

## **Category - The most successful logistics innovation in which you have been involved**

### **Seamless integration from supplier pick to warehouse storage**

*Seamless integration of the logistics business processes via single enterprise software is an innovative approach that lowers IT & overall operating costs and increases productivity and profitability. This innovative approach is currently being implemented by some Australian businesses. Learning from my involvement in its implementation, I have generalized the concept and presented a solution in this paper that can be applied to any business vertical.*

---

#### **WHAT IS THE NEED OF THE HOUR?**

One of the largest challenges currently faced by a majority of Australian businesses is finding a way to increase efficiency and develop a competitive advantage over other players in the market. Efficiency refers to the ability of an organisation to generate greater output while using fewer resources, and incurring lower operating costs. In other words, if two organisations have the same revenue, the one that runs a more efficient operation will eventually make more profit. This is particularly important for the Australian market, where massive volumes as experienced elsewhere in the world are not necessarily a reality that can help the bottom line, but resourcefulness certainly is.

#### **WHERE SHOULD I LOOK FOR IMPROVEMENT?**

One of the key areas of concern is the burgeoning IT spend on enterprise applications to support the logistics function.

IDC estimates that in 2008, the supply chain solution software market in Australia will be worth approximately \$478 million. This raises the question – how can Australian businesses make the most of this spend, and do we as a country really need to spend that much?

In terms of the use of information technology and software applications to aid better management of supply chain and logistics processes, the majority of Australian businesses sit in either the 'Crawl' or 'Walk' stages of the well known 'crawl-walk-run' principle; although some have matured and started to 'Run'.

Some of the common problems faced by the logistics function within businesses across all verticals are – disparate systems to take care of separate parts of the overall problem, business object definition (business objects refer to business entities like purchase orders, shipments, appointments, warehouse facilities, etc) not being common across applications, common information often not shared and instead duplicated, non-coherent IT infrastructure, high IT spend yet inability to solve the ultimate challenge of increasing overall business efficiency rather than only in silos.

#### **DOESN'T IT MAKE MORE SENSE TO HAVE ONE SYSTEM TO MANAGE ONE PROBLEM?**

This paper puts forth an innovative solution footprint to address all the aforementioned concerns which impact upon a wide range of Australian industries - from manufacturing to retailing. It is an attempt to save next generation companies from going through the same pains that today's organisations are experiencing in terms of enterprise software implementation. Existing

organisations that are savvy enough to embrace change and move in the right direction will also benefit from it. The paper considers the problem of sourcing-to-storage as a single problem and provides a single solution to address it. Today's organisations can appreciate the fact that increased complexity of software modules increases the cost of implementing enterprise IT.

The solution presented simplifies the concept of multi-echelon, enterprise wide, multi-product software implementation down to a single application that speaks the same business language throughout all the different functional areas of an organization, and is seamlessly integrated in managing the information flow and supporting the physical flow of goods in the most efficient manner.

## **ONE SYSTEM INTEGRATING ALL LOGISTICS PROCESSES FROM PLANNING TO EXECUTION - IS IT A REALITY?**

The 'Integrated Logistics' solution footprint addresses all the key logistics business processes:

Key Level 1 processes:

- 1) Sourcing
- 2) Transporting
- 3) Storing

Key Level 2 processes:

- 1) Purchase Order creation including any updates
- 2) Communication and handshake with suppliers/ vendors
- 3) Advance shipment planning
- 4) Transportation order creation
- 5) Shipment creation and Route planning
- 6) Shipment Monitoring
- 7) Appointment planning for pick up and delivery
- 8) Yard execution and Dock Management at the Warehouse
- 9) Receiving goods at the Warehouse
- 10) Labour Management at the Warehouse
- 11) Storing goods in the Warehouse with optimized slot usage
- 12) Recipient-Created-Tax-Invoice for transportation providers
- 13) Recipient-Created-Tax-Invoice for suppliers/ vendors

## **I GET THE IDEA, BUT TELL ME HOW WILL IT ACTUALLY WORK?**

Let's name the enterprise application based on the 'Integrated Logistics' solution footprint 'Integrated Logistics Solution' (ILS) and the hypothetical organisation implementing the system 'CompanyOZ'.

The following paragraphs explain the seamless flow of real-life events, business processes and information from pick-to-storage for CompanyOZ using ILS.

The input to the process is demand - CompanyOZ raises Purchase Orders (POs) to meet this demand. The POs are raised in ILS itself, so there is no need to maintain a legacy system to generate them. This also saves the cost of system integration. The vendors who supply to CompanyOZ have a web interface to ILS (i.e. the system is accessed simply through internet explorer on an ordinary PC) and an alert is sent via email by the system to the relevant supplier indicating that a PO has been raised. The supplier acknowledges the PO in ILS, advising the actual quantity of the goods that can be supplied. If there are any updates from either side to the

PO, relevant notification alerts are sent out by ILS. The suppliers have visibility to the status of the PO at any given point in time with a click of a button.

The Transport Planning team at CompanyOZ splits the POs into truck-size Transport Orders and creates Shipments (respecting any time and facility constraints) that can either go as truck-load or less-than-truckload. ILS automatically tenders the shipments to the relevant Transport providers/carriers (internally as the carriers are already set up within the system) and awaits their response. The transport providers also have a web interface to ILS where they can view the Shipment tenders and either accept or reject them. Automatic alerts are raised upon rejection. Upon acceptance, the shipment status gets updated automatically.

The Transport carrier then books a time (appointment) in ILS to pick up the goods at the supplier facility (Distribution Center or Warehouse) and also to deliver goods at the receiving facility (Distribution Center or Warehouse). ILS will give the carriers the arrival as well as the departure times at the facilities. This helps CompanyOZ in meeting the Chain of Responsibility requirements which have been imposed by law. This is not the traditional way of appointment booking and will save the carrier from making a phone call and the waiting time associated with it, while also helping CompanyOZ to manage the Appointment booking with a low headcount (as most of it (barring exceptions) would be managed by the carriers themselves). These appointment times are recorded against the relevant shipment(s) to be picked up/ delivered and are visible at the click of a button.

The suppliers generate the SSCC (Serial Shipping Container Code) numbers in ILS (SSCC numbers are item/ product signatures - they are unique bar-coded numbers generated based on a global standard, usually one per box or carton of items/ products). Since the SSCC numbers are generated in ILS, this saves the cost of information transfer. Then the suppliers generate labels in ILS, print them and stick to the cartons. Once the supplier has loaded the goods and the truck is on its way, the supplier creates an Advance Shipping Notification (ASN) in ILS, indicating that the truck has left its premises, along with the actual quantity shipped and details of the SSCC numbers generated. The advantage of this is that as soon as the truck leaves the supplier premises, CompanyOZ's receiving personnel have the knowledge of the time the truck left, when it will arrive, the quantity and exact product type that will have to be unloaded. This information will be used to plan for resources at the Receiving Facility and to handle any quantity discrepancies, if they arise.

While the truck is in-transit, the transport company provides visibility to its status by entering tracking messages into ILS that are visible to all parties at the click of a button. For example, the carrier updates the system with the arrival and departure times at each stop by creating the respective messages in ILS.

When the truck reaches the Receiving facility, the entry into the facility yard (a.k.a Check-In) is subject to the correct appointment number being provided by the driver, which is matched within ILS. The personnel at the yard gate can also check the paperwork and enter details into ILS. ILS also handles the entire yard execution of the shipment right from check-in into the yard gate, assignment to a dock for unloading (based on multiple constraints) to check-out. In the situation of the truck getting delayed at the yard, ILS sends out alerts helping CompanyOZ to adhere to the Chain of Responsibility requirements.

When the truck arrives at the dock, the receiving personnel scan the cartons. Based on the ASN, ILS already knows what to expect in the truck. ILS matches the scanned information with the information received in the ASN and rejects the truck if it does not match. ILS also generates a discrepancy note. If the stock is successfully received, the Inventory position gets updated automatically and ILS recommends the best place (or Slot) in the warehouse to store the goods.

Finally, since all the information is readily available in ILS, the Tax Invoices are generated by ILS itself to be sent out to Transport carriers and suppliers. This cuts down on the number of payment discrepancies and improves cash-flow.

## **CONCLUSION**

The 'Integrated' approach suggested here is for real and after achieving demonstrable success in the US it is currently being implemented in Australia (where I have been involved). This is very innovative and a huge step forward from the cobbled together systems of yesterday. Organizations with varying adaptations of this approach have already started to reap benefits in the form of:

- Reduced software implementation costs
- Reduced software integration costs
- Improved visibility throughout the supply chain
- Reduction in stockouts
- Lower supply chain operating costs
- Reduction in Logistics headcount
- Minimised Dock-congestion
- Compliant with the 'Chain of Responsibility' legal requirement
- Improved warehouse facility layout and optimal inventory control
- Improved workforce balancing and planning
- Shortened order fulfillment cycles and minimized damage
- Greater flexibility to support multiple execution workflows at the warehouse

'Integrated Logistics' will be the way the future companies will run and understand end-to-end logistics. The sooner an organization embarks on this journey, earlier the access to all the benefits and better the chances of wiping out competitors!

---

*Sachin Joshi, Manager – Transportation, Manhattan Associates Inc.*  
Contact: [sajoshi@manh.com](mailto:sajoshi@manh.com)