

Anglican water

Business



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Company: ETICustomer: Anglican WaterSubmitted by: Oast

CommunicationsAnglian Water Services, one of Britain’s largest water and environmental companies, had just six months to migrate twenty data sources and build a dozen interfaces to connect existing applications to a new SAP R/3 financial and stock management system. With Year 2000 projects placing a hefty premium on Cobol programmers, the task looked almost impossible given the time and resources available.

However, a combined project team of Anglian Water and its chosen IT partner CSC, chose data integration tools from Evolutionary Technologies International (ETI) enabling Anglian Water’s business users to develop and test the necessary data migration code in one tenth of the time it would take using traditional programming techniques. Anglian Water Services is the largest UK provider of water and wastewater treatment by geography, serving around 5. 8 million customers across an area of 27, 500 square

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kilometres (and another 5.8 million worldwide). The company's focus is upon meeting the competition from rivals in a market controlled by water industry regulator Ofwat, which is eager to see both a reduction in prices to consumers and strict compliance with environmental requirements. Ofwat recently set the water industry a set of very tough targets for reducing costs to customers – including across the board 15 per cent tariff reductions and wants firms to cut losses from their network of pipes by an additional six per cent.

In order to meet these demands and compete effectively, Anglian Water needs an information infrastructure that gives it complete control over its business. It is heading rapidly toward this goal aided by tools from Evolutionary Technologies International (ETI) which have enabled it to integrate business information in multiple formats from multiple sources into its Enterprise Resource Planning (ERP) and Asset Management systems.

Programmers in short supply

A key part of Anglian Water's £30 million Year 2000 compliance programme was the migration from existing finance, human resources and stock management systems running within Digital VAX and Bull GCOS environments, to a new SAP R/3 system running on Windows NT. Anglian Water set itself extremely tight deadlines for the SAP migration – just one year from early analysis to a completely live system. By October 1998, the new system had to be populated with the previous six month's financial information from non-Y2K compliant VAX systems and additional data migrated from payroll, time and job costing.

Links to all the financial feeder systems which would continue to pass data into R/3 including the regional income and billing systems also had to be built. Anglian Water called upon Computer Sciences Corporation (CSC), its outsourced provider of IT services, to undertake the migration.

A need for speed

The traditional method of migrating and integrating data from multiple sources is to hand-code the necessary programs and routines – a time-consuming and potentially costly task. But Year 2000 project work across Europe meant that skilled resources, particularly Cobol programmers were in short supply. Once the team began to investigate the scope of the migration, the deadline began to appear increasingly unlikely, explains CSC senior systems analyst Ian Montgomery.” We realised we were looking at 20 data conversions and a dozen data interfaces.

Manual coding was going to be far too long-winded. It wasn't just the cost, it was the problem of finding suitable people within the deadlines that we had – it was a serious case of needing something to speed things up.” The project team initiated a search for a suite of software tools to assist it in migrating its data and building the necessary interface applications, considering a range of options from Hewlett Packard and Constellar, and choosing ETI•EXTRACT® from ETI.” HP's data migration product only dealt with SAP environments, which meant we would still have to program the interfaces and conversion routines for our source platforms by hand. We also considered Constellar but it forces all data through a database hub, but with the range of platforms and no direct route into SAP that's not really what we were after,” explained Montgomery.

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The multiple source challenge

ETI's flagship product, ETI•EXTRACT automates the generation of data interface programs to extract, transform, move and load data as well as capturing the metadata (information about data) which is necessary to effectively manage data integration projects. The product's ability to handle multiple data formats and multiple source and destination platforms proved crucial: Anglian Water's existing financials and stock management packages ran on a Digital VAX environment, while its core billing system runs on a Bull GCOS mainframe. One of the barriers to the integration of applications is that packaged applications such as SAP R/3 often employ proprietary data structures and formats. Merely importing the information into the operational database without following the validation process proscribed by the application can mean corrupt data and wasted effort. ETI's SAP Data Systems Library, which offers SAP data registration for ETI•EXTRACT, provided Anglian Water with the extra assurance that it was the most appropriate choice for its data integration project, said Montgomery.

“ ETI's SAP Registration gave us the ability to write interfaces or conversions that move the data straight into R/3. That was a major bonus, because we could be sure that we were following the correct data validation processes, and we knew that ETI•EXTRACT was going to work first time.”

Business users cut the code with ETI•EXTRACT

Anglian Water had just six months to 'go-live' and a serious shortage of SAP and Cobol programmers. The company therefore took the bold step of training its own non-technical business users to work as the ETI conversion specialists on the project. Montgomery conceded that few organisations

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would be willing to involve users in a mission-critical data migration, but using ETI•EXTRACT to automate much of the process, Anglian Water was confident that its plan would not affect the quality of the work.

“ You don’t have to worry about any bugs in the Cobol code, because you can be sure that if it is generated by ETI•EXTRACT, it will work first time – unless you have introduced some problems of your own – so we didn’t have to worry about software quality.” Six staff from across Anglian Water’s business unit’s were trained by ETI as data conversion specialists, with Montgomery himself training as an ETI•EXTRACT master user and heading the data integration effort. An experienced contract Conversion Specialist was also brought in to act as a supervisor and tackle the more challenging interfaces.” It was initially a very steep learning curve for all of us, but our decision to choose business users to staff the project actually worked out incredibly well. They included some of the key people in each business area, so they knew all the business rules. They could write the business specifications, apply those into the technical specs and, using ETI•EXTRACT, actually code and test the programs themselves, it was absolutely marvellous.

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Development and testing cycle cut by over 90 per cent

In just four months from March to June 1999, Anglian Waters’ data migration team progressed from a collection of novice users to a team of data conversion specialists who completed a major data integration project. Employing ETI•EXTRACT along with ETI’s DSL Library for SAP, the team

designed and generated over 30 data conversion and migration programs. An average manual programmer can complete around 100, 000 lines of Cobol code per year, however, using ETI•EXTRACT, Anglian Water's team of six generated 450, 000 lines of complex interface and conversion program code in just three months – one quarter of the time required with traditional methods. In addition, all programs also underwent an entire four phase testing cycle comprising unit testing, integration testing, end to end testing and user acceptance testing. Where requirements changed, ETI•EXTRACT made it significantly easier for the migration team to make changes to the data migration and integration programs, said Montgomery." As things kept changing, and we had to make changes to our conversion programs, ETI•EXTRACT sped things up enormously.

It was very easy to regenerate and retest programs, with ETI•EXTRACT it is the difference between 10 minutes and an entire morning's work.

ETI•EXTRACT can be configured to generate the code, copy it to the relevant platforms, compile it once it gets there and then run it, all from a single click of the mouse." However, if speeding through a large-scale data integration project with a team of non-technical staff wasn't enough of a challenge, the company also made the decision to alter its R/3 production platform from Intel architecture to Compaq's Alpha platform." Unfortunately, this decision meant that after we had finished testing on the Intel servers, we had to copy over all the source code, recompile and retest everything.

The last two testing cycles having to be done again on the Alpha." But because of ETI•EXTRACT, this last minute change of platform did not upset the data migration work, which was accomplished accurately, and well ahead

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of time, bringing Anglian Water significant savings over a traditional programming approach.” Compared with traditional methods, our use of ETI•EXTRACT cut the entire development and testing cycle down by a factor of 10-1 (a 90% reduction). We were so far ahead that the migration to SAP could have gone live earlier.”

ETI•EXTRACT – removing complexity

After the successful use of ETI•EXTRACT to generate over 30 interface and conversion programs for integrating data from multiple platforms into its SAP R/3 financial system, the product is becoming central in new integration projects at Anglian Water.

A new Jobs and Asset Management (JAM) system will help Anglian Water to be more proactive in maintaining assets such as wastewater treatment works, pumping stations, water treatment works, reducing the number of failures and therefore reducing the cost of maintaining its vast networks. Anglian Water has used ETI•EXTRACT to effectively ‘plumb in’ the new system with data interface applications that connect it to the surrounding line of business applications. One very complex interface between JAM and the Regional Income Management System (RIMS), Anglian Water’s Bull GCOS-based billing system, highlights ETI•EXTRACT’s ability to speed up complex projects by eliminating errors, explained Montgomery.” This interface was made up of 40 programs, about 80, 000 lines of code in total, with 7 very complex key programs. A good Cobol programmer works at the rate of 1. 2 mistakes per thousand lines of code.

That means that if we hadn't used ETI•EXTRACT we'd be repairing at least 90 coding errors before we'd even started testing."

System diversity is no longer a barrier to business change

The preparation to meet Ofwat's requirements is triggering a wave of restructuring across the industry, and Anglian Water is spending £1.4 billion on improving water standards and meeting environmental obligations in the first five years of the millennium. As Anglian Water continues this drive to modernise and expand, its integration techniques, which employ tools like ETI•EXTRACT, will ensure that the company's mix of operational systems no longer poses a barrier to rapid business change." Like many companies over the years, we've purchased packages along with the hardware platform that offered the best performance," said CSC senior systems analyst Ian Montgomery.

"As a result, we've ended up with a mixture of systems that might ordinarily obstruct the re-use of our data in new projects. With ETI•EXTRACT, this disparity is no longer a barrier to integration, because we can simply point ETI•EXTRACT at the new database and data structure and it will generate the code to enable us to access whatever data we need."