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White Paper

Small Parcel Shipments: Rethinking inbound supply chains to boost visibility, increase control and cut costs



Explore how to optimize parcel shipments, simplify label generation and integrate with carriers

Price pressures. Operational inefficiencies. Economic headwinds. These are just a few of the challenges today's businesses face. Competing effectively means finding new ways to streamline operations, reduce costs and focus on front-end, revenue-generating opportunities.

While most manufacturers provide routing instructions for shipping these parts to their suppliers, few have control over the service level suppliers use to get small parcel shipments to them. In fact, many companies have no defined process for controlling how their suppliers send these shipments to them. The problem arises when small parcels are shipped via air or premium service when they could just as easily be shipped ground – or when suppliers ship several individual small parcels to the same destination separately instead of consolidating them.

As a result, scores of companies are subject to the high cost of premium air service without being able to pre-authorize the service – and lose money on their inbound supply chains. This is especially true of businesses that ship many light parts or work with suppliers who fail to comply with routing instructions. Depending on the number of packages being expedited and the volume of shipments, inbound parcel shipping represents a rich opportunity to reduce costs.

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This white paper explores the challenges that businesses with parcel-intensive inbound supply chains face in controlling transportation costs. It explores strategies for optimizing shipments and reclaiming control of shipping modes, considers available technologies, identifies components of an ideal solution and provides guidelines for choosing a solution. Finally, the white paper explores the implications of implementing an integrated solution that delivers the best of all worlds – network visibility, parcel shipment optimization, an expedited workflow when needed and web-based integration of parcel networks and carriers.

Many shippers can benefit by implementing a solution that gives them better control of shipment modes, optimizes loads and lets them track shipments from origin to destination.

DO YOU NEED A PARCEL OPTIMIZATION SOLUTION?

1. Are your suppliers spending too much money shipping parts to you because they're sending them via air or expediting shipments unnecessarily?

2. Do your suppliers control the shipping levels and consolidation of inbound parts shipments?

3. Are your inbound shipments resulting in excessive inventory at your receiving location? Is too much capital tied up in inventory carrying costs and inventory on hand?

The challenge:

Businesses face a variety of issues as they try to take control of their small-parcel-intensive supply chains, while ensuring that they still receive their shipments on time - without wasting time or money. Most have to do with the fact that they have limited control over the way suppliers ship parts to them. In many cases, suppliers automatically ship via premium air when packages could be sent ground and/or they do not consolidate multiple shipments. The challenge? Taking control of the parcel management aspects of the inbound supply chain – and rightsizing small parcel shipping to reduce costs and improve efficiency. The upshot? Many shippers can benefit by implementing a solution that gives them better control of shipment modes, optimizes loads and lets them track shipments from origin to destination.

Technologies make it easier to consolidate parcels and integrate shippers, suppliers and carriers to improve network visibility and simplify package tracking.

The solution:
The whole is greater than the sum of its parts

Certainly, the high costs of unplanned premium shipping and lack of control create a variety of problems for shippers. All of this is now changing thanks to technologies that make it easy for shippers to ensure that parcels are expedited and shipped by premium service only when they should be. These technologies make it easier to consolidate parcels and integrate shippers, suppliers and carriers to improve network visibility and simplify package tracking. The right solution combines multiple functions that address various aspects of inbound parcel shipment.

Shipment Consolidation

One way to deliver meaningful bottom-line results is being able to consolidate shipments under a single master label.

This capability is especially advantageous for large manufacturers with multiple production facilities and clusters of suppliers who ship parts to them. Combining packages that originate from the same geographic cluster of suppliers and are destined for the same manufacturing center can reduce costs and minimize waste and environmental impact. The cornerstone of a successful solution is technology that flags small parcel shipments for consolidation and links multiple supplier shipments together.

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Expedite "Optional"

Additional technologies include mechanisms for expediting packages when necessary – determining if a shipment should be sent via air to meet a desired delivery date. Likewise, technologies are available to streamline parcel tendering and execution. Once a shipment is optimized for consolidation or expedite/non-expedite status, the parcel tendering and execution system rates and routes parcel shipments to the appropriate parcel provider.

Assigning Liability

Once shipments are entered into the system, shippers can challenge the liability of shipments with suppliers. For example, a manufacturer might assign liability for a particular shipment to a supplier. Alternately, the supplier might reject liability back to the manufacturer, in which case the shipment can be escalated to a second and even third level until the issue is resolved.

While parcel optimization, expedite workflow, parcel tendering and execution and web integration technologies can make shipping processes smarter, faster and less costly, successful deployment depends on choosing the right solution with all of the right components.

COMPONENT	ACCOMPLISHES THIS (THESE) FUNCTION(S)
Shipping optimization	• **Shipment service and mode optimization** – identifies which small parcels should be sent ground, which should be shipped air and the best carrier for the shipment based on the service level required and carrier delivery schedules • **Shipment consolidation** – combines multiple boxes/ parcels from the same supplier being shipped to the same shipper to create a single load with multiple parts under a master label
Expedite workflow management tool	• **Service level control** – enables buyers or material planners at the manufacturer/ shipper to control shipment service levels • **Assignment of shipment cost liability** – ensures that suppliers who choose not to comply with designated shipping service levels assume liability for the cost difference • **Data tracking liability decisions** – solid data detailing who made what liability decisions, with flexibility to generate reports

Successful deployment depends on choosing the right solution with all of the right components.

Choosing an effective solution is critical to enabling seamless parcel shipping and expediting, label printing and integration between manufacturers, suppliers and parcel carriers.

COMPONENT	ACCOMPLISHES THIS (THESE) FUNCTION(S)
Parcel label printing	• **Supplier efficiency** – centralized label creation/ printing means suppliers don't have to go to multiple carrier websites to create labels
Web-based integration between manufacturers, suppliers and parcel carriers	• **Integration of shippers, suppliers and carriers** – provides a central, web-based point of interface to schedule, track shipments, and provide shipping labels to suppliers. • **Tendering of optimized shipments directly to parcel carriers** – minimizes errors, streamlines label creation

How do you choose a parcel optimization solution?

The ideal solution makes it easy for shippers to select the most economical parcel delivery option, ensures that suppliers who choose not to use that option assume liability for shipping costs, transports small parcels to their destinations in a timely manner and supports centralized label printing from a single, web-based location.

Getting there … selecting the right outsourcing partner

Not all business partners with parcel optimization/expedite workflow and web-based integration systems are created equal. As you consider third-party logistics (3PL) providers to outsource your inbound parcel shipping supply chain activities, ask these key questions:

- Does the provider use a transportation management system capable of optimizing parcel shipping and determining shipping service levels for orders?
- How does the provider receive carrier updates on shipments? Make sure your prospective partner supports both EDI and WebCrawler technologies to interface with carriers. If EDI updates do not occur, the provider should have alternate ways to provide status updates of shipments.
- Can the provider integrate its transportation management system with expedite carriers such as FedEx and UPS?

Not all business partners with parcel optimization/ expedite workflow and web-based integration systems are created equal.

AS YOU CONSIDER A SOLUTION, LOOK FOR THESE KEY ATTRIBUTES:

- Visibility to premium shipments required to meet the delivery date
- Flexibility to select an alternative service level (i.e. to expedite vs. non-expedite) to reduce costs
- Alignment of just-in-time shipment of parts with production by synchronizing supplier ship dates and carrier delivery schedules with actual 'need by' delivery dates

Ryder's Solution

"When you can get suppliers to optimize and consolidate shipments, you're looking at savings of between 15 and 20 percent compared with shipments that are not optimized."

Mark A. Spieles, Director of Customer Logistics, Ryder Supply Chain Solutions

Supplemental modules enable shippers to consolidate orders and optimize shipments across all modes and service levels.

Ryder's Transportation Management System

The heart of the Ryder solution is an advanced Transportation Management System (TMS) that receives customer orders and determines the most appropriate service level for every shipment. The TMS interfaces with Ryder's Web-based portal to make it easy for suppliers to generate parcel labels from one central location.

Supplemental modules enable shippers to consolidate orders and optimize shipments across all modes and service levels. Ryder's TMS automatically identifies concentrations of supplier origins, locations and shipments that can be consolidated and combines them based on their final destinations. The system aligns shipping details, carrier delivery schedules and Hazmat requirements with desired delivery dates to ensure that shipments arrive when needed.

The Expedite Management Tool (EMT)

The EMT comprises four workflows that control the decision-making process for shipment service (ground vs. air) and shipping cost liability:

1. **Service level identification:** each shipment is rated in the Ryder TMS to determine the service level (ground or air) required to meet the desired delivery date based on manufacturing requirements.

2. **Transfer into the Expedite Management Tool:** if a shipment requires air (expedited) service to meet a delivery date, it enters into the EMT.

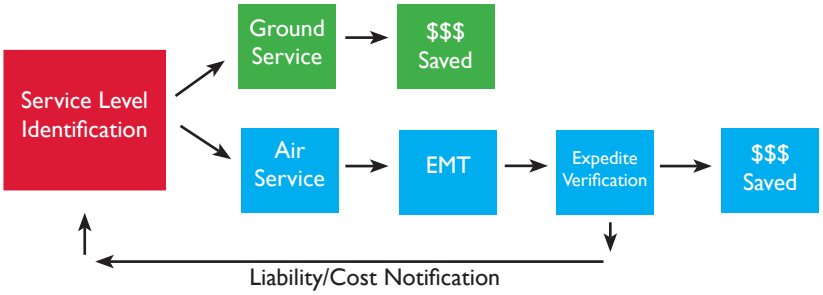
3. **Expedite verification:** the material analyst or planner makes/validates the recommendation for air service and whether or not the cost of the expedited service should be borne by the supplier or manufacturer.

4. **Liability notification:** based on a series of shipper and supplier codes, the liability/cost is communicated back to the supplier, if necessary.

With the Ryder EMT, shippers can assign liability and negotiate back and forth with suppliers until accountability is determined. The system captures and stores the escalation process for reporting and cost-recovery purposes. When a supplier has multiple shipments, shippers can use the EMT to identify which specific parts should be expedited - before the shipment is executed and tendered to a carrier.

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Figure 1: The Expedite Management Tool (EMT) Process



Shippers can access data such as:

- Shipment details (ASN, PO number, part number, etc.)
- Expected costs of air vs. ground shipments
- Expected delivery dates based on the carrier's delivery schedule for each available service level

Parcel tendering and execution system

The Ryder TMS generates a shipment request and transmits it to the selected carrier, along with data elements like the Ryder load number, origin, destination, weight, service level and date information. The parcel provider assigns a tracking number for the shipment, which is returned to the TMS.

Controlling costs by enabling shippers to select ground service depends on visibility into the shipping network.

Parcel label images are generated as PDFs in 4 x 6 format:

- For printing on letter-size laser label stock only on laser printers
- For expedite carriers such as FedEx and UPS
- With security applied using the supplier location ID

Web-based parcel and carrier integration

Controlling costs by enabling shippers to select ground service depends on visibility into the shipping network. That's where the next component of Ryder's solution comes in. The Web-based component integrates parcel carriers with Ryder's Transportation Management System (TMS) to provide basic visibility to shipments via updates from carriers. Shipments are optimized in the TMS and then assigned to carriers for shipping. Parcel carriers provide tracking numbers and event updates linked through EDI 214 to the tracking numbers. Event updates can be viewed online.

Ryder's parcel optimization, expedite and web-based integration

With web-based integration of the transportation management system and carriers, both manufacturers and suppliers can track a parcel's progress online. Manufacturers can control and adjust service levels and ship dates up to a day before a supplier fulfills a shipment.

The Control Tower

Together, the transportation management system, service level workflows and parcel tendering/execution applications comprise an end-to-end solution that dynamically plans and routes supply chain movements. Known as the Ryder Control Tower, the system and the execution of logistics functions connects manufacturing plants, parts suppliers, transportation service providers and other third-party logistics providers through one interface to enable efficient communication between shippers, suppliers and carriers with:

- A single, integrated planning, procurement and execution portal to manage global supply chains and interface between shippers and transportation service providers
- Real-time visibility with one view of all movements for all involved parties
- Ongoing supply chain optimization to improve service and reduce cost
- Non-biased procurement and execution management

The benefits of the Ryder Control Tower are significant for parcel-intensive supply chains. The largest impacts include a more streamlined process, improved tracking and decision-making and potential cost savings of up to 20 percent.

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The TMS determines whether a package should be shipped overnight or ground and if it can be consolidated with other packages headed to the same destination.

HOW DOES RYDER'S PARCEL OPTIMIZATION, EXPEDITE AND WEB-BASED INTEGRATION WORK?

1. The shipper (or manufacturer) generates an order, which contains all vital elements for shipment – origin, destination, weight, and delivery date
2. Each shipment, regardless of size, is entered into the Ryder Transportation Management System and evaluated for optimization and/or consolidation
3. The TMS determines whether a package should be shipped overnight or ground and if it can be consolidated with other packages headed to the same destination
4. If the package must be shipped via air, it is entered into the Expedite Management Tool and expedite status (authorization to ship via air) is provided
5. Based on the workflow approval, the shipment is tendered and a load is created
6. If a parcel shipment is required, the Web-based application allows the supplier to print a shipping label instead of the traditional Bill of Lading used by carriers in TL/LTL environments
7. One label is printed for each package
8. Ryder's system exports the shipment/label request to the parcel provider
9. The Web application transfers the parcel label image to the TMS with a tracking number
10. The Ryder TMS stores the label image for printing at a later time. Multiple-package labels are consolidated into one PDF

Shippers realize a variety of benefits:

- **Better control of inbound parcel shipping costs**
- **Improved inventory control** – a just-in-time model prevents overuse of air shipment and parts arriving early, causing excess inventory
- **Better visibility of inbound shipments** – ability to track when products ship and progress
- **Improved decision-making** – access to a variety of data elements and more sophisticated data analysis enable all stakeholders to make more informed decisions
- **Streamlined label generation** – all suppliers print their labels from one centralized, web-based location, minimizing errors and improving efficiency
- **Lower costs** – through consolidation and controlled use of premium shipments, companies can reduce costs by as much as 20 percent

Case Study: Leading aerospace company reduces air shipments and saves money.

When one of the world's leading aerospace companies wanted to streamline inbound shipment of components and parts from one of its suppliers, it turned to Ryder Supply Chain Solutions. Together Ryder and the aeronautic giant transformed its parcel shipment processes with an innovative solution that teams a robust parcel shipment optimization/consolidation system with innovative expedite management and parcel/carrier integration tools.

When one of the world's leading aerospace companies wanted to streamline inbound shipment of components and parts from one of its suppliers, it turned to Ryder Supply Chain Solutions.

The heart of the solution is Ryder's Transportation Management System, which ensures that the aerospace company sends each shipment via the right mode to arrive at the right destination by its "need-by" delivery date. In the short run, the aerospace provider reduced air shipments by 38 percent in the first three months. By using non-premium service, the resulting cost savings ranged from $.86 to $1.68 per pound shipped. In the long term, the aerospace company expects to shave an additional 20 percent off transportation costs over the next three years.

Organizations that efficiently leverage shipping assets will be equipped to run their businesses more efficiently.

Summary

As enterprises look to minimize complexity, improve inbound supply chain efficiency and reduce costs, there is a growing need for intelligent solutions that provide the visibility, optimization and integration required to ensure that every part, component and package is shipped using the most effective service level.

A smart inbound supply chain solution that strikes the ideal balance between controlling shipping costs and meeting "need-by" dates can deliver what previous methodologies could not—measurable business value and significant reductions in parcel delivery costs. Organizations that efficiently leverage shipping assets will be equipped to run their businesses more efficiently, control costs and compete smarter. In so doing, they also unlock the untapped value of inbound supply chain management, an often over-looked opportunity that can deliver significant ROI.

The key to a successful logistics engagement is expertise, experience and the demonstrated ability to execute reliably - especially as supply chains grow more complex. Ryder is a strategic partner and true, end-to-end supply chain provider committed to helping companies transform their supply chains and achieve peak performance by delivering the best in operational execution. At Ryder, we understand that when it comes to the supply chain, it isn't enough to understand logistics - Execution is Everything.

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Ryder is a Fortune 500 provider of leading-edge transportation, logistics and supply chain management solutions.

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