Cardium Solutions
IT CONSULTANCY & SOLUTION PROVIDERS

CASE STUDY

H.J. Heinz

Infrastructure Integration of Frozen and Chilled Foods Division

making it easy

Microsoft GOLD CERTIFIED Partner

Project Overview

When HJ Heinz acquired the Frozen and Chilled Foods business from United Biscuits, they faced the challenge of integrating two highly developed but quite different desktop IT infrastructures: their own based on Microsoft technology and FCF's on Novell and Lotus. Cardium Solutions' brief was to design and implement a new Desktop IT infrastructure for the acquired business, compatible with HJ Heinz's own, using Microsoft Windows NT, Exchange and SMS 2.0.

Timescales were tight, as the whole project had to be completed within the first year of Heinz's ownership of the business. By the time the project started, this meant that it needed to be completed in 9 months.

Working as part of a programme dealing with all aspects of the business integration, Cardium undertook the project in 3 carefully managed phases:

- In phase 1, the solution was designed and developed in a test environment, culminating in a full formal system test.
- Phase 2 consisted of a pilot implementation covering all 70 users on one site.
- During phase 3, the solution was rolled out across the remaining 6 locations, involving 700 staff.

The design and development phase treated the project as a number of technical streams, allowing Cardium to put specialist consultants in charge of different aspects of the project:

- The design of Windows NT Domains, integrated with the existing Heinz domain model, covering servers at 7 locations.
- Systems Management, using Microsoft SMS 2.0, allowing desktop management and software distribution across all locations.
- Messaging for all 7 locations, using Microsoft Exchange, including migration of mail from the old Lotus Notes system.
- Data and user migration, from Novell to Windows NT.
- Development of new standard desktop and portable workstation configurations, using Windows NT Workstation 4.0.
- Testing and SMS packaging of 150 legacy desktop software applications, which previously ran under Windows 95.

The project was highly successful, completing ahead of schedule and within 1% of the development and implementation consultancy budget estimated by Cardium Solutions at the beginning of the project.

Background

H. J. Heinz acquired the Frozen and Chilled Foods business, including 700 staff, a head office and 6 manufacturing sites, from United Biscuits in December 1999.

United Biscuits agreed to continue to support the FCF desktop IT infrastructure, based on Novell NetWare and Lotus Notes, for 12 months from the completion of the sale.

H. J. Heinz decided to use this period to migrate the desktop over to its own standard, based on Microsoft Windows NT and Exchange.

This project was initiated to develop the new infrastructure and migrate the user base over to it.

Project Organisation and Personnel

Organisation

A Project Steering Group was formed, comprising Senior members of Heinz's IT Management, plus the delivery managers for the 4 key strands of the project:

- "Design and Build" of the server infrastructure and workstation builds
- Communications and Networking
- User Roll-out, including training and staff communication
- Desktop Support

The Steering Group met monthly and all delivery managers reported in writing fortnightly.

Cardium Solutions was put in charge of the Design and Build strand, which was the most complex, comprising:

- Windows NT Domain Design
- Messaging design and implementation, using Microsoft Exchange including migration of mail from Lotus Notes
- Systems Management design and implementation, using Microsoft SMS 2.0.
- User-information and data migration from Novell NetWare to Microsoft NT.
- Standard Workstation Builds, using Microsoft Windows NT 4.0.
- Testing of 150 user applications under Windows NT 4.0 and packaging for distribution by SMS.

Personnel

Key personnel on the project were:

Position	*Person*	
Project Sponsor	Isobel Thomson	European IT Director, H. J. Heinz
Project Director	David Mengham	H. J. Heinz
Project Manager	Mike Bates	Heinz Frozen and Chilled Foods
Delivery Manager – Design and Build	Mike Hodges	Cardium Solutions
Delivery Manager – Communications	Chris Middlehurst	H. J. Heinz
Delivery Manager – User Roll-out	Keith Stoneman	Heinz Frozen and Chilled Foods
Delivery Manager – Desktop Support	Tony Lyons	Heinz Frozen and Chilled Foods
Technical Design Authority	John Wilcock	Cardium Solutions

Project Approach

Timescales

Contractual agreements between H. J. Heinz and United Biscuits meant that both parties were keen for the HFCF infrastructure to be independent of United Biscuits by the beginning of December 2000.
The project started in late February 2000, giving the project team 9 months to complete. This was long enough to allow a proper development cycle to be followed, but short enough to mean that the scope for slippage was small.

Phases

The project was undertaken in a series of phases:

- In phase 1, the desktop solution, including all server and workstations builds and migration procedures and interfaces, was designed and developed in a test environment, culminating in a full formal system test. Deliverables from this phase included build instructions for all server and workstation types and configuration instructions for all components, including Exchange, SMS and the Lotus Notes Gateway.
- Phase 2 consisted of a pilot implementation at the HFCF Pizza factory in Grimsby, where San Marco frozen pizzas are made, covering all 70 users on the site. Following the pilot, the builds and configuration instructions were reviewed and minor amendments made to address issues raised during the pilot.
- During phase 3, the solution was rolled out across the remaining 6 locations, involving 700 staff. Implementation at each site took place over a 4 week period, starting with the installation and testing of the infrastructure, followed by migration of user information and data and rebuilding of all workstations to the new standard and ending with the migration of all shared data and decommissioning of the redundant NetWare and Lotus Notes servers. User training was performed in parallel with the roll-out, so that staff returned from their training course to find a newly reconfigured system awaiting them.
- Finally, after roll-out was completed, a review meeting was held that identified issues and activities left outstanding. Each of these was assigned to an owner and the outstanding tasks were completed before the end of the year.

Each phase was planned in detail, with constant communication between the teams responsible for each strand of the project.

Technical Streams

Because of the complexity of the Design and Build strand of the project, it was split into a number of separate technical streams, covering each of the major technical areas. In each stream a Technical Consultant took overall responsibility for that aspect of the solution, working with other team members as and when necessary.

The Technical Streams were:

- The design of Windows NT Domains, integrated with the existing Heinz domain model, covering servers at 7 locations.
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- Messaging for all 7 locations, using Microsoft Exchange, including migration of mail from the old Lotus Notes system.
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This approach ensured that real expertise was applied in every area of the project.

Risk Management

Early in the course of the project, a number of risks were identified that could cause failure or delay of the project. For each case, tasks were identified that would avoid or protect against the risks and these activities were closely monitored during the course of the project.

Technical Challenges

Integration Design

Domain

The domain design needed to allow for:

- The existing H. J. Heinz Windows NT 4.0 domain
- An existing Europe-wide domain integration and standardisation programme
- Longer term plans to migrate to Windows 2000

TCP/IP

Although the primary protocol used by FCF was IPX, TCP/IP was used extensively for access to host systems and for file transfer purposes. As Heinz used TCP/IP as their main protocol there was a need to bring the FCF sites into line with the Heinz IP standard. Not surprisingly this involved assigning a new network ID for each of the FCF sites and the tight management of both networks during the migration process.

Messaging

Messaging integration raised a number of issues:

- The existing H. J. Heinz Microsoft Exchange design would not cope with the additional load of the newly acquired business. It was necessary to implement a new “messaging backbone” as a preliminary stage of the project.
- As part of the migration, FCF staff’s existing mail in Lotus Notes needed to be converted into Exchange folders. This was done using the Exchange Migration Wizard with Excel macro processing, supported by robust administrative procedures.
- During the migration, the Microsoft Connector for Lotus Notes was used to ensure uninterrupted communication between Heinz and FCF staff, regardless of whether they were using Lotus Notes or Exchange.

SMS

Heinz were already using SMS version 1.2 at some of its UK offices and there was a strong desire by Heinz management to extend the use of SMS.
SMS 2.0 was chosen for the FCF integration project, but an integration and migration strategy was required to support co-existence with the existing SMS 1.2 servers and their future conversion to 2.0 systems.

Standard Desktop

Heinz were already using a robust standard NT 4.0 desktop build for deploying their estate of HP Vectra / Omnibook workstations throughout the UK. A similar build was required for the Dell based PC's used within FCF. It was decided that the Heinz standard build and deployment process should be further developed in the following areas:

- Fully automated installation and configuration of the desktop
- Reduction of the number of core applications
- Inclusion of Active Directory Services Interface ADSI
- Roaming support for Exchange client
- Batch login scripts replaced with Windows Script Host

The workstation hardware for rollout was limited to 6 models of machine, 4 Dell models (existing hardware for conversion) and 2 HP Models (for replacements where hardware spec fall short of minimum).
Client deployment and configuration was automated using Norton Ghost / VB Script / NT resource kit utilities.
The deployment automation allowed for consistent and speedy rollout using a small team of rollout engineers.

Standard Site Infrastructure

A standard site build was established based on existing Heinz NT server build standards. Each site was supported by 3 NT servers and could be categorised as follows:

- Infrastructure – Provision of user logon services / DHCP Server / SMS Site / Workstation Build
- User Data – Main data store / User Profiles / Backup Server
- Messaging – Exchange Mail

Application Packaging and Distribution

The FCF business used around 150 business applications, all of which had previously been packaged for Windows 95 delivery via Novell ZenWorks.
Most of this software was new to Heinz, and therefore needed to be validated against NT4.0 and packaged using SMS installer for delivery to the standard NT4.0 Desktop.
Following the technical work the software was delivered via SMS into a User Acceptance Testing environment for sign off via the business.

Migration Planning

As expected the acquired business had a considerable amount existing data. This was held primarily on NetWare file servers and Lotus Notes Mail servers. A significant amount of this data was essential business data that was shared amongst users and departments.
It was calculated that the users could be migrated at the rate of 16 per day based on the need to replace or rebuild their desktop and to undertake training on the new software. Three hour windows would be provided during which users would under go training and have their desktop converted and their mail and data migrated.
The migration strategy had to provide the following capabilities:

- Achievable within a 3 hour window
- Have a back out capability
- Provide continuous access to data within the site
- Provide continuous access to data at other FCF sites
- Allow ongoing use of EMAIL to both FCF and Heinz
- Preservation of data structures and security

NetWare to NT Outline

The NetWare to NT migration was undertaken in a number of phases:

- Phase 1 – Extract User / Group information from NDS and load into NT.
  - This was performed on a site-by-site basis a number of days in advance of the site conversion. During this process the user names were re-engineered to conform to the Heinz standard and a random unique pass was generated.
- Phase 2 – Desktop migration.
  - Windows 95 desktop replaced with NT4.0, users personal data moved to NT file server.
  - Shared data remained on NetWare and was access via Client Services for NetWare installed on workstation.
- Phase3 – Shared data cutover
  - After all users and desktops at a site were converted the shared business data was moved to the NT file server.
  - The CSNW and IPX components were removed via SMS on all desktops.

The activities detailed above were achieved using VB script / NetWare Migration Tool / robocopy.

Summary

Successful outcome

The project was a complete success. Roll-out was completed the week before the deadline, costs were within budget and user satisfaction was high.

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