Plug-in support with Print Form

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Introduction

4D Version 2004.5 introduces a new feature: print support for plug-ins when printing with Print Form. This technical note is based on TN 06-27, which demonstrates a system that prints complex invoices using Print Form and 4D text fields. Using 2004.5 this enhanced version uses 4D Write to print styled text as invoice item description, including pictures.

Example database

The example database is based on the "Invoice" sample database, which is part of the standard example databases from the 2004 Evaluation installer. We have added a 4D Write field in the product table to store product descriptions. You need to install 4D Write to use this example database.

After the database is launched it displays a list of created invoices. Double-click the first of them, and then click in the input form on "Print".

Please take a moment to notice:
- The header is different between the first page and following pages (as in TN 06/27)
- The footer is different for subtotals and the last page (as in TN 06/27)
- item text with styles and pictures
- item text break. When 4D Write objects are too big for the remaining space on the page, they are automatically splitted and printed on the following page.

The 4D form to print this invoice is built like this:
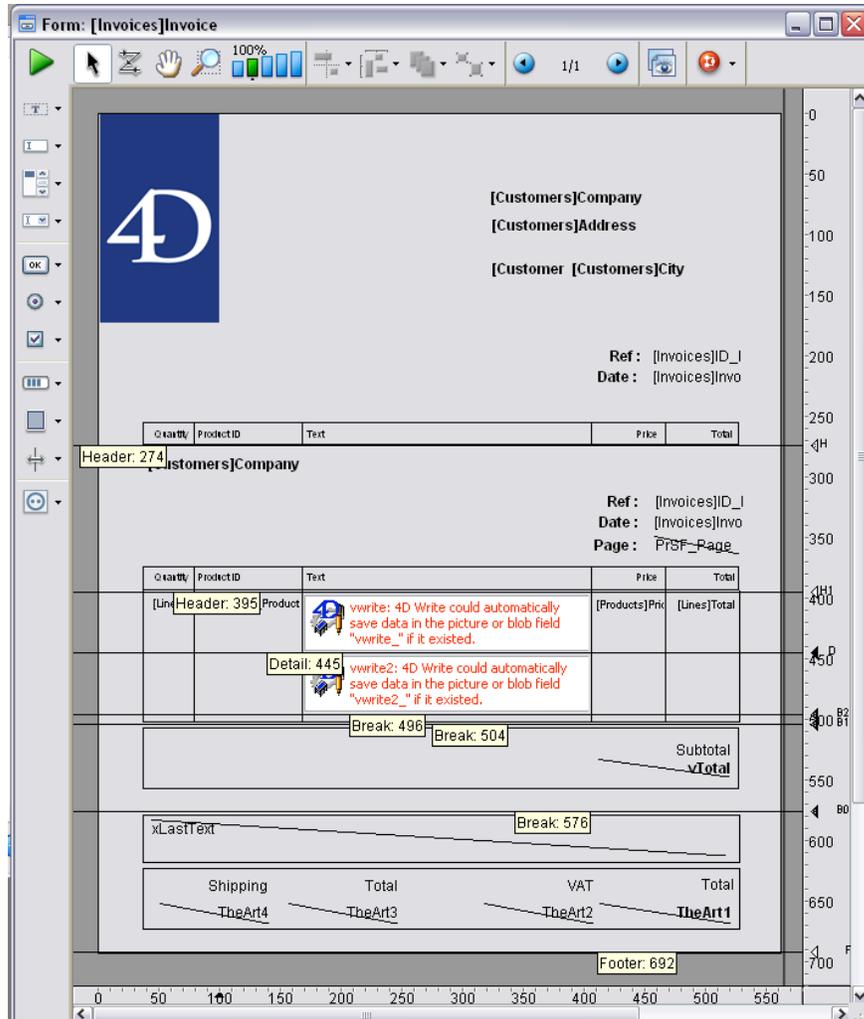
The concept of several print parts is similar to that of TN 06-27, please refer to that technical note for more details on this. The invoice item is built using the Detail and the first break area. If the space on the page is large enough for the whole article, only the Detail area is printed; Break0 is not used. The 4D Write area is resized depending of the content of the area. If the space is not large enough, the 4D Write area is resized to fit the remaining space and the content of the 4D Write area is

divided. The 2nd part is printed using Break0, again the 4D Write area is enlarged depending of the remaining content.

Breaking the article description in single lines

To support invoice items with a variable length, the 4D Write document is automatically resized. This quite complex job is handled from the method PrSF_WriteBreakCalculation, called from the form method.

The method first adjusts the width of the 4D Write document to fit the width of the object of the invoice form. Then it calculates the available space and compares it to the height of the 4D Write document. If it fits, it resizes the object and prints it, otherwise it splits it into two parts.

If you want to use other plug-ins like 4D View a similar method has to be written.

Using the code in your application

1. Use 4D Insider to copy the group "PrintSmartForm" into your application – or manually copy into your application the contents of the 4 methods whose names begin with "PrSF_".
2. Create a print form, similar to the one above. Note that you must have exactly two headers and 3 breaks.

   As form method insert:

   If (**Form event**=<u>On Printing Detail</u>)
       WR BLOB TO AREA (vwrite;[Products]Write_)
       PrSF_WriteBreakCalculation (->vwrite) ` see example for additional infos
       PrSF_PrintFormMethod
   End if
3. Create a method to print the document, in the example named "PrintInvoice"

The print method may initialize needed variables and tables, it may also do calculations needed for the final footer. Let's see a simple example:

```
vTotal:=0
vInvoiceTotal:=[Invoice]Total+[Invoice]VAT
xLastText:="Don't miss our special end of the year prices – " +
                "visit our web page for details"
PrSF_Print (->[Invoices];->[Lines];"Invoice";->[Lines]ItemText;"Arial";9;0;233;True)
```

vTotal is used to calculate the current subtotal to be printed on each page that is not the last one. vInvoiceTotal is just an example to be directly used in the last footer (similar to the example form above, using TheArt1-4). xLastText is an example for a

variable text to be printed in the footer. It could be a notice for special offer, a reminder for an unpaid invoice, etc.

PrSF_Print does the real work. The first parameter is a pointer to the main/invoice table. The second parameter is a pointer to the item table, to be included in the main invoice.
The next 5 parameters control the variable text part, a pointer to the text item itself, the used font, font size, font style and the width of the text variable.
The 6th and last parameter allows you to disable the Printer Dialogs. True tells the method to open the Printer dialogs. If you have opened it yourself before or you are using another way to control correct printer settings (e.g. AP BLOB to print settings), you can pass False to disable the dialogs.

Finally you may need to modify PrSF_ItemCalculation.
This method is executed once for each printed item, which allows you to prepare needed variables or do other calculations. The template method contains a case of statement, so this single method can be used to print documents for several tables (like invoice, shipping papers, orders, etc).
Use this method to increase the subtotal value (in this example vTotal) for each printed item.