Yard Tracking & Management System

Automated Real-time Yard Management

The Yard Tracking and Management System (YTMS), developed by WhereNet, part of Zebra Location Solutions, is a yard planning, management and execution solution that leverages wireless location and communication technologies and configurable business rules to optimize yard operations and the systems with which they interface. YTMS was designed for yards that require fast throughput, accomplished through faster gate transactions, efficient parking assignments, fewer yard moves, and greater door turns. While the scheduling system is used for planning expected arrivals and departures, the execution system responds to unplanned events based on business rules that are configured for your particular operations. The combination of effective planning and exception handling allows the YTMS to direct the right trailer to the right door at the right time.

In addition, YTMS interfaces with back-end Warehouse Management Systems (WMS) and Transportation Management Systems (TMS); systems using real-time and batch data processing, enabling seamless operations between related operations groups. The YTMS also provides inventory, pickup, and alert information to carriers, resulting in a more effective management of equipment inventory within your site. For yards that are challenged with processing high volumes of trailers carrying time-sensitive cargo, the YTMS can be deployed with Real Time Location technology (RTLS) to enable automatic yard inventory and/or fast gates. RTLS eliminates the need for manual yard checks and trailer search time, resulting in greater driver and warehouse personnel efficiency.

YTMS BENEFITS:

- Improve yard throughput
- Improve resource utilization
  - Dock door turns
  - Switcher productivity
- Improve labor productivity
- Improve gate and equipment utilization
- Improve carrier communication
- Improve outbound carrier selection
- Eliminate excessive detention expense
- Eliminate congested yards and gates
- Eliminate inaccurate yard inventories
- Eliminate unauthorized checkouts
- Reduce late deliveries

RTLS ARCHITECTURE:

- Tags & Call Tags
  - WhereTag IV
  - WhereCall III+
  - WhereTag III TL/TLB
  - WhereTag III ST-HO
- Exciters
  - WherePort III
  - WherePort III HD
- Infrastructure
  - WhereLan LOS
- Configuration Tool
  - WhereWand II
- Middleware
  - Visibility Server Software

The combination of YTMS's flexible rules with real-time, up-to-the-minute information allows you to be more informed and make smarter decisions about your overall yard operations, therefore, product and equipment move through the yard with greater fluidity, even when the yard becomes congested. As a result, you can achieve increased yard throughput, door turns and equipment utilization while reducing detention and demurrage expenses. In addition, enabling fast yard throughput means doing more with less, less space, less resources, and less doors, but it also increases the speed at which the equipment moves through the yard, thereby reducing order-time-to delivery windows and warehouse overtime.

Key Features

Automatic Yard Inventory:
Using the wireless location system, YTMS understands the current location of every tagged trailer and switch tractor, as well as the status of each spot and door. This information is used to optimize the movement of equip- ment and people within the yard.

Automatic Door Assignment:
Configure rules that select trailers to be pulled to doors when doors become avail- able. Door availability is determined by the location system when RTLS is used. Rules are configured at the door level. Trailer move requests automatically display on screens inside switch tractors.

Wireless Switcher Dispatch:
Enables wireless communication of trailer move requests to switchers via touch-screen vehicle-mounted terminals. Switchers can map requests, perform trailer inspections, audit yard spots, and complete trailer moves from their on-board computer. Switchers can also receive instant text messages from dispatch- ers.

Automatic Parking Assignment:
Configure rules that assign yard spots to trailers during check-in and after they are processed at a door. Rules can be configured to minimize driving distance between trailers parked in the yard and the doors that will process them.

Door Manager:
This real-time graphical view of all dock doors shows which doors are empty, which are occupied, which have trailer move requests, which have queued trailers, which rules are associated with doors, trailer damage status, door enabled / disabled status, and trailer age. Queued trailers behind doors result in automatic trailer move requests when doors become available. Manually drag and drop trail- ers to and from dock doors to generate move requests for switchers.

Check-Out Blocking Rule:
Configure rules that prevent trailers from being checked out that should not leave the yard.

Saved Reports:
Users may create and save their own reports and schedule them to be emailed to one or more recipients. For example, a user may want to create equipment inventory reports and email them to carriers on a daily basis to assist carriers with maintaining proper levels of inventory on site. The system automatically runs and sends the reports as email attach- ments on days and times that you specify.

Gate-To-Door Rules:
Configure rules that direct selected inbound trailers from the gate to dock doors if the trailers being checked in match the rule criteria for available doors.

Trailer Inspection:
Configure your own inspection points and assign severities. Prevent specified types of damaged trailers from being pulled to dock doors. Measure the quality of trailers across carriers over time.

Inbound Scheduling:
Create site arrival appointments for inbound expected trailers. Configure time windows for calculating on-time performance on history reports. Automatically populate trailer check-in forms by pulling information from inbound schedules.

Outbound Scheduling:
Create site departure appointments for out- bound expected trailers. Configure time win- dows for calculating on-time performance on history reports. Automatically populate trailer update forms by pulling information from out- bound schedules.

Easy Dock:
Using a stationary or vehicle-mounted touch- screen terminal, dock personnel can quickly view the status of dock doors, change trailer status at doors, and create trailer move requests. Easy Dock can also be extended to include custom plug-in modules such as creating shippers.

Alerts:
Automatically notify key personnel via email when trailers are not where they are sup posed to be or if they have remained in a particular status for too long.

Automatic Pick-up Notification:
Configure the system to automatically email carriers when trailers are available for pickup. The system records the notification time and actual pick-up time for each trailer for mea- suring carrier responsiveness.

Scheduled Email:
Create custom reports and configure the system to automatically send reports to carriers, suppliers, and anyone else on a scheduled basis.

Vessel Voyage:
Assign vessel voyage information to each inbound container to track their origin and process them in FIFO order.

System Interfaces:
The application programming interface (API) allows YTMS and external systems to exchange information. Through the API, exter- nal systems are made aware of each inbound and outbound trailer, each trailer that arrives at and departs from a door or spot, each status update, and each schedule change. External systems can also update trailer statuses within YTMS and query any report using API.

Directed Task Assignment:
YTMS can be configured to optimize the assignment of trailer move requests to switchers based on the locations of available switchers relative to trailers that need to be moved.

Dynamic Labor Standards:
YTMS leverages PathFinder to calculate the length of time required to complete each move request. Expected and actual move times are displayed on reports for productivity comparisons.