

## Just-in-time Delivery Across the Globe: PSA Logistics Develops Leading-edge ASP Solution with Sun, Asp Centre Support



“PSA Corporation’s vision is to grow into a world-class corporation with a network of ports, logistics, and related businesses throughout the world. Sun and ASP Centre’s services, and technology, enable us to meet the challenges of the global market and develop effective and customized solutions with long term benefits, said Mr Henry Tan, Executive Vice-President (Logistics), PSA Corporation Ltd.”

Sun Microsystems and partner, ASP Centre, provided the underpinning technological support for logistics solutions provider, PSA Logistics, to meet the targets of mission-critical reliability, scalability, security and integration in developing their ASP logistics solution. N2N Connect, the next generation SCM and logistics solution from PSA Logistics, was developed as an end-to-end transportation management solution to meet the supply chain management needs of multinational organisations. The solution would be hosted via the Internet on an ASP model, providing a scalable and cost effective service to the industry.

### Developing an ASP Solution

PSA Corporation Ltd is a Singapore based S\$6.4 billion port authority company with S\$2.5 billion worth of annual sales and over 7000 staff worldwide. Its logistics arm, PSA Logistics, has been providing third party logistics services and fourth party logistics solutions such as the Integrated Logistics Solutions (ILS), Container Reservation System (CRS), Advance Transshipment Management System (ATM), and electronic seal Track and Trace (T&T).

N2N Connect is the company’s latest offering in the area of logistics and supply chain management (SCM) solutions. It is designed to be an integrated transport management solution, incorporating door-to-door planning, optimisation, execution, monitoring and exception management. The solution allows co-ordination between supply chain partners through EDI (Electronic Data Interface), trade and port network systems to enable just-in-time planning of goods and cargo delivery across the globe.

PSA Logistics plans to offer customised N2N Connect solutions on an ASP platform, providing customers access to the solution on a subscription basis via the Internet. This allows N2N Connect customers to scale their use of the solution according to their needs thereby reducing initial costs and entry-barriers to using an integrated logistics solution.

As an ASP solution, there are some primary concerns that PSA Logistics has to address in developing the N2N Connect application. As the application is meant to facilitate the critical function of distribution, the platform itself must hold up to a high level of security, availability and reliability. A failure in the system could potentially result in enormous losses for a customer in terms of money and reputation.

Also, because of the inherent flexibility of an ASP solution, N2N Connect customers would be able to determine their own level of usage and subscribe to the services according to their own needs. This creates a scenario of multiple users with multiple Service-Level-Agreements (SLA) that the system must cater to.

“Our key focus is on customer collaboration and in delivering the best solution that would meet our customers’ requirements. Sun and ASP Centre enter the picture as valued partners whose expertise and domain knowledge serve as lever-stones for us to achieve those objectives,” said Henry Tan, Executive Vice President (Logistics), PSA Corporation Ltd.

### Providing the Technological Support

To help resolve these and other issues in developing the state-of-the-art solution, PSA Logistics turned to Sun and ASP Centre to provide the services needed to bring the solution to fruition. While Sun provided the requisite expertise to supervise the entire project, ASP Centre provided a critical test-bed environment

#### Company

PSA Logistics Ltd

#### Industry

Logistics management services

#### Products/Solutions

- PSA Logistics’ N2N Connect
- 4 x Sun Enterprise™220R
- Solaris™8 Operating Environment
- Sun ONE™ Messaging Server

#### Key Business Challenges

- Developing a state-of-the-art internet logistics solution
- Meet the demands of multiple customer business models and Service-Level-Agreements
- Ensure high availability, scalability, reliability and security of the new solution
- Integration with PSA Logistics applications such as CRS, ATM and T&T

#### Key Business Solutions

- Development and deployment of N2N Connect solution
- Ready test-bed environment for integrating, testing and enhancing the new solution
- Open platform equipped with industry leading performance in availability, scalability, reliability and security
- Provision made for meeting different customer business models and SLAs

#### Key Alliance

- ASP Centre

for the integration, testing, and trial of the application – leaving PSA Logistics free to focus on core product development and business delivery model.

As project manager, Sun Professional Services managed the coordination of activities between teams, monitored progress, and resolved conflicts. Plans were developed for PSA Logistics to carry out the development of N2N Connect application in a phased manner so as to preserve PSA's initial investment. Both Sun PS and ASP Centre were involved in formulating an architecture that would meet the highest demands of availability, reliability, capacity and security. Recommendations were adopted to assist N2N Connect in addressing customers with different business models and SLAs.

N2N Connect is built on a 3-tier architecture comprising of Web, applications and database layers. Sun solutions that are deployed include:

- 4 x Sun Enterprise™220 R
- Solaris™ Operating System
- Sun ONE™ Messaging Server

From the initial set-up to full deployment phases, ASP Centre provided a robust service delivery environment for the integration, testing and trial-running of the new N2N Connect solution. ASP Centre consultants constructed a dedicated staging area by designing the solutions network, configuring Sun servers and database, and implementing security and system management services. This enabled PSA Logistics team to focus on testing and integrating new product features quickly and effectively.

During the implementation stages, operational procedures and security measures were also drawn up to meet the business requirements of PSA Logistics, ensuring that there is a ready set of operational processes once the service is deployed.

Finally, when the solution was ready for operational deployment, ASP Centre provided the critical change-over services of migrating the N2N Connect solution to an Internet Data Center (iDC) by configuring and setting up network requirements at the iDC and performing host hardening and system checks before moving the system to its new location. These are critical to the secure and reliable production-level operation of the N2N Connect solution.

## Meeting Future Challenges

Today, the N2N Connect has been fully deployed for pilot trials in the marketplace. This success is the result of strong collaboration among technology partners in developing and deploying secure and scalable solutions. Sun's technology and expertise coupled with ASP Centre's ready test-bed environment provided the solid foundation for PSA Logistics to focus solely on designing and developing a solution that best met the needs of the industry and its customers.

For the future, PSA Logistics will continue to maintain its focus on enhancing application features and speeding time to market for new services. Its focus on collaborative applications will include development strategy that employs leading edge technologies such as common integration interface and Web services. These will help bring the application to the next level of technological development and make it future-ready to meet the ever more sophisticated demands of its expanding customer base.

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**About the ASP Centre**  
The Application Service Provider (ASP) Centre is a joint initiative of the Infocomm Development Authority (Singapore), Nanyang Technological University and Sun Microsystems. The mission of the Centre is to position Singapore as a premier hub for ASP services in the Asia-Pacific region. This is in concert with Singapore's aspiration to be a major hub for Web-based services.

Officially launched on 16 July 2001, the ASP Centre is established under the Sun's Java Tarik 2 initiative for the purpose of ASP industry development, incubation and research. The ASP Centre was appointed by Sun as its only auditor for the SunTone[SM] program in Asia South, providing auditing services for the service industry in Singapore and the region.

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