

CASE STUDY

BAYLIS LOGISTICS DROPS UNIX® AND WINDOWS® TO INCREASE PRODUCTIVITY WITH RED HAT THIN CLIENT ARCHITECTURE

UK-based Baylis Logistics is an established third-party distribution company operating a nationwide network of seven depots covering in total just under one million square feet of storage space. Baylis lorries move food, liquor, and consumable goods to supermarkets across the country.

The company, which has about 200 operational staff, has experienced tremendous growth in recent years and currently has a turnover exceeding £35million.

Baylis Logistics' legacy IT environment was based on a number of discrete networks at each depot location, with hardware and software duplicated across the seven warehouse facilities. At each depot, operations staff used Windows PCs to access browser-based and telnet applications. When its aging Microsoft Windows and SCO Unix-based IT infrastructure needed replacing, Baylis Logistics turned to LinuxIT and Red Hat to implement a new infrastructure based on a thin client architecture running Red Hat® Enterprise Linux® and centrally managed by Baylis Logistics' own IT support team.

FAST FACTS

Industry: Logistics / Distribution

Geography: United Kingdom

Challenge: Renew aging IT infrastructure based on Microsoft Windows desktops and SCO Unix servers across 7 remote locations with a more manageable solution with improved price/performance.

Solution: Thin client architecture with graphics-based terminals connected to a central server hosting data, operating system, and all applications.

Platform: Red Hat Enterprise Linux

Applications: MySQL, Apache Web Server, Chess warehouse management software, Open Office, Horde webmail, Mozilla web browser

Hardware:

HP 64-bit servers connected to network of 140 HP and Wise thin client terminals

Benefits:

- Reduced management and maintenance time
- Immediate cost savings due to combination of hardware choice and the nature of open source software in terms of licensing
- Extended lifecycle of desktop client assets from three years to 10+ years
- Increased security
- Increased system performance and uptime

OPPORTUNITY

Baylis' IT infrastructure comprised separate, server-based networks at each of the seven sites. Each depot had one SCO Unix server delivering both its core Distribution and Fleet management applications and providing an interface to the company's central MySQL database system, which was used to consolidate data from across the entire company.

From the end-user perspective, the desktop systems at Baylis Logistics were composed of Windows PCs. By 2005, the network of over 200 Windows PCs was not only reaching the end of its short life-span, but also exposing Baylis to very high maintenance costs and increasing risk of infection from viruses. With the PCs primarily used for browser-based and telnet applications and only some operations staff also using email, the majority of users had little requirement for the feature-rich desktop environment of over-specified PC hardware.

Restoring the balance between user requirements and the cost of maintaining the network of servers and client devices was a priority for Baylis.

SOLUTION

Baylis invited IT systems provider and Red Hat Advanced Partner LinuxIT to perform a review of its IT infrastructure in light of the issues it had identified. One of the first companies to become a Red Hat Advanced Partner, LinuxIT offers a complete end-to-end solution, augmenting its hardware and software solutions with the professional services capabilities required to deliver a fully integrated solution. As a UK training partner, LinuxIT is also able to provide post-installation support and training for clients, which are supported by Red Hat.

LinuxIT proposed the implementation of a 'thin client' architecture using the Red Hat Enterprise Linux operating system. This thin client network running off a central server could be managed centrally by Baylis Logistics' own IT support team.

Using a thin client architecture, all users' applications, data, and even the operating system are hosted on a central server, with access provided by a network of thin client graphics-based terminals. With no applications, data, or conventional hardware pieces (hard-drive, disk-drive etc.) residing on the terminal, it is both physically and operationally "thin" when compared to the traditional desktop PC. Consequently, thin client terminals also are significantly less expensive to purchase and have a much longer lifespan than a normal PC (10 years compared to an average of three years for a PC), in addition to being less vulnerable to malware attacks and consuming less power.

LinuxIT and Baylis selected HP hardware based on the powerful 64-bit architecture for the server and a combination of HP and Wise hardware for the thin client terminals. The 64-bit processors also enable the servers to achieve a better application performance.

LinuxIT recommended using Red Hat Enterprise Linux as the operating system for the thin client architecture for a number of reasons. The Red Hat-based thin client solution is highly customizable and much more cost-effective than available alternatives. One of the advantages of the server-based architecture was that Baylis Logistics only needed to purchase a server license, with no additional licenses required for the client terminals. Several of the core applications used by Baylis Logistics had already been migrated to Linux, and a certain level of Linux expertise was available within the company, which assisted migration to the new system.

“Just by switching to the new hardware architecture we immediately saved approximately £9000 at each location, as the thin terminals cost £150 each compared to around £500 for PCs running Windows. These are instant TCO savings before even going live,” said David Kenning, IT Manager at Baylis Logistics. “The other huge savings are of course the reduced number of licenses we had to purchase by going with Red Hat Enterprise Linux, as each session run on the terminals boots from the server, so we only had to spend on the server operating system subscriptions,” added Kenning.

Without any data residing on the user terminals, the system benefits both in terms of security and setup costs. When a terminal is disconnected from the server it becomes useless to a thief and contains no company or personal data. If a terminal becomes faulty, it can very quickly be replaced with another terminal because no time is spent installing software or transferring settings. Another advantage of this user-agnostic environment is that it frees staff from a fixed desk, as they can have the same user experience at any terminal on to which they logon.

Baylis Logistics is now running two servers at each warehouse location, one running the Chess management software and the other hosting the thin client sessions. The servers have failover capability, as they can manage both tasks if one is offline. The servers host all data and processes for the thin client users, running applications such as terminal emulation, Open Office, web-mail, and a browser for web-based applications. The servers also connect to the central, Red Hat Enterprise Linux powered, MySQL database, which is accessible to both staff and clients through an Apache web server.

“Other benefits we are already realizing and expect to continue in the long run are the reduced resources we have to invest in maintenance, support, and security because of the simple fact that Linux is more reliable and secure. This will have a major influence on our business continuity strategy. The combined thin client solution and Red Hat Enterprise Linux from LinuxIT has not only enabled us to make considerable savings on software licences, but also made staff more motivated and satisfied because their computer systems are just so much faster and more reliable. Our IT support calls from operational staff literally dropped to zero. What’s more, the new failover server eliminates the need for tape back-up; we only reboot the server because we think it’s safer to do so, not because we have to. Also, we no longer need to stop all systems just to back-up our data,” commented Kenning.

As multiple applications can be remotely hosted, a significantly lower number of terminals are now required, which in turn has led to reduced administration and acquisition costs. Baylis Logistics was able to reduce the number of terminals it uses from 200 to 140 by consolidating several tasks which normally ran on a number of PCs on to a single terminal. Because all the software is now hosted centrally, the IT support team can more effectively manage maintenance and support tasks, so much so that two IT support staff could be re-distributed to other roles.

BENEFITS

Lower TCO

Baylis Logistics saved substantially by going with the combined HP hardware/thin client architecture and the lower cost of the Red Hat Enterprise Linux operating system in terms of licensing.

Support/maintenance time and cost reduction

The centrally managed thin client system provides a simple environment that ensures users only perform tasks associated with their jobs. This in turn reduces management requirements and increases productivity.

Stronger business continuity for overall operations

The combination of increased performance and reliability of the new Linux IT system and getting back the uptime previously lost on the regular server restarts will enable Baylis Logistics to run its operations smoothly.

Performance gain

By running Red Hat Enterprise Linux on the hardware Baylis Logistics realised significant performance increase that resulted in faster machines across the enterprise.

Seamless software Replacement

As all the applications, data, and user settings are stored on the central server, a faulty client terminal can be replaced with virtually no time wasted reconfiguring the system.

Increased security

Since the thin client terminals are designed so that no application data resides on the client, Baylis Logistics is able to centralize malware protection and increase security of its entire IT infrastructure.

Single point back-up strategy

Because no applications or data reside on the desktop, back-up will be managed centrally, increasing reliability and reducing administrative overheads.

Longer hardware lifespan

A thin client has a longer refresh period than traditional desktop solutions.

