



Appointment Scheduling: The Moment of Truth

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As companies continue to streamline their supply chain an area often forgotten about is the Shipping or Receiving Department even though this Department is critical to the successful flow through of products through the supply chain. Too often an organization will align their supply and demand, but not provide the critical inventory prioritization rules for their shipping and receiving departments leaving the right product delayed from its final end point and often causing downstream out-of-stock and lost sales opportunities. Additionally, often during buying and sourcing activities “actual” shipping and receiving capacity are ignored. This dangerous practice floods shipping and receiving facilities during peak times and leaves critical inventory on the outside looking in. The result is facilities overburdened with non-critical inventory because buyers or sourcing departments are not aware of receiving and shipping schedules and critical products cannot flow through the supply chain.

To combat these challenges it is critical to the organization to focus on Appointment Scheduling at their shipping and receiving departments. Appointment Scheduling represents “The Moment of Truth” when a supplier, customer, and carrier meet to determine how efficiently and effectively goods will flow through their supply chain. One decision to delay goods receipt, during a major event like a promotion, because appointment capacity is not available can result in hundreds of thousands in lost sales opportunities which directly affects the bottom line.

Challenges with Current Appointment Scheduling

There are numerous challenges resulting from the methods currently in use for appointment scheduling at shipping and receiving departments. A few of the challenges include:

- Communication challenges between carriers, shippers, and receivers
- Limited hours to schedule appointments
- Highly manual and labor-intensive scheduling and re-scheduling processes
- Access to information
- Out-of-date or non-existent information related to inventory prioritization
- Capacity constraints not taken into consideration during buying and sourcing decisions
- Limited visibility into projected capacity problems in the future

Communication challenges between carriers, shippers, and receivers

A key complaint among those companies scheduling is the lack of communication between carriers, shippers and receivers. Often, appointments are made by a broker or a vendor and never communicated to the carrier, leaving the carrier with no knowledge of expected arrival time. Another prevalent problem is that the amount of product expected by the receiver frequently does not equate to the amount of product being shipped by the vendor. Only if the receiver has access to the shipping information of the vendor can an accurate volume estimate be made. Carriers and vendors need adequate information about the scheduling requirements and business rules of the receiver in order to schedule appointments on their own, without relying on calling the scheduler each time to confirm an appointment. Enabling access to the same information by all parties in real-time allows for the creation of an accurate scheduling plan.

Limited hours to schedule appointments

The limited hours during which appointments can be made presents another barrier in the way of a productive scheduling plan. Unfortunately, delays such as weather, traffic congestion and mechanical failure do not always occur during normal business hours. Consequently, there is often a significant time lag between the data given to the warehouse for resource planning and the actual state of the schedule. Resources allocated based on a project plan for the next business day may have been done so as determined by information available at close of business the day prior. In other words, the actual deliveries made the next morning may vary widely due to events that occurred after the close of business. By allowing shippers, carriers and receivers to update

appointments as events occur, the warehouse can get a clear picture of the day ahead. Accurate information on potential scheduling problems can allow the warehouse to be proactive in avoiding potential backups. The ideal situation is one that allows carrier to arrive and unload 24/7. However, few receivers can offer this level of flexibility so the next best solution is a 24/7 appointment system that is real-time and offers greater flexibility than current methods of scheduling appointments. This way, as appointments are updated, the buyer, receiver, customer service representative, shipper, and carrier should receive immediate notification of all changes, via email or mobile device, keeping all parties up to date.

Highly manual and labor-intensive scheduling and re-scheduling processes

A majority of Fortune 500 companies and companies with revenue above \$1 Billion continue to use a paper, phone and fax appointment scheduling process. Most shippers and consignees estimate upward of 40% of their time is spent on the phone with carriers or vendors, trying to meet their requests for appointment times with a full-time resource dedicated at each facility to manage their appointment scheduling processes. Carriers are forced to either spend hours on hold to make appointments or to leave messages for future callbacks. In addition, appointments may only be scheduled during set business hours. Consequently, when problems arise during off hours the receiver cannot be notified, resulting in out-of-date information in receiving, and often leading to schedule disruptions and mismatched resources-to-volume in the warehouse.

Currently, between \$7,000-\$12,000 is collected each month in rescheduling fines. These figures clearly illustrate the depth of the problem.

The process of rescheduling appointments is also a significant drain on resources. One large retailer estimates that approximately 20% of the appointments made every week have to be rescheduled, creating approximately 950 total reschedules for an average week. Due to the significant amount of reschedules the retailer has instituted a policy of charge backs for any appointment that is rescheduled more than twice. Currently, between \$7,000-\$12,000 is collected each month in rescheduling fines. These figures clearly illustrate the depth of the problem. Because carriers and vendors do not personally have access to the schedules, they must rely on contacting the scheduler each time that the situation changes.

Out-of-date or non-existent information related to inventory prioritization

Often appointment schedulers are left to decide which shipments will receive or ship with little or no visibility to the priority of inventory on the shipment. The lack of priority leaves the appointment scheduler guessing which orders should be shipped/received without concrete information about the order / shipment priority. The result, too often, is the wrong product being received at the wrong time causing out-of-stock situations, inventory nightmares, and lost sales. Capacity constraints not taken into consideration during buying and sourcing decisions

Time and time again procurement and sourcing make buying decision without understanding the “actual” capacity available. This is a detrimental approach and can make the shipping and receiving facility a “choke-point” in the supply chain. For example, the buyer may receive a great volume price discount on purchasing a truckload of water. What is not understood the overall effect of this “great buy” on the overall shipping and receiving capacity on their facilities. Occasionally, some procurement systems, do consider a ‘static’ capacity, however it is often only considered during the initial buy and does not integrate with shipping and receiving to consider actual capacity. Also, orders are often placed two to three weeks out, so capacity consideration must be continually reviewed not only at time of procurement, but all the way through execution.

Limited visibility into projected capacity problems in the future

Often buyers, customer service, and distribution teams do not have visibility to their capacity beyond a day or two. By the time they know there is a problem it is often too late to re-schedule shipments or re-deploy labor. The result is trucks forming a line outside facilities creating detention and demurrage charges, critical inventory not able to flow through the supply chain when it is required, and extra or not enough labor present to manage the demand.

Far Reaching Effects beyond Scheduling Department

As the three points above point out, the inefficiencies resulting from the current manual appointment scheduling practices affect not only the scheduling department, but extend farther to other parts of the supply chain; Shipping, Receiving, Distribution, Purchasing, Customer Service, and finally to the end customer. Generally, product is ordered with respect to a particular delivery date so that acceptable inventory levels and/or a fluid production schedule can be maintained. The shipping schedule of the supplier must be set in advance of this required date in order to deliver on time and keep inventory on track.

However, due to frequent delays at the pickup point, delivery appointments often cannot be made until after the pickup has been physically performed. By the time the driver contacts the receiver, they might not be able to match the delivery appointment with the transit time or the facility may be out of capacity. Consequently, any delay in the shipping schedule may translate to a delay of delivery and a shortage of inventory, resulting in an unavailability of product for the end customer.

It becomes evident that a problem in one area of the process easily and quickly fingers out to affect countless others in the process. Inaccuracy and inefficiency in the communication of scheduling requirements of the buyers, sellers, shippers, and receivers result in the requirements of the end customer not being met.

Inaccurate appointment schedules may also cause chaos in the warehouse. Arrivals occurring out of sequence cause major congestion when too many pieces/pallets arrive at the same time, producing a back-up in the receiving lanes and marshalling areas. This congestion results in carriers who arrived on time for their appointments being delayed. The delays to a carrier at one warehouse affect their ability to arrive at subsequent appointments on time, extending the problem to other companies down the line. The receiving mode becomes, 'First Come-First Served'. Marketing begins to receive complaints and phone calls from panicky vendors. Some truck drivers or vendors refuse to even move the loads without acquiring a delivery appointment first.”

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Automated Appointment Scheduling

Appointment scheduling continues to be one of the most archaic supply chain processes and it is evident that scheduling practices must be addressed to remove the “choke-hold” scheduling can put on the rest of the supply chain. However, until recent developments in technology and internet adoption automated appointment scheduling did not benefit all parties.

Starting in the 90’s client/server solutions were introduced however they were unable to give carriers or customers access to schedules, thus, still requiring appointment scheduling via telephone or fax. With the advent of the Internet carriers and customers could now schedule on-line however companies struggled with carriers and customers that did not have Internet connection, bandwidth issues, accessibility issues, and a system that continued to be “siloesd” from other supply chain systems.

Today, the Internet is no longer a hindrance as it has become a standard business operating tool. Additionally, technologies have advanced enabling companies to embed appointment scheduling processes that tie together all parts of the supply chain from Software as a Service (SaaS) vendors, like One Network.

Combined with a strategic end-to-end supply chain strategy and enhanced technologies advancements, companies can take advantage of the benefits of automated appointment scheduling including:

- Improved Efficiency
- Improved Facility Throughput and Productivity
- Time-Phased Labor and Capacity Determination
- SKU Level Visibility
- Increased Asset Capacity Utilization
- Decreased Rates from Carriers
- Compliance Benchmarking Metrics
- Access to historical data

Improved Efficiency

Automating the day-to-day appointment scheduling activities will allow scheduling personnel resources to focus on other activities dramatically improving the efficiency of the operation and supply chain. Additionally, organizations can centralize their operations eliminating the need to have schedulers at each facility reducing the overall cost. A prime example of this can be seen with a top five grocery chain. With their appointment scheduling implementation, they were able to automate appointment scheduling, centralize their scheduling function, and cut the number of people devoted to scheduling by 87%. The appointment scheduling solution minimizes the non-value side of the appointment scheduling labor freeing organizations to re-invest those hours into moving products and serving customers.

Improved Facility Throughput and Productivity

Automated scheduling can drastically improve facility throughput and productivity by delivering three key items:

- Order Prioritization
- Calendar Management
- Consistent application of capabilities

With order prioritization shipping and receiving departments can understand the criticality of the orders ensuring during peak capacity times business critical orders receive appointments and lower priority orders are scheduled for days or times when capacity is not constrained. Additionally, orders can continually be prioritized or re-prioritized, not just at the time of order creation, but any time prior to delivery based on the latest demand requirements, to ensure the right priority is applied and considered during appointment scheduling.

Calendar management automates compliance on what can be scheduled when. Users define detail business rules down to the product, site, and door level, which ensure the right product is being scheduled at the right time at the right location.

Finally, consistent application of capabilities allows streamlined business processes across an organization and enables cross-training of employees. Traditionally, each facility had a different set of operational rules, which made partners frustrated and cross-company employee training nearly impossible. For partners they now interact the same way with each facility across a company's network improving their efficiency and productivity.

Time-Phased Labor and Capacity Determination

Integrating appointment scheduling with your distribution, customer service, and procurement operations enables companies to provide time-phased labor and capacity determination. The time-phased views allow the companies to better synchronize their capacity and labor with the demands of the supply chain. For example, one large retailer utilizes future time-phased views to identify when their "buying" practices exceeds their warehouse labor requirements. Once orders exceed labor capacity buyers are alerted and work with their distribution team to identify orders that must be received versus orders that can be pushed out to free up capacity. Additionally, the retailer utilized the time-phased views to determine their required future labor, so they can determine the number of lumpers required for a given days work. Previously lumper labor was guessed and often resulted in extra lumper hours paid.

Inaccessible information is no longer information.

SKU Level Visibility

SKU level visibility of what product is actually on the truck at the time of scheduling is believed by one national retailer to be the greatest benefit gained from an Internet based scheduling system. While the delay of any product is costly, the delay of advertised or high-velocity goods is particularly expensive. If the scheduler could determine exactly what items were on the truck for each appointment, correct priority could be assigned for loading and unloading. SKU level visibility ensures that the most crucial product can be delivered when needed.

Increased product visibility also serves to boost the practice of cross-docking. Cross-docking is typically utilized in high velocity situations – such as Fast-Moving Consumer Goods, Promotional Items, and High Tech Components – and allows the products to be received, processed, and shipped in one continuous fashion. The implementation of cross-docking requires the warehouse to be continually aware of what products are coming in and when, so that the appropriate outbound trailers can be staged. This level of visibility and coordination is easily and automatically facilitated through an Internet based appointment scheduling system tying together inbound and outbound schedules.

Increased Asset Capacity Utilization

An increase in overall capacity utilization can be achieved as the scheduling process is improved. Based on current processes, the total number of hours America's 3.1 million truckers spend idling each year comes to almost 6.2 billion squandered man-hours; an unbelievable amount of wasted capacity. For each driver sitting idle there is one tractor and at least one trailer idle, thus creating the need for even more drivers and equipment to handle demand. By reducing wait

time, more miles can be put on existing equipment, which would lower costs significantly. For every 1% reduction in wait time, an additional \$15.6 million per year in cost savings could be realized by carriers and others.

Decreased Rates from Carriers

It has been determined that decreased wait time at the dock can directly correlate to decreased freight rates. For example, most truckload carriers quantify the impact of delays on their revenue by an individual shipper, the costs of delays from a particular shipper are used to calculate rates that more accurately reflect the carrier's costs. Therefore, if the carrier's productivity can be increased thereby reducing their overall costs, lower rates can be afforded and provided. According to one large Truckload representative, "The faster our equipment can be turned around and on its way, the more positive consideration we can give when contracts are negotiated. A shipper can expect a significant difference in cost by implementing efficient dock practices".

Improved Supplier, Carrier, Customer, and Internal Compliance with Scorecarding

A common request from companies is to have the ability to determine the compliance of their shippers, carriers, and receivers based on their requested ship or delivery date and actual ship or delivery date. By transmitting the order information and desired date directly to the company, the shipper/receiver should be able to track the number of times the shipper/receiver sends out loads with non-compliant dates to their carriers. Additionally, the number of times the carrier schedules appointments for non-compliant dates and how often the carrier is actually on time for their scheduled

In a manual appointment scheduling important analytic information is left on a notepad or in a filing drawer and not easily used to identify potential cost savings. The more information that is available, the more proactive a shipper or receiver can be in streamlining dock operations.

appointments can be tracked. This provides companies with performance information on their partners so that they may focus on the areas of greatest concern to improve dock operations. Partnership breakdowns can be identified and rectified in a timely manner resulting in a reduction in variability and inventory.

Access to Historical Data

The maintenance of all appointment data in a centralized repository enables the analysis of historical trends. Analysis of historical trends is extremely beneficial for several reasons including:

1. The tracking of past volumes allows for the prediction of future resource requirements. The more accurately a warehouse can respond to forecasted demand, the lower their overall costs will be.

2. Establishing historical trends would help identify any patterns that negatively impact dock performance. Once identified, these patterns can be addressed and corrected. In a manual appointment scheduling environment important analytic information is left on a notepad or in a filing drawer and not easily used to identify potential cost savings. The more information that is available, the more proactive a shipper or receiver can be in streamlining dock operations.

3. Appointment scheduling enables companies to see both controlled and non-controlled shipment flows. Using the historical information enables companies to review their controlled and non-controlled shipments to identify lanes where a non-controlled to controlled shift or vice versa may occur. To perform this analysis it is critical that the appointment scheduling solution allows the capturing of origin and/or destination information when scheduling a non-controlled order. For example, inbound non-controlled orders are frequently generated without capturing the origin because the company does not have the information where their vendor is sourcing the product. The point the origin can be captured is when the appointment is scheduled by the carrier or vendor. From this information companies can perform historical analysis to see if the lane should convert from non-controlled to controlled.

Cost Savings Illustration

We have highlighted the benefits of automated scheduling, however lets put the benefits to test and show an example of how the benefits translate to quantitative and qualitative benefits.

Company Overview

Company A

- \$4 Billion in Annual Revenue
- Controls 30% of Total Inbound Freight and 70% of Outbound Freight
- Current Due Date Compliance is 70%
- 20 facilities
- 100 Stores
- A scheduler at each facility, for a total of 20 schedulers. Each scheduler is paid \$17 (Benefits included) an hour for scheduling.

Appointment Scheduling Benefits

Quantitative Cost Savings **\$3,184,840**
Increased Sales Revenue **\$1,600,000**

Quantitative Benefits

1. Employee Reduction. On average the typical automated appointment scheduling system will allow one scheduler to manage five facilities. Schedulers are still required to manage the exceptions that may arise in the scheduling process. For example, a carrier tries to schedule an appointment the same day the order is due. Schedulers reduced from 20 to 4.
Cost Savings: \$565,760 (\$17 per hour * 16 employees * 2080 hours)

2. No Need to hire Additional Employees. As Company A's business grows and adds new facilities, there will not be a need to hire additional schedulers. Additionally, for high seasonal volumes no temporary workers will need to be hired for high seasonal volumes. Assume that ½ an employee can be saved each year over three years.
Cost Savings: \$17,680 (\$17 per hour * 1/2 employee * 2080 hours)

3. Improved Date Compliance & Capacity Management. As Company A begins monitoring Date Compliance our studies have shown they can expect an immediate 5% improvement in Date Compliance from 70% to 75%. By increasing compliance more certainty is known about a product's flow through the supply chain. The result is a 1% reduction in average inventory costs because of fewer safety stock buffers required across the supply chain.
Cost Savings: \$1,755,000 (\$175,500,000 Average Inventory * 2%)

4. Facility Operational Savings. Because of inefficient scheduling and vendors arriving without appointments, Company A was incurring facility unloading and loading overtime at each of their facility. The average overtime was an hour per day for each of their 5 facility employees resulting in 1825 overtime hours per facility. With the implementation of automated scheduling Company A was able to reduce labor overtime because of streamlined capacity management and turning back vendors and carriers who arrived without appointments. The average cost per employee was \$17 per hour and overtime was reduced by 80%.

Cost Savings: \$496,400 (\$17 per hour * 80% of 1825 hours * 20 facilities)

5. Non-Controlled to Controlled Freight Conversion.

Because they are implementing an appointment scheduling solution, Company A now has visibility to all controlled and non-controlled shipments. Company A can now focus on increasing their control of transportation, recognizing that their scale, scope and focus leads to more efficient and effective transportation. On average Company A can improve their freight cost savings by 5% on the 70% of inbound freight they do not control.

Cost Savings: \$350,000

6. Same Store Sales Increase. At Company A's stores there are dedicated personnel responsible for scheduling store appointments. With an appointment scheduling solution these resources can be re-positioned to assist in inventory refills and customer service. It is assumed an hour a day can be removed from scheduling appointments and focused on assisting customers with sales, filling inventory and customer service. Based on this attention it is assumed this work change can lead to \$50 in additional sales per day.

Increased Sales Revenue: \$1,600,000

Non-Quantitative Benefits

1. Visibility Foundation. Appointment scheduling is the cornerstone for creating Company A's visibility foundation. It provides Company A with 100% visibility to all freight within Company A's supply chain network. The information gathered can be utilized as a mechanism to pro-actively resolve supply chain disruptions by several of Company A's business groups including Procurement, Transportation, and Distribution. This can now be done as a collaborative process with the shipper and carrier.

2. Increased Operational Control. Appointment Scheduling provides increased access to information, which leads to increased operational control. Sourcing and Procurement can be completely tied into the scheduling process to provide visibility of moving inventory and ensure that optimal inventory levels are considered in all scheduling decisions. SKU level visibility enables informed and proactive decisions to prevent stock-outs and provide special consideration to advertised goods. Carriers, Vendors, and Customers can provide and benefit from up-to-the-minute appointment information.

3. Flexibility of Operational Configuration. Ensures Company A can manage Appointment Scheduling either centrally or de-centrally at a Facility level. Company A can enforce compliance to their appointment scheduling requirements by definition of hours of operation, scheduling cutoffs, maximum capacities and product capability. And, as mentioned before, each Facility may be uniquely configured down to the dock door level.

4. Reduced Manual Contact. Each participant in a transaction – vendor, customer, carrier, and Company A – has the ability to schedule and manage appointments directly through the interface, eliminating reliance on phone and fax while reducing errors and miscommunication. This level of automation helps to avoid breakdowns in cross-departmental processes such as promotions execution.

5. Improved Vendor and Internal Scorecarding. Because Appointment Scheduling is capturing 100% of Company A's order volume, Company A can holistically capture the following measurements:

- **Order Target Date vs. Appointment Date** – Capture number of appointments scheduled before and after shipment/delivery date. Enables Company A to identify trends by facility, product, and/or vendor where supply chain breakdowns are occurring.
- **On-Time Pickup and/or Delivery** – Measure Company A's Core Carriers, Vendor/Customer Carriers on-time pickup/delivery. Pro-actively rectify challenges with poor carrier or vendor service.
- **Carrier Dwell Time** – Capture carrier in-gate and out-gate numbers. Information assists in validating carrier detention charges and monitoring distribution unloading/loading efficiency.
- **Number of Re-Scheduled Appointments** - Determine vendor, customer, and internal frequency of re-scheduling appointments.
- **Order Quantity Changes** – Maintain number of order changes between original order and final delivery.

6. Improved Carrier Relationships. Carrier dispatchers currently spend an inordinate amount of time scheduling appointments, between 15-50% of their workday, through leaving voicemail messages or waiting on hold. One Company A carrier, Carrier XYX, mentioned the frustrations of only being able to schedule into Company A's facilities from 8 AM – 12:30 PM and the amount of time they spend trading voicemails. By implementing more precise scheduling and 24/7 scheduling, a carrier's productivity is improved. This can directly correlate into decreased freight rates and strengthened carrier relationships.

Select an Appointment Scheduling Solution that “Embraces” other solutions

As companies research solutions it is critical to identify appointment scheduling solutions that “embrace” other technology solutions. For example, many companies have an order management, transportation management or warehouse management solution that has successfully automated their order, transportation, and warehouse processes, however does not provide automated appointment scheduling. Appointment scheduling is an integral part in the order, transportation and warehouse processes, so it is vital that the appointment scheduling solution selected “embraces” the current systems deployed. Traditional appointment scheduling solutions were designed as “standalone” systems that were not meant to integrate and collaborate with other solutions. Next-generation appointment scheduling solutions were designed to “embrace” the surrounding solutions and create an integrated collaborative workflow.

The Future of Automated Appointment Scheduling

Once automated appointment scheduling is successfully deployed the future holds an interesting opportunity between partners in a supply chain. The theory is the “Next-Generation” appointment scheduling solution will have network visibility from the vendor to the customer and even the consumer. With the visibility appointment scheduling can automatically schedule a delivery appointment at the customer, calculate the lead time between the customer and vendor, and secure the pickup appointment at the vendor based on inventory availability, and determine the pickup staging times to assist operations and labor scheduling. This truly offers an end-to-end appointment scheduling process where appointments are secured and carriers are left to execute the moves without having to worry about fighting for appointment times.

The future state of appointment scheduling is very promising as SaaS vendors, like One Network, have the network and technology in place to deliver this capability. However, the hindrance continues to be the disjointed process “collaboration” between an organization and their vendors, service providers/carriers, and/or customers. Once these processes are connected appointment scheduling will truly be ‘streamlined’ and products can flow efficiently and effectively through the entire supply chain.

For more information on One Network's Appointment Scheduling solution, please contact us:

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