

UPSCALE

Going



By Michael Fickes

The integration of scales with other technologies is creating more productive waste management tools.

AT AN ORANGE COUNTY LANDFILL, VIDEO cameras record scale-house transactions, and the video is stored on computer hard drives. At the same time, a CompuWeigh scale-house software application from Lutherville, Md.-based Paradigm Software LLC stamps the video frames with a date, time and account number.

“Sometimes customers claim that we billed them for a transaction that never occurred,” says Jeff Welch, senior technical systems specialist with the county’s Integrated Waste Management Department. When that happens, scale-house personnel search the video records for a frame that clearly shows the company name on the truck — along with the date, time and account number stamps — and e-mail it to the customer.

Finding the records by reviewing videotapes from beginning to end would take



hours. But, because this video is stored on disk instead of tape, operators merely enter the date and account number to conduct the search. Seconds later, the video in question appears.

The system resolves all kinds of disputes. "In one case, a driver claimed he gave us a \$100 bill," Welch says. "He wanted more change. We showed him video of the transaction, and it clearly showed him handing over a \$50 bill. He was not happy."

Orange County's software system also sends scale-house data to the county's accounting system in Santa Ana, which uses the data to prepare invoices.

In a recently installed unattended driver assistance terminal (DAT) at the landfill, the software system also has begun to move trucks across the scales at a rate of one truck every five to 13 seconds, compared to 45 to 60 seconds required for human beings to do the job.

In addition, the software system formats data from each transaction according to state specifications and deposits the data into a report of how much waste each jurisdiction sends to Orange County's three landfills each month and year. The report then goes to Sacramento, the state capital, where the landfill data is combined with information submitted by recycling, compost and other facilities.

State officials can then calculate the diversion rate of each jurisdiction. California law requires all jurisdictions to divert at least 50 percent of their refuse from landfills.

Orange County's use of integrated scale technology is part of a growing trend. Across the industry, scales are being integrated with other technologies at the behest of hauling companies, disposal facilities and recycling centers.

"Most companies are strong in one technical area," says Rick Talbott, the marketing and sales director with

Vulcan Onboard Scales in Kent, Wash. "Depending on what a customer wants, companies work together to build a package that includes scales, route management, onboard computers, GPS and other technologies. Our job is to make our onboard scales output serial data that any application can use."

According to Talbott, Vulcan has completed projects with Mobile Computing Corporation of Mississauga, Ontario, Canada; Routeware Inc. of Beaverton, Ore.; Trimble Navigation Ltd. of Sunnyvale, Calif.; and other waste industry technology providers.

The role of GPS

Why now? What set off this integration of scales and other technologies? The answer is global positioning systems (GPS), says Steven Kaufman, senior vice president of operations for Routeware, which designs hardware and software products for commercial fleets. "GPS enabled haulers to track their trucks and taught them about the potential of onboard technology," he says.

In a way, early onboard technologies gave haulers permission to explore other technologies. "Once haulers begin using GPS to track their trucks, they soon want to know what the trucks are doing," Kaufman says. "That's what we focus on. And developing that answer leads to the magic word: integration."

The waste industry is really no different than any other transportation industry, Kaufman adds. It involves the collection, transportation and disposal of a commodity. Other industries also have used integrated technologies to perfect their skills in delivering eggs, toys, clothing and other kinds of products.

Today, waste industry haulers and facility operators have begun to demand the integrated technologies that have helped make other businesses more efficient. "Our customers today want us to tie Routeware to billing, maintenance

systems, scales, you name it," Kaufman says.

"Garbage haulers that think of themselves as commodity transporters are the ones jumping onto this bandwagon and reaping the benefits of integrated technology that other transportation companies have taken advantage of," Kaufman adds.

Not long ago, Hillsboro Garbage Disposal Inc. in Hillsboro, Ore., used pen and paper to record the weight of the trash passing through its transfer station on paper. The data made its way to city and county governments to satisfy reporting regulations. Beyond that, no one had much use for the collection of numbers.

Then, Hillsboro, a small residential and commercial hauler with 16,500 customers, installed GPS tracking devices on their trucks and found that they could tell when the vehicles crossed the scales. They discovered some trucks were not crossing the scales. Next, the firm wondered if drivers were correctly recording the weights when crossing the scales. Answering that question required more technology.

In early 2006, Hillsboro installed a Routeware product to track its trucks and a TransComp package to automate accounts receivable. "Those two pieces put together have yielded some incredible revenue streams that we weren't monitoring," says Jason Barnes, director of information technology (IT) for Hillsboro Garbage.

Hillsboro found thousands of pounds of mathematical and rounding errors at the transfer station scales. The firm also began to monitor more effectively for overweight trucks, and it now uses the system to reconcile bills at disposal sites by cross referencing the weight of refuse sent out from the transfer station with the weights recorded on the invoices that come back.

Hillsboro still wants more from technology. "We're considering putting scales



AN ADVANCED AGE: Waste firms have begun to demand software that combines scale data with a variety of applications.

on every truck to monitor customer activity,” Barnes says. “Obviously it would take a ton of labor to do this by hand. But if the truck scales and software can do it, then we can manage it. We can look at weekly, monthly and annual trends over time. We can review rates and back up discussions with customers with factual ammunition.”

Comprehensive Products

In the past few years, vendors have introduced products that combine scales with other technology to monitor activity across truck scales, consolidate and report scale data from across a company’s operations, or track loads through the various stages of the disposal process.

For instance, the New York City Department of Sanitation uses Oxford, Pa.-based PC Scale’s Scale Monitor to record all facility scale crossings and transactions. At the end of each day, the system compares its results with a list of actual scale-house transactions. If inconsistencies are found, the technology alerts management.

Meanwhile, Interstate Waste Services, Sloatsburg, N.Y., is using the same vendor’s Enterprise Reporting tool to

consolidate data from remote transfer stations, landfills and other facilities into a single report that provides an executive overview of operations by total volume and individual materials every hour, day, week, month, quarter and year.

Pittsburgh-based Liberty Waste Services also uses a system from the vendor to track the waste it transports from transfer stations throughout the East to its regional landfill in Ohio. The “system tracks each load from the time it enters one of our containers all the way to its final disposal destination,” says Jon Stein, manager of IT for Liberty. “We can say, within reason, where any customer’s waste has been dumped. This is a cradle-to-grave reporting regulation that we must comply with. The system also handles our billing.”

Barely a year old, Liberty represents an interesting concept. The company picks up waste at transfer sites as far east as Newark, N.J., loads it into a container, places it onto a truck and runs the truck over a scale. A clerk cuts a ticket with a manifest number, and the truck takes the waste to the firm’s “transloading” station in Pittsburgh. The material

is loaded onto a train and transported to its Ohio landfill. There, drivers grab the loads off the train and take it across scales at DATs, where drivers punch in container numbers and then dump the waste.

Scaling Up

At the end of November 2006, PC Scale Inc. made the first move in what may become the next trend in waste industry technology. The company bought TransComp Systems Inc., Orange, Calif., a route management company.

Why would a scale technology company buy a route management technology company? What do they have in common?

The integration of two waste industry technology leaders is an attempt to answer the industry’s increasingly insistent demands for comprehensive technological integration, says Ken Good, PC Scale’s president.

The acquisition will expand the range of information tools available to waste management companies from a single source, while helping to create new technological combinations. “Our scale side customers have always liked our

scale-related offerings,” Good says. “And they have asked us to develop accounts receivable, route management and other technologies. The choice for us was to build or buy. We have developed a couple of applications, but nothing robust. As for the buy option, TransComp has the technology that offers the most to our customers.”

Routeware’s Kaufman says such a merger is logical. “Our customers are driving our products to new levels of

integration,” he says. “They want to tie truck operations to billing, maintenance systems and scales.

“[I was] asked if it was strange that a scale company would buy a route management system company,” Kaufman adds. “No, it is not strange. It is absolutely in line with the technological trends in the waste industry.” **WA**

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LOOKING AHEAD: Firms will likely demand more comprehensive scale-related products.
