

3rd Transit User Group Meeting

Session 2: Transit User Experience

Presenter 1: Derek Witham, Operations Manager, PaperlinX Merchant Logistics

One of the primary goals of PaperlinX merging with Merchant Logistics is to exploit the efficiencies and the economies of scale we have developed, and to eliminate duplication in the supply chain. The warehouses in SA and WA are a result of that; there are initiatives going on in the eastern seaboard in the next couple of financial years.

Currently, we have 58 vehicles over 3 states being scheduled using Odyssey.

In regards to the print market expectations of PaperlinX Merchant Logistics (PML): everyone has a customer base with different expectations of the services or demands of the services you provide; those demands are critical in the way you set up your business and test your logistics parameters. The customer demands that the print market places on PML are quite unique, and they shape the way we implement Odyssey, the way we use Odyssey, and the way Odyssey interacts with SAP.

85% of the orders on the eastern seaboard are same-day turnaround, an AM for PM delivery, or PM for next day AM delivery. Approx 8-10% of orders have to be delivered within 4 hours, and our Corporate Gold customers receive up to 3 separate deliveries per day. Orders vary from a 1kg Reflex packet to the corner store to sell, or to put in his photocopier, up to 150 tonnes of copy paper going out to Officeworks – so we have a significant variance in order size.

The total number of active customers is 3,800 across Victoria, NSW and Qld. I thought this was quite impressive until I heard people talk about bakeries, so I won't harp on about how many customers we have to manage. In terms of deliveries, to those capital cities, we have in excess of 1,743 packages per day, and shipments range from 170t to 638t per day.

Before I joined PaperlinX we had been talking to Transit, and they agreed the purchase of 4 licences – Vic, NSW and Qld, and a National Planning licence. That was around 2001. The way the licences were to be implemented was that each Vehicle Manager was to look at the implementation process, liaise with Transit, and get it working in their respective state. Unfortunately, that process didn't work – there was another beast on the horizon called SAP - the biggest PaperlinX business overall was implementing SAP and a lot of resources and time were put into that project. As most people know, if you're doing an overall new business system, dates kept slipping and we couldn't really nail down SAP to a firm date - Odyssey just kept getting pushed back and back. Eventually, we bit the bullet, because we realised it wasn't just going to happen, because even after the SAP "go live" people were still trying to make SAP work. I don't think our implementation was too bad of SAP – we could at least get product out the first day. So we bit the bullet, and we recognised we needed additional resources to get this Transit Odyssey thing happening, and that's when we turned to Mr Brad Pace, from Conduit Consulting. [Brad] was hired as an additional resource so we could make some progress, and he championed the process in PML. I don't think anyone within our own organisation could've had the time to devote in terms of implementing across 3 states, as well looking at the training, looking at scheduling and the modelling, and tackle a whole range of other transport rationalisation projects. We really needed an additional resource during the implementation phase. Consequently, SAP went live in May; Odyssey then went live in October 2003 at Scoresby, and December 2003 at Chullora. We've got a planned date of Feb 2004 for Brisbane. (I notice they don't put days on these things; I think if you're talking about computer implementations you might as well leave off months as well sometimes).

My role is to give corporate support to Brad, and cushion some of the frustration he had with dealing with SAP. When we finally get implemented across Australia, my responsibility will be just to maintain the system and look after the National Planning licence.

SAP/Odyssey Interface

When we were talking to the SAP programmers about this new software that we wanted to tack on and export data out of SAP to, we gave them strict instructions that there was to be minimum user interference with the data transfer. The other problem we had was we had to make a quick decision about where we were going to hold the master data for the customers and the orders. The SAP team were very keen not to hold 2 sets of master data – they were having a hard enough time maintaining master data in SAP as it was –

so all the master data is actually stored in SAP. The problem we had was, we went live in May with SAP, and it took 4 months for them to design 2 simple transactions to get data out of SAP, and from Odyssey back into SAP so we could do our shipments from there. Ultimately, we want to store our shipment information and our delivery information in SAP – we don't want to hold it in Odyssey.

It wasn't that the transactions were that complex or rocket science, but it just took them that long to resolve the SAP issues and get SAP working properly. There was so much other work on their plate that it took them 4 months to write those transactions, which I'm sure was frustrating for our good friends at Transit as well, because they were waiting for data to test.

Having said that SAP wanted to store the master data in SAP, what we were then confronted with was if we wanted to change any master data quickly, we had to go through a convoluted process. Just to highlight a quick example: in Victoria, we wanted to make sure our Gold trucks, or priority trucks, were first placed on schedules – we didn't want them delivering unscheduled orders, so we had to set them up with a customer priority. Now, to get a new master data field set up in a customer in SAP after the "go live" would cost us a considerable amount of money, so we actually do now hold customer data in Odyssey because it's cost-effective and easier to manage.

On the days when Odyssey failed to schedule because we had a problem with the scheduling engine, the back-up plan was just to go back to SAP, which is a standard, you know, put in a route and it gives you all the customers and then just place them on a truck.

[Referring to the SAP download transaction screen designed for the interface]

Because we don't use Odyssey to schedule all our deliveries, we actually have the ability in here to put a 'delivery type' that we want to schedule, and we can also exclude routes.

After that, we usually create a text file here, and we have a naming convention we created. A safety feature we built into SAP is that we can continue downloading deliveries out of SAP and putting them into Odyssey. SAP will schedule the same delivery number twice on different shipments, so what we needed to do was prevent someone from capturing a whole heap of data, creating a shipment and then adding more data to it with the same delivery number. What we had to do was 'flag' each delivery in SAP after it gets downloaded, sub-schedule to review the dataset we were dumping into Odyssey, put that 'tick' in so we can create it and review it, take orders out of it. When you take the 'tick' off, that will create the text file.

[Referring to the SAP upload transaction screen designed for the interface]

The most important thing about this screen is that some vital pieces of information which we don't get out of Odyssey that are needed to create the shipments in SAP, get put in here. Again, we've got that text function where we can have a look at the dataset we're bringing in, before we actually import it into SAP.

We only use Odyssey to schedule our AM deliveries for the next day. We don't work all night in our shed, so the order cuts off at 7pm, and the guys usually work till about 11pm or 12am, so we've got a very small window there where we can get the orders scheduled, picked, and get them loaded on the trucks before the guys knock off.

In the morning, the reason why we don't use Odyssey during the day is because we have variable cut-off times for zones or areas within the city, and it's very hard. I guess one of the things we have to look at in the future is the possibility of dynamic scheduling, looking at variable cut-off times.

We don't schedule orders requiring hand unload. The hand unload function is getting a lot of deliveries to our inner-city customers who are after copy paper – we deliver the paper and sometimes actually take the paper up to some customers to their photocopy machines or store rooms, and things like that. There's no way we can schedule that sort of timing into Odyssey, so we mark those customers as "hand unload" customers and those orders don't get scheduled, and we generally put them on couriers.

Benefits of Odyssey

We have saved person hours in the majority of the states – certainly in Victoria and NSW. Generally, the scheduler would go in and create the shipment schedule in SAP, and through his shift would keep refreshing the orders and applying the shipments to the different areas; the scheduler now has 4 hours where he can go out and supervise out on the floor, look at store management and picking, consolidation functions, things like that. So, we actually have increased supervision, which has led to improved general level of performance out on the floor.

We have particularly reduced the number of late deliveries and customer complaints. In Victoria, we've got about 120 customers that have time windows in the morning. Trying to get a scheduler to be aware of all these time windows is significantly difficult; for example, we've got 1 printer here who's got an 8 to 10am window, a printer a couple of suburbs over may have a 9.30 to 11.30am window. Odyssey has reduced the number of complaints.

The first 2 weeks of the month are fairly hectic for us. The last 2 weeks of the month we have been able to save some vehicles - in our core or semi-core vehicles - with the scheduling. [At the beginning of the month] with what we've got to carry we can't often produce savings, and most times during the first 2 weeks we've always got maybe 15 or 20 orders unallocated.

The other saving is idle time at the depot. Previously, the schedulers never used to do second runs in the morning, and now we're doing second runs and we've reduced the idle time at the depot considerably. Toll don't like it because they're spending more time on the road, but it's certainly reduced the trucks sitting around at the depot.

Lessons learned

The systems we used previously were Papyrus and Trent, which are paper-based operating systems. There was master data, in terms of customer data that was held on those systems, but that master data wasn't actually used for anything and there was no discipline in terms of master data changes. So when that information was uploaded *carte blanche* into SAP and we tried using that data for our Odyssey schedules, you kind of all know what would've happened. The master data was critical and we spent hours reviewing those customer lists etcetera and, probably for the first month, it was prohibiting us from getting optimal solutions out of Odyssey.

While my IT experience is fairly limited, when I was talking to my boss about how long this would take, and I said 6 months, I well and truly underestimated. I mean I wouldn't have been capable of doing it within 6 months. It was a significant event, complicated by the fact we had an SAP deadline at the same time. Without blowing Brad's trumpet or handing out business cards for him, I don't think we would've got where we got without getting an additional resource on board. I don't think Transit would've had the resources either to give someone dedicated to us just to handle our unique requirements.

The Training and Procedures: There was a critical decision made by PaperlinX that we weren't going to use the Transit training regime - either where they come to you or you spend a day or 2 days with them learning about scheduling - we couldn't afford to pull our schedulers out. Scheduling in SAP is a unique task; we hadn't developed the capability of training someone to backup, and we couldn't afford to take someone out of the system of the day-to-day activities to train them. What Brad did was develop a training regime where he sat for a couple of weeks one-on-one, and as the person did the scheduling he'd step them through the process and do it that way. And that was the only way we would've got people trained - we just couldn't afford to take them out of the operation.

We like to keep things fairly simple for our guys in Despatch and Scheduling - Brad has also drafted up procedures that then sit on the desk as a quick reference guide for the users as well.

The other thing that we've learned is the exceptions in service. We've tried to implement Odyssey within 2 sites in the same state - Preston and Scoresby. The problem is that SAP only allows you to have 1 set of master data, which has delivery windows and customers. It would be unfair to impose the same delivery regime or schedule upon a depot at Preston as we'd be delivering out at Scoresby, but we're working on that at the moment - build a filter or do something to make sure we'd be able to use it at Preston.

SAP issues

If we've got configured product we have to deliver we can't schedule it in Odyssey. After we've pulled the route and put all the orders back into SAP, we then have to manually load the configured product. If there's sufficient of it, we can dedicate a truck to it, and that's fine - we just pull a truck out of the resource mix and put it on that. If not, we then have to fiddle with the schedules coming for the shipments out of Odyssey.

We have four merchants running out of two sheds - if one merchant promises one delivery window and another merchant promises another delivery window, SAP can't handle that - you've got to have a consistent set of customers and windows for each of the merchants, which kind of eliminates the competitive edge sometimes.

I don't quite understand how computers work, and I don't yet understand how one night something will work and the next night something won't work, but it happens – some nights it reads all the data, the next night it doesn't read all the data, and this causes a few issues, especially with the schedule engine in Odyssey.

Because SAP is very integrated and complex – there's complex automation in the background – to change anything in there is timely and costly. For example, I haven't seen too many change requests that go in that come back saying they can do it under 5 days, and when we're paying over \$1000 per day to do any work for us, it's quite significant – we can't just go in and alter stuff ourselves.

Before I dig myself too big a hole on this slide, I just want to preface it by saying that Brad's been the main person to liaise with Transit on technical issues, relating to the performance of their product in our applications. We've still got a few problems: I was told only on Monday that on Friday night at Scoresby the scheduling engine failed to operate again because of a data problem - it still seems to be letting customer data through which is causing the scheduling engine to crash, so we're reviewing that.

Damian hinted in his presentation before about core and semi-core vehicles: semi-core vehicles we have the flexibility to stand down, and that's where we can make savings in transport; we needed an ability to schedule our core vehicles first and eat into our semi-core fleet, but not use them all – and we have to use vehicle priorities. When we first used that application it failed to operate as expected; we got a new version of Odyssey out to us and now it seems to be working quite fine.

The one here that I'd like to highlight is the validation error messages after the scheduling engine fails. Most of you have seen an error message come up when your scheduling engine fails to operate – you've then got to drill into a whole heap of reports at the back end. That can be quite daunting to a gentleman who's just new to the system, I suppose, and he's operating all by himself at 8 o'clock at night with no one sitting alongside him. Ideally, what we'd like to see is - if there's a problem with a customer or a problem with an order - instead of having to dig into reports, it points you inside the editor and highlights the line and gives you an idea of what's wrong. That would then speed up the time it takes to correct. A lot of Windows-based applications point you straight to the error, rather than having to drill into a report.

Increasingly, we'll be using the National licence to determine fleet priorities and fleet configuration in the smaller states, particularly around contract negotiation time. The plan will be, once we renew contracts with the third party providers on the eastern seaboard, [to] also do some sort of validation work on their proposals [and] assist in determining logistics network configuration along the east coast. Toll is investigating linking of Odyssey to SIGTEC. Also, the continued use of daily scheduling to ensure our resources are used to the optimum; and investigating ways of maybe dynamically scheduling throughout the day with variable cut-off times.