Macsteel migrate & modernise their database while consolidating enterprise wide systems

With a limiting, industry specific, highly customised ERP application, Macsteel were in need of an upgrade in order to cater for the growth of the company and the need for additional functionality. However in their search, they found they were in need of a new database as well.

The Client

Macsteel Service Centers USA Inc., based in Newport Beach, California, provides a one-stop service, distribution and processing of carbon, stainless, aluminium and specialty steels. Founded in 1949, Macsteel – which is owned by Macsteel Holdings of South Africa – has 1,500 employees in 30 operating plants in 15 US states, Puerto Rico and Mexico. It is an industry leader, one of the top-five steel concerns in the USA.

The Challenge

Macsteel uses an industry-specific ERP application, which was originally acquired as packaged software, and has been significantly customised over time. The system runs on an IBM AIX platform. Despite constant tailoring of the application to meet the needs of the business, Macsteel had reached the point where the underlying architecture of the application was preventing it from expanding its functionality along with the growth of the firm.

Nak Sung, Vice President of Information Technology at Macsteel says, *"We encountered many issues regarding our application architecture limitations. During the process to upgrade our technology, we noticed that the proprietary database used by the application was not adequate to handle the size and high level of availability that we required for the future growth of the business."*

There were other challenges as well.

Jeffrey Samson, Macsteel's Director and Senior Executive Vice President, Technology comments, *"We did not have a single corporate enterprise application; we had to have 12 different regional systems running on 12 different UNIX servers. We decided to consolidate the separate distributive regional resources into one single corporate application and explored all the available options to do this."*

Once they started looking into the project they made some decisions.

Client >
Macsteel Service Centers USA

Sector >
Wholesale and Distribution

Project >
Application Modernisation

"The system now runs as one throughout the entire company, making our processes much more cost-effective and productive."

Nak Sung >
VP of Information Technology >
Macsteel

CASE STUDY

Macsteel migrate and modernise database

Sung says, "We soon realised that upgrading the application to an alternative ERP package would be very expensive, so we discarded that option. A database modernisation project was the way to go. Still, we had about 4,000 programs with about 600 tables that would be impacted by such a conversion."

The Solution

"We asked Advanced can you convert a COBOL application that uses a proprietary data structure into an application running on a relational database, in our case DB2?', and they said 'sure'," says Sung.

Our proven database modernisation approach for COBOL applications is to partition the logic of those applications from the database I/O layer, by introducing a set of I/O modules that provide dynamic access to the new database schema, all without changing the logic flow or data types within the original application programs.

"We thought that was a very efficient and acceptable methodology," says Sung. "Instead of us going for application-wide change, Advanced delivered a module that translated all the COBOL I/O commands into dynamic SQL statements. The data would then be in the DB2 format, allowing us to make it homogeneous for the entire system."

Once the system for data conversion and modernisation was decided upon, we took several steps to ensure the data would blend correctly with Macsteel's application.

First the functionality of the system with end users across the company was tested at all levels. Later, the new solution was implemented as a pilot in the company's central region – one of nine company-wide regions.

Two months later, we converted the eastern region into the new system. By July, 30% of Macsteel's business transactions were conducted using only one application. At the beginning of August, the converted data was rolled out to all regions.

From the end-user point of view, nothing has changed – which is exactly what Macsteel wanted.

Sung comments, "The entire process has been transparent to them. We made minimal changes to the application functionality, and we didn't change any of its business logic. But the system now runs as one throughout the entire company, making our processes much more cost-effective and productive."

The Benefits

Macsteel was highly impressed with the approach taken in modernising its IT infrastructure.

"This wasn't an ordinary vendor-customer relationship," says Sung. "Advanced tried to think things from our point of view, tried to understand our business requirements and processes, and then brought the right solution – all under a relatively tight timeframe. Its planning process was also well documented, and all pending issues were solved in a timely manner. Advanced passed our test with flying colours."

Samson concludes, "Our successful long-term relationship has always been based on teamwork and trust. For this project, we made a strong team that created a base for many more projects together."

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