

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 `UserLaunch MainPage.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 `JobActivated MainPage.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
 - JobActivated MainPage.xaml.cs
 - WatermarkManipulationExample.xaml.cs
- windows.printSupportJobUI
 - SettingsActivated MainPage.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

- ~~Printdialog 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](#)