



The challenge

The Port of Dover wanted to replace a veteran, legacy EDI to XML converter to deal with new messaging formats for customs clearance being introduced across the EU. After a number of attempts to develop in-house, and with the deadline for the new standards looming, Dover found DataDirect.

The solution

As soon as DataDirect made XML Converters available on the .NET platform, The Port of Dover saw how the product would help them. The Stylus Studio development environment was used to integrate XML Converters with the Port's own application.

The benefits

After a seamless implementation and before the joint running period for the new message formats has even begun, Dover is ready with a proven system to convert them and continue to send out the print messages that drive clearance. The system saves IT staff time, is extremely reliable and provides a platform for the future.

DataDirect XML Converters™ clear the way to customs harmonisation

Case study

Introduction

Big changes are afoot in the world of customs as the EU, as part of its Multi-Annual Strategic Plan, requires member states throughout Europe to adopt newly aligned standards for customs clearance declarations.

Harmonisation of the Single Administrative Document (SAD) changes the way that Import, Export, Warehousing, Transit and Community Status declarations are completed. It means that organisations from airports to ports through to shipping agents and freight companies will need to revisit the software systems they use for customs clearance.

For a big port like Dover, which lies at the heart of UK and Continental Europe's cross-Channel transport network, the move to new formats means potential upheaval in the relationship with its freight customers. That's an inconvenience the busy Port simply cannot afford. Overall, traffic coming through the port is up dramatically this year compared to last, while freight traffic rose slightly at 1.1 million lorries in the first half of the year following a big expansion over the past three years. And the significant 10 per cent of freight coming through the Port that is non-EC all needs to be cleared with customs.

Essentially, the changes mean the messages the Port exchanges between its ClearWay customs clearance system and the HM Revenue and Customs (HMRC) CHIEF computer will be in a new format. The ClearWay system uses an EDI to XML translator that was developed internally several years ago, but the latest change to the messages from HMRC was "pushing the translator over the edge", according to Andy Allen, senior analyst programmer at the Port.

Technical problems

Allen adds: "The translator – essentially an EDI assembler and disassembler – was written in C in 1993 and was ported to our Stratus® Continuum® platform. Its limitations were becoming increasingly obvious and it's very tricky to replace something that's so core to the system. We spent a great deal of time this year trying to get the program to work. It was very temperamental, and as soon as you'd do something it would crash and you'd have to restart again."

The situation was complicated by the fact that ClearWay runs over two machines. The first is a Windows machine largely for exports and

the other is the Stratus®, largely for imports. The organisation was gradually moving to Windows, but the complex code involved in the ClearWay system meant it had not yet fully completed the transition to the new environment. Dover decided to focus efforts on the print messages – the notifications it sends to its freight customers either via e-mail or via dedicated print connections to IP printers or a dedicated secure network within the Port itself.

Allen explains: "When a vehicle arrives at Dover, if it needs to go to our customs clearance facility, then they'll take the paperwork in and the vehicle will either be cleared immediately or else Customs will check the paperwork or goods. That's largely driven by prints from the system as notifications of things happening."



The search is on

Allen and his colleagues initially tried to write a new translator on the Windows platform. But despite being well qualified programmers, this did not prove simple. So they went back to the drawing board trying to get the existing translator to work better by reorganising the memory structures that were causing it to crash: "We spent quite a bit of time on it. None of us was quite sure how to do it; we are not EDI or XML experts – so it was new territory. It was also a huge chunk of work for the two internal developers working on it."

So the team instead started looking for a translator that would sit on the Windows box and translate print messages from EDI to XML. Due to the fact that ClearWay is written in Visual Basic with the development environment now based around the .NET framework, the Port was looking for a full .NET solution. "When DataDirect released their XML converters for .NET, we were able to approach them."

Allen says a key differentiator was DataDirect's approach. "We got fantastic help and support from DataDirect. That was one of the things that really swung it for us. They went out of their way to offer assistance and, quite frankly, many of the other suppliers that we looked at didn't."

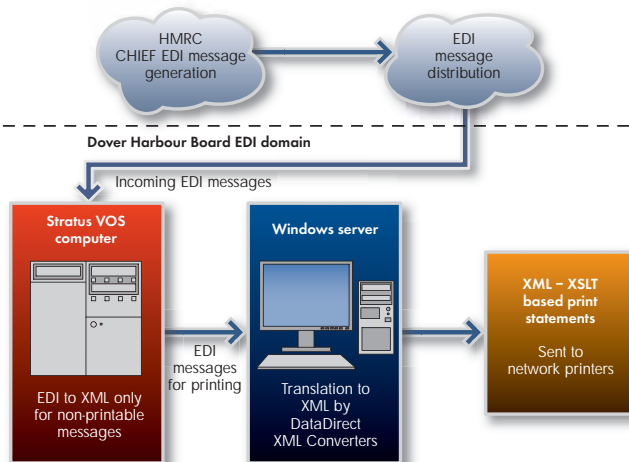
Dover has now proved the concept, with messages based on the new formats coming through from HMRC, moving across the machines and, using ClearWay's components to call the DataDirect XML Converters, translating the EDI into XML. The system then sends out a report either confirming clearance or tracking the consignment through the clearance process. The team used Stylus Studio to create definitions of the EDIFACT standard to generate templates for messages, so EDI messages can be mapped using XML schema definitions to the XML format the organisation requires at the other end.

About DataDirect Technologies

DataDirect Technologies is the world leader in data connectivity, mainframe integration, and XML query technology. Simplify development and dramatically improve performance and scalability with the DataDirect Connect line of ODBC drivers, JDBC drivers and ADO.NET data providers. Reduce the complexity of integrating mainframe data and applications into service-oriented architectures with the DataDirect Shadow RTE line of mainframe web services, events, SQL and web-enablement products. And discover the latest in XML query technology with our embeddable XQuery engine, which greatly simplifies XML and relational data integration.

Allen says the time savings for his team have been dramatic: "We used to run the old application on our Windows machines, then transfer the templates to the Stratus platform, and it used to take hours to configure the message types because the application crashed so often. When we saw this we thought it was fantastic and could save us hours."

Port of Dover's EDI Architecture



Flexibility and confidence

The Port also feels confident it can more easily cope with future formats because of the flexibility of the system. Allen says: "What I like about the DataDirect product is that it's all configurable and the supplier was very helpful in providing extension files to make it all work." It is also happy to have made the deadline (for SAD Harmonisation), with dual running of the old and new formats set to take place from October 2007 to January 2008.

"There is an absolute deadline on the timeframe that we have in which to get this done, there is no choice about that. From a client perspective, we have freight agents who pay to use our system, they have software houses that write software for them, and we have to have this on our test system for them to get up to speed and

make sure their systems work with the new formats as well.

"This was a solution that gave us an answer and we knew it was going to work and solve our problem. Not only does it solve this particular problem but in the long run if we can utilise it more, it will probably save us time in terms of using these tools for EDI."

Future scope

Although the scope of this particular project was limited to the print messages, Allen sees other areas where it could be extended in the future, such as using Stylus Studio to supplement the messages contained in the reports it provides to customers. He adds there may be a possibility of moving some of the other EDI messaging to the Windows machines as well, but time constraints meant the Port had a certain scope to work within for now.

Dover's ClearWay system works on behalf of the Port's freight agent community, interfacing between their systems and the HMRC computer, CHIEF. When a number

of consignments are grouped on the same vehicle they might have different agents involved. Allen says: "For the vehicle to be released from the system, each consignment has to be cleared by Customs, so all of those messages will go to the individual parties via us. ClearWay converts individual consignment clearances into a vehicle clearance and produces a printout to say the vehicle can go. The driver picks up his paperwork and gets back on the road."

On 4 April 2007, the busiest day of the year so far for Dover, 9,749 lorries passed through the busiest ro-ro port in Europe. Thanks to the efforts of Allen and his team, days like this should long continue. Terence Cooke, vice president of international sales for DataDirect said: "We are delighted that DataDirect could help the Port of Dover meet the new EU messaging formats."



The world leader in data connectivity and mainframe integration

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