
In this chapter:

- *What's a Web-Based IMAP Client?*
- *Why Use a Web-Based IMAP Client?*
- *Web IMAP Clients*
- *IMP*
- *Mailspring*
- *SilkyMail*
- *EMU 3*
- *WING*

5

Web-Based IMAP Clients

One of the major selling points of IMAP, its ability to provide ubiquitous email access, begs an obvious question. If Internet access itself is ubiquitous, but IMAP client installations are not, how do you get to your email? One good answer is to use a web-to-IMAP gateway. Such a gateway presents your IMAP-based mail through a web-based interface, usable with a web browser. IMAP web gateways run the gamut of interface complexity, from interfaces that use standard HTML exclusively to those that generously use JavaScript and Java to present the mail to the user.

Such a gateway permits you to retain the benefits of IMAP when IMAP clients are available, or to use any web browser as an IMAP client when a conventional IMAP client isn't handy. In fact, web-to-email interfaces are used not only by the increasingly popular free email sites, but also by hand-held devices like cellular phones and PDAs, which are using web browsers to connect their owners to their mailboxes.

What's a Web-Based IMAP Client?

A web-based email system is sometimes referred to as a webmail system. Two popular examples of such systems are Yahoo! Mail and Hotmail. A typical webmail system that uses IMAP would consist of the webmail server, on which a web-based IMAP client is run, the IMAP server, and a mailstore.

A web-based IMAP client is software that runs on a web server and enables traditional IMAP email access and functions from within a web browser. Many of the best-known web browsers are bundled closely with IMAP and POP clients for mail reading, but those packages, functioning in that way, are considered full-blown IMAP clients, not web-based IMAP clients.

The “client” in web-based IMAP can be misleading to someone unfamiliar with webmail technology. The “client” in this context is actually the program that runs on the web server, not the web browser itself. A web-based IMAP client can be used from a web browser (Netscape, IE, AOL, Cello, or Mosaic).

Figure 5-1 illustrates a web-based IMAP client. The “client” acts as a broker between both the browser/web-server and web-server/IMAP-server client/server pairs.

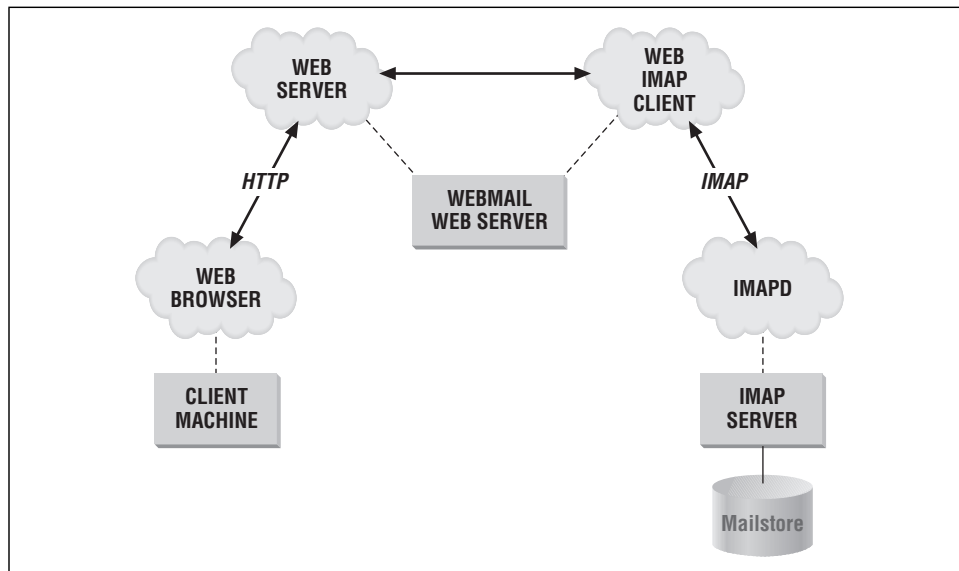


Figure 5-1. Web-based IMAP client

Authors of webmail gateways take a variety of approaches to getting the job done. Some webmail systems run as Common Gateway Interfaces (CGIs), some as Java applets, and others as PHP applications. CGIs are likely to cause a performance hit in situations where execution requires firing up and running another executable image. PHP applications don't cause as many performance problems, because PHP is implemented as a library, not as a wholly separate image. Given the inconsistent levels of Java compliance in different browsers, a good Java IMAP client is understandably hard to find. We looked at clients based on PHP and CGI.

Why Use a Web-Based IMAP Client?

Web-based IMAP clients offer many advantages that are not found in traditional IMAP clients. Let's take a look at what makes web-based IMAP clients so advantageous.

End-User Platform Independence

Suddenly, site managers who support heterogeneous environments of PCs, Macs, Linux, and other platforms no longer have to worry about the support issues involved in supporting mail clients on all those platforms. All machines with access to the Web now run the same mail client. Such platform independence is becoming essential as the work in the network moves from the desktop back to the server.

Global Access

As Internet access becomes more and more of a commodity, the mistaken message that “Web = Internet” is propagating at an unprecedented rate. The fallout of this trend is that nearly every computer on the Internet is bound to have a web browser, regardless of whether it’s at an Internet café in Scotland or at an Internet kiosk in the airport. Webmail gateways leverage this reality to deliver universal access to email, regardless of location.

Integration with Existing IMAP Server

Of course, if the only client you’d ever used to access your email were a webmail gateway, it wouldn’t matter a hoot what was used on the backend to access your mailstore. In the real world, though, web-based IMAP clients are likely to remain a poor relation of dedicated IMAP MUAs for some time to come. Dedicated clients have a great deal more flexibility and room for individual customization with regard to their interfaces. Given those facts, many of your users are likely to want to continue using their dedicated IMAP clients for much of their email. Picking an IMAP-compliant webmail gateway gives you the best of both worlds: webmail for those that want and need it and conventional IMAP services for users that want or need to go the traditional route.

Centralized Administration

A web-based IMAP client eliminates the need to customize and redistribute an IMAP client every time a new version of the client is released. The process of successive upgrades to new versions of web IMAP clients are transparent to the user, because new servers can be brought up, tested, and put into production with a single atomic action. While individual users can have a great deal more control over a dedicated client, web-based clients are much easier to site-customize from a central authority, like the local IT department. Individual departments, external users, even users of different skill levels can all have their own interface to the webmail system, all residing at the same URL by using existing customization methods. Such methods often include cookies and layer three redirectors, such as

the Web Director or Local Director. Cookies are text-based parcels of information that web sites leave with your browser to be able to provide session-oriented services on an essentially sessionless Web. A layer-three redirector intercepts requests for IP-based services and, acting as a proxy, performs the request against an arbitrary number of production servers, thus making any given service more robust than any particular server. Admins may also customize the lead-in page for the web site based on the user's location, host type, or other such elemental information attainable through the CGI API.

Security

The Webmail web server acts, in effect, as a mediator. On one side of it, the user's browser and the web server communicate. On the other, the IMAP web client software and IMAP server talk. Each of the webmail clients evaluated in this chapter rely on SSL to encrypt traffic between the browser and web server. That provides for the security between the user's browser and the web server. That still leaves the issue of the backend traffic between the webmail client running on the web server and the IMAP server.

One popular way of securing this traffic is to run both the IMAP server and web server on the same machine. Users then log on to the web server using SSL. The web server passes the username and password to the IMAP server over the machine's local loopback interface, not the external network. Less secure, but still better than nothing, is to set up a trusted, private network link between the webmail server and the IMAP server.

At the time of publication, security for IMAP web clients concentrated on using SSL between the browser and the web server, not in securing the traffic between the IMAP web client and the IMAP server. System administrators are mostly left to their own devices to secure the latter type of traffic. If you're inclined to run webmail and IMAP on separate servers, you'll probably want to explore setting up a private network for the unencrypted traffic or setting up a VPN between your web and IMAP servers. Hopefully, IMAP web clients will soon support SSL between the IMAP client and server, so you can just slap a third-party SSL wrapper, such as stunnel, into place on your IMAP server and have SSL in place all the way from the browser to the IMAP server.

Another issue for the occasionally paranoid to consider is the risk of entering any sensitive information into an HTML form, like you would be doing when you log in to your mail server using a web-based client. The contents of HTML fields may be visible to JavaScript apps running in other windows of the same browser process. Also, even though your web-based IMAP client is presumably configured to use SSL, there's a slight chance that content caching on your local machine might

be happening. If so, an application could conceivably retrieve content from that cache and compromise your email account or the contents thereof. The risk is real, but like so many things in the current state of the Web and Internet security, you must weigh the value of what you're doing against the risk of doing so. If you're genuinely concerned about this particular issue, you could run one browser process for each secure operation (like credit purchases on the Web or checking your email) and another for generic browsing. You might even go so far as to install another browser on your machine to help keep the different processes straight, so you might do secure things in Internet Explorer and other things in Netscape, or the other way around.

Intuitive and Friendly Interface

Users are familiar with web email clients such as Yahoo!, Hotmail (MSN Mail), and other freely available webmail services. Most web-based IMAP clients are very similar in look and feel to the popular free webmail services. They include online help, spell checking, and address books. For many users, a web-based IMAP client eliminates the learning curve involved in using a standard IMAP client.

This is probably a good place to mention that, without exception, these web-based IMAP clients would not be friendly to blind or visually impaired users. We were not able to get them to perform useably in Lynx at all, which left us believing that such users would be better off using a character-based IMAP client on a host system.

Low Cost

Many popular full-fledged GUI IMAP clients typically charge by copy or seat. Either way, the more users you support, the more you pay. Most web-based IMAP clients have one cost, regardless of the number of users—a great benefit for large sites. Better yet, some excellent web-based IMAP clients are available free of charge.

Web IMAP Clients

We evaluated six of the best-known web-based IMAP clients for Unix (Table 5-1).

A Note on PHP

Several of the clients covered in this chapter are PHP applications. When PHP was created, every major web server had its own, proprietary inline scripting language to facilitate easily written, yet non-portable dynamic content. PHP addresses this issue by providing a very powerful, inline scripting language that is usable on many servers and platforms. There are close ties between PHP and various

databases, so “databasified” web applications frequently exploit PHP. PHP applications, of course, require a web server that is PHP enabled. For full details on PHP, see <http://www.php.net>.

A Note on Server Platform

There are popular web IMAP clients for NT, including a very successful one from Infinite Technologies (WebMail). A web IMAP client doesn’t run in a vacuum, though. It’s at the mercy of all the idiosyncrasies of the OS on which it runs, as well as the other systems, such as DNS, LDAP, and the physical host itself, upon which it is dependent. There may be one particular web gateway that has every feature you need. If, however, it’s only available for Windows NT and your site doesn’t have the desire or expertise to manage a Win NT server farm, then you may find yourself balancing features versus platform.

Table 5-1. Comparison of Web-Based IMAP Clients

Features	IMP 2.0.11	Mailspinner 3.2.5.4	SilkyMail 1.0	EMU 3.0e	WING 0.9
Free	✓	✗	✓	✗ ^a	✓
Open source	✓	✗	✓	✗	✓
LDAP search	✓	✓	✓	✓	✗
SSL ^b	✓	✓	✓	✓	✓
IMSP	✗	✗	✓	✗	✗
NNTP	✗	✗	✓	✗	✓
User preferences	✓	✓	✓	✓	✓
Personal address books	✓	✓	✓	✓	✓
Locale support	✓	✓	✓	✓	✗
Customizable interface	✓	✓	✓	✓	✓
Online help	✓	✓	✓	✓	✓
Postpone compose message	✓	✓	✓	✓	✗
Spell check	✓	✓	✓	✓	✓

^a There is a free version of EMUMail, but it includes banner advertisements that cannot be removed.

^b Since no one, at publication date, was doing SSL between the IMAP web client and the IMAP server, SSL support in this table implies SSL only between the user’s browser and the web server.

IMP

Overview

IMP (<http://www.horde.org>), one of the Horde software projects, is a web-based IMAP client implemented in PHP. IMP is freely available. The latest version is

Version 2.0.11, which is available at <ftp://ftp.horde.org/imp/>. IMP is IMAP4 compliant and works with both the UW and Cyrus servers.

Strengths and Weaknesses

Strengths

IMP is open source and free of cost. It's built based on freely available open source components and open standards. IMP performs better with less overhead than a scripted CGI, because it's implemented in PHP. It includes locale support for several languages, including English, German, Italian, and Brazilian Portuguese.

Weaknesses

IMP was, until recently, somewhat challenging to install on non-Linux platforms because of the variety of packages it required. That's been fixed now, and IMP has very few if any requirements other than the obvious PHP-enabled web server and an IMAP server. There have been several reports, however, that an unmodified IMP server doesn't easily scale larger than 10,000 users or so because of performance problems. Your mileage may vary.

Requirements

IMP can be built on any Unix platform. It has been tested and is known to run on the following platforms:

- AIX 4.3.2
- BSDi
- Digital Unix 4.0d/4.0e
- FreeBSD 3.0 and up
- Linux (Debian 2.1 and 2.2)
- Linux (Red Hat 5.2 and higher)
- Linux (Slackware)
- Solaris 2.6 and higher
- Windows NT 4.0

Horde

The Horde module, the core of all Horde software packages, must be installed on your system as part of your IMP installation. The Horde module source distribution is available at <ftp://ftp.horde.org/horde.org/imp>. The latest version at the time of this writing was 1.0.10.

PHP

PHP 3.0.7 or greater is required by IMP. PHP, which creates most of the dynamic content of your IMP web pages, is a freely available scripting language. PHP is available at <http://www.php.net>. At time of this writing, the latest stable version was 3.0.12. Note that, although PHP 4.x is available, IMP 2.0.11 has not been tested with PHP 4.x.

PHP-supporting web server

IMP requires a web server that supports PHP, such as Apache. Apache 1.3.6, 1.3.9, and IIS 4 will all work with IMP. Once you build IMP to use with an Apache server, you may have to rebuild Apache to support PHP.

Perl

The IMP configuration scripts are written in Perl.

Administration

To store user preferences and address books in a database, you must have a database and must have compiled database support into PHP. Supported databases include MySQL, PostgreSQL, Sybase, Oracle, and Informix.

IMP has the hooks in place to support LDAP searching. For LDAP searching support, you must build PHP with LDAP support. University of Michigan LDAP and Open LDAP have both been used successfully with IMP.

To take advantage of IMP's SSL support, your web server must be SSL capable and enabled.

Site Customization

IMP is highly customizable. Customization is performed either by editing a small set of PHP scripts or by editing text files that define discrete parts of the interface common to all pages, such as page headers and trailers.

Examples

IMP allows the user to change her signature, full name, message header *From:* line, and preferred language. The preferences window is shown in Figure 5-2. The compose message window is shown in Figure 5-3. The message index is shown in Figure 5-4.

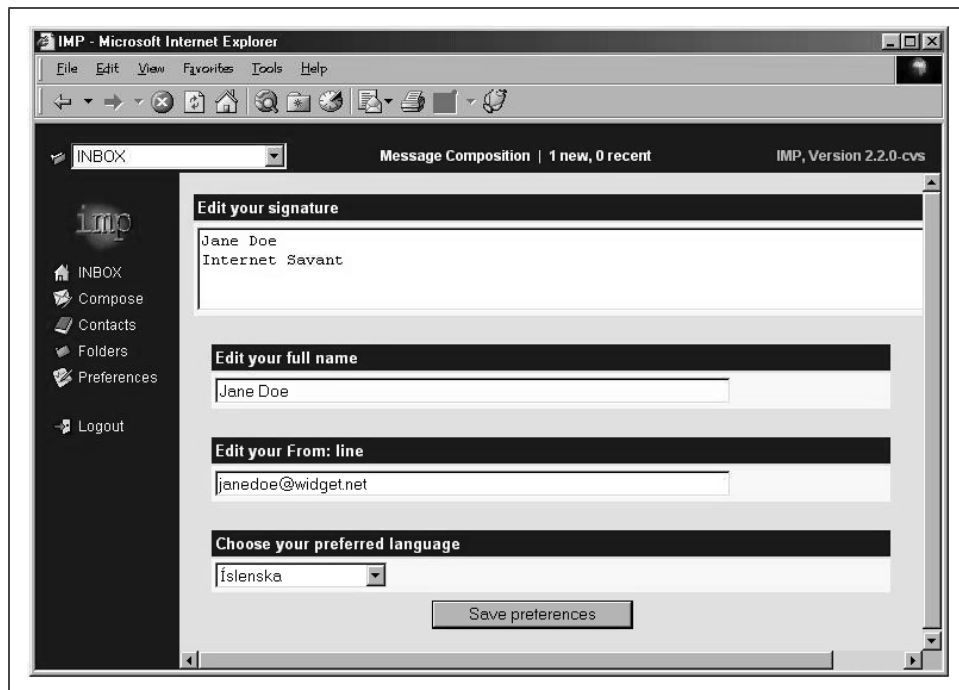


Figure 5-2. IMP preferences

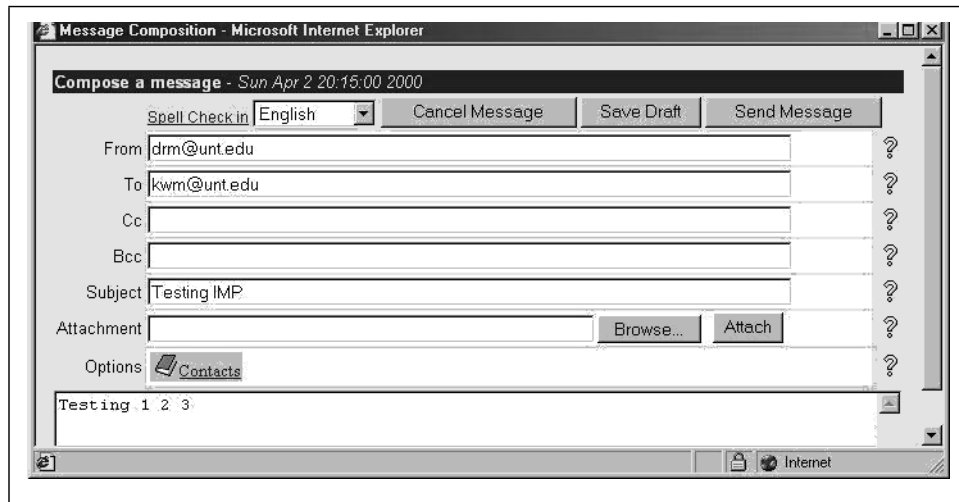


Figure 5-3. IMP compose message

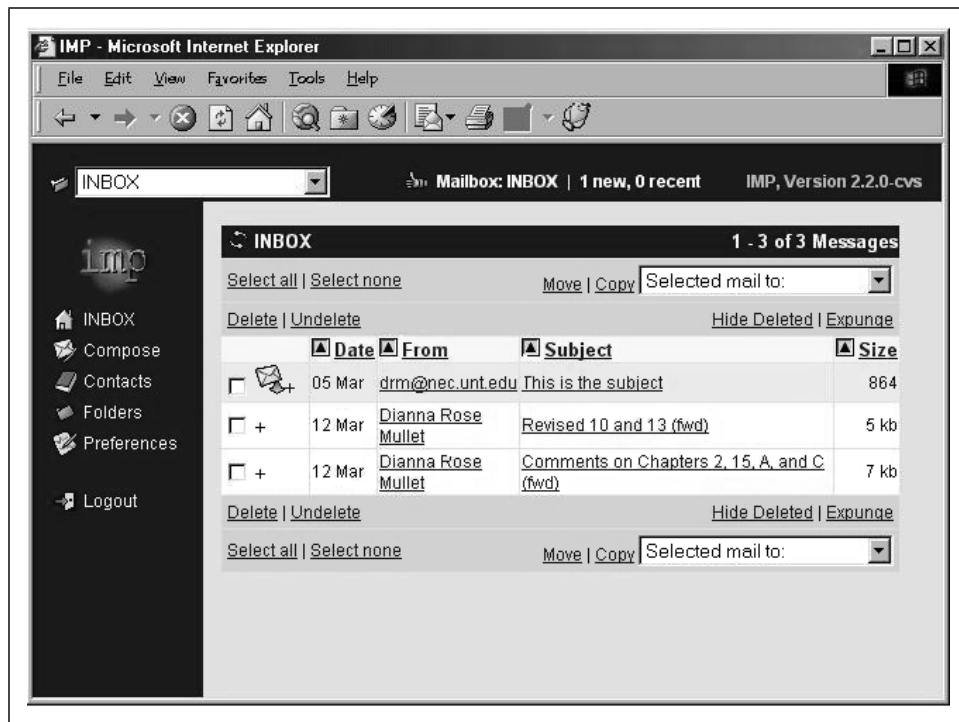


Figure 5-4. IMP message index

For Help with IMP

A good place to start is the IMP portion of the Horde FAQ at <http://faq.horde.org/cache/1.html>. From there, you can search all the IMP mailing lists in one shot at <http://horde.tdyc.com/>.

IMP web site

The IMP web site is <http://horde.org/imp/>.

Mailing lists

There are two mailing lists for discussion of IMP. The IMP mailing list is directed towards discussion of general IMP issues. To subscribe, send a message with a blank body to imp-subscribe@horde.org. The IMP CVS list focuses more on IMP development issues. To subscribe, send a message to imp-cvs-subscribe@horde.org. Archives of both mailing lists are available at <http://www.horde.org/mail/imp/> and <http://www.horde.org/mail/cvs/>.

Overall Impressions

IMP gets good marks right out of the gate for being an open source package. Although it leans toward Linux and doesn't have the OS neutrality of many open source packages, that tendency lies mostly in the installation, not in administration. Such factors should be invisible to the end user, so are pretty much just a system administrator concern. Many system administrators who install IMP will find themselves saying, "Now that's how I would have designed it if I were doing it myself!" From the SQL-based user provisioning to the LDAP-enabling for enterprise-wide address books, it's obvious that a great deal of thought and peer review have gone into IMP.

Probably the best feature of IMP is its site customizability. Because of IMP's design, with a combination of straightforward configuration files and PHP scripts, 10 different sites using IMP can each make themselves look nearly completely different. Although a few of the IMAP web clients are somewhat front heavy and present a cluttered interface, the IMP interface is an exercise in KISS.*

Mailspinner

We can easily see users polarizing into those that like IMP and those that prefer Mailspinner. Where IMP is a geek's sandbox full of customizable features and interdependent open source technologies, Mailspinner is a nothing fancy, commercial IMAP web client that just plain works and works well.

Overview

Mailspinner (<http://www.mailspinner.com>) is a high-performance, commercial, closed-source CGI IMAP client. Its interface is quickly embraced even by novice users. Although the system load is lightweight, the price isn't. Mailspinner is one of the most costly commercial clients we've evaluated. For that price, though, you get a system that is designed to scale up to a multiserver, multitier email infrastructure.

There's an online demo available at Mailspinner's web site. Click on "Demo Mail-spinner" and fill out the form requesting a username and password for the demo. After obtaining the username and password, you can test-drive the demo, which is a fully enabled installation of Mailspinner. Although there's no free demo for download and evaluation at your own site, we obtained the distribution and a temporary license by calling a sales representative and asking for it.

* Keep It Simple, Silly.

Strengths and Weaknesses

Strengths

Users find the interface very intuitive and easy to use with little or no learning curve. It's easy to install and customize.

Weaknesses

Mailspinner is not free. Although its user interface is somewhat customizable, Mailspinner's biggest weakness is that its source code is not available to customers.

Requirements

There are no software prerequisites associated with Mailspinner—everything required to run Mailspinner is self-contained in the binary distribution.

Solaris, Solaris x86, and IRIX are the supported platforms. The product's web site gives the impression that other platforms can be supported, but it does not list them explicitly.

Administration

If it runs on an SSL-enabled web server, Mailspinner uses DES encryption for usernames and passwords.

User preferences can be stored in flat files, in flat files in a hashed directory structure, or in a DBM file. Personal address books are stored as part of the user's preferences.

Site Customization

Mailspinner is customizable to some extent. The Mailspinner installation consists of a daemon, a compiled CGI program, and a set of images—no HTML or CGI source code is provided. It's possible to replace any graphic with your own graphic and to replace any informational or error message with your own message, but you have no direct access to the CGI or HTML code. Supporters of the open source movement will find that aspect of Mailspinner objectionable. Customizing Mailspinner is also somewhat cumbersome. To replace a graphic, you physically move the old GIF file aside and copy the new GIF file into its place. To change an error message, you edit a Unix catalog source file, make the change, and generate a new catalog using the Unix *gencat* utility. This kind of customization precludes adding new features such as a message-of-the-day to the login screen, and forces the system administrator to find a workaround.

Personalization

The user can edit the number of messages displayed on one screen, the time between each mailbox refresh,* and the size of the font.

Examples

Figure 5-5 is an example of the Mailspinner login screen, customized for the University of North Texas.



Figure 5-5. Mailspinner login screen

Mailspinner can be configured to look up addresses in one or more remote LDAP databases. Figure 5-6 is an example of Mailspinner's LDAP lookup, once again customized for the University of North Texas.

Mailspinner's message list is shown in Figure 5-7.

* By default, Mailspinner refreshes the mailbox list every 30 seconds. That is just frequent enough to generate complaints from users.

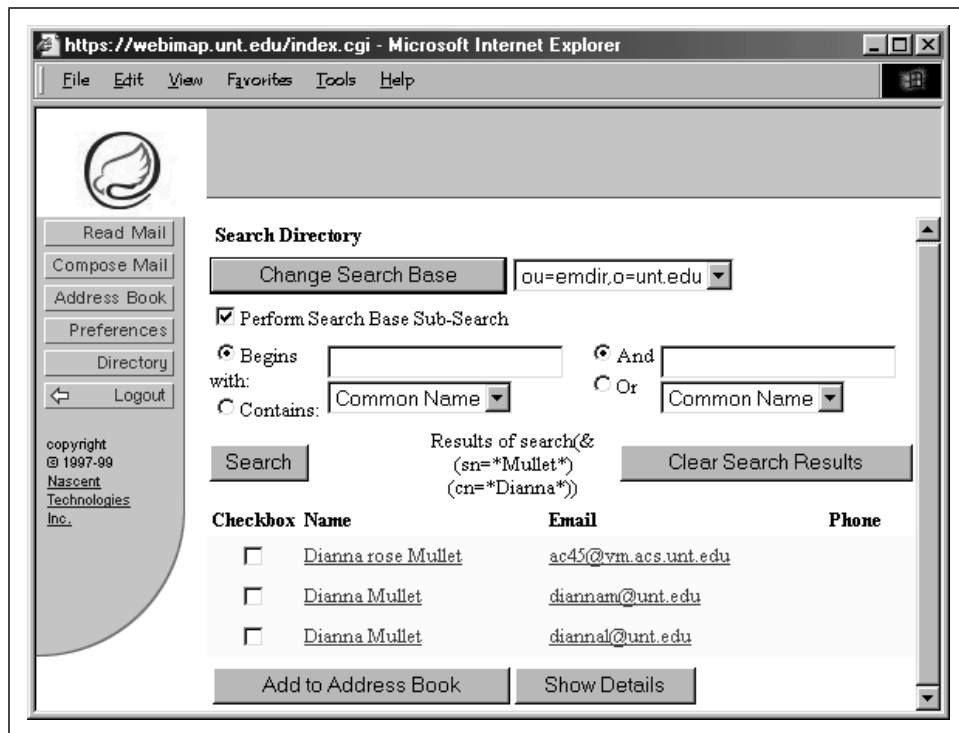


Figure 5-6. Mailspinner LDAP address lookup

To view a message, the user clicks on the message subject. Messages can be sorted on sender, subject, date, or size by clicking on the column heading.

Compose message

Mailspinner allows a user to postpone a message in progress. The postponed message is preserved between login sessions, allowing the user to resume composing the message later. Addresses can be looked up in the user's personal address book or a global LDAP address book while a message is composed, and then selected to be added to either the To: or Cc: fields. Files can be selected from the local machine and added to the message as attachments. The user can spell check the message before sending it.

Locale support

Mailspinner can be customized to support other languages. Mailspinner's default language is English, though, and to support another language appears to require quite a bit of work on the part of the system administrator. The administrator must edit a Unix catalog source file containing informational and error messages and replace each English message with its equivalent in the alternate language.

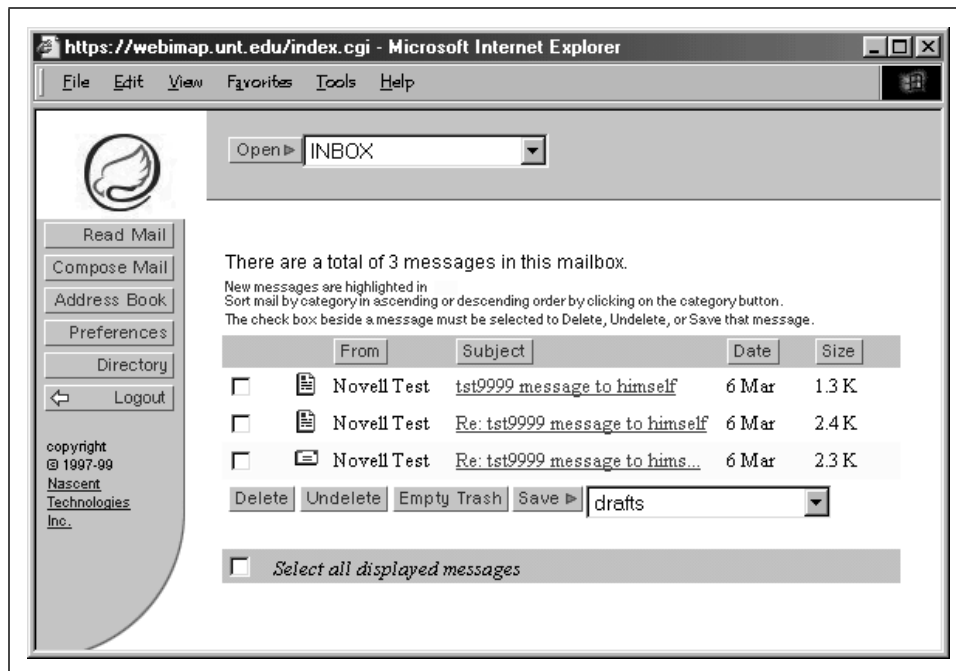


Figure 5-7. Mailspinner message list

Overall Impressions

Mailspinner is a speedy, stripped down client. It doesn't necessarily do everything you'd want a webmail client to do, but what it does, it does well. Unlike IMP, if you look at 10 different Mailspinner sites, they'll look almost exactly alike.

SilkyMail

When we saw the racy opening graphics of the SilkyMail demo, we weren't sure whether we were at the right site. Our anticipation was rewarded with a web-based IMAP client that meets the same high standards as Cyrusoft's MUA, Mulberry (evaluated in Chapter 4, *IMAP Clients*).

Overview

SilkyMail is a PHP application that is based on the IMP client mentioned earlier in this chapter. SilkyMail's added values are IMSP support, an improved user interface, simplified packaging, installation, and improvements in ease of customization. SilkyMail is different from all the other clients we evaluated. It's more like a complete IMAP client that runs within a web browser. In fact, the look and feel of SilkyMail are strikingly similar to the popular Mulberry IMAP client for Windows and Macintosh.

SilkyMail is robust enough to point to any IMAP server containing mailboxes with huge numbers of folders. Like its standard IMAP client cousin, Mulberry, SilkyMail gives you access to all the IMAP state and flag information for each folder. The message indexes can also be selected or sorted on any header field or flag. This is definitely the webmail client that could wean your users off their free email accounts.

Like IMP, SilkyMail relies heavily on the features of PHP. What this means to the user is that SilkyMail is very non-demanding of their particular browser. No JavaScript, Java support, or other whiz-bang features are required.

More information on SilkyMail, including a FAQ, is available at <http://www.cyrusoft.com/silkymail/>.

Strengths and Weaknesses

Strengths

- SilkyMail scales to tens of thousands of users.
- SilkyMail is open source. To those who are familiar with Cyrusoft, it's no surprise. Cyrusoft historically has been committed to incorporating open standards in their products.
- It has every feature in the book, including the most complete set of IMAP capabilities in any webmail client (see Table 5-1).
- It's free, and support can be purchased from the vendor.

Weaknesses

SilkyMail opens a separate window to perform certain actions, such as Compose Message. That is definitely not a weakness in itself. Some users, however, do complain that having separate windows open can feel sluggish over a slow network connection.

Requirements

- All Unix platforms are supported (source code is provided).
- Nearly everything required is included with the SilkyMail distribution. You will need *autoconf* to build the Configure scripts necessary to install SilkyMail on your system. *autoconf* itself requires *m4*, so you may need to install *m4* first.
- GNU *autoconf* (<ftp://ftp.gnu.org/pub/gnu/autoconf/>).
- GNU *m4* (<ftp://ftp.gnu.org/pub/gnu/m4/>).
- PHP is required by SilkyMail. PHP, which creates most of the dynamic content of your IMP web pages, is a freely available scripting language. PHP is

available at <http://www.php.net>. At time of this writing, the latest stable version was 3.0.12.

Administration

The Apache web server that comes with SilkyMail is already SSL-enabled.

Cyrusoft recommends storing user preferences in a remote IMSP database. However, preferences can be stored on the backend server in a SQL or DBM database.

SilkyMail supports both personal and shared address books. Enterprise and remote LDAP servers can be searched as well, and from the same window.

Site Customization

SilkyMail offers complete visual customization. The login screen can be locked to a specific IMAP server or allow a user to specify any remote IMAP server. Administrators can lock down certain features, such as the IMAP and IMSP server name or any user preference. SilkyMail can be customized to support any language.

Personalization

SilkyMail includes a contact manager for users to store address information. The contact manager includes access the address books stored on an IMSP server.

Examples

The Addressbook Management window is shown in Figure 5-8.

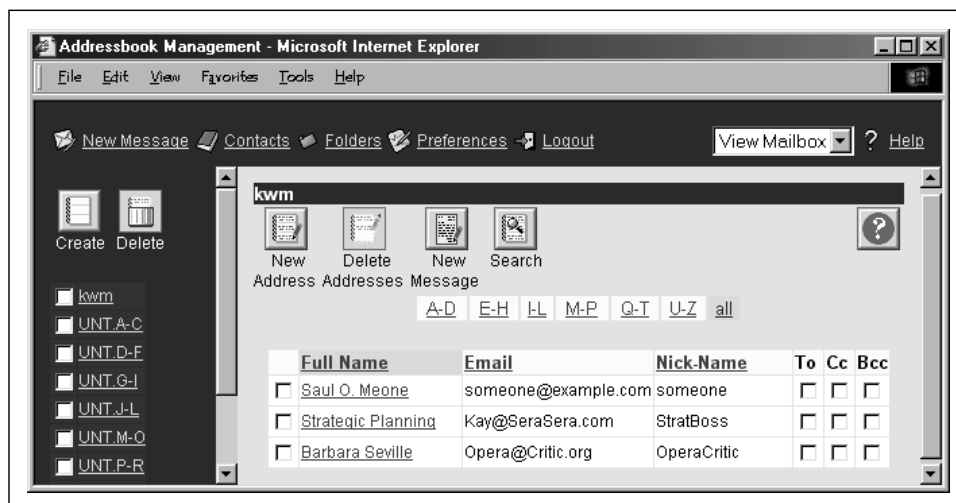


Figure 5-8. SilkyMail address book

The Message Composition window features include auto-address completion, multi-lingual spell checking, auto-quoting on reply. Outgoing messages can be carbon-copied into folders on-the fly. A screen shot of the Message Composition window is shown in Figure 5-9.

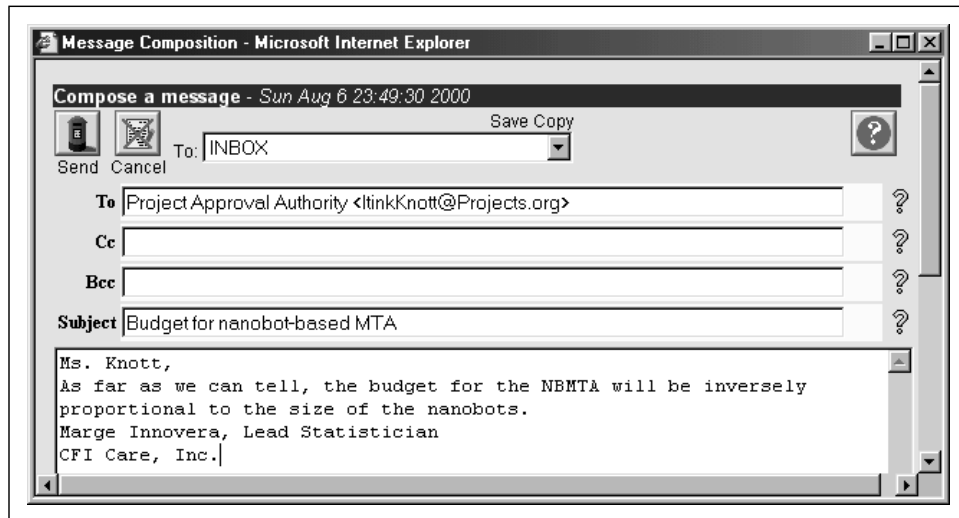


Figure 5-9. SilkyMail compose message

The preferences window is shown in Figure 5-10.

Overall Impressions

Like its standalone counterpart from Cyrusoft, Mulberry, the interface marches to the beat of a different drummer. It makes sense, it's ergonomic, and it works well, but for many people, it just may not be what they're used to and may cause some resistance and a bit of a learning curve. As far as we're concerned, SilkyMail was the most visually pleasing client out-of-the-box.

SilkyMail gets high marks in message presentation. The fact that attachments have separate view and download links makes it friendlier to a greater variety of browsers and client platforms.

EMU 3

We were initially romanced by the jogging emu (his movements are so realistic, you almost expect him to squawk).*

* If you have a particularly slow IMAP server or huge mailbox, you'll have plenty of time to dig a hole, build a spit, catch the cute little emu, and cook up some emu burgers. EMU 3 seems to cache an inordinately large amount of information about the mailboxes and messages in order to display the index.

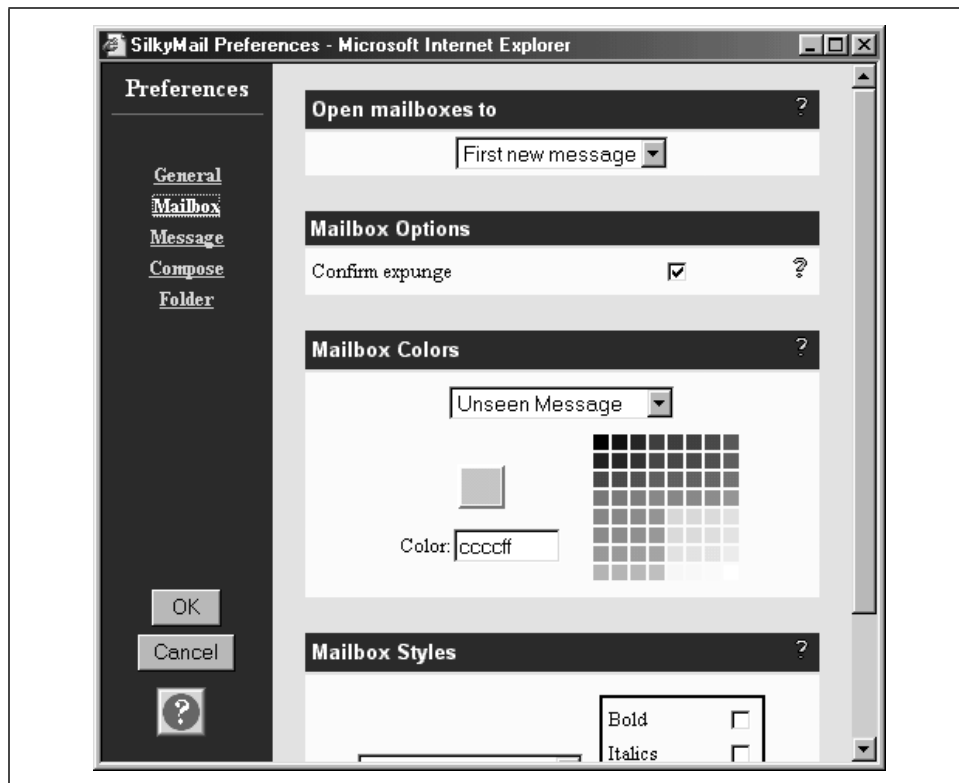


Figure 5-10. SilkyMail preferences

Overview

The version we evaluated was a prerelease version. The demo of the latest version of EMU 3 is available at <http://www.emumail.com/download.html>.

Strengths and Weaknesses

Strengths

EMU 3 comes in a free version, if you don't mind banner advertisements. Some of EMU's strong points include:

- Messages may be postponed while in progress. The postponed message is preserved between sessions, allowing the user to resume composing the message later.
- Client-side mail filtering using user-defined filtering rules.
- Full message header display can be toggled on and off.

EMU documentation is included with the distribution. Appendix B, *Adding SSL Support to IMAP*, of the installation guide contains very useful troubleshooting information. The interface is very neatly done. The menu bars at the top and bottom of message index have clearly labeled buttons.

Weaknesses

The free version has banner advertisements that cannot be removed.

It's not open source.

IMAP flags are not handled 100% correctly; for example, messages flagged "\Answered," don't show up in EMU 3 as answered messages.

There is some difficulty creating folders on a remote IMAP server. The client accepts the input and returns with no errors, but the folder is not created. This may require configuration tuning, but there's no documentation at this point.

Performance when loading a mailbox is noticeably slower than the other clients we looked at in this chapter. Without looking at the source code, it's difficult to say exactly why that is so.

Requirements

The Unix version of EMU 3 runs on most varieties of Unix, including Linux, Solaris, BSDi, IRIX, Digital Unix, AIX, and Free BSD.

GDBM is required.

Perl 5.005_03 and the CPAN module are required to install EMU 3 using the *emuinstall* script. The *emuinstall* script downloads a set of Perl modules required by EMU 3 from a CPAN mirror site, then builds and installs the modules.

If the *emuinstall* script fails, the Perl modules can be installed manually. There's a fair number of them, and they're all listed in the install docs.

Administration

In spite of all the software requirements, EMU 3 is easy to install. The EMU documentation, available on EMU's web site, is excellent and includes a troubleshooting FAQ.

Technical support is available via email to emu3@emumail.com.

Site Customization

EMU is customized through use of a proprietary, but well-documented, language called EMUcode. HTML template files with embedded EMUcode are pumped through the EMU engine to produce the EMU experience.*

It may be easier to define multiple user interfaces (customizations that apply to different groups of users) in EMU 3, but it could also be done in some of the open source clients without a major undertaking.

The EMU 3 interface has been translated successfully into Spanish, Portuguese, German, Swedish, and Arabic.

Personalization

The Options window lets the user edit the following options to personalize EMU 3:

- Full name
- E-mail address
- Organization
- IMAP prefix
- Number of messages to display per page
- Number of seconds between reloads of the message index
- Enable/disable real-time SPAM detection
- Personal signature
- Enable/disable autoloading of attached images

Filtering rules are included in the Options window. The user selects the filter Type (e.g., From:, To:, or Cc:), the data to match (literal text or regex), and the destination folder.

Examples

Each of the examples in this section are screen shots of an out-of-the-box installation of the free version of EMU 3, which includes banner advertisements.

The EMU 3 Message Index is shown in Figure 5-11.

The personal address book manager is shown in Figure 5-12.

Figure 5-13 is a screen shot of the Message Composition window.

* After seeing other products in this category that were customizable using open source and standards-based tools, we were left wondering why EMU 3 required reinventing the wheel.

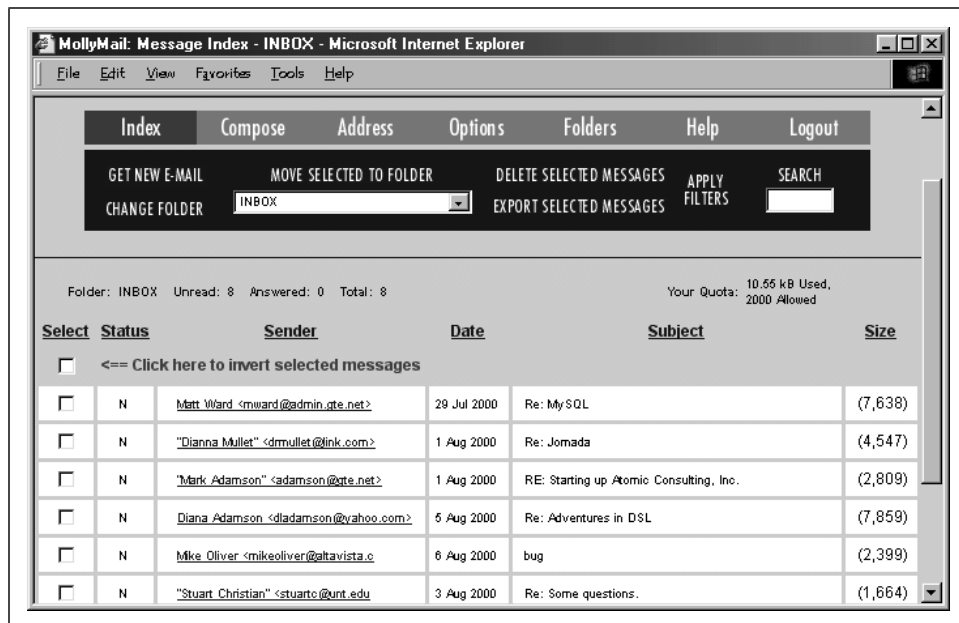


Figure 5-11. EMU 3 Message Index

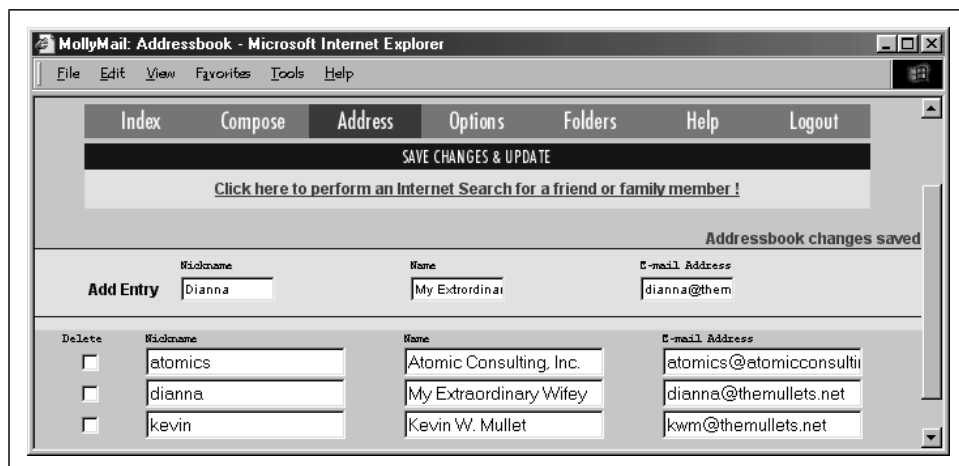


Figure 5-12. EMU 3 address book

Overall Impressions

Other than the fact that performance was less than stellar under real-world loads, EMU 3 has a good feature set and a clean interface. The performance deficiencies, folder behavior, and a few difficulties in message display made us wish we could look at the source code to see how IMAP is implemented.

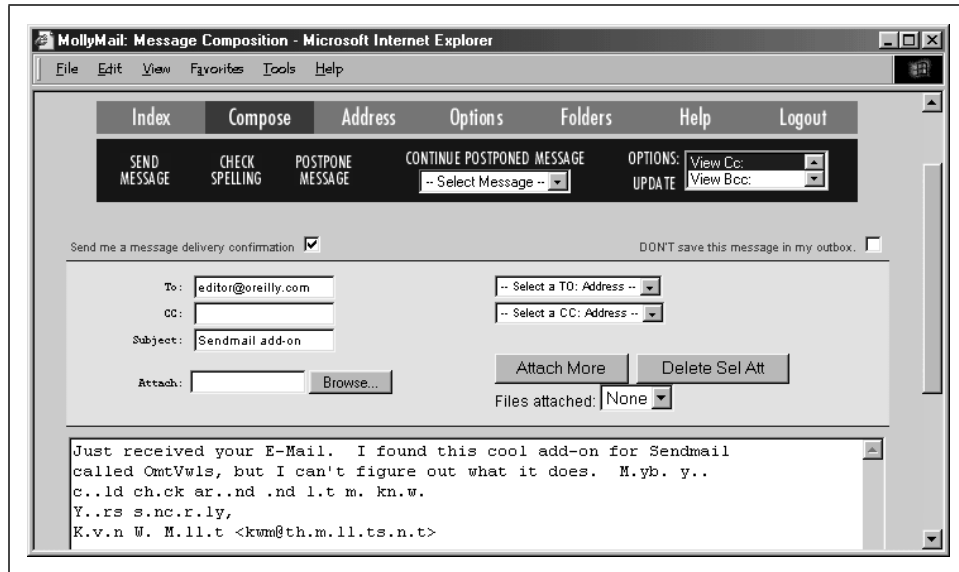


Figure 5-13. EMU 3 Message Composition

WING

WING (Web IMAP and News Gateway) is an open source Apache/mod_perl system that allows users to access email held on an IMAP server using any web browser. WING is reliable and secure, and it scales. It's built completely on open standards and open source components.

Overview

WING was designed and written by Malcolm Beattie at Oxford University to provide webmail services to all 30,000 of their users. Postscript slides describing Oxford University's Herald mail cluster, which uses WING, are available at <http://users.ox.ac.uk/~mbeattie/wing/>.

WING is not trivial to set up. In its current state, it requires many other pieces of software to function and some familiarity with Apache/mod_perl, Perl and SQL. WING was developed primarily for Linux. Other platforms will have to go to extra work to install WING, and modifications of the source code might be necessary to obtain the full functionality experienced on Linux installations.

The software itself is well designed and written, but it is still a work in progress and there are a few rough edges. The interface in particular is somewhat spartan, which may be problematic for users used to glamorous webmail sites like Hotmail. In its favor, though, the software is easy to extend in functionality.

There are no major bottlenecks in large WING implementations, but the central database could potentially become a problem if the underlying system is not well optimized (see Chapter 16, *Server Performance Tuning*, before planning your WING installation). Even so, the database is not accessed on every web hit. It is used only during login and logout and when looking up options and addresses.

Wing is available from any CPAN site: *modules/by-authors/Malcolm_Beattie/wing-0.9.tar.gz*. It is also available from its home site in several forms:

- Tar archive (*ftp://ftp.ox.ac.uk/pub/perl/Wing-0.9.tar.gz*)
- Source RPM (*ftp://ftp.ox.ac.uk/pub/linux/SRPMS/wing-0.9-1.src.rpm*)
- Binary RPM form for Red Hat 5.x Linux (*ftp://ftp.ox.ac.uk/pub/linux/RPMS/noarch/wing-0.9-1.noarch.rpm*)

The *wing-admin* mailing list is available for discussions of topics such as WING features, installation and setup, and usage. The author of WING monitors the list and occasionally responds to questions. To subscribe, send a message containing the body “subscribe wing-admin” to *majordomo@maillist.ox.ac.uk*. An archive of the list is available at *http://users.ox.ac.uk/~mbeattie/wing/archive/maillist.html*.

Strengths and Weaknesses

Strengths

Above all, WING is free and it's open source. It scales up to tens of thousands of users (currently used by 30,000 users at Oxford University). Here are some of its other strengths:

- Users can create mailbox hierarchies and move messages between them.
- Messages with MIME attachments can be displayed nicely. Files local to the client browser can be included in a composed message or MIME-attached to it.
- Users can create and store their own bookmarks. The bookmarks appear in the left pane of the browser if the user selects the frames version (“portal view”) of the client.
- WING supports import of PINE address books by uploading them via the browser.
- User preferences can be set and saved between sessions.
- Arbitrary headers, with the exception of the From: header, can be added to composed messages.
- Users can manage aspects of their IMAP accounts, such as passwords, setting mail forwarding, and viewing quota usage, via the WING interface.

- Users can create address books, which can be shared with other users and groups using ACLs.
- Users can manage aspects of their account, such as setting the password, editing mail forwarding, and checking disk quota usage.

Weaknesses

WING is very difficult to install. It has many dependencies on other software packages, and it's geared toward Linux more than other platforms. Although WING is difficult to manage, problems are easy to trace and repair because all components are open source. There's also a good support network where help can be found if the going gets tough.

Requirements

- Apache (the latest version of Apache is available from <http://www.apache.org>)
- mod_perl (the latest mod_perl Apache module and integration instructions are available at <http://perl.apache.org>)
- PostgreSQL
- Perl 5.004_04 or later
- The following Perl modules:

DBD-Pg	libnet
DBI	IO-stringy
Data-Dumper	CrackLib
Net-Telnet	Mail Cclient
Apache-DBI	libwww
MD5	MailTools
MIME-Base64	MIME-tools
Term-ReadKey	Net-DNS
HTML-Parser	SQL
Term-ReadLine-Perl	

The CrackLib and SQL modules have not been released to CPAN yet. Both CrackLib and SQL are available as source RPMs at <ftp://ftp.ox.ac.uk/pub/linux/SRPMS/> and as binary RPMs for Red Hat Linux 5.x at <ftp://ftp.ox.ac.uk/pub/linux/RPMS/i386/>. Non-Linux sites will have to use *rpm2cpio** to convert the RPM source to a cpio archive, then build the modules for themselves.

* *rpm2cpio* is available at <http://www.iagora.com/~espel/backs.html>.

