

Selecting a 3PL Solution

Things to Look For, Questions to Ask

A Delfour Corporation White Paper

by Joe E. Couto
President and CEO,
Delfour Corporation

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Introduction: Continuing Evolution

White Paper by
Joe E. Couto,
President & CEO,
Delfour Corporation
jcouto@delfour.com

Not all warehouse management systems (WMS) equip third party logistics (3PL) providers with the versatility and depth to deal effectively with the challenges and circumstances that are intrinsic to the business. Basic warehouse management systems provide the essentials and little more. Why should that be when businesses have been manufacturing, storing and shipping products of all kinds for centuries, and we certainly should know the steps.

Typically, the supply chain cycles served by any warehouse follow a logical and well-established pattern, beginning with a purchase order received by the manufacturer, followed by an advance shipping notice (ASN) from the manufacturer to the warehouse and swinging in to high gear with the arrival of a truck at the warehouse. There, the merchandise is received, logged in, unloaded, staged on the dock and put away.

On the outgoing side, the flow reverses, triggered by the receipt of an order that is allocated, verified and placed in the traffic pattern. The order is picked, staged, loaded and shipped. The trailer is then dispatched to the point of delivery specified by the consignee. In between, a variety of activities might take place that relate to customer needs for fulfillment and special handling.

It is a simple enough process that in low volume environments can be performed manually with reasonable success. A couple of decades ago, with the increasing exploitation and sophistication of computer technology, developers discovered that they could achieve remarkable efficiencies by creating integrated computerized control programs and then integrating these programs with high capacity, increasingly automated warehouse material handling systems.

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Enter Outsourcing

As the trend toward outsourcing gained momentum in the 90s, companies began to see logistics as a function they could hand off to a third party. In so doing, they would rid themselves of such troublesome tasks as receiving, inventory storage and workflow and shipping management that in fact were distractions unrelated to their core competencies.

Logistics solution providers leaped at the opportunity to be all things to all manufacturers and distributors, giving birth to a new industry. The mission of the third party logistics industry is to provide logistics services to multiple clients using a dedicated or shared facility with the staff, material handling equipment, technology and management that together enable the 3PL operator to deliver an improved service level and significantly lower costs than their customers can achieve on their own.

It is clear that 3PL operators require a tool set different from those used by the customers whose problems they are charged to solve. It quickly became apparent that solutions developed for single-client, single-facility logistics operations were not necessarily feasible in situations involving multiple inventory owners with *multiple sets of requirements for multiple activities occurring concurrently at one or more sites*. For one thing, efficiencies gained by the integration of software and automated material handling tend to impose rigidities that virtually can immobilize 3PL operations, which by their nature must be extremely flexible.

Thus, if the 3PL provider is to serve the growing and changing needs of multiple inventory owners from a single software platform, it almost certainly must look towards solutions built from the concept level with this purpose as its foundation. Single-site, single-client solutions that have been enhanced with add-ons intended to deal with 3PL conditions too often are simply not robust enough to cope with the inventory volumes and the large number of variables that are the routine fare of 3PL provider operations.

As add-ons continue to be layered on in response to evolving customer needs, the 3PL provider quickly gets locked into highly customized quick fixes, unnecessary system complexities and, most importantly, mounting costs of ownership. There comes a point of saturation in which the 3PL provider becomes deadlocked and must seek out alternate solutions to service their operations. The impact of this dilemma cannot be underestimated for in 3PL operations, multiple customers are impacted by a single problem.

Some Issues and Questions

When deciding between a basic WMS and the true 3PL solution, one should consider the following issues:

Issue: Labeling

In a single client facility with one inventory owner, single formats for labels, bills of lading, packing slips and manifests are normal. Introduce a second inventory owner with a separate set of formats and requirements and the complexity increases. With each additional customer, the demands on the management software become greater. Concurrent support for the business processes of each inventory owner within a 3PL facility is mandatory and the more inventory owners that are brought into the picture, the more compromised basic WMS systems become.

Issue: License Plates

In many cases, customer license plates cannot be used in a WMS environment because of the possibility of different customers using common license plates, creating impossible storing, tracking and picking scenarios. Some questions to ask: Do you need to license plate all product? Are the labor costs for applying labels on receiving inventory and for its ongoing management acceptable? And is there not a better way to deal with this problem?

Issue: Order Entry

Instead of handling this critical activity themselves, many warehouse management systems hand it off to the ERP solution, getting the job done but incurring the disadvantages associated with additional integration challenges and often operating delays. Conversely, as a self-contained solution, the native 3PL system normally integrates order entry as a fundamental element of the system architecture.

Issue: Software Systems

For example, one customer uses the current version of the SAP enterprise resource planning package. Another customer also uses SAP, but an older version. The logistics software must have the capability to deal with both versions at the same time, distinguishing and accommodating the differences automatically, a capability not normally present in basic warehouse management systems. Also present within the 3PL mix might be various versions of products from Oracle, Microsoft (Great Plains), JD Edwards, Lawson and others, which also must be accommodated seamlessly and in concurrent operations.

The Engine of the Enterprise

In most instances, 3PL is a high-volume, low-margin business that accomplishes its mission by earning modest returns on a large number of individual activities, often with a minimum of automation and a maximum of flexibility. The core competence of a 3PL operation then must be the optimization of physical and human resources to (1) fully satisfy its customers' logistical requirements and (2) return a satisfactory profit.

Since the logistics software platform is the heart of a successful 3PL operation, its selection should be approached with the same due diligence and scrutiny that is involved in any other crucial investment. In fact, as the control center for all of the activities, the software effectively serves as the engine of the enterprise.

As with physical engines, selection of a software engine with inadequate power invariably leads to inadequate performance and can cripple or destroy a 3PL operation. Conversely, selection of a solution with demonstrable performance and functionality features dramatically enhances the 3PL provider's ability to satisfy its customer's requirements and its viability as a business enterprise.

Among the capabilities that should be included in the architecture of a 3PL solution are the following:

- Portal access to process data such as inventory and order status, receipts and shipments between the 3PL and its customers and consignees.
- The ability to receive and edit orders reliably and cost-effectively under all methods of delivery.
- Concurrent support for all business processes of all customers, shippers and consignees.
- The transfer of inventory title between customers without physical movement of the product.
- Load consolidation of freight for delivery to multiple customers at common or proximate locations.
- Automated billing and invoicing for all logistics services.
- Robust and flexible functionality in a single software platform capable of serving multiple customers in multiple facilities without extensive customization or customer-by-customer integration.

How to Find the Right 3PL Solution

One of the most vexing problems faced in a 3PL solution search is simply not knowing how to drill down to deeper levels of capability and functionality once the basics have been covered. There are many characteristics that a potential 3PL solution buyer should consider in determining which solution will best meet the needs of the business. Some of the most basic factors include vendor experience in automation and integration, concurrency, billing capabilities, core functionality, flexibility and the ability to manage inventory by product or unit identifiers rather than under rigid warehousing procedures.

As you analyze and compare system capabilities, it is important to examine some of the fundamental activities that are routinely involved in your operations in order to determine how well each solution deals with them. For example:

- How well does the system calculate and report deferred handling?
- How does it handle internal transfers, also known as transfer in storage or transfer of title? A system should have a one-step transfer process to change the inventory ownership title, including outbound and inbound supporting paperwork (i.e. bill of lading and warehouse receipt), transfer the proper renewal date information and apply the appropriate charges.
- How does it handle third party fulfillment, also known as broker management or vendor-managed inventory? How does it handle requests for shipment of inventory for multiple customers on the same order?
- How does it handle two physical inventories concurrently, with one physical using radio frequency for one client and another physical using a paper-based method?
- How does it handle different sets of document for each client, including the same documents but in a different format? For example, one customer might use the VICS bill of lading format while others might use their own formats on their own preprinted stock.
- How will the solution deal with the varying EDI requirements of customers?

**How to Find the
Right 3PL Solution
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Consider: Vendor Experience in Automation and Integration

3PL solutions require their own kinds of experience and expertise. Several questions will quickly reveal whether or not to move forward with a vendor:

- What is the vendor's history in providing products and services to the 3PL industry?
- Does the vendor offer industry expertise and leadership or will they depend on you to educate and lead?
- Does the vendor offer advanced software tools?
- Does the vendor have an ongoing R & D investment in their solution and a continuous program of improvements and upgrades?
- Is there a working version of the system now being sold?
- Are multi-client 3PL facilities operational with all modules of all systems being sold?
- Are there multiple references available from 3PL operators with multiple clients within a single facility?
- Was the vendor's product designed and implemented for single-user environments prior to being sold into the 3PL market?

Consider: Concurrency

The ability to perform multiple functions and multiple business processes that vary from customer-to-customer in single or multiple facilities is an absolute requirement in 3PL operations. Concurrency can remove virtually all practical limits on the number of customers that can be handled from a single platform. Most systems do not support different concurrent steps and without this ability limits can be reached very quickly. Examples of concurrent operating capabilities might include:

- Simultaneous receiving, staging and storing of inbound merchandise under unique business processes for each customer.
- Simultaneous picking, staging, loading and shipping of product from multiple customers via multiple transports to multiple locations with unique business processes for each customer.
- Multiple simultaneous inventory counts with reporting by radio frequency, paper slips or both.
- Simultaneous management of different inventory entities that may be driven by product type. Pharmaceuticals and food products require item, lot and expiration date management, rolls of paper may require item, mill number and roll ID while electronics may require serial number management. Pallet ID can also be applicable to any of these examples.
- Commingling of customer fulfillment processes, each with the potential of being serviced by differing customer preferences.

**How to Find the
Right 3PL Solution
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Consider: Billing

Billing is a key part of any 3PL business system. While most of the focus centers on automating storage, handling and renewal billings, a key aspect of billing is the automation of value-added and ancillary services.

A good billing system will ensure that it provides the necessary integration with operational activities in order to avoid potential revenue leaks relating to these services, which occur as part of the inbound, inventory management and outbound processes. Each customer will have unique service requirements and therefore the billing of services will vary in terms of type of service and rates.

A big merchandiser, for example, may have certain requirements for shipment of goods to one store, but not for the same type of shipment to a different store. Once the combinations and permutations have been set up within a true 3PL system, it recognizes the differences and automates them as part of the larger implementation. Find out how much manual billing activity is involved in any WMS or 3PL software solution you consider.

Consider: Core Functionality

A 3PL logistics provider must be able to accommodate all of the requirements of all customers under virtually all scenarios, ranging from the receipt, identification and storage of their goods to their shipping preferences and the way their documents are received and transmitted. One example relates to the burgeoning use of EDI, with each customer normally using eight or ten transaction sets as well as the possibility of one or more permutations in each of them. Compound this situation with multiple customers with multiple transaction sets and you are sure to want to know whether the system under consideration can handle it all and how it does so. You must also ask about security, not the least of your concerns with any software. Find out how it is achieved such as through the assignment of passwords and real-time report access.

Consider: Flexibility

The ability to accommodate a variety of conditions and requirements is a primary characteristic you will want to explore with vendors. Within each function lie a great number of variables and the 3PL system must have the means to modify, adapt and execute quickly and on-demand.

One technique is to manage inventory using customers' own identification systems. This technique eliminates the cost of applying pallet ID labels, which are required to avoid the problem of common pallet ID's that most WMS systems cannot accommodate.

Applying unique pallet IDs can be very expensive and time consuming, so to manage inventory economically a system must be able to use the same item codes, lot numbers, serial numbers, pallet ID's, etc. across multiple customers. By creating a unique inventory entity using customer, item, lot and pallet designations, for example, you achieve the necessary uniqueness.

**How to Find the
Right 3PL Solution
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A flexible system should also be able to map standard operating procedures for each customer or shipper. Some examples are:

- The ability to print multiple documents at different stages of the operation based on requirements of the shipper. For example:
 - Print a picking sheet after allocation of inventory as well as a BOL.
 - Print a picking sheet after allocation of inventory but only print the BOL once the order has been fully picked, including adjustment for shortages. This is important when a “clean” BOL is to be sent to the consignee.
 - These functions should be controlled by the 3PL facility as a standard for a customer and not dealt with in an operational manner where someone must remember to do this for a specific customer while all the others function in a different manner.
- The ability to specify when inventory allocation of locations should be performed. This is relevant when priority orders are being dealt with. If a high priority order comes in after a low priority order and if allocation has already occurred, a manual intervention must be performed.
- The ability to map where accessorial charges should be entered. If a customer has a specific function that is consistent and subject to charge, the operator should be prompted for the information. The implication is that for one customer no charges are applied on a regular basis and therefore the operator would not be prompted, whereas for the customer who has a consistent function the operator will be prompted. The system should react to the specifications of each customer.
- The ability to map where extra information, such as take-weight criteria, should be entered for a specific customer. Prompts should be displayed only for customers with take-weight requirements.
- The ability to specify if a customer allows de-allocation of an existing order to fulfill a new order with a higher priority. This should be an automated action that the system can perform based on the configuration of the customer and the priority of the order and consignee.
- The ability to print a specific label/document such as an MH10 label for a consignee and for the same customer to not print it for all other consignees.
- The ability to print specific messages relating to individual order consignees. For example, if an appointment is required, the carrier can be alerted by a message on the BOL.
- The ability to have messages prompt an order entry operator when entering an order for a specific consignee or customer.

Make your own list of routine events in the supply chain cycle and then make another with anomalies you’ve experienced or can imagine. Ask your prospective vendors how they handle these things.

Delfour's Approach

Delfour Corporation is a leading global provider of comprehensive and highly configurable advanced third party logistics (3PL)/third party fulfillment (3PF) supply chain execution solutions. Delfour's implementation of collaborative technology tools enables smarter supply chains with improved productivity and reduced costs. Correspondingly, 3PL operators and their customers experience the profitability and efficiency benefits of seamless inventory management throughout the supply cycle.

SmartEnterprise solutions are built on an extensible component architecture platform with common component libraries that include:

- Multi-enterprise business intelligence (activity monitoring, supply chain event management, events, performance management, SCM analytics, 3PL sales metrics).
- Multi-enterprise business management (workflow, labor, track and trace, multiple document printing, pallet and container, security, reporting, CRM, billing and invoicing, and more).
- MHS support (scale, carousel, cubiscan, conveyance, conveyance sortation, radio frequency, voice recognition, flat and hanging sorters).
- Messaging (ANSI X.12, EDIFACT, EDI/XML, other emerging standard formats such as VICS, e-mail, fax, scheduling).
- Portals (online order management, online receipt management, collaboration, POD, B2B, B2C, B2E, C2C).
- User-defined inventory levels (entities) by customer that enable users to configure business logic against a specific inventory level. Elements might include put-away rules, picking, replenishment, cycle count, physical inventory, billing and reporting. These features enable users to map customers' standard operating procedures and actually allowing them to operate as an extension of their customers' businesses.

Specific applications within the web-enabled SmartEnterprise Suite include WarehouseLogic and SmartFreight, as well as Active Desktop and e-Vista, which furnish business activity monitoring and alerts and one-window supply chain visibility respectively.

Delfour's product capability is unique and has not been replicated by any competitor. For example, our supply chain life cycle capability, with workflow by shipper, customer and consignee, is one of our industry-leading unique characteristics. Another is the ability to create user-defined inventory levels and associate certain business logic to specific levels. Features such as these enable you to map your customers' standard operating procedures so closely that you can actually operate as an extension of their business.

Conclusion

In short, when selecting a 3PL solution, it is important to recognize that the traditional warehouse management system (WMS) and the 3PL system are simply two different things. Traditional one-site one-client solutions are optimized for certain environments, such as highly automated operations that are not feasible in a 3PL situation, where flexibility and second-to-second adaptability is often required. Most importantly, when researching your next solution, know your requirements and keep looking until you find the solution that satisfies them.

As seasoned professionals in 3PL operations and the software industry, we would be pleased to assist you in organizing your 3PL solution research process. In addition to helping you identify your specific application requirements, we will also answer any questions you might have about the industry and about the products we and others have developed to serve it.

About the Author



Mr. Couto has been involved with the development, deployment, marketing and sales of advanced information systems for the 3PL industry since 1979. Since the founding of the company in 1988, he has been responsible for the overall management and strategic direction of the company as well as providing marketing and sales leadership. Mr. Couto is also instrumental in defining product strategies, due to his extensive operational knowledge of the logistics industry. Prior to founding the company, he was Vice President of Marketing, Sales and Systems Deployment from 1981 to 1988 at a logistics software developer that specializes in the 3PL industry. Earlier, Mr. Couto was employed in the IT department of Associated Freezers, a leading Canadian logistics provider. He graduated from Humber College in Toronto majoring in Business Administration and Computer Operations. Mr. Couto is a member of the Technology Committee of the International Association of Refrigerated Warehouses (IARW).

About Delfour Corporation

Founded in 1988, Delfour Corporation is a global provider of comprehensive, highly configurable advanced supply chain execution solutions. By using market-leading technology to serve the third party logistics (3PL), third party fulfillment (3PF) and warehousing industries, Delfour's advanced solutions enable customers to increase productivity and reduce costs through more effective logistics processes. Delfour's SmartEnterprise solution establishes smarter supply chains by utilizing collaborative technology tools. Clients and their customers experience seamless warehouse management and enhanced profitability by collaborating throughout the supply chain.

For more information, visit www.delfour.com or contact us at:



Delfour Corporation
100 Renfrew Drive, Suite 100
Markham, Ontario
Canada L3R 9R6

Tel: (905) 415-9779

Fax: (905) 415-9778

E-mail: info@delfour.com

www.delfour.com