



Cardium Solutions
IT CONSULTANCY & SOLUTION PROVIDERS

CASE STUDY

Northumbrian Water Ltd

SMS 1.2 to SMS 2.0 Migration



Project Overview

This is a brief overview of the work undertaken to complete an SMS 1.2 to SMS 2.0 migration at Northumbrian Water Ltd. The finer details can be discussed individually, or we can advise on individual cases separately as no two SMS deployments are identical.

Client Profile

Cardium Solutions provided this service between February and April 2001. Northumbrian Water had implemented SMS 1.2 some four years earlier as part of a NetWare to NT 4.0 (server) and Windows 3.11 to NT 4.0 (client) migration, to provide asset management and software distribution. More recently NWL had merged with Essex and Suffolk Water (Cardium Solutions have a case study available for this project), and along with the requirements to integrate ESW into the NWL domain, SMS 2.0 was deployed so that a complete understanding of the benefits of the new product could be made in a "new" environment. NWL could then review the benefits of SMS 2.0 impartially and decide when and if to migrate the NWL systems to SMS 2.0.

Project Objectives

The scope of the project was to migrate the SMS 1.2 systems to version 2.0 of the product. NWL had one SMS primary site and nine secondary sites. There are several issues that need to be overcome when migrating SMS 1.2:-

- Issues with duplicate SMS ID's generated when cloning machines (using products such as ghost).
- The SMS client software will **NOT** seamlessly upgrade. Although some agents will install correctly, the remote control functionality within SMS 2.0 will not install if SMS 1.2 remote control is installed on the client.
- Requirement to upgrade the SMS database to SQL 7.0.
- A decision was taken not to upgrade SMS 1.2 to SMS 2.0 which left two options:-
 - Whether to remove the existing SMS 1.2 system and replace with SMS 2.0 which provided the following additional issues:-
 - All clients would become "orphaned" and could not be managed.
 - Any software packages would need to be re-created.
 - No remote support would be available whilst the migration was taking place.
 - How could we remove the SMS 1.2 software from 1,000 PC's at nine locations when SMS was not available to do it.
 - Whether to run both SMS 1.2 and SMS 2.0 in parallel which provided the following additional issues:-
 - New hardware would be needed and some use for the SMS 1.2 hardware would be required once the migration was complete.
 - SMS components at remote sites were installed on domain controllers that could not be easily replaced.

Project Approach

Based on the information we already knew about the use of SMS 1.2 at NWL and the client install base, and also the fact that there was no funds available to spend on new hardware, we decided to perform the following steps

Server Environment

We decided to remove all SMS 1.2 server software at nine secondary sites. We would then attach to each site and check that no SMS 1.2 software, registry keys, or shares were installed and if they were we deleted them as needed. SMS 1.2 software and SQL 6.5 would then be removed from the SMS Primary site server. An excel spread sheet was used to export pertinent information from the database and could be used to compare new information in the SMS 2.0 system with old information gathered in SMS 1.2. Once this process was complete the clients were effectively orphaned and could not be managed by the support staff. We would then reproduce the SMS environment (no **major** design changes were required in this case) using SMS 2.0. At this point it was important to install the new SMS 2.0 client software as quickly as possible

Client Environment

We decided to use the schedule service that is available with NT 4.0 workstation. To migrate the clients we created two SMS installer scripts that performed the following:-

Script1

This script would ask for the machine that was to be updated (this information was available both from the SMS excel extract and from Server Manager). The script would:-

- install script2 on the machine
- change the start-up parameter for the schedule service to start with a domain account
- add script2 to be started at a specific time (via the schedule service) entered as a parameter passed via a graphical user interface (GUI).
- log the machine name and time that the client was scheduled to install the SMS 2.0 client.

This would allow us to spread the time when machines would start installing the SMS 2.0 client software overnight.

Script2

This script was launched at a specific time overnight. This script would:-

- Configure the system to auto-logon with an administrator account and to run the SMS installer script at logon.



- Stop all SMS 1.2 services
- Remove all SMS 1.2 files
- Stop the Package Command Manger Service
- Remove all Package Command Manger Service files
- Remove all SMS 1.2 services
- Restart the NT 4.0 system re-launching the SMS installer program
- Check all files and services had been removed – if not this process was attempted again and the machine restarted.
- SMS 2.0 was installed on the client.
- The script checked that SMS was installed – 15 minutes was allowed for this before the NT 4.0 system was restarted. Once SMS 2.0 was installed the system would reboot itself
- The schedule service was set back to logon as a system account and the autologon and run statements removed the registry
- Each step was logged to a log file which could be used to troubleshoot any installation problems

Results

We piloted the client scripts on several different machines that were available locally and made any fine adjustments to the scripts as needed. NWL communicated with all their staff stating that machines should be left switched on (but logged off) overnight until further notice. We initially rolled out SMS 2.0 client software to local systems that we could easily access if there were problems. Once we were happy with the upgrade script, we targeted clients at sites that were the furthest away from the support staff, as these were the most vulnerable should the support staff need to troubleshoot a particular machine. Local machines were targeted last.

Most issues were caused by users not leaving machines switched on overnight which meant that many machines had to be targeted for upgrade more than once – however this was more preferable than the migration script starting when the user switched the machine on in the morning. Several emails to users eventually left NWL with some 50 or so machines that had not been upgraded (out of approximately 1000). This was put down to machines where the user was on holiday, illness etc.

To ensure that SMS was installed on all machines, the login scripts used by SMS at NWL were changed to KIX scripts. This allowed us to check whether the SMS 2.0 client was installed – if it wasn't the user was informed that they needed to contact the support desk to get SMS installed. The user was only allowed five logons to the machine without SMS being installed – each time they were warned. Once they had logged on a fifth time they were told they had to call the support desk and the machine was logged off. The support desk would schedule the upgrade program to immediately run on these machines.

Project Conclusion

Cardium solutions migrated the SMS 1.2 to SMS 2.0 environment in 15 days. This included removing all SMS 1.2 server software at nine sites, installing SMS 2.0 software at nine sites, removing SMS 1.2 and installing SMS 2.0 on approximately 1,000 clients. A great deal of up front development was performed on creating the migration scripts and checking the SMS 1.2 server components removal.

Although this up front work was time consuming it meant that there was only a few minor modifications required to the installer scripts that removed the SMS 1.2 client software. Ensuring the installer script was robust was paramount as the clients were effectively orphaned from any type of systems management, and some of these clients were at locations over 100 miles from the support centre.

Client Feedback

Post completion Cardium always undergo a project closedown meeting obtain feedback from the client, shown below is the clients comments;

Awaiting client feed back.

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