>	Optional	
<i>BundleModeType</i>	Required	
<i>Count</i>	Optional	
<i>StartOnNewLayout</i>	Optional	
<i>AddSeparatorMarks</i>	Optional	
<i>SeparatorSpace</i>	Optional	
<i>RespectQuantity</i>	Optional	

## Bundle Reference in Projects

Attribute / Sub Element	Use	Description
<i>ProductBundles</i>	Optional	

## Export Barcoded Imposed PDF

Attribute	Use	Description
DestinationFolder	Required	Optional if ExportToZipFile is true Directory to place PDF file
ExportAs	Optional	Defaults to "OneFile" values: OneFile, SeparateFileForEachLayout, SeparateFileForEachLayoutSide, SeparateFileForEachBundle
ExportNegativeBleeds	Optional	Default: false Whether any negative bleed area specified in Metrix should be cropped to zero or honored when exported.
ExportToZipFile	Optional	Default: false If true, all exports will be collected into a single .zip file.
FilenameFormat	Optional	Default: <Project.ID> What to use for the export file name. Various substitutions are available.
ImposeTo	Required	PressPlate or PressSheet
Name	Optional	Name to display in Automation properties
PdfSheetBleed	Optional	Specify a PDF Sheet Bleed margin when exporting Imposed PDF, Barcoded Imposed PDF, and JDF. This setting adds the specified margin to the mediabox all around the sheet and sets the trimbox to the exact sheet size and ensures marks can bleed off the edge of the sheet.

Sub Element	Use	Description
TrimMarksRef	Optional	
ExternalFoldMarksRef	Optional	
InternalFoldMarksRef	Optional	
BarcodePropertiesRef	Optional	
SelectedLayoutsRef	Optional	

In the <ResourcePool> block:

```
<SelectedLayouts ID="Ref_1004" Sides="[0 1],[0 1]" />
```

Where Sides is a string specifying a list of Layout index (0-n) and side number (1,2).  
Ex: [0,1],[1,1] Front side of the 1st 2 layouts

In the <Run> block

```
<ExportBarcodedImposedPDF DestinationFolder="&lt;home&gt;/MetrixExports" ExportAs="OneFile"
ExportNegativeBleeds="False" ExportToZipFile="False" FilenameFormat="&lt;PROJECT.ID&gt;_Barcoded"
ForceQuantityOne="True" ImposeTo="PressSheet" IncludeContent="True"
Name="ExportBarcodedImposedPDF" PdfSheetBleed="0.0" isSelected="True">
```

```
<TrimMarksRef rRef="Ref_1000"/>
<ExternalFoldMarksRef rRef="Ref_1001"/>
<InternalFoldMarksRef rRef="Ref_1002"/>
```

```
<BarcodePropertiesRef rRef="Ref_1003"/>
<SelectedLayoutsRef rRef="Ref_1004"/>
</ExportBarcodedImposedPDF>
```

## General MXML Syntax Examples

```
<Project ....>
  <ProductBundle Mode="AutoAllProducts | AutoByProduct | AutoByNote | AutoByCompany | AutoByDueDate
  | AutoByRequiredDate | Manual" Count="{number}" StartOnNewLayout="true | false"/>
    <Bundle Name="xxx" Count="{number}">
      <ProductRef ID="Ref_xxx" Count="{number}" />
    </Bundle>
  </ProductBundle>
```

## ProductBundle

### Mode

Mode defaults to 'Manual'

*AutoAllProducts* – Count (Required) is the number of Bundles to create, each bundle contains all products, with (Product Quantity / Bundle Count) instances of each product..

*AutoByProduct* – Count (Required) is the number of Instances of a product to put in a Bundle. There will be a set of Bundles created for Each Product.

*AutoByNote, AutoByCompany, AutoByDueDate, AutoByRequiredDate* – Count (Ignored). These will create a Bundle for each unique value of the given field. If multiple products have the same value, they will be in the same Bundle.

*Manual* – Count is the default number of instances of each product in a bundle. Defaults to 1. Optional.

### Count

Optional – depends on Mode above.

### StartOnNewLayout

If True, each bundle starts on a new Layout. Default is False.

### AddSeparatorMarks

If True, a Line Mark will be placed between Bundles that are on the Same Sheet. Default is False.

### SeparatorSpace

The distance between the Separator Line Mark and the product Content. Default is 0

### Respect Quantity

If True, when Auto-Generated Bundles are created, they will not use more than the Required Quantity specified in the Product(s). This will possibly result in one or more of the final Bundles having fewer than the requested number of instances of a Product.

### Bundle

<Bundle> definitions are only read when Mode = Manual.

### Name

Name of the Bundle – Required.

---

**Count**

Optional. Specifies default number of instances of each product in the bundle. Default is "Count" from ProductBundle

**ProductRef**

rRef

Required. Specifies the product reference.

**Count**

Optional. Specifies the number of instances of the product. Default is the value from Bundle.

**Examples:**

1. Simple Auto

```
<Project ...>
```

```
  <ProductBundles Mode="AutoAllProducts" Count="20" StartOnNewLayout="true"/>
```

**Description:**

Auto create 20 bundles, each with all products, for each product the number of instances is the Product requested quantity / 20 (rounded up).

Every Bundle will start on a new layout.

2. Simple Product

```
<Project ...>
```

```
  <ProductBundles Mode="AutoByProduct" Count="5" />
```

**Description:**

Auto create a Bundle for each product with 5 instances of the product in each Bundle.

Bundles may be started on a partially used sheet.

3. Minimal Manual

```
<Project ...>
```

```
  <ProductBundles " StartOnNewLayout="true">
```

```
    <Bundle Name="North" />
```

```
    <Bundle Name="East" />
```

```
    <Bundle Name="South" />
```

```
    <Bundle Name="West" />
```

```
  </ProductBundles>
```

**Description:**

Auto create 4 bundles, each containing all products, with (product.requestedQuantity / 4) instances of each product in each Bundle.

4. Manual with Counts

```
<Project ...>
```

```
  <ProductBundles Count="5">
```

```
    <Bundle Name="North" />
```

```
    <Bundle Name="East" />
```

```
    <Bundle Name="South" Count="7"/>
```

```
<Bundle Name="West" Count="2"/>
</ProductBundles>
```

**Description:**

Auto create 4 bundles, each containing all products, with 5 instances of each product in “North” and “East” Bundles, 7 of each in the “South” Bundle, and 2 of each in the “West” Bundle.

4. Manual Complete

```
<Project ...>
  <ProductBundles Count="5">
    <Bundle Name="North" >
      <ProductRef ID="Ref_1" />
      <ProductRef ID="Ref_2" Count="3" />
    </Bundle>
    <Bundle Name="East" >
      <ProductRef ID="Ref_1" />
      <ProductRef ID="Ref_3" />
      <ProductRef ID="Ref_5" />
    </Bundle>
    <Bundle Name="South" Count="7">
      <ProductRef ID="Ref_1" />
    </Bundle>
    <Bundle Name="West" Count="2"/>
      <ProductRef ID="Ref_1" />
      <ProductRef ID="Ref_2" />
      <ProductRef ID="Ref_3" />
      <ProductRef ID="Ref_4" Count="1" />
      <ProductRef ID="Ref_5" />
    </ProductBundles>
```

**Description:**

Each Bundle contains a different set of products with varying quantities.

---