



cardium solutions

CASE STUDY

AES

Active Directory Replication and Data Collaboration using VPN Technology





Executive Summary

This is a brief overview of the approach taken by Cardium Solutions to implement an Active Directory replication strategy and method for sharing data for a number of satellite offices using a broadband ADSL connection.

Client Profile

AES (Analytical and Environmental Services) is a leading environmental company providing a wide range of high quality monitoring, analysis and technical consultancy throughout the UK and Ireland. The company employs over 300 people from a network of locations including extensively equipped UKAS accredited laboratories and is part of Northumbrian Water Group plc.

A number of the satellite offices only serve a small user base and in the past had limited requirements in terms of sharing data. As part of a greater Windows 2003 migration project, new requirements were outlined and an approach devised to enhance the capabilities at these offices.

Project Objectives

The objectives were to allow satellite offices the capability to replicate the Active Directory, provide data access to and from other AES sites, replicate Lotus Notes databases and allow specific users web access. The solution should also offer security for each of the sites given their direct connection to the Internet, and also to the data being transmitted across it.

It was proposed that this be implemented alongside the Windows 2003 migration work in order to minimise disruption at each of the sites. This involved very tight timescales in which to implement the solution at each of the sites.

Deliverables

- Business broadband ADSL installation and configuration at designated satellite offices and AES's head office
- Dial-on-demand routing solution to allow Active Directory and Lotus Notes replication
- Routing to and from corporate WAN in order to allow sharing of data
- Secure firewall implementation at each Internet boundary
- Secure and controllable method of granting Internet access to satellite site users through the broadband connection
- VPN access for home users and support staff



Project Approach

It was agreed that the broadband ADSL solution would be the most suitable approach for the sites involved. With a small number of users at each site, a basic business broadband solution would prove extremely cost effective. Also it was understood that uninterrupted access wasn't of the highest criticality, i.e. any problems with the broadband link would not have a significant impact to the business. As a fallback, a number of sites already have an existing ISDN dial-up solution which would be retained.

Cardium suggested that the solution be built in a proof of concept environment beforehand in order to thoroughly test the solution prior to implementation. This would also assist in meeting the tight implementation schedule.

Project Implementation

The first step was to draft a design for the solution based around earlier discussions with regards the approach and requirements. The solution was to be based around a single server utilising Windows 2003 RRAS (Routing and Remote Access Service) for demand-dial routing and VPN access. Additionally the server would be host to Microsoft ISA Server, which would provide the necessary security for the Internet connection both inbound and outbound.

Once the draft design was in place the following steps were taken to test and refine the solution where required. The process was documented early on and used as a template for the actual implementation.

- Specify additional Server hardware required for satellite offices
- Commission and configure broadband ADSL connections at the head office site and satellite offices
- Install and configure a Windows 2003 Server with RRAS and ISA Server at the head office to serve as hub for the satellite office VPN connections
- Install and configure a Windows 2003 Server with RRAS and ISA Server in Cardium's proof of concept environment
- Configure RRAS and ISA Server and test Active Directory replication, access to data and routing over a VPN connection
- Once the solution was tested then build and configure any remaining servers for the other satellite offices and document

Once the testing was complete, the servers were then ready for shipping to each of the satellite offices. The only changes to the configuration would involve matching the ADSL and TCP/IP configuration to match the site, which was fully documented.



Project Conclusion

This solution had its complexities and wasn't without issues during the initial configuration. However solutions were found promptly and comprehensively tested before visiting the sites involved. This combined with building each of the sites servers in advance ensured that the solution was commissioned quickly and without any problems.



Notes

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