

YMS: Harmony

Today's yard management systems offer improved synchronization of the first- and last-mile activities outside the four walls—and shippers are beginning to listen to the benefits.

BY BRIDGET MCCREA, CONTRIBUTING EDITOR

When considering the supply chain software market, acronyms like WMS, TMS, and GTM get a lot of attention from shippers looking to gain visibility over shipments while saving both time and money through automation. Often missing from the list, however, is YMS, or the yard management systems that track and report on what goes on outside the warehouse walls and away from the dock doors.

At their core, yard management systems handle the scheduling of inbound and outbound freight appointments while effectively managing yard resources. Unlike WMS and TMS—that focus on warehouse management and transportation management—YMS gets down and dirty, and is most commonly credited with increasing efficiency and throughput runs associated with a shipper's distribution yard and docks.

“Basically, the YMS handles appointment scheduling and dock door management on the receiving and inbound side,” says Mike Pujda, project manager at supply chain consultancy Tompkins Associates in Raleigh, N.C. “For inbound activity, the YMS handles the arrival event and vehicle check-in.”

Once shipments are onsite, YMS tracks their movement and flow in and out of the dock doors, thus providing visibility into what is available for immediate unloading—and what's not. “When you have this information on hand, you can make the most effective decisions regarding prioritization of shipments and trailer movement,” says Pujda. “Then you can turn around and do the same thing for outbound shipments, only in reverse.”

When shippers have yard information at their fingertips in a real-time manner, says Pujda, they not only gain visibility, but they also save time and money. Over the next few pages,

we'll take a look at the latest developments in YMS and help shippers get a handle on this often-overlooked link in the supply chain management process that can help boost your bottom line and save valuable man hours.

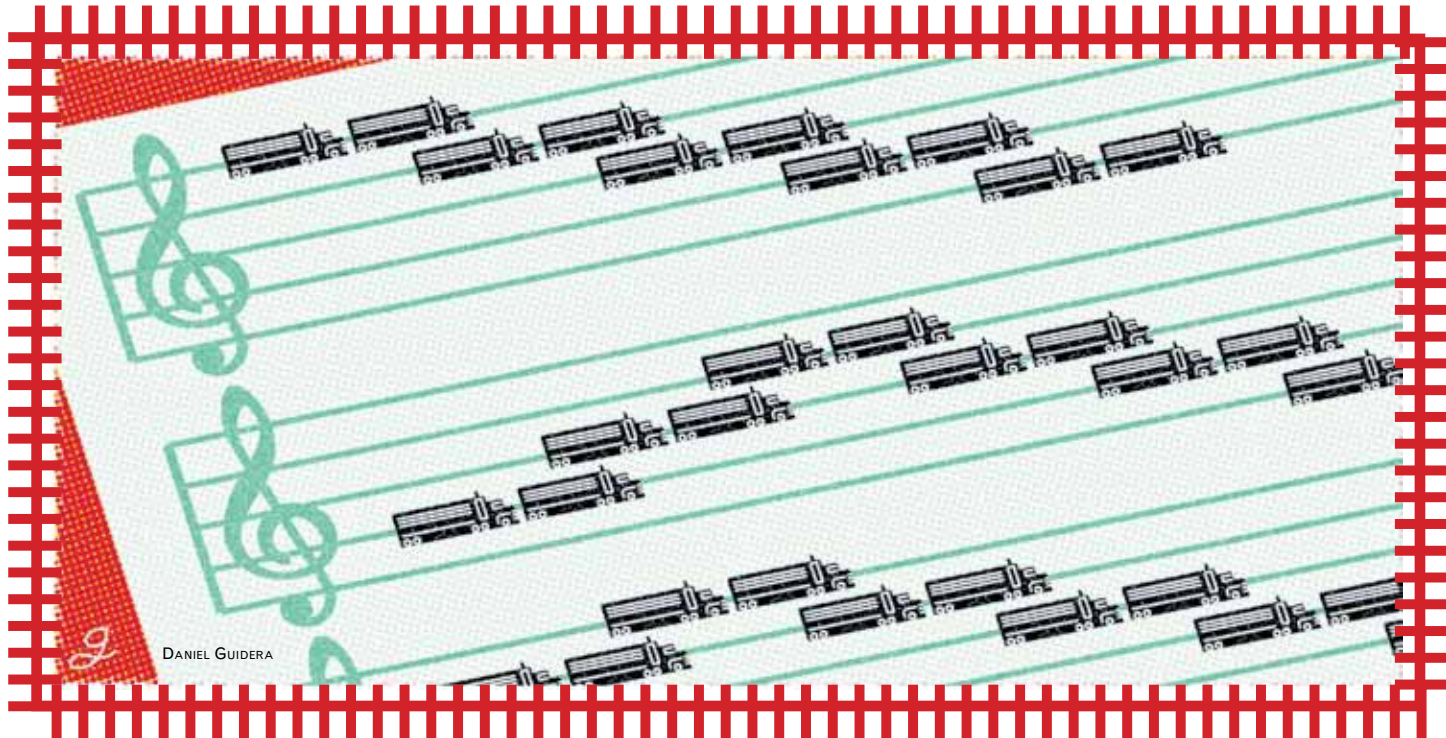
TAKING CENTER STAGE

With economic conditions remaining in the “unfavorable” zone for many companies, shippers across the board continue to look for new ways to squeeze efficiencies out of their operations. According to a March 2010 report from transportation research firm AutoDiversity Management (ADMi), many shippers have started looking at those areas that traditionally have low operating margins, and therefore have lower returns than other larger scale supply chain cost savings initiatives.

One of the areas where ADMi is seeing a lot of activity and investment right now is yard management, a function that the firm defines as managing the first- and last-mile activities that involve any number of changes of custody locations, ports, containers, trucking activity, cross-docks, manufacturing points, distribution centers, and motor vehicle storage yards. And while the term “yard management systems” sounds all encompassing and promising, the reality is that just 44 percent of companies utilize specific yard management systems, according to Marc Brazeau, principal consultant with ADMi.

Yet when asked which technology platforms currently “touch your yard and facility operations,” a recent ADMi survey found that 90 percent of respondents reported that they utilize some sort of WMS, while 70 percent rely on a TMS. Sixty-six percent have an enterprise resource planning system (ERP) that integrates operational administration across functional departments, and roughly 50 percent have a customer relationship management (CRM) or manufacturing execution system (MES).

in the yard



The fact that a much lower percentage of shippers are using YMS versus other supply chain software underscores “the potential for efficiency and cost improvements for respondents currently without YMS,” says Brazeau.

Supply chain software vendors, however, have recognized the fact that shippers need help closing those first-mile and last-mile gaps and have gone to market with a number of solutions that they believe will answer the call on several fronts.

While YMS was traditionally developed by only the best-of-breed providers, today’s market includes options from ERP providers like SAP and Oracle as well as from supply-chain-centric firms like Manhattan Associates and

RedPrairie. Smaller players like Fluensee.com and CDC Software are also making a mark, while more technologically diverse companies like Zebra have jumped into the game by acquiring smaller, best-of-breed YMS providers like WhereNet.

GOING SOLO OR STICKING WITH THE BAND?

Whether YMS is more effective as a standalone entity or as part of a larger system has yet to be determined. Steve Banker, director of supply chain solutions for analyst firm ARC Advisory Group, says that it’s “pretty common” for YMS to be tied to WMS, namely because the two can work in sync to alleviate issues like dock door con-

straints and limitations.

A shipment being tracked through the warehouse, for example, can be easily prepped for loading and delivery when the WMS and YMS can seamlessly “talk” to each other. Expect to see more YMS embedded into WMS in the future, says Banker, who adds that such options are particularly attractive for shippers who want to “invest in a WMS and get a YMS without paying anything extra.”

But are those integrated YMS options powerful and multi-functional enough to provide solid benefits for shippers? Dwight Klappich, vice president at research giant Gartner, says the answer to that question lies in just how tightly the YMS is integrated with the

Yard Management Systems

TMS or WMS, particularly when it comes to functions like dock scheduling.

"If you link this process to the WMS, then your YMS will be tied to the processes going on inside the warehouse," says Klappich. "On the other hand, a YMS that's tied more closely to the TMS allows for easy linking to dock schedules and appointments from a carrier standpoint."

Ideally, Klappich says shippers would be able to integrate their YMS with their TMS and WMS, and be able to "look at dock scheduling from both sides." He says Gartner refers to this setup as supply chain execution convergence, and points out that RedPrairie's YMS option "is furthest along, based on the fact that the company has strong solutions on both sides—TMS and WMS."

TURNING UP THE VOLUME

While it may be true that less than 50 percent of shippers are currently using YMS, many more are considering future implementations.

Driving that trend, says Tompkins' Pujda, is the need for more visibility over inbound and outbound freight, as well as better scheduling capabilities. "The shipper that can effectively extend its facilities out to its carrier base and create an environment where dock door scheduling becomes easier and more accurate, for example, is able to better

Tracking trailers with RFID

Four technologies are used to track the location of trailers and other assets in a yard management solution.

1) Passive RFID, including EPC-style tags, are primarily used to identify a trailer or container. Since these tags don't have a battery, they can't broadcast their location. Instead, yard vehicles equipped with an onboard RFID reader can read the tags on trailers as the operator drives through an area.

2) Active RFID tags include a battery. With onboard power, these tags broadcast their location in real time to a network of access points in the yard.

3) GPS is emerging as a solution for tracking assets across very large outdoor areas where the cost of installing an infrastructure of access points would be prohibitive.

4) Sensor technology, combined with an active RFID or GPS tag, allows a user to not only track the location of a trailer or asset in the yard, but also to monitor environmental conditions that may have an impact on the asset, such as humidity or temperature.

schedule its labor and even prioritize shipments," he adds.

According to Klappich, what's driving the YMS market is the fact that shippers are trying to increase the velocity of their entire logistics process. "The yard has always been a bottleneck, with the carrier coming in and having to get in a line behind 50 other trucks that are also waiting to get to the 10 docks," says Klappich. "Companies in

seasonal businesses are particularly good candidates for YMS since the systems can effectively track goods that might be held in one trailer for a period of time and then cross-docked."

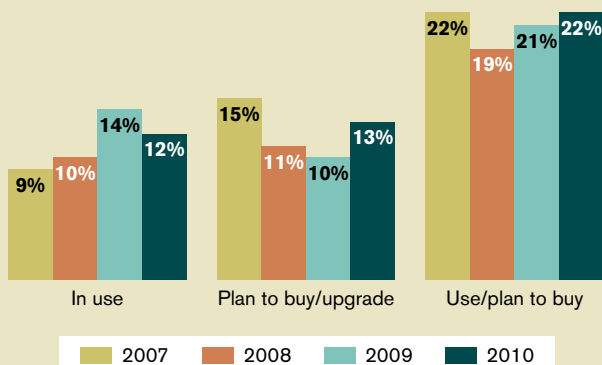
Take the company that sells Christmas lights to retailers, for example. When the tractor-trailer loads of products come into the yard in the months leading up to the holiday, says Klappich, the shipper turns the lights around and gets them out the door, rather than stocking them in the warehouse. YMS keeps track of those trucks when they're stored in the yard, and then enables fast, accurate cross docking and more efficient supply chain management.

"The more advanced shippers are moving toward this 'flow concept' that was once opportunistic but is now doable because the yard has become an important aspect of the supply chain," Klappich explains. "Their main goal is always efficiency, as shippers don't want to needlessly unload product, or wait to unload items that can't be located. These are inefficiencies that they can't afford right now."

TOO MANY NOTES TO HIT

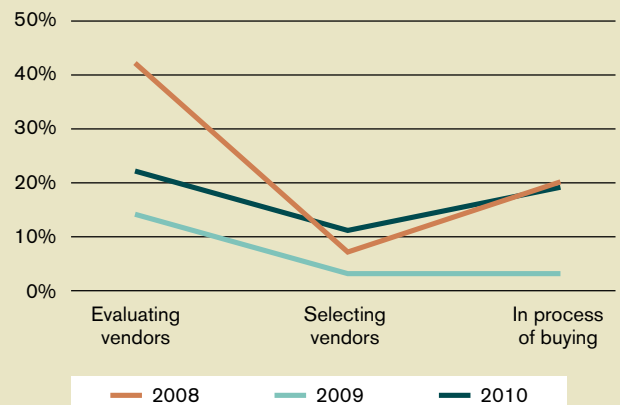
When researching the YMS space, ADMi found that smaller shippers appear to be leading the charge to improve visibility out in the yard. This may be because they've already

YMS usage by shippers (percentage of respondents)



Source: Logistics Management 2010 Software Survey

What stage of the YMS buying stage are you in?



Source: Logistics Management 2010 Software Survey

Yard Management Systems

addressed the higher priority issues within their supply chain networks, according to Brazeau, and are now positioned to address yard throughput issues.

The fact that smaller shippers are gaining that “last mile” visibility could bode well for such firms as the economy recovers, Brazeau reports. “Smaller companies may be better positioned to take advantage of a near-term economic recovery, as well as the lead in yard management best practices.”

Expect to see more innovations like RFID being integrated into YMS systems, says ARC’s Banker, who is already

seeing that movement take hold among European companies.

Also on tap is more supply chain executive convergence, according to Klappich, who envisions a time when companies synchronize and orchestrate end-to-end supply chains—yard included—with technology. “The yard is a cog in the wheel that helps shippers achieve this type of integration by driving both throughput and efficiency, and by making shipments move in and out that much faster,” adds Klappich. □

—Bridget McCrea is a Contributing Editor to Logistics Management

YMS providers

C3 Solutions	HighJump	RedPrairie
CDC Software	InSync	Retalix
ClearTrack	Manhattan Associates	SAP
Cypress Inland	Oracle	Sterling Commerce
Exotrac	PINC Solutions	YardView
Fluensee.com	RACO Industries	Zebra Enterprise Solutions

Major U.S. Army depot utilizes YMS and automatic identification to track inventory

How do you track mobile assets that might be stored anywhere among the 1,200 buildings and yards in a complex that covers 59-square miles?

That was the problem facing the Sierra Army Depot (SIAD) in northern California that serves as a multi-functional logistics center for the storage, maintenance, assembly and containerization of thousands of operational stocks and other major end items on behalf of a wide set of customers.

If those assets are inadvertently misplaced or their location mis-recorded, it can take days or even weeks of manpower to search the vast area to retrieve them.

The solution: SIAD is implementing an asset management and real-time locating system from Savi Technology that will utilize asset management software in conjunction with RFID tags, readers, and handhelds that utilize GPS technology to improve visibility, accountability and the annual inventorying of assets.

The result: By tagging important assets as they move through the complex, the solution will help personnel reduce hours spent searching for critical containers, major supplies and equipment as they move on, through, and off the facilities, thus improving operational efficiency and cutting costs.

The solution also improves asset inventory utilization, and—via automated alerts—speeds the monitoring of environmental conditions of medical equipment and supplies stored in special containers required for rapid deployment into the field of operations.

When it’s fully deployed, the solution will provide the ability to tag and accurately track items that belong to the depot and remove tags when the assets leave the facility. Sensor technology will be utilized to provide visibility of serialized items. RFID and other automatic identification technologies will be leveraged to enhance the management of inventory and assets.

Finally, the data collected by the system will allow the Army to analyze the current processes at the facility and recommend improvements.

—Bob Trebilcock, is a frequent contributor to Logistics Management