



<gbdirect>

*Case study regarding the project to install a
bespoke email solution at Suffolk College
(affiliated to the University of East Anglia)*

BACKGROUND

Systems integration specialist Total Solution Computing and IT services supplier GBdirect worked together on a major project to install a bespoke email solution at Suffolk College; affiliated to the University of East Anglia.

Total Solution specialise in systems integration, networking and support, with growing capabilities in open source and cross platform solutions. GBdirect is known as a pioneer in commercial open source in the UK, with a reputation for tackling technically difficult problems.

Their complimentary skill-sets enable Total Solution and GBdirect to tackle a wide range of the integration problems, which can occur in mixed Windows and Open Systems environments.

THE PROJECT AT SUFFOLK COLLEGE

The college's considerable population consists of one thousand academic and seventeen thousand student users.

The staff mailboxes were held on a Microsoft Exchange email system, which was proving unreliable and difficult to maintain. Students had little or no access to email facilities.

The requirement was to provide a system that was (1) *scalable*, and (2) *integrated* into the college's existing network with little or no disruption. On the scalability side, it was envisaged that more features would be needed to be added to the college's email system, including secure IMAP access, mailing lists and web access.

Both open source and closed source solutions were considered.

Microsoft Exchange 2000 was the preferred closed source system. However, this solution for a population of some eighteen thousand users, would have been very expensive in terms of client access licenses, hardware and maintenance support.

Cyrus IMAP from Carnegie Melon University was the open source choice. This was chosen for its track record in stability, flexibility and scalability.

The institution already makes extensive use of Microsoft Active Directory Services, although this is principally for site-wide single sign-on, identification and authorisation purposes only. All staff and student data (now to include email) is stored on the college's 4 Terrabyte SAN.

Using Active Directory to obtain authentication means that users of the system don't have to remember a separate username and password just for the email system. Administrators can manage users via the Active Directory service and the Cyrus email system will 'just work' for the users without any obvious seams being visible. Most of the staff users will be using Microsoft Outlook; though a mixture of other email clients are also available. Students also have a web-based email system based on the free Squirrelmail (www.squirrelmail.org).

THE CHALLENGE

The main challenge was to achieve universal email via a single sign on, within a limited budget. This was achieved by using OpenLDAP to perform searches against Windows 2003 Active Directory.

As Microsoft use tight integration between its products as both a selling point and a deterrent against migration to open source. Total Solution and GBdirect needed to demonstrate that a strategically critical service like Exchange-based mail could be migrated without any of the consequences implied by Microsoft.

THE SOLUTION

It was decided early in the project life cycle that spam filtering would be an initial requirement, as the envisaged email use would exceed 50,000 emails a day. In the current email world a high proportion of this would be unsolicited email "SPAM". Spam filtering is provided by the open source package Spamassassin.

The chosen structure for the system was to provide three IBM eServers. One would provide front end Cyrus aggregation services, Postfix and spam filtering, and two back end servers would provide mailbox stores on the SAN, split between staff and students. Attachment to the SAN was provided by Emulex HBA cards via the existing brocade switch.

Total Solution and GB Direct chose to progress with SuSE Linux Enterprise Server, primarily because it provided a very solid platform for Cyrus, which was easy to install and configure.

It also had several other important advantages. SuSE Linux licence fees were exceptionally good value for money compared with proprietary platforms, and because SuSE Linux was open source GBdirect's staff could tweak the source code, should that be necessary. Also, IT staff at Suffolk College were already familiar with SuSE Linux products and comfortable with its YAST configuration system.

User access was authenticated through the high performance, high reliability open source Cyrus IMAP system and LDAP searches to Active Directory. Because Cyrus is open source and implements open standards faithfully, it was possible to simply substitute the most expensive and unreliable component of an apparently integrated Microsoft system (i.e. the Exchange server), without having the cost, dislocation and wasted investment of replacing the entire infrastructure. In short, upgrading the part which is both commercially and technically broken without having to renew everything else.

The flexibility of SuSE Linux and the Cyrus software made this a relatively issue free procedure.

THE BENEFICIAL RESULTS

The final outcome significantly enhanced the reach, capabilities and reliability of Suffolk College's mail system at a fraction of the cost.

The cost of Exchange licenses for every member of the college community would have been around £110K alone (list price). The new system was built on three Linux servers, to build the system on an Exchange platform would have taken double this. These systems are externally supported currently as a managed service by Total Solution and the equivalent support costs for Exchange would have been more than double. Once first line support requirements are taken into account the value proposition of SuSE Linux and Cyrus became obvious.

UPDATES TO SYSTEM

Majordomo list manager server was added to fulfill all internal list requirements.

FUTURE DEVELOPMENTS

The plan is to introduce clustered front end Postfix servers to run AmaViS new and anomy sanitizer.

An LDAP based address book to enable the final replacing of the old exchange server.