

DataSplice®

Mobile Computing

.NET Printer Plug-in

Installation Guide

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Introduction

Purpose

This guide describes the process of installing and configuring the DataSplice .NET printer plug-in. This plug-in allows you to print to barcode printers in response to various data events.

In addition to the installation and configuration steps for the plug-in, this guide also provides information for creating template files for your labels.

For additional documentation and support resources, please visit <http://support.datasplice.com>.

Version Information

The information in this guide is valid and current with DataSplice version **2.3.10.0**.

Plug-in Installation and Configuration

Before you can successfully use the DataSplice .NET printer plug-in, you must first install and configure it to work correctly with your system. This process is examined in the following sections:

- **System Requirements**
- **Installing the DataSplice .NET Printer Plug-in**
- **Configuring the DataSplice .NET Printer Plug-in**

System Requirements

The following information details the system requirements for the DataSplice .NET printer plug-in. This includes a listing of the supported operating systems and the other required components that must also be present on the computer.

Supported Operating Systems

The DataSplice .NET printer plug-in supports the following operating systems:

- Microsoft Windows NT 4 (Workstation or Server) with service pack 6a
- Microsoft Windows 2000 (Professional, Server, or Advanced Server) with the latest Windows service pack and critical updates available from the Microsoft web site
- Microsoft Windows XP (Home or Professional)
- Microsoft Windows Server 2003 family

Hardware Requirements

The hardware requirements for the DataSplice .NET printer plug-in are similar to those of the DataSplice Mobile Integration Suite with which the plug-in interacts. The hardware requirements are as follows:

- 500 MHz processor (1 GHz recommended)
- 256 MB RAM (512 MB recommended)
- 200 MB of available hard disk storage (500 MB recommended)

Additional Required Components

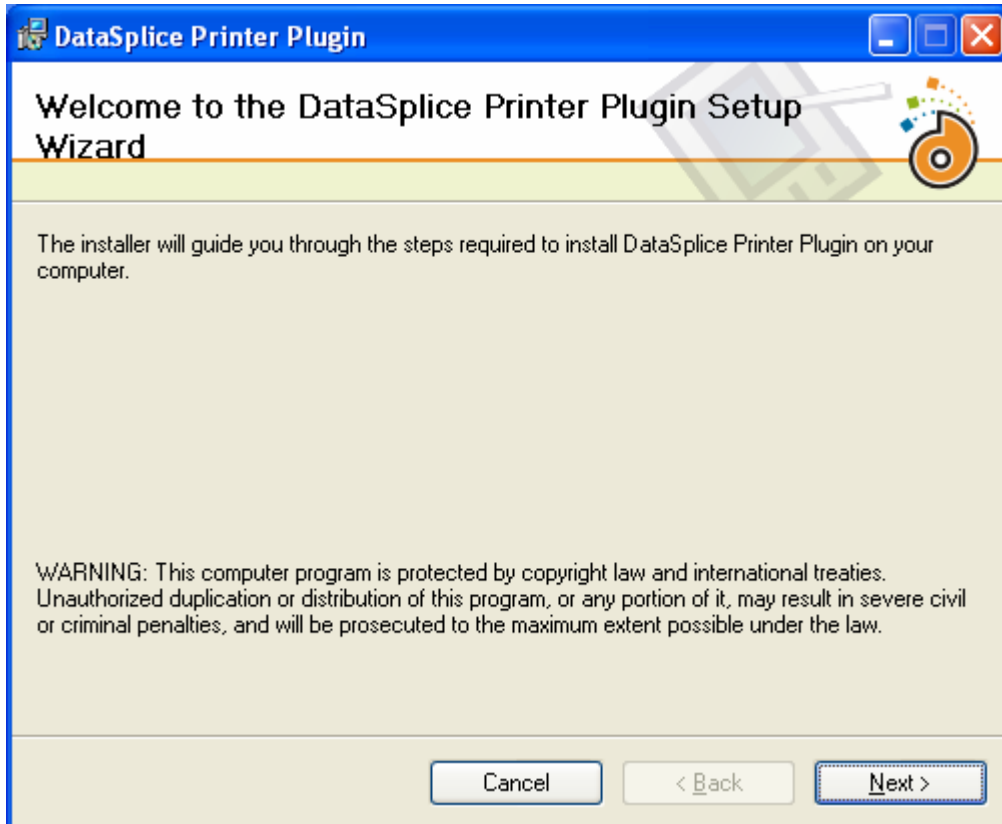
The following components must also be installed for the DataSplice .NET printer plug-in to function correctly:

- DataSplice Mobile Integration Suite
- Microsoft .NET Framework version 1.1 or newer
- Microsoft Data Access Components (MDAC) version 2.6 or newer
- Microsoft XML Core Services (MSXML) version 4.0 or newer
- Microsoft Internet Explorer version 5.01 or newer

Installing the DataSplice .NET Printer Plug-in

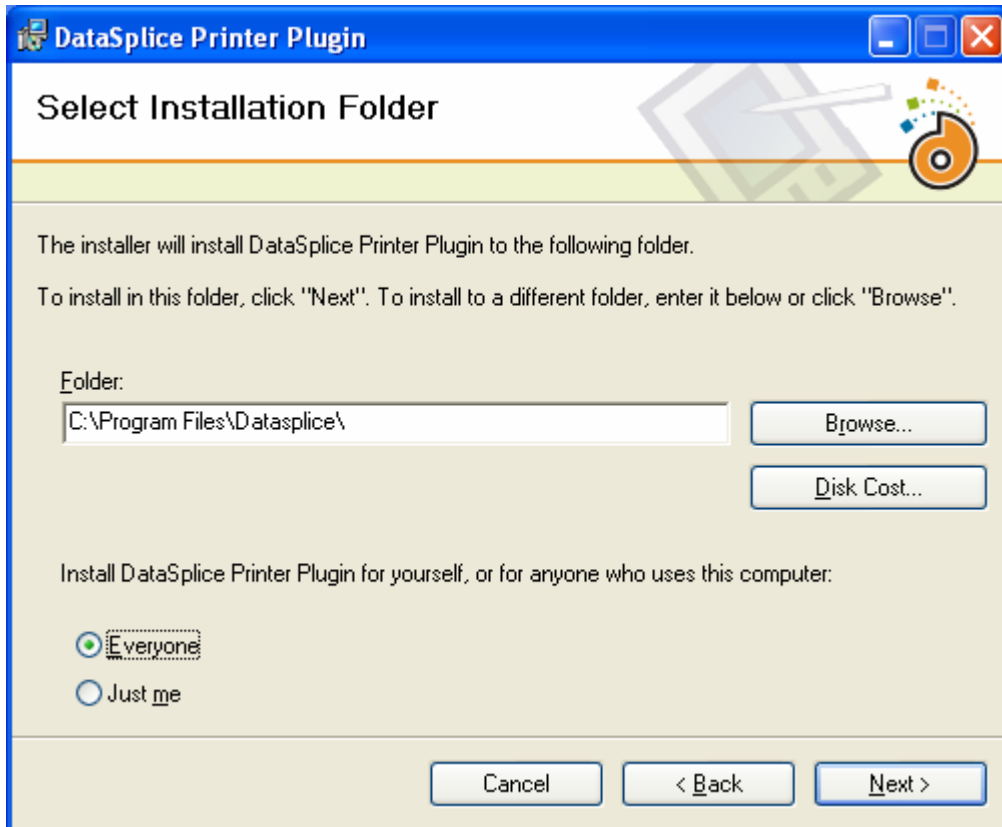
Before beginning the installation of the plug-in, be sure to disable all virus protection software.

The DataSplice .NET printer plug-in should be installed on the same computer that the DataSplice Server application is installed on. To begin the installation, double click the *DataSplice.PrintingPlugin.msi* file. The setup wizard will open:



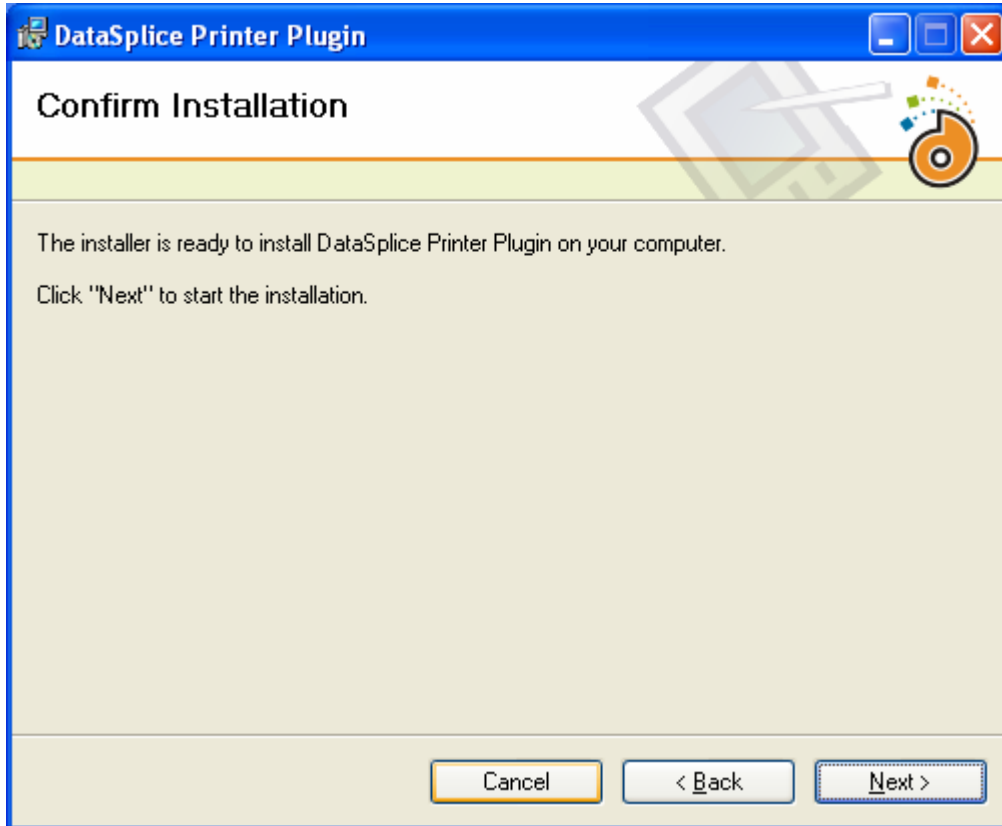
Select Installation Folder

The installation folder for the printer plug-in should be the same folder where the DataSplice Server was installed. By default, this folder is *C:\Program Files\DataSplice*. If DataSplice was installed to a different folder, click the **Browse** button and select that location.

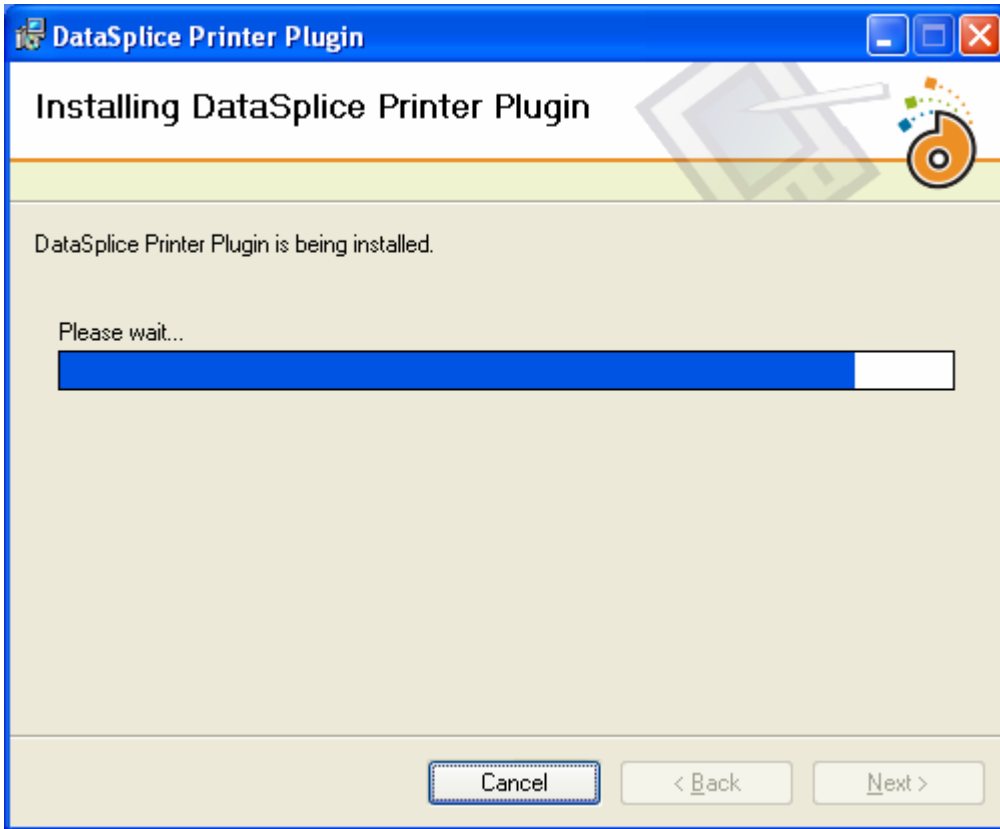


Confirm Installation

After specifying the target installation folder, the **Confirm Installation** dialog box opens. Click the **Next** button to continue.

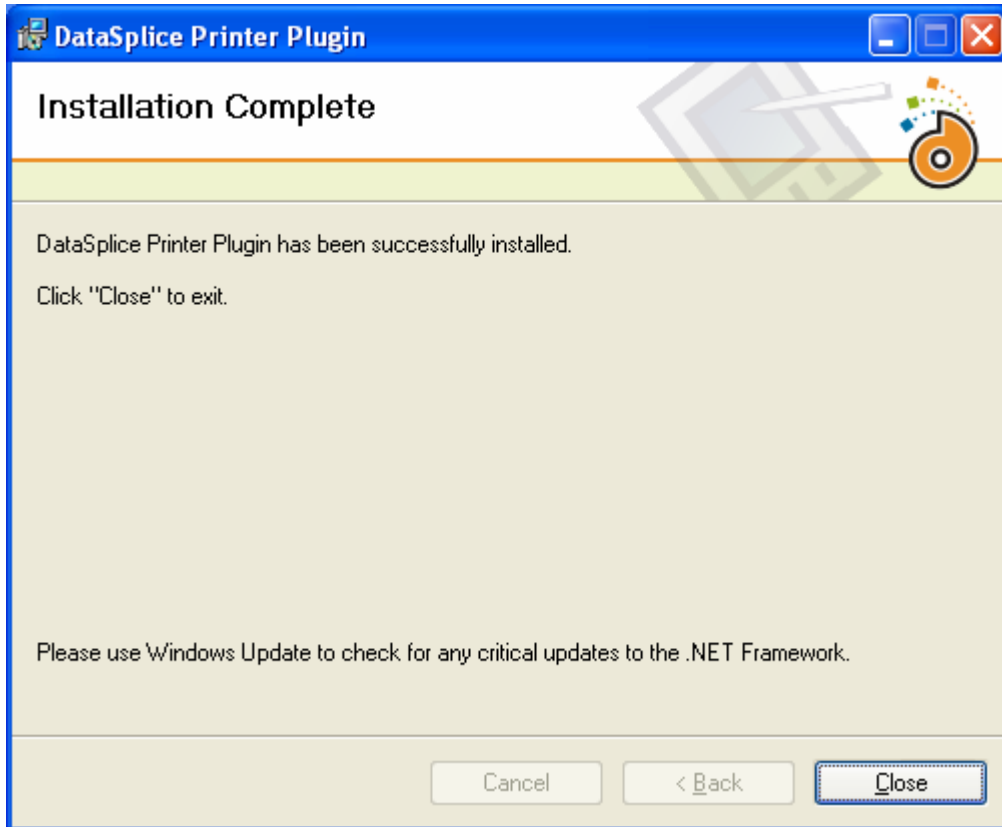


During the file copy process, a progress window displays the current progress of the installation:



Installation Complete

When the installation is complete, an **Installation Complete** dialog box displays. To finish the installation, click the **Close** button. The DataSplice .NET printer plug-in has now been successfully installed.



Configuring the DataSplice .NET Printer Plug-in

Now that the plug-in has been successfully installed, you need to configure it appropriately. The steps detailed in this page assume that you installed the plug-in to the default root directory, *C:\Program Files\DataSplice*.

In the *C:\Program Files\DataSplice\Plugins\Server\DotNetModules* folder, there is a printer configuration file titled *DataSplice.Printing.dll.config*. This printer configuration file specifies the following information:

1. **Resource Path** – The directory in the DataSplice root path where all of the resource files get placed (such as *C:\Program Files\DataSplice\Resources*).
2. **Label Template File Path** – The path where DataSplice stores the XML barcode templates to be able to print the barcode (such as *C:\Program Files\DataSplice\Plugins\Server\DotNetModules\BarcodeLabels*). For more information, please see the **Creating Template Files for Label Formatting** section.
3. **Available Barcode Printers**

Each barcode printer has a name and a type. The printer name that you choose in the configuration file is used to reference the printer from the DataSplice plug-in event. The printer type specifies what printer language to use when the plug-in is sending commands to the printer. The available printer types are:

- **DPLDriver** – network printer
- **EPLDriver** – network printer
- **IPLDriver** – network printer
- **ZPLDriver** – network printer
- **PL4Driver** – serial/Bluetooth printer

Network printers have an IP address and port. The PL4 printer does not reside on the network. As such, it uses other unique tags as seen below to specify its configuration information.

You will want to edit the *DataSplice.Printing.dll.config* file and configure the paths and other information as described in the following example XML code, where *{Printer IP Address}* is the IP address of the network printer:

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <configSections>
    <section name="barcodePrinters"
      type="System.Configuration.IgnoreSectionHandler"/>
  </configSections>
  <appSettings>
    <add key="ResourcePath"
      value="C:\Program Files\DataSplice\Resources"/>
    <add key="LabelPath"
      value="C:\Program
Files\DataSplice\Plugins\Server\DotNetModules\BarcodeLabels"/>
  </appSettings>
  <barcodePrinters>
    <printer name="DPL Barcode Printer" type="DPLDriver">
      <location>{Printer IP Address}</location>
      <port>9100</port>
    </printer>
    <printer name="EPL Barcode Printer" type="EPLDriver">
      <location>{Printer IP Address}</location>
      <port>9100</port>
    </printer>
    <printer name="IPL Barcode Printer" type="IPLDriver">
      <location>{Printer IP Address}</location>
      <port>9100</port>
    </printer>
    <printer name="ZPL Barcode Printer" type="ZPLDriver">
      <location>{Printer IP Address}</location>
      <port>9100</port>
    </printer>
    <printer name="PL4 Barcode Printer" type="PL4Driver">
      <serialPort>com4</serialPort>
      <!-- The following tags configure the serial port
printing. -->
      <!-- They are optional, with default values as shown
below. -->
      <baudRate>19200</baudRate>
      <byteSize>8</byteSize>
      <stopBits>1</stopBits>
      <parity>None</parity>
    </printer>
  </barcodePrinters>
</configuration>
```

Controlling Label Formatting

After the DataSplice .NET printer plug-in has been successfully installed and configured for your system, you can tell the plug-in how you would like your labels to appear. You can control the appearance and formatting of your labels by creating template files for your labels, as detailed in the following section:

- **Creating Template Files for Label Formatting**

Creating Template Files for Label Formatting

Template files store all of the formatting information for your labels. You can create a template file for each distinct label. Each label can have a varying set of attribute values. The filename you give to the template file, such as *DPLTest.xml*, is then referenced in the plug-in event action.

Note: For complete formatting options, detailed attribute explanation, and additional information, please refer to the documentation provided with your printer.

The Label Tag

The *label* tag serves as the main container tag for the template file. Within this tag are the other important tags such as *text*, *barcode*, and *data*, as described in the following sections.

If desired, the *label* tag can contain different attributes that affect the formatting behavior of the template:

- **Contrast** (PL4 printers only) – This adjusts the darkness of the label being printed. Possible values are 0 to 3, with 0 being the lightest and 3 being the darkest.
- **Format** (PL4 printers only) – This tells the printer to either form feed the label to the next label when done printing or not. *Form* feeds to the next label when done printing, while *Journal* does not. The default is *Form*.
- **Location** – The X and Y position of the label.
- **Width** (PL4 printers only) – This tells the printer how wide the paper is or how wide you want the label to possibly be (in dots). There are roughly 200 dots per inch.
- **Units** (DPL printers only) – DPL printers allow the usage of this attribute in the *label* tag to specify the unit of measure for the printer to use for the measurement-related attributes. Acceptable values are:
 - *Inches* – Measured in tenths of an inch. This is the default if not specified.
 - *Metric* – Measured in hundredths of a millimeter.

The Text Tag

The template file can contain *text* tags that define the formatting of the text to be printed on the label. Common attributes that can be set for the *text* tag include the following:

- **Font** – The type of font to use. See documentation specific to your printer language for valid font values.

Note: When the **Font** attribute is set equal to 9 for a DPL printer, this will utilize “smooth fonts”. When smooth fonts are used, it is necessary to define a **FontSize** attribute, otherwise the driver will throw an exception. This is required because **Font=9** tells the printer to use smooth fonts and the **FontSize** attribute tells the

printer which smooth font to use. For a complete list of fonts and smooth fonts, please see the DPL printer documentation.

- **FontHeightMult** (DPL printers only) – Scales the height of the font. For example, if a font is normally 6 dots in height, and you set the **FontHeightMult** attribute equal to 2, the resulting font would be 12 dots in height.
- **FontWidthMult** (DPL printers only) – Scales the width of the font.
- **Justify** (PL4 printers only) – This attribute can be used to justify the text. Acceptable values are *CENTER*, *LEFT*, or *RIGHT*.
- **Location** – The X and Y positioning of the text item.

Note: For a DPL printer, this is slightly different. This specifies the lower-left corner to start printing the data. This is interesting when you want multiple lines of text that is word-wrapped. The text will be printed up from the specified location.

Example:

this text will span
more than one line
<- starting here

In the text above, the arrow on the last line points to the point that the **Location** attribute specifies.

- **Mag** (PL4 printers only) – This attribute is used to scale or magnify the set font. It accepts values in the form of *x,y*. Values can be in the range of *1-16*.
- **MaxWrapLines** – Specifies the maximum allowed number of lines that a text item is allowed to wrap (such as *1* = one line of text, *2* = two lines of text, etc.). If the text goes further than the **MaxWrapLines** allows, it will get truncated. There is no support for wrapping when using smooth fonts.
- **Orientation** (DPL printers only) – This is responsible for rotating the data to be printed. The values can be between *1* and *4*, where each number is an increment of 90 degrees.
- **PointSize** – The desired point size for the text item. This will control font size on IPL printers.
- **Units** – This specifies what units the printer is to use for the measurement-related attributes such as **Location**, **Width**, etc.
 - Valid attribute values for a PL4 printer:
 - *IN*
 - *CM*
 - *MM*
 - *DOT* – This is the default unit.
- **Width** – Specifies the allowed width of text items.

The Barcode Tag

Like the *text* tag, the *barcode* tag contains formatting information. The *barcode* tag defines the formatting of the barcode itself that will be printed on the label. Common attributes that can be set for the *barcode* tag include the following:

- **Height** – Height of the barcode in dots.
- **LabelAboveBarcode** – Specifies whether or not to print the text value above (*True*) or below (*False*) the barcode.
- **Location** – The X and Y positioning of the barcode.
- **NarrowWidth** – The narrow bar width of the barcode (*1* through *10*).
- **Offset** (PL4 printers only) – This defines how far to place the label from the barcode.
- **Orientation** (DPL printers only) – This is responsible for rotating the data to be printed. The values can be between *1* and *4*, where each number is an increment of 90 degrees.
- **PrintLabel** – Specifies whether or not the barcode should display the human-readable text value (*True* or *False*).
- **Symbology** – Type of barcode symbology (such as *Code11*, *Code39*, *Code39CheckDigit*, *Code49*, *Code128Auto*, *Code128A*, *Code128B*, *Code128C*, *Code128UCCC*, *Codabar*, *EAN8*, *EAN13*, *Interleaved2of5*, *UPCA*, *UPCE*, *MSI1*, or *MSI3*).
- **Units** – This specifies what units the printer is to use for the measurement-related attributes such as **Location**, **Height**, **NarrowWidth**, **WideWidth**, **Width**, etc.
 - Valid attribute values for a PL4 printer:
 - *IN*
 - *CM*
 - *MM*
 - *DOT* – This is the default unit.
- **WideWidth** – The wide bar width of the barcode (2 to 3 times the narrow width).

The Data Tag

In addition to the attributes mentioned above for both the *text* and *barcode* tags, there is a *data* tag that can be included within both of those tags. The *data* tag specifies the actual information that is going to be printed on the label. This can be a literal value, such as *WINSTON*, or a DataSplice attribute, such as *\${EMPLOYEE_NAME}*.

Examples

Please see the following XML code for examples of the contents of different label template files:

General Example:

```
<?xml version="1.0" encoding="utf-8" ?>

<label Location="15,15">

    <text Font="D" Location="20,15">
        <data>${Item Num} ${Bin} UOM: ${Issue Unit}</data>
    </text>

    <text Font="C" Location="20,50" Width="300" MaxWrapLines="4">
        <data>${Desc}</data>
    </text>

    <barcode Location="20,110" Symbology="Code39" NarrowWidth="4"
WideWidth="9" Height="50" PrintLabel="False" LabelAboveBarcode="False">
        <data>${Item Num}</data>
    </barcode>

</label>
```

DPL-Specific Example:

```
<?xml version="1.0" encoding="utf-8" ?>

<label Location="25,12" Units="Metric">

    <text Font="2" Location="25,100" DPI="300" FontWidthMult="1"
FontHeightMult="4" MaxWrapLines="6" Width="100">
        <data>This should wrap over several lines</data>
    </text>

    <barcode Location="25,200" Symbology="Code39" NarrowWidth="3"
WideWidth="5" Height="100" PrintLabel="True">
        <data>123456</data>
    </barcode>

</label>
```

PL4-Specific Example:

```
<?xml version="1.0" encoding="utf-8" ?>

<!-- The Location's X value is the offset (in dots) on the paper for
the label to appear. -->
<!-- The Location's Y value is the maximum height of the label (in
dots). 300 dots is roughly an inch and a half. -->

<label Location="25,300" Contrast="2" Format="Form" Width="800">

    <text Location="25,100" Font="2" Size="3">
        <data>Testing the PL4 printer driver</data>
    </text>

    <!-- If PrintLabel is True, then Font, Size, and Offset pertain
to the label. -->

    <barcode Location="25,180" Symbology="Code39" NarrowWidth="3"
Ratio="1" Height="100" PrintLabel="True" Font="2" Size="1" Offset="5">
        <data>123456</data>
    </barcode>

</label>
```