

Application enabled printing – a VAR's best friend

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Value-added resellers (VARs) are constantly seeking ways to add value and flexibility for their customers, as well as finding a competitive edge.

In this white paper, SATO explains how a new technology known as application enabled printing (AEP) is providing VARs with a single platform that can deliver improvements in speed, accuracy and flexibility to provide a total solution for end customers while reducing capital investment and running costs.

Value-added resellers (VARs) come in many shapes and sizes, from the independent consultant to a company dedicated to building and delivering total print or packaging solutions. What unites them all is the drive to find ways of adding value for the customer. This may be through providing a unique service, or via the provision of a physical product or program that delivers a new solution and gives the end user a competitive advantage.

The VAR's role is becoming increasingly challenging as manufacturers, packaging and logistics companies continuously seek to improve efficiency, productivity, accuracy and flexibility without impacting their bottom line. Increased levels of automation can deliver significant improvements in the supply chain: but to be truly effective, the items being processed or moved need to be clearly and accurately identified. This means that label printing is a central and critical process.

It is amazing to think that a small square of self-adhesive paper can have the power to bring an entire production line to a halt, or cause a costly product recall – but this is the reality if the label printer jams, or critical information about contents is misapplied to packaging. If the product involved is food or medicine, the consequences of mislabelling can be even more serious, leading to health issues or – in extreme cases – even a fatality.

For the VAR, label printing therefore presented enormous opportunities for adding value. It has an impact on every part of the supply chain, from the initial identification of a component as it enters the process, to capturing critical information on the final product (such as brand, weight, ingredients), tracking and tracing it through transportation, to confirming final delivery.

Tackling all of these touchpoints to find where improvements can be made has been a very daunting prospect in the past; involving the VAR in a lot of research to compare components from different sources, as well as time to build the best solution and make it compatible with the customer's existing systems.

The good news is that there has recently been a step-change in label printing technology which makes the VAR's job much easier by offering a single, flexible solution that can meet the requirements of many different sectors, as well as being simple to implement and easy to integrate. This new technology is known as Application-Enabled Printing (AEP).

What is AEP?

Application-Enabled Printing, or AEP, places intelligence in the printer itself – thus enabling decision support and performance monitoring to take place at the point it is required.

So-called smart printers are not new, of course: the ability to set a printer up and then use it independently of a PC has been around for many years. What has changed with the arrival of AEP is the sophistication and flexibility of those printers, and their ability to grow with the customers, providing far greater levels of investment protection.

In addition to embedded intelligence, an application-enabled printer has its own internal processing power so it can connect to other devices (such as weighing scales, a handheld barcode scanner, or a keyboard and a PLC within an automation line) and print without the need to connect to a PC or using a server for data execution. Instead, the datastream can be sent direct to the printer for interpretation and execution. This means the print process not only requires less hardware and fewer interfaces, it also reduces network and database traffic – as well as server load.

Whereas smart printers can only be programmed to perform one function at a time, an AEP-enabled printer can accommodate multiple apps with ease. For example, in a manufacturing and logistics environment an app could be downloaded to automatically calculate and print thaw and use-by labels – relying on the printer's internal real-time clock. Another app might then use the printer's internal product and price database to correctly calculate and clearly print mark-down labels to clear older stock.

In addition, an AEP printer can self-monitor: for example, using the data from a barcode scanner or camera, it can validate its own labels and communicate that information back to a core information system. AEP can keep track of printed information, create and print user reports or send back information to a host system for further analysis. It can also be programmed to undertake auto-maintenance, order a new set of labels automatically before they run out, or flag up a failing part. In a world where predictive maintenance is becoming the norm, why would your printer be an exception?

Benefits of AEP

For the reseller, AEP offers a whole range of opportunities. Primarily, it provides the platform on which to build a mutually profitable business relationship that delivers what the customer wants, greatly reduces expensive over-engineering, and keeps the door open to future cooperation.

Flexibility and responsiveness to rapidly changing demands are becoming increasingly important and AEP helps to support these trends on several levels. For example, an AEP-enabled device can not only operate independently of a connection to a PC, but does not need a mains lead either because it can be powered using a rechargeable lithium ion battery. This means printing can be physically located exactly where it is required, not where the infrastructure says it has to go. AEP devices can therefore operate on a trolley or a table in the centre of a shop or warehouse and away from any power sockets.

Functionality and the ease with which a printer can respond to differing label requirements is also key. In developing AEP, SATO has therefore focussed on programmability and the ease of creating apps tailored to the customer's needs. It helps that the AEP is a system with well-defined functional areas: unlike say an Android or Apple smartphone which might be called upon to be a telephone one minute, a satnav the next, and a videogame thereafter. By add advanced programming tools to an AEP device, you can create a system that allows new applications to be created and deployed – and subsequently updated – remarkably easily.

A major benefit of AEP is customisation, with no need to buy an entire suite of printing capabilities if you only need certain specific ones. AEP enables the printer to be set up to exactly meet the user's needs by mixing and matching from a standard set of apps, either written by the reseller or customer, or bought in from other programmers. If further customisation is needed, existing apps can be modified or new ones written to suit.

Based on common, open protocols, AEP apps are compact and deliver high process speeds. They are also licence-free, so there are no added lifetime costs for the VAR or end customer.

AEP apps are able to run on multiple platforms, so there is no need to redevelop apps when changing or updating the printer. Instead, an app developed for the first-generation AEP devices should also run on subsequent AEP-capable devices; whether they be desktop printers, mobile printers, or other print-capable devices. So, if the customer is not sure yet what their needs will be, that does not matter: they can choose an initial app or set of apps to load now, then change that mix or add more apps later on as their use of the technology grows and as the need arises.

Apps can be downloaded to an AEP device either using a PC running a utility program, or loaded directly as a package containing all the necessary elements – such as a pricing database. They can be loaded via a USB cable, a wireless network (Wi-Fi) connection, on a memory card, or directly via a USB stick. Some AEP devices can also accept the same SD-cards that are widely used in digital cameras.

In fact, it can be easier to set up and tailor an AEP app for a specific purpose than it would be to set up a large PC-based software suite of which only a few elements may actually be required.

Of course, these capabilities are not entirely free of effort, and some programming skills are required at the reseller level; but this simply involves a one-day training course and the purchase of a demonstration kit on which to test newly-developed apps. VARs can then proceed to create specific sets of apps (or app frameworks for later customisation) for their target vertical markets.

Conclusion

Increasingly, AEP enables VARs to offer a total print solution that can reduce capital outlay by eliminating the need for PCs and interfaces; reduce server loads during operation; and which is future-proofed against changes in customer requirements.

Not only does AEP future-proof the print function, it also means that the printer can be customised to include exactly the right set of applications for a given purpose. In other words, the product more accurately fits the user's needs; yet at the same time there are fewer components in the chain – fewer devices to look after, fewer interconnections to manage, and fewer things to go wrong.

Today's implementation of application-enabled printing is just the start. The same concept will be implemented on multiple classes of printers in the future, including both mobile and desktop printers, ranging from low-end to high-end. All these devices will be able to run the same AEP-developed apps, giving VARs the ability to be more competitive and more responsive to customer requirements in the future.