
CHALLENGE: IMPLEMENT AN END-TO-END SUPPLY OPTIMISATION PLATFORM TO IDENTIFY THE MOST APPROPRIATE SUPPLIERS, IN TERMS OF COST AND SERVICE, TO DELIVER HALF A BILLION PARCELS WITHIN A 24-HOUR TIME FRAME

A STABLE NETWORK is vital for any distribution operation but when you are the oldest, largest and most successful global distribution operation in the world and your stable network goes down (with reindeer flu) the financial and reputational damages could be irrecoverable.

This is the situation SLEIGH (Santa's Logistical Enterprise Innovative Gift Handling) faced this winter when all nine reindeer, including Rudolph himself, contracted reindeer flu. It left the organisation on the brink of a distribution catastrophe as the team solely responsible for driving the Christmas delivery vehicle thousands of miles delivering millions of presents on Christmas Eve were unlikely to recover in time for Christmas.

SLEIGH, Chief Procurement Officer, Father Christmas, had to seek rapid and expert guidance. Legendary supplier relationship management over the years means the world's most famous CPO is known to almost every supplier and end user across the globe – albeit by different names. However, whether it's Father Christmas, Santa Claus, Saint Nicholas or Père Noël in Europe, Viejo Pascuero in Chile or Hoteiosho in Japan the response is the same when he's in trouble. And when Trade Extensions, a world-class sourcing and optimisation solution provider, heard of his plight they were quick to respond.

SLEIGH is responsible for the stringent on-time delivery of approximately 526,000,000 individually packaged parcels to all good girls and boys across the world, mainly in one night. The presents have to be wrapped, addressed, loaded then distributed within the space of 24 hours across hundreds of states and territories in the world. Traditionally this mammoth logistical task could be achieved by only one guaranteed method – pure magic.

SLEIGH has always relied on its troop of magical flying reindeer to deliver the presents, but this year it was becoming clear that they would not be well enough in time to fulfil that role. Mr Christmas was very worried that for the first time in thousands of years he would be forced to outsource the distribution arm of his business. He was equally concerned about how,

especially on earth, he would be able to find a service provider that could meet all of his criteria.



Father Christmas brainstorms solutions to reindeer quandary

“Luckily for me,” he explained, “my CPE (Chief Procurement Elf) had been to the elf-World sourcing conference. He told me that at this e-World event he had learned of a number of software companies that offer a complete end-to-end sourcing optimisation solution. I didn't really believe that any one piece of non-magical software could cope with all our levels of requirements and come up with a single solution. Surely, it would take some magical algorithms to achieve that. But we were assured that earth mathematics was powerful enough - we had to give it a try.”

Mr Christmas wrote a tender notice and, through his traditional means of communication, put it on the fire to let the smoke carry it off to interested suppliers. He received several responses, one of which came from Trade Extensions.

“We were very impressed that they had already carried out similar sourcing exercises with some of the world's most renowned companies, like Proctor and Gamble, BP, Dow, and Kimberley Clark, but obviously not nearly on the same scale as our operation. We did some research and discovered that Trade Extensions had pioneered the use of optimisation or market-informed sourcing over a decade ago, and now it is their area of true specialism. We also did some research, and were told that Trade Extensions sits very high up in a magic quadrant. We were excited about

this, but when we checked we found there was nothing particularly magical about it at all! Just a box with some dots in. We even tried joining them up but it still didn't give us a very interesting picture. So to find out more, we invited Trade Extensions in to give us a first-hand demonstration."

Volume, flexibility and power were the main considerations

Based on the Arctic Circle in Finland, SLEIGH is set within near-inaccessible terrain. But Trade Extensions sent out a small team to Lapland dressed in their warmest corporate snowsuits. The demonstration convinced Mr Christmas that the solution was the answer to his problems.

"Our key need was a system that could cope with the size and complexity of our operation and all the constraints we have to consider. Millions of delivery points, in different time zones, and the ability to deliver to every corner of the globe."

By far the busiest time is the 24th / 25th of December, although there are some other delivery windows as well.

"I deliver to just over half a billion children who celebrate Christmas on the 25th December. That means I have to deliver about 22 million presents every hour, or about 365,000 every minute. There is the challenge of reaching small villages in the middle of a jungle to the large tower blocks in cities. Add to that the complexity of geography, terrain, fragile presents and accessibility issues, and then factor in that it all has to be done within 24 hours and always ahead of the rising sun for complete secrecy, and you've got a pretty complicated task," he continued.

Mr Christmas knew that a single distribution company would never in a million years be able to achieve this, let alone in one night. The answer would lie in a cleverly selected number of partnerships around the world, each performing in a very specialised but joined-up way and at the best possible cost to SLEIGH. "Trade Extensions showed us how the system would analyse the proposals offered by the bidding organisations, and we couldn't believe the power and speed with which it came up with optimised answers. Having seen the demo, we appointed them straightaway to implement their system for us."



Meanwhile, Rudolph remained in the intensive care stable

Trade Extensions works closely with the customer

Implementation went very well; the procurement elves and the Trade Extensions team worked closely as a partnership so that a clear understanding of requirements was achieved. Mr C knew his elves were not the cleverest of the magical creatures, so he needed the firm to provide a lot of support and training to run the sourcing exercise. Luckily TESS™, the firm's platform, has simple built-in guides to help you through the process, so you can design and run any kind of project, from simple reverse auctions to complex sourcing exercises like this one, with little intervention.

"They even call those guides 'wizards', which we found rather amusing, given how most of the wizards we know really hate technology," joked Mr Christmas. "But the system was intuitive and the consultants were amazing," he said, "they listened, understood and delivered. They clearly know about everything there is to know about sourcing."

Once training and implementation were complete, Trade Extensions helped Mr Christmas to design a tender to let every distributor in the world know what they were looking for. They invited proposals for as little or as much of the job that each could do. "The beauty of the system is that it lets us slice up the options into however many pieces we need, and it analyses every option for the best possible result. It gives the suppliers freedom to express their strengths through flexible bidding and means we receive the best offers the marketplace can provide. From my considerable list of requirements, suppliers are able to group items together and make offers for different packages," he explained.

Capacity is never an issue

Along with the proposals came millions of data points: some suppliers wanted to do all the work, others just bits of it; some wanted to do North America while another bid for just one village in Latvia. Some bidders wanted to deliver by road, some by sea and some by air. Some wanted to do the night of the 24th and others wanted only the 5th January, for the more orthodox Christians celebrating on the 12th night.

Some offered lower prices on a conditional basis - if for example they won the work in two adjacent countries. The permutations were endless. "I was really worried about how we could possibly make sense of all that data," said Mr C, "but because submissions were made directly into the system, we didn't even have to think about it. Apparently it's something they call a SaaS-based system, which until now I thought meant Santa-as-a-Service, but it means it's all carried out somewhere up in the clouds. The benefit of course is that I didn't have to install loads of computers in my workshop and yet the capacity was almost endless."

The responses came from many thousands of suppliers, from private magic reindeer operators to DHL and major freight and shipping firms. On first entering all of the data, and running the first optimisation, the system came up with an optimal solution that involved over 1,000 suppliers from 150 different countries. Three delivery access methods were identified for the parcels: traditional chimney, the magic key outside the back door, and a method used by certain large distribution companies, (which Mr C would certainly not consider using and so had to be factored out of the equation straightaway) - ring the bell, throw the parcel in the bushes and run away.

"We didn't think we could cope with managing quite so many distribution partners, so the system let us enter new constraints. We ran the optimisation exercise again with a second round of criteria, including a limit of only 500 suppliers and no more than 25 in any one country." The flexibility of the system lets you do that, giving revised answers until the optimum providers are identified and the best possible cost structure achieved.

"Numerous scenarios were analysed very quickly," said Mr C. "We got some answers that involved non-terrestrial suppliers, so we were even able to put a constraint on the type of organisation. For instance,

we decided we didn't want more than a handful of goblin-run companies – you can't always trust those goblins. But we did want to encourage more SMEs into the market. Those Scandinavian Magic Elves are diligent, experienced, and the oldest, most wise and respected suppliers in the world. So the ability to carve the operation into manageable and smaller contracts where appropriate means small and innovative organisations have a better chance to compete."

"We as buyers were able to manipulate the data and answer unlimited 'what if?' questions. It was great for suppliers too, as they were free to structure offers around their own strengths instead of modifying offers to fit my rigid requirements. Finding the best combination of providers and services to meet our criteria was made simple. It's incredibly sophisticated and incredibly quick. It's just like magic really, so we felt very much at home with it. We press a button and in no time at all we had the suggested optimal solution."

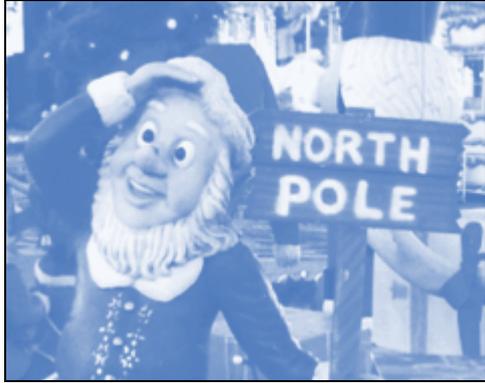
User-friendly – even for elves

Mr C's elves, by his own admission, are not particularly IT-savvy. So he was delighted that the system has a user-friendly graphical user interface that can turn the optimisation of complicated logistics management problems into easy-to-read visuals. Both graphical and tabular layouts can be produced, designed and customised to meet the particular needs of the reader. "My elves found it familiar and easy enough to use – and I can run my own reports of, for example, numbers of distributors by country, and elves who are not so good with numbers can see it clearly in a graphical representation. We can look at the data on our PCs (pixie computers) or our Laptops – you know we invented those here in Lapland, don't you?"

Individual country market challenges are untangled

One of SLEIGH's most logistically challenging markets is the US. SLEIGH has centuries of experience navigating the geographic enormity, the diverse terrain, the market conditions, and the different time zones of the US. Finding the right supplier combination that would understand all of this would be tricky. Between the US and the European territories there are eleven time zones, with 62 million children in the four time zones that make up continental US. The providers would have to distribute

to those kids “from the highest sky scrapers in Chicago to the littlest house on the Minnesota prairie!”



Chief Procurement Elf is delighted at usability of TESS™

Balancing the service and cost in this area was going to be very challenging. “Fortunately Trade Extensions has a lot of experience in US,” said Mr C. “Its optimisation software is well designed for these complex logistics operations: there are many US clients already using TESS™ for logistics and indeed other sourcing challenges.”

The firm understands the constraints of the marketplace and the customs of the supply chain, so they know exactly what the considerations are. Like the fact that New York, for example, will see just over nine hours of daylight on Christmas eve, so there will be about 15 hours of dark to play with, more for example than in the southern states. “So the system will ensure we source the right distribution capacity at different points across the US, and globally above or below the equator.”

Into the future

This year, SLEIGH is using the software for the distribution arm of the business only. But Mr Christmas says he is aiming to expand its use to help him with sourcing decisions in future years.

“Next year will we look at a blended distribution model, with our own team - once my reindeer are back up and running - doing some deliveries, but we will also use some external suppliers. The TESS™ platform will help us decide how we allocate that work, even analysing the relative costs of Rudolph versus other options!”

“But even more exciting for us, I plan to use it to help me manage some other problem areas. For example, we’re running into real capacity constraints on the wrapping side of the business.” So SLEIGH will be

looking to outsource about 50 percent of its wrapping business. It will use the TESS™ platform to include its own costs for different types of wrapping activity in order to calculate the optimal split of insourced versus outsourced work, and what should remain in-house, taking into account production rates and capacity.

“We can even look at whether it’s more cost effective for the suppliers to provide their own wrapping paper or whether it’s best for us to buy it in bulk, manage that contract centrally and ship it to them at cost. We will go through a similar process to the distribution project, but this time we will start to look at different layers of supply chain, and look at which parts should buy what for the best possible deal. It enforces better decision making.”

But back to this year, and the prospects for Christmas 2014.

“If we hadn’t had this magical piece of software this year, I’m sure we would still be delivering presents in February. And it’s given me complete peace of mind, averting a distribution disaster. It’s the best Christmas present I could wish for.”



Contact Trade Extensions:

<http://www.tradextensions.com/>

Tel. +1 (855) 215 8387 (USA) +44 (0)1760 720746
(UK/Europe)

Case study written by Nancy Clinton and Peter Smith
of Spend Matters Europe:

<http://spendmatters.com/uk/>

(Authors’ note: Whilst certain aspects of this case study are ‘magical’, the capability of the Trade Extensions TESS™ solution is broadly accurate as described! Happy Christmas!)