

anglianwater

Mobile solution for a mobile workforce



Company Overview

Anglian Water is the largest water company in England and Wales by geographic area, covering a region that stretches from the Humber to the Thames estuary and then from Buckinghamshire to Lowestoft on the east coast.

They operate 1,257 water and wastewater treatment works, supplying 6.3 million domestic and business customers in the east of England and Hartlepool.

The UK population has grown by 20% in the last 20 years but Anglian Water still provide the same amount of water today as they did in 1990 – almost 1.2 billion litres every single day. This has been achieved largely as a result of minimising leaks and encouraging water conservation with their customers.



Background

There are a number of factors driving the implementation of mobile applications for utility companies. Their employees are the epitome of a highly mobile workforce. Service teams and meter installers, for example, spend most of their time working off-site rather than from an office location.

Alongside this, there is a requirement to become more efficient and develop mobile technology to support more sophisticated applications. However, a number of other unique factors have added to the pressure on UK water companies to improve their mobile applications.

In 2011, English and Welsh water companies became responsible for many more sewerage and waste water pipes. Overnight, their pipeline increased by nearly 70%. Whilst most water and sewer companies responded by using small, local subcontractors to help maintain damaged drains, Anglian Water decided to handle the majority of this work itself using its own Field Engineers.

In 2010, the UK water regulator Ofwat introduced the Service Incentive Mechanism (SIM) to reward utility companies who provided good customer service while punishing poor performers.

Ofwat carry out customer satisfaction surveys and use the results to create a league table of overall company performance.

The British Standard PAS 55 – which promotes excellence in managing assets – is also becoming increasingly important to water utility companies in England and Wales.

Ofwat requires that each water company demonstrates a commitment to monitoring and recording asset condition and performance. To achieve PAS 55 or the related ISO 55000 accreditation, utility companies have to enable field engineers to actively update information while still in the field.

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Project Overview

Anglian Water began their Operations Management Centre (OMC) implementation in May 2004, and by November 2006 all the infrastructure and IT was in place, allowing the business to push ahead with plans to adopt a mobile solution.

This was achieved through the use of SAP Mobile Asset Management for Utilities (MAU) with SAP Mobile Interface (MI), allowing 1,200 field workforce to communicate with the backend system remotely, passing real-time data from customer visits into their SAP system.

The mobility platform for Anglian Water Services continued to evolve over a number of years, and inevitably saw the creation of a number of disparate solutions across the business.

Complex business and regulatory requirements, increasing future demands, current scalability and performance issues, the need to meet the IS strategy, and ever-evolving IT technologies, all contributed to the requirement for the mobile solution to be developed further.

Anglian Water required a mobile solution that could accommodate all types of field-working, was flexible to changes in its operating model, would support the use of contractors, and enable the delivery of operational efficiencies.

In 2011, Anglian Water commenced the rollout of the new SAP Sybase Unwired Platform (SUP) to achieve these objectives.

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Experior Solution

- Functional (Mobile) Testing
- Performance (Mobile) Testing
- Testing Tool Mobilisation
- Regression Pack Creation
- Test Management



Love Every Drop

Long-term access to secure supplies of water is one of the most pressing environmental and economic challenges the world faces today, and getting to grips with that is not something that can wait until tomorrow. Anglian Water's Love Every Drop campaign is leading the way in changing how society interacts with water today to ensure there's enough for us all tomorrow. Getting everyone to appreciate its real value – its place in the environment, its contribution to health and wellbeing, its use and disposal – is a step-change that requires new thinking and greater cooperation.

The last few years have provided plenty of evidence to show how our climate is changing. We have recently seen the driest conditions for nearly a century, leading to drought across much of the UK. This was followed by one of the wettest summers on record and the most changeable weather conditions in over 25 years. Meanwhile, the global water crisis remains serious, with demand expected to increase by over 30% between now and 2030.

Anglian Water are passionate about their Love Every Drop campaign and, since its launch in 2010, initiatives have involved customers, communities, retailers, manufacturers, government ministers and employees. They have taken on the challenge of being seen to lead by example, becoming a founding sponsor of the University of Cambridge Programme for Sustainability Leadership (CPSL), working alongside government departments, non-governmental organisations, regulatory bodies, trade unions, private companies and academia in three closely connected working groups. Together, they are harnessing the power of collaboration to develop new ways to supply and use water sustainably, driving innovation and change throughout the industry.



Why Experior

Anglian Water led the way as one of the first organisations to implement SUP in the UK. However, moving to a SUP platform meant embarking on a huge change and with this came additional complexities.

As well as providing a smooth implementation, ensuring optimal performance was also a critical requirement. Testing these new technologies required a fresh approach, outside of the

traditional scope. Experior was the only vendor that was identified as being capable of delivering the required knowledge and expertise in this area.

Implementation

Performance testing for Anglian Water challenged traditional testing techniques. Testing a new technology always requires an innovative 'outside the box' approach and the Anglian Water SUP implementation project was no exception.

Initial testing focused on the company's main operational scenarios and enabled us to robustly test the performance of the SUP and Afaria servers.

We used the following scenario to simulate the expected peak and stress loads onto the SUP server, using HP LoadRunner to monitor degradation against the established baseline.

75 users completing an average of one order per hour, whilst simultaneously two users were running over 3G and GPRS.

Due to the nature of the client application LoadRunner was unable to recognise the client front-end during recording, couldn't interpret SUP compression/encryption and additionally saw only one instance where the application could be opened for execution on a single device.

As a result, scripting was focused on the capture and posting of the HTTP messages that sit behind the client front-end. These messages, from one client to the server were replicated in order to process the different work orders for each of the five business areas.

The LoadRunner Controller was used to control and monitor the load to ensure the load profile was realistic.

Additionally, in order to launch multiple applications at once, we hosted the application on a Citrix server. Alongside this, we also developed a Visual Basics script to enable testing of the Afaria server's performance.

Mobility is not just about connecting to the system, but connecting complete business networks – back office, field staff and customers via mobile devices. A challenging project for the team, we developed a structured testing methodology and governance across the entire project.

This innovative approach ensured the new application performed to the required load, guaranteed a good user experience, provided confidence and reliability, and facilitated a smooth Go Live.

Benefits

- Business-critical issues which would have rendered the system unviable were identified and fixed before Go Live
- Opportunities to increase system performance were identified and actioned, optimising Total Cost of Ownership (TCO) by eliminating the need to purchase additional servers
- Under-performing components were identified, enabling tuning or additional hardware provision to be sourced, preventing critical issues from arising
- Efficiencies in both testing time and costs were achieved from robust, structured performance testing with reusable test structures providing additional future governance
- Ease of use and reliability gave Field Engineers confidence in the system, enabling them to make a positive impact from day one
- Greater workforce productivity. Faster, more informed decisions at point of action led to more responsive customer service and satisfaction

Future plans

Predominantly flat and rural, Anglian Water's region is the driest in the UK and has one of the faster rates of housing growth. The effects of climate change and regional growth combined will create a major challenge to maintaining water supplies.

Between now and 2015, Anglian Water's plans include:

- Investing £1,224 million on maintaining and improving their current assets, from pipes and meters to treatment works
- Making further improvements to water quality and customer service, including reducing the risk to customers of losing water supply
- Spending £267 million on environmental improvements to increase protection for the plants, animals and habitats in their region
- Meeting the needs of their growing region by providing 145,000 new homes with a water supply and allowing for 180,000 properties to connect to their sewerage network
- As a result, the utility company is making plans for improving its infrastructure well in advance to anticipate change, and to enable services to be maintained and improved



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