GX PDF Printing

1. Introduction

This document describes an "advanced" printing technique that converts Global report files into PDF file format. This is one of a series of non-traditional printing techniques available with GSM (Windows). The various non-traditional printing techniques that are **currently** available are listed here for completeness:

- 32-bit printing using the "GX Print" interface available with the GSM (Windows) GXPrint printer controller. This technique allows reports to be printed on all types of Windows printers, including those printers (e.g. bubblejet) that may not be supported by the "traditional" WinPrint printer controller. The GX Print interface and the GXPrint controller are fully described in Technical Notes IN259 and IN410 (when available). Note that this technique does **not** involve the creation of PDF files. The key GSM (Windows) registry key for this option is:

  ..\Printers**GXPrint**\5nn\

- The "GX Print" interface available with the GSM (Windows) GXPrint controller is only available for 32-bit applications. An innovation in the GSM (Windows) DOSPrint controller allows the "GX Print" interface to be used by both 16-bit and 32-bit applications. Thus, **all** Global applications (both 32-bit **and** 16-bit) can now print to **all** types of Windows printers, including those printers (e.g. bubblejet) that may not be supported by the "traditional" WinPrint printer controller. The GXPrintInterface option of the DOSPrint controller is fully described in section 3.44 of Technical Note IN406. Note that this technique does **not** involve the creation of PDF files. The key GSM (Windows) registry setting for this option is:

  ..\Printers\DOSPrint\5nn**GXPrintInterface**

- PDF file conversion using the QueueScan-3000 service in conjunction with the GSM (Windows) DOSPrint printer controller. This technique is fully described in Technical Note IN287. The key GSM (Windows) registry settings for this option are:

  ..\Printers\DOSPrint\5nn**PrintViewDirectory**
  ..\Printers\DOSPrint\5nn**QueueScanPrinter**

- PDF file conversion using a PDF converter within GX.EXE in conjunction with a commercially available 3rd party DLL file. This technique, which provides several extensions to the QueueScan 3000 service is described in the remaining sections of this document and in section 3.42 of Technical Note IN406. The key GSM (Windows) registry setting for this option is:

  ..\Printers\DOSPrint\5nn**GXPDFViewer**

Note that other "advanced" printing techniques, including significant extensions to the PF construct and printing via XML documents, are currently under development.

2. Global Software Versions Required

The following GSM software is required:

GSM SP-16, or later
GLOBAL.EXE V3.9e, or later
GX.EXE V3.5u, or later

3. Additional Software Required

In order to convert a textual print file to PDF format, GX requires the use of the following DLL:

PDF_In_The_Box.DLL

This DLL can be purchased and downloaded from the following web-site:

http://www.synactis.com/

Please ensure that you comply with the licencing requirements for this 3rd party software.

Once installed, the PDF_In_The_Box.DLL file should be copied into the current GX folder. This can be performed automatically by the GX file update procedure (see section 7 for further details).

4. DOSPrint Controller Configuration

4.1 DOSPrint Controller Configuration for Basic Printing

As explained in section 3.43 of IN406 the following registry settings are obligatory for the PDF file conversion using a PDF converter within GX.EXE:

..\Printers\DOSPrint\5*nn*\Name=<*name of a Windows folder*>
..\Printers\DOSPrint\5*nn*\GXPDFViewer=On
..\Printers\DOSPrint\5*nn*\PrintViewDirectory=<*name of a Windows folder*>

For example:

..\Printers\DOSPrint\520\Name=C:\GSM\PRINTER520\
..\Printers\DOSPrint\520\GXPDFViewer=On
..\Printers\DOSPrint\520\PrintViewDirectory=C:\GSM\PRINTER520PDFS\

Note that the "Name" setting and the "PrintViewDirectory" setting can be the same. For example:

..\Printers\DOSPrint\520\Name=C:\GSM\PRINTER520\
..\Printers\DOSPrint\520\GXPDFViewer=On
..\Printers\DOSPrint\520\PrintViewDirectory=C:\GSM\PRINTER520\

As explained in sections 3.29, 3.30, 3.40 and 3.43 of IN406 the following registry settings are optional for the PDF file conversion using a PDF converter within GX.EXE:

..\Printers\DOSPrint\5*nn*\PrintViewAutoDelete
..\Printers\DOSPrint\5*nn*\PrintViewFileCopyBufferSize
..\Printers\DOSPrint\5*nn*\PrintViewTimeOut
..\Printers\DOSPrint\5*nn*\\EnableAlignmentPatternSuppression

4.2 DOSPrint Controller Configuration for Special Reports

In order to use the special facilities within the GXPDFBACKDROP.INI file as described in section 5.2 the following registry setting must be enabled:

..\Printers\DOSPrint\5*nn*\PrintViewAddPrinterNumber

See section 3.49 of IN406 for further details.

Furthermore, the following registry settings may be required for some special reports (e.g. Payslips created by Global Payroll):

..\Printers\DOSPrint\5*nn*\InsertFormFeedAtNewPage=On
..\Printers\DOSPrint\5*nn*\InsertFormFeedAtNewPageCount

See sections 3.50 and 3.51 of IN406 for further details.

5. GX Configuration

5.1 GX Configuration for Basic Printing

The following GX.INI file settings are obligatory for the PDF file conversion using a PDF converter within GX.EXE:

[general]
PDFInterface=On
PrinterTempDirectory=<*name of a Windows folder*>

The PrinterTempDirectory setting specifies the folder, on the PC running the GX.EXE thin-client, which will be used to temporarily hold the PDF files that are sent from the Global server.

The following GXIO.INI file setting is obligatory for the PDF file conversion using a PDF converter within GX.EXE:

```
[miscellaneous]
PrinterTempDirectory=<name of a Windows folder>
```

Important note: The value of the PrinterTempDirectory in the [miscellaneous] section of the GXIO.INI file **MUST** agree with the value of the PrinterTempDirectory in the [general] section of the GX.INI file.

In addition, the following GXIO.INI setting is available to allow a timeout to be set for the necessary file deletion process from the printer temp directory:

```
[miscellaneous]
PrinterTempDirectoryStaleFileTimeout=<numeric value>
```

This setting specifies the minimum number of minutes the file will remain in the directory. The default value is 0 which disables the timeout and ensures the directory is always cleared on receipt of a new file. There is no upper limit on the timeout value so that, for example, 1 hour timeout can be configured with a value of 60 and a one day timeout with a value of 1440.

Furthermore, the following GX.INI setting is required to specify the version of the PDF_In_The_Box.DLL:

```
[general]
PDFDLLVersion=
```

This setting must be 0 if you are using PDF_In_The_Box.DLL V1.6; or 1 (the default setting) if you are using PDF_In_The_Box.DLL V2.0 or V2.0b etc. Other values may be required for future versions of PDF_In_The_Box.DLL.

5.2 GX Configuration for Advanced Printing

In order to configure some advanced features of the PDF file conversion using a PDF converter within GX.EXE a new INI file, GXPDFBACKDROP.INI, must be created in the GX folder. The GXPDFBACKDROP.INI file is **not** created by GX installed and must be created using your favourite text editor.

As its name implies this INI file was initially employed to specify one or more backdrops for use with a PDF print but has evolved to specify other useful settings (e.g. the font name). Note that the PrintViewAddPrinterNumber registry option (see section 4.2) must be enabled for the particular printer number in order for the GXPDFBACKDROP.INI file to be recognised.

5.2.1 File structure

As with any INI file there can be one (or more) sections containing one (or more) settings. In this case all the documented settings are valid in all sections.

5.2.2 Sections

The GXPDFBACKDROP.INI file settings are all printer numbers (e.g. [500], [501], etc.). This format allows the settings to be specified on a per GSM printer basis (e.g. the settings for printer 500 can be different from the settings for printer 501).

5.2.3 Settings

There are 8 valid settings recognised in each section. These settings are described below.

5.2.3.1 Backdrop*n*

Each Backdrop*n* setting specifies a backdrop image to be displayed on every page of the print report. This image is displayed before any text, hence the standard text from the report will overstrike the image. A sequence of images can be specified by setting up Backdrop1, Backdrop2, etc., provided the index numbers are consecutive. Note that Backdrop1 is printed first, Backdrop2 is printed next and so on. For example:

```
Backdrop1=f:\myimages\watermarklogo.bmp
Backdrop2=.\imagefiles\companylogo.bmp
```

In the second example above, the Backdrop2 folder name is relative to the current GX folder.

Note that either an absolute pathname or a relative pathname must be specified. A simple filename setting of the following form will not be recognised:

```
Backdrop1=watermarklogo.bmp
```

The following image files types are supported: BMP, JPEG and ICO.

5.2.3.2 Border

The Border setting controls the display of a single pixel border around the entire page. This default setting is On.

5.2.3.3 PageNumber

The PageNumber setting controls the display of some page number information at the foot of each page. The default setting is On.

5.2.3.4 FontName

The FontName setting specifies the font to be used to display the text in the print report. This setting must specify a TrueType font and, preferably, a fixed pitch font. The default setting is Courier New.

5.2.3.5 FontPointSize

The FontPointSize setting specifies the font size to be used to display the text in the print report. The default setting is 10.

5.2.3.6 Landscape

The Landscape setting specifies whether the report should be printed in landscape (On) or portrait (Off) mode. The default setting is On.

5.2.3.7 LinesPerPage

The LinesPerPage setting specifies how many lines must be fitted onto the page. This effectively fixes the line height and characters are centred within the line height. A special value of 0 is used to indicate the line height is specified by the height of characters in the selected font. The default setting is 66.

5.2.3.8 Margin

The Margin setting specifies the size of the border around the entire printed page. The default setting is 32. Note that if this value is reduced and the PageNumber setting is enabled there may be insufficient room to display the entire page number block at the foot of the page.

5.2.3.9 CentreJustify (GX V3.6a, or later)

The CentreJustify setting controls the position of text within the page. This setting defaults to On.

5.2.4 Example settings

For an 80 column print of up to 66 lines per page use the following settings:

```
[520]
FontName=Courier New
FontPointSize=11
Landscape=Off
LinesPerPage=0
Border=On
PageNumber=On
Margin=32
```

For a 132 column print of up to 66 lines per page use the following settings:

```
[520]
FontName=Courier New
FontPointSize=10
Landscape=On
LinesPerPage=66
Border=On
PageNumber=On
Margin=32
```

6. Removing Alignment Prompts and Mount Messages

Superfluous alignment prompts can be removed by enabling the EnableAlignmentPatternSuppression and related registry settings. See section 3.43 of Technical Note IN406 for further details. For example, to suppress the Alignment Pattern for Payslips prints on printer unit 520:

..\Printers\DOSPrint\520\EnableAlignmentPatternSuppression=On
..\Printers\SuppressAlignmentPatternDepth1=30
..\Printers\SuppressAlignmentPatternText1=Envelope Payslips

7. Downloading PDF_In_The_Box.DLL from the Server

The PDF_In_The_Box.DLL must be present in a suitable directory on every GX PC that is to provide the PDF file conversion facility. The DLL can be anywhere in the "DLL Search Path". Both the current GX folder and the Windows folder are normally part of the DLL Search Path. You are advised to copy the DLL into the current GX folder.

The PDF_In_The_Box.DLL can be auto-downloaded from the GSM server to each GX PC using the technique described in section 6 of Technical Note IN271. Follow these steps:

1. Create a "gxupdates" folder, if there is not already one in the current GSM folder on the server;

2. Create a "gxini" folder within the gxupdates folder;

3. Create a 2nd level "gxini" folder within the 1st "gxini" folder. For example, if GSM is installed into D:\GSM\ the following folder structure should be present:

   D:\GSM\GXUPDATES\GXINI\GXINI\

4. Enable the GX file download option by setting the following registry setting to "On":

   ..\Global\Client\ServicePacks\UpdateGXFiles=On

5. Copy the PDF_In_The_Box.DLL into the D:\GSM\GXUPDATES\GXINI\GXINI\ folder. The DLL will be automatically copied to the current GX folder the next time a GX session is started.