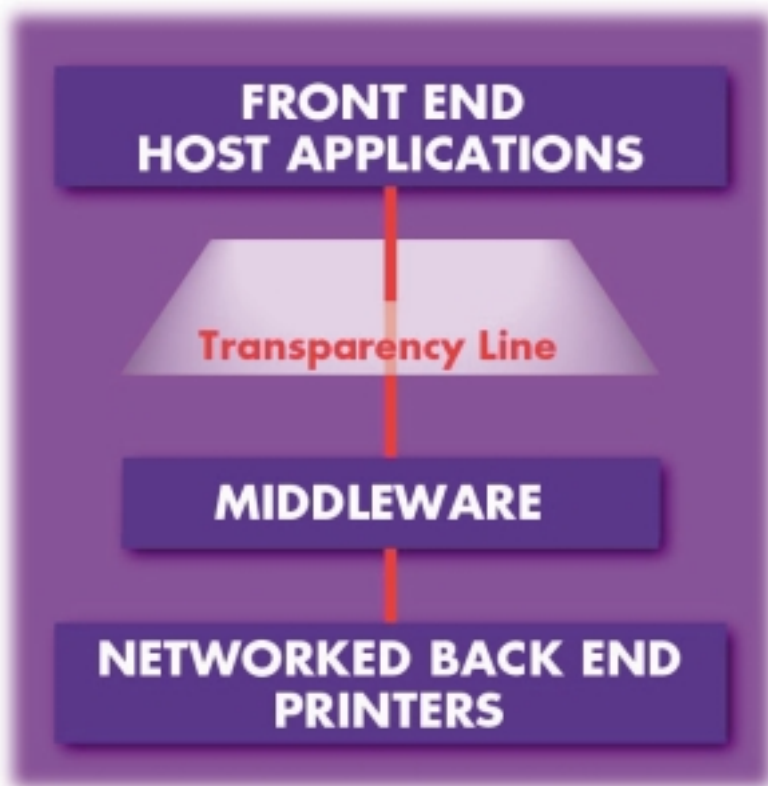


Look to the Middle

“*Today, companies are no longer willing to write business system solutions from the ground up.*”

BY DANA ANDERSON

—Dana Anderson,
President & Cofounder,
Loftware, Inc.

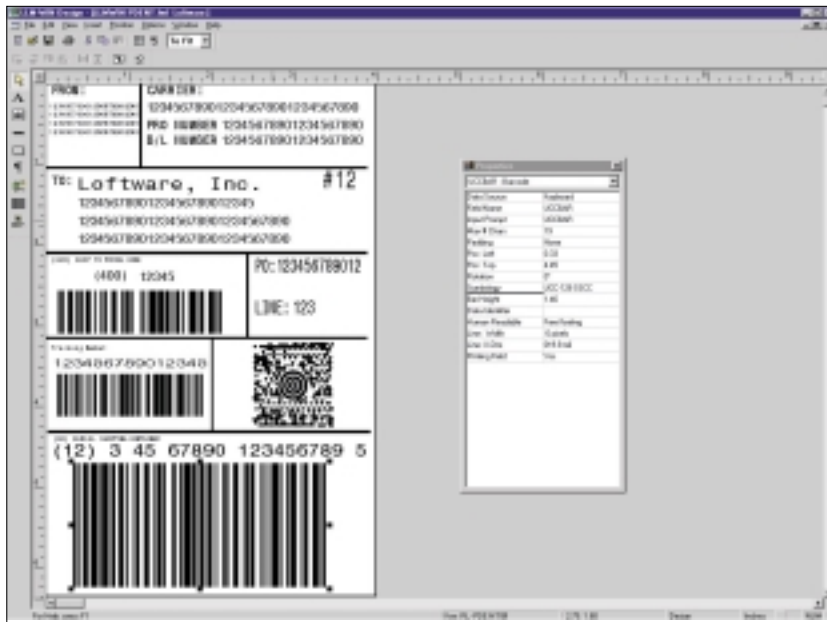


Middleware acts as the interface between the front and back ends.

Use middleware to seamlessly connect business applications with “off-the-shelf” bar code labeling applications.

P RINTING BAR CODE labels is often overlooked when implementing medium and large-scale business systems. Thus, companies often find themselves in the vulnerable position of not being able to ship product because they underestimated the complexity of getting data from their applications onto labels produced by thermal-transfer bar code printers.

MIS staff and system integrators tend to overcompensate for this



WYSIWYG label design.

problem by writing custom code that “tightly integrates” label printing into the application. This “after thought” approach often fails in the long run because assumptions are made that compromise the future flexibility and maintainability of the system.

The answer to this difficult problem lies in the use of middleware, which acts as the translation layer between dissimilar applications. There are many advantages to this approach, a few of which are discussed here.

AN INDEPENDENT HOST

Allowing the host application to function independent of the printer means:

- new labels as well as label changes can be made without having to change the application source code,
- variable images, special check digits, formulas, serial numbers and many other features present in today’s modern thermal-transfer printers are supported,
- the same code on the host can drive all existing and future thermal-transfer printers supported by the middleware package, as well as any printers that have Windows drivers (such as LaserJets), and

- WYSIWYG (What You See Is What You Get) label design tools are usually available to produce labels of any complexity for any printer.

Bar code labeling companies such as Loftware, Inc. (York, ME, <http://www.llmwin.com>) have developed middleware applications, commonly referred to as bar code print servers, that allow the scenario described above to be implemented with very little or no custom programming.

HOW IT WORKS

Think of your existing business application as the “front end” of your bar code labeling system. A bar code print server, label formats, printers and printer connections comprise the “back end.”

As depicted in the figure on the opposite page, the front and back ends are transparent to one another. In other words, your applications do not need to know anything about the printers, or how they are connected. Likewise, the back-end has no knowledge of what comprises the front-end or how it operates.

The front-end application decides what label to print and where to print it based on various criteria.

This information is then presented to the bar code print server in the form of a simple ASCII file drop. A typical file request might take the form of the following:

```
*FORMAT,KMART
*PRINTER,Shipping Printer 5
*QUANTITY,100
PARTNUMBER,9202200
KANBAN,A6700
SHIP TO,MY KMART STORE
WEIGHT,23 kg
*PRINTLABEL
```

In the sample file above, the lines beginning with an “*” are commands to the print server which convey the name of the label, the destination printer and the number of labels to print. Lines which do not begin with an “*” are considered to be data for the label. Once received, the file will be converted (on the fly) into native printer language and spooled to the destination printer.

CONCLUSION

Today, companies are no longer willing to write business system solutions from the ground up. Systems are now built with “off the shelf” components using middleware technology and small amounts of custom programming to get the job done.

Enterprise-Wide Bar Code Print Server Technology fits nicely with this approach, and is quickly becoming the standard method of printing labels in large and medium-scale companies throughout the world.

Companies that are evaluating this technology should consider its scalability, its robust nature, and the number of enterprise applications that use it.

For more information,

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www.loftware.com