

An Equant Case Study

Making It Simple: Intelligent Moves for P&O Nedlloyd



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A unique Equant solution gives an international logistics services provider a simpler, standard and more reliable working environment.

A company with ambitions to forecast best-cost options, communicate current status to customers and thrive in one of the most competitive industries in the world must be nimble and intelligent to be effective. In information technology terms, this often means it also must be simple. The founding companies of P&O Nedlloyd date back to the 1830s. The company operates a modern fleet of 154 container ships that call at 229 ports in 94 countries. In 2003, P&O Nedlloyd's turnover was US\$5.5 billion. And it is poised for growth, given the ever-increasing demand for goods and their movement around the world.

However, its rich history meant evolution into a complex network of port offices, skills and resources that were both managed and supported by locally-procured and configured IT systems and networks.

"We had a variety of different business applications. Where we were operating the same systems, they were heavily configured according to regional parameters. With such a structure it was very difficult to have a global picture of the company," describes Mark Bulle, Global Infrastructure Manager, P&O Nedlloyd. "Our customers are global and they need a global operation to serve them."

A global hub

To create the desired management environment, the company embarked upon a five-year strategy to align operational procedures with commercial management. Underpinning this effort was a decision to centralize and standardize IT systems that could serve the organization from a global hub. Enterprise applications, including PeopleSoft, Oracle and a proprietary consignment management program were to drive the hub. New e-commerce systems introduced real-time tracking and online bookings for customers and suppliers. The company also had ambitions to set up global service centers at its locations in India and China covering administrative and IT functions.

The new IT architecture had to rely heavily on a robust, global wide area network (WAN) infrastructure to serve over 400 offices in 156 countries. With some 12,000 staff worldwide, just over 1,500 of which serve on ships, P&O Nedlloyd also needed to reduce communications costs as part of the overall goal to drive down costs through the increased efficiency that standardization would bring.

The company has taken advantage of Equant's industry leading, MPLS-based IP VPN communications solution to support this network, along with Application Performance Analysis (APA) services which are based on Packeteer's application traffic management solutions. The result is a finely-tuned, application-intelligent infrastructure that responds to the different requirements of individual locations.

"As an organization we have been able to aggressively cut operational costs without cutting any corners," says Bulle.

Fit for purpose

The first stage of the IT realignment was to establish the global hub that would house the core business applications. Three regional data centers had to be consolidated into a single facility at P&O Nedlloyd's operational headquarters in the United Kingdom. In addition to accommodating the new enterprise applications, the hub had to maintain a myriad of legacy systems to ensure ongoing operations while the program was evolving. The existing facility, which had served the European region, had already been experiencing problems handling the workload on a token ring local area network.

"Our network had grown organically, with disparate systems connected as needed using the token ring cards. We needed a purposefully designed network to support the entire task at hand," explains Bulle. "We run a small network support team, so this was not something that we would manage in-house, nor did it make sense for us to hire in new skills for the project."

Equant consultants from its Professional Services business units pulled together a team from its pool of IT experts that covered the mix of operating systems in use, including UNIX®, Windows®, and others. The initial challenge was to identify and quantify what traffic was running over the existing infrastructure before determining the capacity requirements of a new facility. In addition to accumulating a detailed inventory of applications, the Equant team leveraged the Application Performance Analysis services, based on services from Equant's strategic technology partner, Packeteer. The information provided by this ongoing service included the flow and loss of "data packets" over the network to gauge application response times and the varying requirements of individual programs. This provided a benchmark for comparison with the new solutions along with detailed information about the behavior of the individual applications to allow for the correct design and sizing of a new network.

"We were presented with a design to accommodate all of our systems. Equant then built it, tested it and planned and managed the migration from our old facility," says Bulle.

A sensitive migration

The design included a staged migration program to limit the risk of system outage as head office employees transferred from the old network to the new one. This covered user support requirements before, during and after the change and defined logical groups of employees that could be transferred, monitored and interviewed to ensure expected performance before anything was decommissioned. Throughout the migration, application performance continued to be monitored, analyzed and managed using Packeteer's® PacketShaper appliances to ensure the vital link between the old and new networks was delivering expected application performance.

"This gave us a real comfort factor during the migration. We needed to clearly understand how the traffic was split between the applications as we could not tolerate any degradation in performance," says Bulle.

Finally, to save costs, Equant's Professional Services team trained P&O Nedlloyd's IT staff to complete the migration in-house once the process was set.

Overall, the plan enabled a staged migration over 18 months. Equant handed over the new Gigabyte fast Ethernet LAN to Bulle's network team as it possessed the skills to handle configurations and management tasks, save one challenge – assuring 24x7 support which the company could not manage in-house. To fill the gap, Equant enhanced the LAN solution with remote network sniffers monitored by Equant engineers to alert, diagnose and, if appropriate, resolve a problem whenever it may occur.

"In over two years we haven't had to respond to a serious problem, but I rest fairly easily at night knowing that I have this in the background," says Bulle.

Expanding the footprint

With the global hub in place, P&O Nedlloyd was in a position to aggressively move forward with its standardization program. The next stage was to upgrade their WAN infrastructure from frame relay to an Equant MPLS-based IP VPN, delivering the enhanced ability to manage traffic through Equant's network.

"Our core motivation for moving to MPLS was commercial. Rates for the new technology were more competitive. But we recognized that the ability to move our voice and video traffic onto this network would also become relevant at some point," says Mark.

While world communications rates were falling, new capacity requirements from the centralized applications meant the company could potentially face an increase in their overall costs. Equant, who was already providing a proportion of the company's frame relay communications infrastructure services, again consolidated and redesigned an IP network for the task. Using information and analysis obtained from the Application Performance Analysis services, Equant estimated the new capacity requirements for international connections as they had done for the LAN.

The analysis also covered the potential for the company to take advantage of application-specific compression for international links. By deploying the Packeteer appliances used for the upgrade of the operational hub, Equant estimated that P&O Nedlloyd would realize a capacity savings potential of between 25% and 50%. E-mail, for example, despite extensive use of zipped mail attachments, showed a 50% reduction in bandwidth used after compression.

Bulle was able to quite comfortably cut his planned capacity needs by 25% across the board.

Directing traffic

P&O Nedlloyd has expanded its use of this application-specific compression solution by deploying 26 Packeteer appliances, purchased through its service contract with Equant, in 16 specific locations with high-traffic and/or high-cost connections. Network managers have been able to monitor traffic through the appliances in real-time, proactively control capacity and, above all, control costs as the company continually rolls out its new information services.

"In India where network access costs are high, we have to accommodate a lot of traffic to our offshore center. This has significantly helped us control costs as we ramped up these services," explains Bulle.

The new international network further provides a foundation for the manipulation of traffic through the definition of classes of service for applications that can be prioritized to ensure performance. This will allow P&O Nedlloyd to transfer its voice and video traffic to the IP VPN and eliminate international telephone and videoconference charges. In a complementary way, by using Packeteer's application visibility and control features on an individual location basis, P&O Nedlloyd can ensure the performance of its mission-critical applications by managing the network resources consumed by lower priority applications and FTP file transfers.

Coming into port

At P&O Nedlloyd, disparate systems and business processes, complicated by increasing IT and communications costs have been replaced with a simpler, standard and more reliable working environment.

"Our workforce has evolved to incorporate new skills sets; their systems are much easier to use and they can be much more effective. Management can guide the company with the best of information at their fingertips. Above all, our customers have access to the global service they expect," says Mark Bulle.

Equant – Communications solutions to enable global business

Working with a truly global communications solutions company like Equant enables organizations to draw upon the resources and skills base of an established communications provider.

Equant's unique global management structure means that simplicity, control and cost reduction are at the forefront of every developed and customized solution. Additionally, Equant's commitment to a total business communications approach and lifecycle support ensures that customers can expect to do more with less.

About Equant

Equant, a France Telecom subsidiary, combines its network expertise, including network reach in 220 countries and territories and local support in approximately 165 countries, with expanded service capabilities to provide global, integrated and customized communications services which enable its customers' key business processes.

For more information on how Equant can help your business optimize cost-effective and reliable networking and communications solutions worldwide, visit our web site: **www.equant.com**.

For more information on Packeteer, visit: **www.packeteer.com**.

For more information on P&O Nedlloyd, visit: **www.ponl.com**.

Equant Regional Offices

Americas

Atlanta
400 Galleria Parkway
Atlanta, GA 30339
USA
+1 866 849 4185 Tel

Washington, D.C.
2355 Dulles Corner Boulevard
Herndon, VA 20171
USA
+1 866 849 4185 Tel

Europe

Slough
Betjeman Place
217 Bath Road
Slough, SL1 4AA
United Kingdom
+44 (0)20 8321 4000 Tel

Paris
190, avenue de France
75653 Paris Cedex 13
France
+33 1 46 46 90 00 Tel

Asia

Singapore
No. 6 Temasek Boulevard
#38-01 Suntec Tower Four
Singapore 038986
+65 322 9288 Tel

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