

Case Study: Penetration Testing



Northumbrian Water: Instilling Trust

Northumbrian Water Limited serves a population of 2.6 million people in the north east of England with water and sewerage services and 1.8 million in the south east of England where it provides water services trading as Essex & Suffolk Water. It has recently been awarded with the prestigious Queen's Award for Enterprise in the category of Sustainable Development.

Northumbrian Water Limited (NWL) employs about 3000 staff, the vast majority of which are Information Technology (IT) users. The organisation has a considerable IT infrastructure and its customer systems support 3.5 million customers in the North East of England, Essex and Suffolk.

Security plays a big role within Northumbrian Water Limited. Maintaining a good reputation is one of its core values. The Information Security department within NWL works hard to maintain a high level of security throughout its infrastructure. If data is secure and handled correctly, customers can continue to have confidence in NWL and trust the company with their personal information.

Ensuring customer data is secure

Tony Smith is the Information Security Co-ordinator at NWL. As part of his role, Tony co-ordinates the technical team and liaises between suppliers and third parties to ensure the security of the company's IT infrastructure.

Each year, NWL carries out an external penetration test on its network. There are two main drivers for this. In the first instance, testing acts as a sanity check for the IS department and ensures that their defences are functioning correctly. Secondly, independent testing provides assurances to the external financial auditors of the system's security and robustness.



Customer:
Northumbrian Water Ltd

Website:
www.nwl.co.uk

Industry:
Utility

Profile:
Northumbrian Water Limited commissioned the help of information security consultancy Sapphire to carry out a vulnerability assessment on their network; an annual recommendation by the auditors of their financial systems and a regular exercise carried out by the IS team.

Services:
Penetration Testing



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Sapphire Service:
Penetration Testing

External testing is key for any organisation when determining the risk to an organisation from external threats. The objective is to identify, but not exploit, potential weaknesses in the security system. In addition to its annual test, NWL also carries out internal testing on a regular basis to test any new systems that have been implemented or any applications / systems that have experienced significant changes.

As part of NWL's procurement procedures, the IS department went out to tender. During the tendering process, one organisation stood out against its competitors; Information Security Consultancy, Sapphire.

"Sapphire's tender was very detailed and it showed us that a lot of thought and effort had gone into producing the final document. Before providing a response for the tender, Sapphire's consultants had a scoping call with our staff; during which, they were very thorough and were keen to understand our need and the environment that we work in," said Tony Smith, IS Security Coordinator, Northumbrian Water Ltd.



The Sapphire quotation was within NWL's budget for the exercise. Northumbrian Water Limited had used Sapphire previously for different consultancy services, but alternates its providers for penetration testing on a regular basis to maintain the integrity of the tests.

After having notified Sapphire of their success in the tender process, NWL requested that the test was completed within a short period of time. Sapphire worked closely with the team at NWL, set realistic expectations with regards to timescales from the offset of the project and always maintained a communication channel with the IS team at NWL.

Tony comments, "We found Sapphire to be very proactive and mindful of the impact the assessment would have on the organisation. I have worked with Sapphire previously and have a good business relationship with their staff. I believe that Sapphire is a 'value add' partner; always willing to go the extra mile to ensure that the customer is happy."



Sapphire provided Northumbrian Water Limited with a CESG CHECK penetration test. The IT Health Check Service, or CHECK, was developed by CESG to enhance the availability and quality of the IT health check services that are provided to government in line with HMG policy.

It was an NWL requirement that the organisation that carried out the vulnerability assessment was certified to either CESG CHECK, CREST or the Tiger Scheme. They wanted the tester to be certified so that there was an assurance that the tester had a formal qualification and maintained its knowledge level.



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When carrying out the assessment, Sapphire's consultant worked closely with the network team at NWL to ensure that they were fully aware of the impact of the assessment on their network.

"When we had an issue during the test, Sapphire's consultant had a genuine interest in trying to understand exactly what had occurred and helped the team at NWL to resolve the matter, said Tony.

"This was refreshing as in the past we had similar experiences with other suppliers who were happy for our team to resolve problems internally if it was not anticipated as part of the original scope. Overall, we were extremely happy with the service and deployment time from Sapphire."

NWL feel that they have benefitted from carrying out annual assessments of their network. Not only does the testing provide them with an assurance that they are doing the right thing, but it also gives them confidence that the third parties they work with are able to manage their systems correctly and carrying out the correct security measures.

When asked if they could quantify the benefits, Tony Smith commented, "We use our yearly assessments as a benchmark to measure against and improve on. Year-on-year we have seen a reduction in the number of vulnerabilities highlighted during our annual penetration test. This shows us that we are continuously building on and improving the security of our network."