

# C# Print Support App

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## Release History

### ► 2021-02-22 (v7)

Many updates, including:

- Demonstration of `IPrintWorkflowXpsReceiver` to load and render pages as they become available, rather than waiting for the entire `XpsDocument` to load before showing the initial preview.
- Restructuring of overall architecture to better separate responsibilities, especially in watermark preview UI elements and in the watermarking process.
- Watermarking process standardized between preview and print background tasks through `XpsWatermarker`.
- Rendering preview is done in the background to avoid blocking the UI thread.
- Preview is rendered immediately as watermark text is typed, and in response to other UI events, without need for an explicit "preview" button.
- Improved UI for choosing relative watermark position on the page.
- Add a cancel button to abort the workflow from the print dialog.
- Demonstrate getting and setting custom IPP attributes.

### ► 2020-12-17 (v6)

- Updated `PrintSupportWorkflowBackgroundTask.cs` - Update PSA sample to new API `CreateJobOnPrinter()` and remove `GetJobAttributes()`.

### ► 2020-11-06 (v5)

- Updated `PrintTicketManipulationExample.xaml.cs` - Print ticket options are selected from the Print Ticket object, instead of the Print Capabilities object.
- Added `UserLaunchMainPage.xaml.cs` - Added example to obtain the IP address of IPP Printers connected to the device.

### ► 2020-08-13 (v4)

- Added `OnSessionJobNotification` example. See [JobNotificationExample.xaml.cs](#)
  - Small refactoring was done on [WatermarkManipulationExample.xaml.cs](#) and [JobActivatedMainPage.xaml.cs](#)
- Added `AddCustomMediaType` example and removed `SetAsDefaultPageMediaSize` example. See [PrintSupportExtensionBackgroundTask.cs](#)

- Currently the default values on the print ticket cannot be changed. The sample now adds a new selectable option for `PageMediaType`.
- Added `GetJobAttributes` example. See `PrintSupportWorkflowBackgroundTask.cs`

#### ► 2020-07-14 (v3)

- `Package.appxmanifest`
  - Added `privateNetworkClientServer` to Capabilities section. This is to allow IPP requests to be made by the app.
  - Added `uap10:SupportsMultipleInstances="true"` to Application section in order to support multi-instance app.
- `XpsDocument`
  - Replaced `args.SourceContent.GetInputStream()` with `args.SourceContent.GetContentFileAsync` in `OnPdlModificationRequested`. `GetContentFileAsync` is the proper way to get the document data.
  - `CLSID_XPSRAS_FACTORY` is replaced with `CLSID_XPSRASTERIZER_FACTORY` in `XpsDocument::ConvertXPStoBMP`.
- `Watermark`
  - UI closes after clicking `Print`.

#### ► 2020-06-30 (v2)

- Updated watermark example.
  - Added document preview.
  - Added ability to add a custom watermark image to the XPS document.
- Updated `PrintSupportWorkflowBackgroundTask.OnPdlModificationRequested` to convert the XPS document to a printer supported PDL, instead of only XPS->PDF.
- Added `PrintSupportWorkflowBackgroundTask.GetDocumentFormatDefault` to get the `document-format-default` IPP attribute from the printer.
- Added `PrintSupportExtensionBackGroundTask.OnSessionPrintDeviceCapabilitiesChanged` to update the default page media size.
  - **Issue:** We are investigating an issue where the default print ticket does not reflect the updated PDC values.
- New contract IDs are available. Please update `Package.appxmanifest`. See usage in files listed below.

- `Package.appxmanifest`

1. Add the new namespace

```
xmlns:uap12="http://schemas.microsoft.com/appx/manifest/uap/windows10/12"
```

2. Add `uap12` to the space separated list of `IgnorableNamespaces`.

3. Update `TargetDeviceFamily` as shown below:

```
TargetDeviceFamily Name="Windows.Universal" MinVersion="10.0.0.0"
MaxVersionTested="10.0.0.0"
```

4. Update the contract IDs.

- Remove
  - `windows.printTaskSettings`

- windows.printWorkflowForegroundTask
  - windows.printWorkflowBackgroundTask
- Add
  - windows.printSupportExtension
  - windows.printSupportWorkflow
  - windows.printSupportSettingsUI
  - windows.printSupportJobUI
- windows.printSupportExtension
  - PrintSupportExtensionBackGroundTask.cs.
- windows.printSupportWorkflow
  - PrintSupportWorkflowBackgroundTask.cs.
- windows.printSupportSettingsUI
  - JobActivatedMainPage.xaml.cs
  - WatermarkManipulationExample.xaml.cs
- windows.printSupportJobUI
  - SettingsActivatedMainPage.xaml.cs
  - PrintTicketManipulationExample.xaml.cs

#### ► 2020-06-02 (v1)

- Initial C# Sample PSA prepared for print partners.

## Known Issues

P1

P2

- ~~LaunchAndCompleteUIAsync~~ launches the PSA behind other windows. [Fixed in 2020-07-14 build]
  - This is fixed with the exception of when printing from the Maps app.

#### ► Fixed

- ~~Print dialog crashes when PSA is launched and closed without modifying the print ticket settings.~~ [Fixed in 2020-06-30 build]
- ~~PSA background tasks are all in-proc. This means that PSA can not be run as a multi-instance app.~~ [Fixed in 2020-07-14 build]
- ~~Currently, the PSA background tasks all have a 25 second time out period. If the background tasks runs for more than 25s, it will be terminated by the system. The timeout will be removed in a future release.~~ [Fixed]
  - ~~Additionally, because PSA is running as a single instance app, any UI will also be terminated, when the background task is terminated.~~ [Fixed]
- ~~The default print ticket received in the printing app does not have the updated PDC, after the PDC was updated by PSA.~~ [Fixed in 2020-07-14 build]

- ~~Currently PDC edits does not support changing of default media size. [By Design]~~
- ~~Update PDC example is not updated yet. [Fixed in V4]~~
- Upon calling ~~`PrintWorkflowPdldataAvailableEventArgs.PrintWorkflowConfiguration.AbortPrintFlow`, the print queue will show the status of the print job as "Deleting", and the job will stay in the queue in a broken state. [Fixed]~~
- PSA is NOT closed after setting the watermark and selecting `Print`. [Fixed in 2020-07-14 build]
  - ~~Once the background tasks can run out of proc & PSA can run as a multi instance app, this issue will be fixed.~~

## Remarks

### ► Details

- ~~The current manifest contract (`windows.printWorkflowBackgroundTask`) used in the sample app is not the final/correct contract for a Print Support App. We are temporarily using this contract until the new PSA contracts are added to the SDK. [Fixed in 2020-06-30 build]~~
- For builds 2020-06-30 and above, please make sure the following contract IDs are removed from the `Package.appxmanifest` file.
  - `windows.printTaskSettings`
  - `windows.printWorkflowBackgroundTask`
  - `windows.printWorkflowForegroundTask`

## Resources

- [Create a multi-instance Universal Windows App](#)
- [Using an Extension INF File](#)
- [Windows.Data.Xml.Dom](#)
  - [XPath Syntax](#)
- [Windows.Graphics.Printing.PrintTicket](#)