



Australian Government

**Department of Communications,
Information Technology and the Arts**

ADVANCING WITH E-BUSINESS

Collaborative B2B for SMEs in the mining industry



INFORMATION TECHNOLOGY ONLINE PROGRAM

Collaborative B2B for SMEs in the mining industry is a project that was awarded \$185 000 from Round 8 of the Information Technology Online (ITOL) program.



The project aimed to develop a solution to enable SMEs (small and medium enterprises) to trade electronically with larger, e-business enabled trading partners, as well as trading partners with no e-business capability.

The project delivered two products: TradeRoute™, middleware software tailored to the needs of SMEs, and TradeForms™, software to enable electronic trading with partners that have no e-business software.

The project was managed by XML Yes, a Sydney-based software development company which specialises in innovative e-business solutions. It formed part of the consortium that came together for this project, which also included MSA (Aust) Pty Ltd, Newmont Mining Corporation, Quadrem International, IBM Australia and Mincom.

The need for e-marketplace integration

This project needed to develop a solution that would allow an SME supplier to accept and transmit electronic transactions via a global electronic marketplace for the mining industry. Electronic marketplaces enable transactions to be directed between buyers and suppliers; in this case Quadrem's global e-marketplace was used.

Suppliers need to integrate with the Quadrem e-marketplace to benefit from it, particularly if an automated approach would improve their business. An example of this would be suppliers who handle a lot of transactions; automation would speed up the transaction process and reduce errors significantly.

Suppliers typically have backend systems which cannot interact with the required data formats for messages and transactions that are used by e-marketplaces like Quadrem.

The project sought to develop a software solution that would interface between the Quadrem e-marketplace and the back-end systems of the SME supplier (in this case MSA Australia).

At the beginning of this project, many of MSA's trading partners could not process electronic transactions; instead they manually entered data into their systems.

Extending e-business practices

This project sought to solve these issues by providing functional, simple and cost-effective products for SMEs.

The main aims were to reduce manual data entry costs and errors, eliminate as many manual processes as practicable, and extend the use of

e-business practices throughout the industry. This would offer a more automated, collaborative and integrated approach to doing business.

The goal of this project was to enable MSA to trade more effectively with many more trading partners, and improve its customer service, so that stronger trading relationships could be fostered.

Collaborative B2B for mining industry SMEs

In the first phase of the project, MSA Australia needed to be able to receive purchase orders from a large overseas customer, PT Newmont Mines, via the Quadrem International e-marketplace.

The Quadrem e-marketplace uses specific message and document standards and enforces a specific 'transaction choreography' on its users. This transaction choreography controls the exchange of messages between trading partners, including message acknowledgements and information such as tight deadlines.

A rich set of document types is available through Quadrem, so the project had to enable MSA to interact with these documents and respond correctly.

MSA's existing back-end systems could not generate the required documents in the required format, nor could it comply with Quadrem's transaction choreography. For the project to succeed, it was vital to be able to 'correct' the data so it could synchronise with, and be processed by, MSA's back-end systems.

Additionally, MSA needed a solution that would add B2B functionality to its back-end systems so that it could receive automated orders from a large, overseas trading partner (Newmont Mining Corporation).

TradeRoute™ SME B2B middleware

The TradeRoute application was designed to be a flexible, highly functional, and simple-to-use tool that would let a company trade electronically with any trading partner that could accept e-business transactions. In this project TradeRoute had to provide an interface between MSA and Quadrem's e-marketplace.

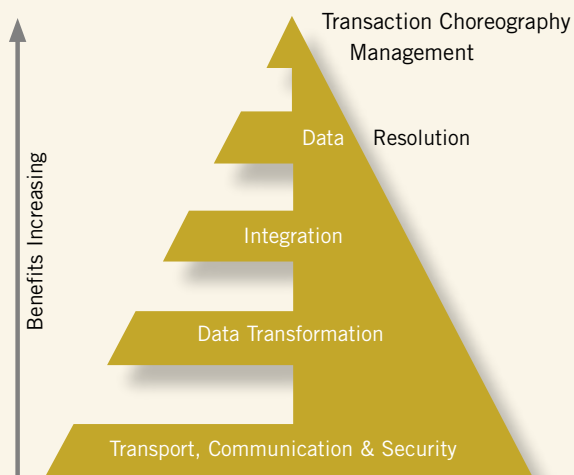
Five key requirements had to be addressed before MSA could conduct electronic business transactions through the Quadrem e-marketplace:

- 1. Data transport and security**
The transaction data needed to be delivered reliably, accurately and securely
- 2. Data transformation**
The data had to be able to be translated from one format to another, so that it can be used by a trading partner's back-end systems
- 3. Integration**
The data had to be able to be extracted or imported by back-end systems automatically, without the need for manual data entry
- 4. Data resolution**
The data had to be able to be converted so that it can be integrated with back-end systems. Examples include item codes and units of measure.
- 5. Choreography management**
The data had to obey the rules for message exchanges.

TradeRoute addressed these requirements, with data resolution and choreography management adding significant value to the B2B process. It also automatically managed and processed change orders, addressing a common problem that occurs when a buyer sends a purchase order and then follows it with several change orders.

Many companies keep a paper record, to make sure that only the most recent change order is used, but mistakes are inevitable and they affect the supply chain and customer satisfaction. TradeRoute automatically tracks and relates order documents, avoiding the need for manual data entry and errors.

Pyramid of essential B2B tasks



Export documentation

Orders from overseas customers must be accompanied by export documents before they can be shipped. Before this project, MSA produced these documents manually, which sometimes delayed shipments. MSA tackled this issue with TradeRoute, which can consolidate information from several sources, including the warehouse. The outcome is a greatly streamlined, automated process that automatically produces export forms and electronically lodges the data with relevant organisations such as freight forwarders.

Once the Quadrem e-marketplace integration solution was tested and operational, phase 2 of the project was addressed. MSA needed to find a way to conduct e-business with trading partners that had no e-business capability. Whatever the solution, it needed to benefit both parties in the transaction, deliver significant cost savings to MSA and improve its service level.

The outcome is a greatly streamlined, automated process that automatically produces export forms and electronically lodges the data with relevant organisations such as freight forwarders.

TradeForms™– trading partner enablement

MSA Australia has an extensive national network of distributors for its products, with the majority placing their orders by fax or phone. MSA Australia believed that if orders could be transacted electronically, it could accomplish two main objectives:

1. Eliminating manual data entry, leading to lower costs and reduced number of ordering errors; and
2. Providing a way for MSA to enhance its customer service, improve the quality and timeliness of its information, and develop its facilities.

MSA could have created a website shopping portal for its customers, but it understood that this would not be ideal. Although a website ordering system such as this could solve MSA's manual data entry problems, it would become yet another website that customers would have to log onto, and it would not help customers to integrate data with their back-end systems. MSA believed a direct-connect solution was the best option and would deliver the most benefits.

The direct-connect solution that was developed for this project was TradeForms a product that can be distributed to large numbers of trading partners, has a rich set of business documents and messaging, and was specifically designed for ease of use. Using TradeForms, MSA can quickly distribute tailored product catalogues to each one of its distributors. MSA's distributors can use TradeForms to place orders electronically, and automatically upload data to their back-end systems, without manual data entry.

Complete B2B infrastructure for SMEs

TradeForms can also receive data, transform it to MSA's requirements, and securely integrate orders with MSA's back-end systems.

This peer-to-peer approach offers a number of advantages:

- It is more secure and reliable than email or fax.
- It provides an integrated solution for both parties, and removes the need to enter data manually.
- It can increase competitive advantage and is more cost-effective than using transaction fee based hubs, or message exchange bureaus. Each TradeForms user can maintain its unique business advantage by customising the functionality of the transaction to suit their business or industry.

TradeForms can communicate with any TradeForms Partner via a simple registration process, and makes use of an inbuilt update facility that ensures users have the latest version.

Many transaction types and messages are supported, and TradeForms can use customised plugins to enhance trading relationships.

MSA uses TradeForms for its customers (distributors) and suppliers. Customers receive up-to-date tailored price lists as well as messages such as promotional notices. Suppliers receive electronic purchase orders from MSA and can automatically provide information to MSA, such as shipping dates or backorder details.

TradeRoute lets trading partners exchange data and manage transactions between their back-end systems.

Customers, Suppliers

TradeForms client software is distributed to trading partners who have no e-business capability, providing a secure, highly flexible e-business capability at low cost

Outcomes

The TradeRoute and TradeForms solutions delivered measurable benefits, as well as benefits that are harder to quantify such as improved trading relationships. MSA achieved cost savings and improved its service levels and business processes. MSA and its trading partners were able to eliminate data entry and receive better and more timely information. This has led to a 'win-win' effect that has made trading relationships more productive, and has improved supply chain and demand chain operations.

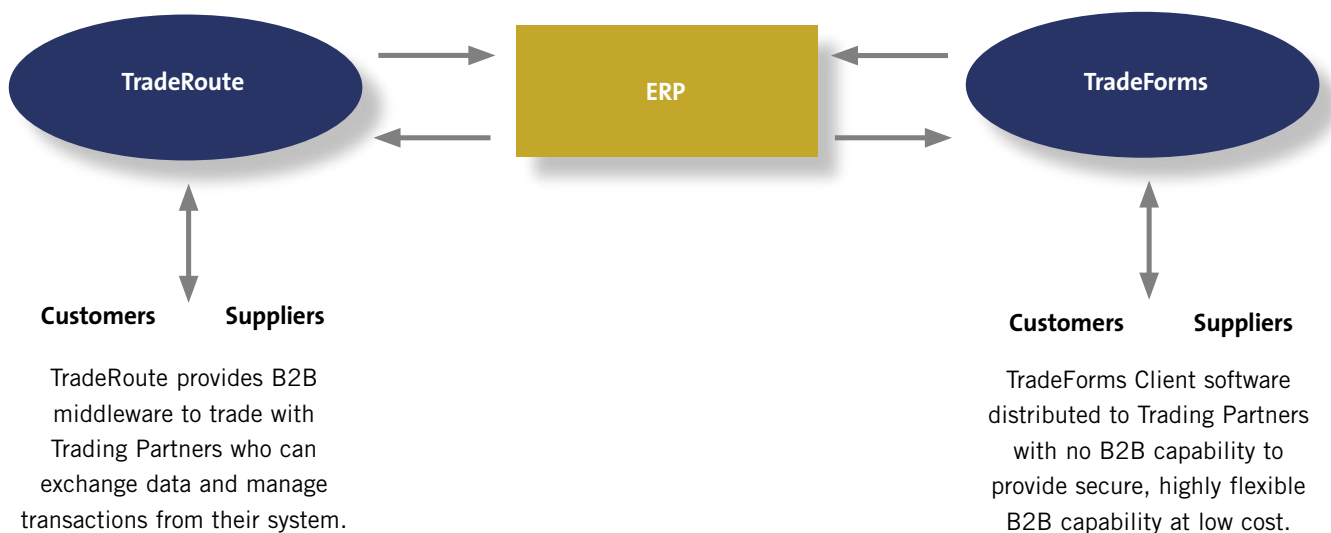
This project achieved some significant outcomes. MSA's back-end systems can now integrate with the Quadrem e-marketplace and automatically process Quadrem transactions. Electronic orders are reliably and securely integrated with MSA's back-end systems, eliminating the need for manual data entry. Customs documents are automatically filled out; MSA's product catalogues can be tailored, and automatically kept up-to-date, and information provided to buyers and sellers is more accurate and timely. The results have allowed MSA's employees to be more proactive and customer service oriented.

Some of the benefits of TradeRoute and TradeForms are:

Increased competitive advantage

TradeRoute integrates with MSA's ERP system, automatically processing Quadrem orders and change orders, eliminating errors. The result is that more orders are processed correctly, employees can be more proactive and service orientated, customer satisfaction is greater, more business is received from mining, and other large customers that want to trade electronically, MSA's competitive advantage has been increased.

Complete B2B infrastructure for SMEs



Increased efficiency

The TradeRoute Exports module automates the export documentation process and reduces errors. This has resulted in faster shipping of orders, happier, more productive employees, and a sixfold increase in the number of overseas customers.

Bottom line impact

The TradeForms solution reliably and securely receives customer orders and accurately integrates them with MSA's back-end systems, eliminates manual data entry, provides timely acknowledgements and information, keeps pricing up-to-date, and frees up time for staff to be more proactive and more customer service oriented. Operational costs have been significantly reduced, MSA's business has increased, staff morale has improved, and internal business processes have become streamlined.

TradeRoute and TradeForms are cost-effective and can be set up in days, unlike development integration projects that can take months to set up and cost too much for most businesses.

After it successfully integrated MSA with the Quadrem e-marketplace using TradeRoute, XML Yes became a Quadrem International certified integration partner.



The future

The Quadrem e-marketplace has expanded from a mining industry focus, and now services companies in the consumer goods, and oil and gas industries. The TradeRoute solution is in a position to integrate suppliers in these industries with the Quadrem e-Marketplace. Additionally, these products provide the same sophisticated facilities needed by participants in other e-marketplaces.

As more mining organisations implement a wider range of document types in their e-business strategies, there is an increasing need to automate and integrate documents/messages with existing business practices. The TradeRoute solution is well placed to facilitate this procure-to-pay business practice, and maximises the benefits for participants that incorporate e-business functionality in their procure-to-pay practices.

Since September 2004, the Queensland State Government has facilitated trials of TradeForms and TradeRoute with Queensland based companies who wish to experience the benefits of robust B2B trading solutions. The Queensland Government sees these products as a cost effective solution that lets SMEs participate as equals in e-business with larger corporate-level trading partners. The solutions help to 'level the e-business playing field' and extend costs savings and competitive advantages to smaller organisations.

Success stories

MSA (Aust) Pty Ltd

The results of this project have transformed our business in many ways. Both TradeRoute and TradeForms have taken us from essentially a manual business practice driven company to one that makes better use of our resources to deliver better services to our customers, and makes us generally easier to do business with for all our trading partners. Internally, we have had a positive impact on staff as most of the resource intensive tasks are now taken care of by the e-Business solutions.

We have achieved two major benefits in this project. They are firstly very significant cost savings by reducing our operational costs of this business unit by approximately 35 per cent and, secondly, we have been able to offer more proactive and better service levels due to the efficiencies that the solutions have delivered.

It is hard to imagine going back to the way things were before this project, and uncomfortable to contemplate the negative effects this 'return to the old ways' would have on our business.

Greg Doyle, e-Business Manager



Quadrem Australia

Integration maximises the benefits of e-business through elimination of the effort, errors and delays associated with rekeying data between systems or 'swivel chair' integration. Suppliers also benefit from the closer ties forged with their customers as a result of having their own information systems tightly coupled with those of their customers. This project is a good example of what can be achieved for both sides of the trading partner relationship, regardless of company size.

Allan Poezyn, Regional Vice President, Australasia

