Tesoro Logistics

Tesoro Logistics replaced Lexmark 4227 Plus mission-critical dot matrix "workhorse" printers with modern laser devices that had to be compatible with a serial communications network now and convert to LAN later—and exponentially lowered its overall TCO.

Challenge

The southern California terminal district of Tesoro Logistics has been a very content Lexmark customer for 15 years. It has been using the 4227 Plus dot matrix forms printer to produce five-part carbonless bills of lading (BOL) in its five facilities. The district, which is the world's busiest gasoline terminal, would have happily remained a loyal customer of the dot matrix printers for many more years had it not become difficult to procure the devices and supplies. According to Joe Teal, Tesoro Logistics' manager of terminal automation systems, "The dot matrix devices were fantastic workhorses. They required zero maintenance or intervention. You just refilled the box of paper, replaced the ink ribbon every now and then, and walked away."

Of the 25 devices in Teal's terminal district, each printer is a mission-critical component of the gasoline loading and delivery process. The devices print 80-90 sets of the five-part BOLs every day and each page of the shipping document must be printed in a clear, legible, identical format—every time. Because the petroleum products are hazardous materials, the U.S. Department of Transportation requires a very specific information on each form, including hazmat identification, product descriptions and volumes. Every section of the form provides vital information to a different entity along the distribution chain, and each of the five parts of the form is used to validate and reconcile the shipments.

As the technology landscape has changed over the last 15 years and dot matrix printers have given way to more adaptable laser devices, Teal's district has found it difficult to purchase the dot matrix devices, tractor-feed paper and ink ribbons. On the rare occasion that the devices needed service, it was also difficult to find repair vendors.

To compound the dot matrix printer dilemma, the district had a very strict requirement for a serial port interface to connect the printers to its proprietary UNIX serial communications network. Teal said, "You can't just buy any printer. We needed the exact Lexmark 4227 Plus model with a serial communications port. Our network is very customized, so we had to use a compatible printer."

Meet Tesoro Logistics

While gas stations may come to mind when you hear the name Tesoro®, the company is actually a diverse operation that quite literally helps to fuel our economy. Tesoro is a Fortune 100 company and one of the largest refiners and marketers of petroleum products in the U.S. Its refinery business transforms crude oil into various transportation fuels including gasoline, jet and diesel fuel, and heavy fuel oils, and it manufactures many other products like asphalt and liquefied petroleum gas. The company operates six subsidiary refineries in the western U.S. that produce over 850,000 barrels per day. To market and distribute this impressive production capacity, Tesoro Logistics LP uses its integrated network of transportation, pipeline, and terminal facilities to deliver the petroleum products to wholesale and end-user commercial customers throughout the western United States. It also operates more than 2,200 retail fuel stations under the names of ARCO®, Shell®, Exxon®, Mobil®, USA Gasoline™ and Tesoro.

Products in use: MS610 monochrome laser printers

Lexmark™

The situation was becoming quite costly for the district. In 2013, when a dot matrix printer went down, Teal had to purchase a device off of eBay™ for $1,300 because Lexmark and its distributors no longer had them in stock. In addition, the tractor-feed paper was very expensive at $140 per box. Because of the limited availability, the district had to purchase the special media in 80-box pallets at a staggering cost of $11,200 per pallet. Each of the five terminals in the district needed its own pallet of paper.

In a confluence of challenges for the terminal district, Tesoro Logistics was planning to transition its serial communications loading system to a LAN-based network in the next 12-18 months.

With all of these challenges in mind, Teal began searching for a solution to his output situation. He wanted cost-effective laser devices with high output speeds, efficiency and extreme reliability like the Lexmark 4227 Plus dot matrix "workhorses." However, he also needed to accommodate the serial communications requirement in the short term since the network upgrade wouldn't take place for another year.

Teal's strategy was to find a modern printer that could fit his serial communications requirement rather than trying to recreate the mission-critical BOL in a more common programming language. He knew that would add engineering and programming costs, the new form would need extensive testing and there was an inherent risk that the formatting would change—which was not an option.

Solution

Armed with a non-negotiable list of output requirements, Teal contacted many printer distributors, as well as several competitive manufacturers and eventually found his way to a Lexmark sales representative. According to Teal, "Many of the other manufacturers and distributors didn't understand why I couldn't use a LAN or USB connection. The Lexmark sales rep knew immediately why we needed the serial port printers. She quickly recommended a couple of devices and helped me get demo units installed for testing—at no cost to my company. Our management team was also really excited that we could add the Tesoro logo to the touch-screen user interface."

The terminal district chose the MS610 monochrome laser printer with a serial card. The organization is installing the 25 new devices as it depletes its dot matrix supplies. The expected completion date is late 2015. Teal says installation is surprisingly easy given his struggle to find a network-compatible serial port laser device. As he receives a printer and serial card, he installs the card and configures the settings, format, computing language and company logo from his laptop. Then he installs the device on the company network to test the output. He says, "It prints immediately, perfectly, legibly, clearly and professionally every single time." Once the testing is complete, he sends it to one of the five terminals in his district.

" *The Lexmark account team worked tirelessly to make sure our project was a success. They gave us 150% of their time and attention. They understood our strict networking requirements and they worked with us to solve our challenges as if they were a part of my team. I will always be grateful for their professionalism and care.*"

" *I have worked with a lot of big name vendors. I have never received the level of attention and professionalism that I received from the Lexmark account team. They wanted to make me, my terminal, and my company look successful.*"

Joe Teal
Logistics' manager of terminal automation systems, Tesoro

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> "*I really like working with the Lexmark MS610 devices. They are well-made, ergonomically sound, aesthetically pleasing, rock-solid, secure devices.*"

Joe Teal
Logistics' manager of terminal automation systems, Tesoro

Results

When the company migrates from the old serial communications network to the new Windows and Oracle platform in the coming year, Teal knows that his district is in good shape. He says, "The beauty of the laser printers is that they work with our network now and they will also work with our new system down the road. I just need to remove the serial cards and the devices will be compatible with the new network using LAN cables. These printers will work now and when with our new network when it is rolled out next year, which makes them a great value."

With that said, economics wasn't Teal's first priority. First and foremost, he was focused on finding printers that would provide the same reliability and high output capabilities as the dot matrix devices. He said, "Even if they would have been more expensive, we would have purchased them anyway because of the reliability."

However, Teal is still pleased with the lower total cost of ownership and exponential cost savings with the new fleet. He can purchase two new laser devices and serial cards for the same price as he paid for the dot matrix device from eBay. To make the printers even more cost-efficient, he can buy off-the-shelf laser printer paper from any office supply store for less than $50 per case instead of the special-order dot matrix paper for more than $11,000 per pallet. He said, "We can almost pay for our entire fleet of new printers with the cost of one pallet of dot matrix paper. There's the success right there ... not having to buy the expensive dot matrix paper."

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