



Cardium Solutions
IT CONSULTANCY & SOLUTION PROVIDERS

CASE STUDY

Essex and Suffolk Water

NetWare to Windows NT 4.0 Migration





Project Overview

This work originates from the merger of Northumbrian Water, and Essex and Suffolk Water and the requirement to merge two distinct server networks.

Client Profile

The Essex and Suffolk user base is centred around four major sites: two in Essex and two in Suffolk. These sites are head office and operational locations.

The existing infrastructure comprised Novell NetWare 3.12 servers and Windows NT 4.0 clients using the Novell client software.

The Northumbrian Water operation is based at Pity Me, near Durham. The infrastructure in the Northumbrian locations is based around Windows NT 4.0 server and NT 4.0 client and Cardium Solutions had already implemented this environment.

The Northumbrian locations also utilise SMS 1.2 for management and support tasks the Essex locations used Proxy for remote control functions only. SNMP management tools are also used within the Northumbrian locations.

The requirement is to adopt the network operating system and configuration standards already established at the Northumbrian installation and to apply them to the existing systems installed at Essex and Suffolk. As all machines have locally installed software, a re-installation of the client and re-applying software was not an option (due mainly to time constraints), this was the procedure that had initially been used at Northumbrian water.

This workstation profile comprises approximately 650 desktop and 100 laptop machines.

Project Objectives

- Identify requirements for new servers in terms of hardware specifications
- Configuration and installation of NT4.0 servers
- Migration of users and data from the NetWare Servers to the NT4.0 Servers
- Migration of Workstation
- Implementation of SMS2.0

Project Approach

Server

New hardware based on the current Compaq ML and DL ranges was identified in the initial scoping of the migration. This range will allow for an extended life span based on information provided to us by Compaq.

New servers were installed at each of the four Essex and Suffolk sites. The capacity of these installations was assessed by the infrastructure roles required at each location: such as SMS functions, WINS, DNS, DHCP, profile location, and data location. Together with the number of clients located at each of the sites, the type of applications utilised and the amount of existing data to be migrated

The servers were installed as a part of the Northumbrian single domain model. Consequently a backup domain controller was installed in each of the four sites which ensures that authentication traffic occurs locally rather than over the WAN

The servers were installed, by Cardium's Compaq Accredited System Engineers using Compaq's latest range of rack mounted machines. This results in a compact, expandable and easy to maintain server infrastructure.

To minimise the interruption to the user community the migration from the NetWare to NT servers was undertaken in two stages.

- The first phase, the data migration procedure, was controlled using the Microsoft NetWare migration tool to move the users and data to the NT 4.0 domain controllers and servers. However, the limitations of this tool dictated that additional installation and post migration steps were implemented into the migration process to ensure accurate file and account security was maintained.
- The second phase involved the modification of the users NetWare login scripts to point the users at the data on the NT 4.0 servers. The clients at this point were unchanged; users still logged on using their existing NetWare client and their existing user accounts and passwords. Because of this it was possible to control access to the new NT servers using modified NetWare logon scripts and users were therefore unaware that they were accessing their data on the newly installed NT 4.0 servers.

Using this approach allowed continued access to the file and print servers whilst the migration process was underway. Once workstations were migrated a new NT based logon script was in place to control drive letter assignments according to the Northumbrian Water clients standards. Once a site had been completely migrated and no users were accessing the NetWare servers, these servers could be de-commissioned.



Workstation Migration

This was achieved whilst maintaining existing Essex and Suffolk user names and security information. The changing of logon names (to the Northumbrian standard) at the time of migration was considered to be too great a risk, as the Essex and Suffolk naming convention for accessing other platforms (mainframe and Unix) would still be in place and would be confusing to the user population.

New printers were created using the existing naming standard employed by Northumbrian Water.

An unattended migration script (written in SMS Installer) migrated the client from the NetWare environment to the existing Windows NT environment. The use of an unattended script means that several migrations can be started by one engineer, thus cutting down the cost/time of the migration. The engineer is required to make minor configuration changes for the user whom the machine is being configured for, approximately 10 minutes per user – which involves setting up printers etc. The use of roaming profiles ensures that this configuration only occurs once.

The workstation migration process included the following key steps:

The engineer is asked to supply the asset number of the machine, the location and user the machine is to be configured for. From this point the following steps are performed completely unattended including any system reboots required to implement any of the changes.

- *Set the NT Boot countdown time to 5 seconds*
- *Removal of all network protocols except TCP/IP*
- *Removal of Novell NetWare client for NT*
- *Removal of legacy management software and Internet client software*
- *Adoption of workstation naming standard*
- *Conversion of the file system to NTFS*
- *Joining the Northumbrian Domain*
- *Installation of Microsoft Office Service Release 2a*
- *Installation of Internet Explorer (Service Pack 2)*
- *Installation of additional Y2k compliance data access components MDAC Allow users to set the system time at logon via a logon script*
- *Installation of the SMS 2.0 client software*
- *Copied the local user profile to the network so that the profile will roam.*
- *Set the path for the new location of lotus notes files (moved from f: to g:)*
- *Hide the client from the browser*

SMS 2.0

The use of SMS 2.0 was also adopted to work alongside the existing 1.2 installation at Northumbrian water. The client software installs automatically as part of the migration script and allows functions such as asset management (hardware and software inventories), software distribution and remote desktop control to be managed centrally using a standard interface. The implementation of SMS 2.0 at Essex Water allows the combined companies to analyse the benefits of SMS 2.0 over SMS 1.2 and to make a decision when to migrate the SMS 1.2 environment in Northumbrian Water to SMS 2.0. A primary site was installed at the major location at Hanningfield and three SMS secondary sites deployed to the other remote locations. Once the migration of the SMS 1.2 site has been completed within the Northumbrian offices the Primary site at Hanningfield will be configured as a child site of the SMS 2.0 server at Pity Me. This will enable full asset reporting and control from one location.

Project Conclusion

Project Outcome

Over a period of six weeks 750 workstations were successfully updated. The failure rate for this installation process had been projected as 5%. However the actual failure rate achieved was significantly less than 2%. The recovery plan for failed installations quickly allowed these workstations to be reinstalled.

The project timescales were also achieved, due to the reliability of the installation script and the ability to perform the migration process at a time suitable to the affected users.

Client Feedback

Post completion Cardium always undergo a project closedown meeting obtain feedback from the client.

AWAITING FEEDBACK FROM THE CLIENT.

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