Mail Services

Easy-to-manage Internet mail solutions featuring best-in-class open source technologies.

Features

Enterprise-class mail server
- High-performance 64-bit SMTP services
- Scalable IMAP and POP services
- Support for over 100,000 mail accounts with no per-user licensing fees
- Active/Active clustering with Xsan
- Virtual host support for multiple domains
- IMAP IDLE email notification
- Flexible mail storage and per-user quotas

Strong authentication and security
- SSL/TLS encryption for secure transport of SMTP, POP, and IMAP mail
- Flexible authentication methods, including Kerberos, CRAM-MD5, and APOP
- Support for secure single sign-on for Mac and Windows clients
- Secure over-the-air access for iPhone

Protection against junk mail and viruses
- Junk mail filtering using SpamAssassin
- Virus detection and quarantine using ClamAV
- Host- and network-based SMTP relay management
- Message refusal from real-time blacklists

Mailing list support
- UNIX group mailing lists
- Python-based Mailman list manager
- Support for electronic mail discussion and newsletter lists

Flexible webmail
- PHP-based SquirrelMail service
- Pure HTML 4.0 for maximum compatibility across browsers

Administration and monitoring
- Easy-to-use Server Admin utility for configuring and managing mail services
- Real-time monitoring of mail connections, service logs, and messages

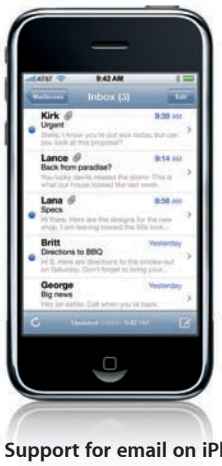
Technology Brief
Mac OS X Server: Mail Services

Mac OS X Server combines the most robust technologies from the open source community to deliver comprehensive, easy-to-use mail server solutions. Full support for Internet mail protocols—Internet Message Access Protocol (IMAP), Post Office Protocol (POP), and Simple Mail Transfer Protocol (SMTP)—ensures compatibility with standards-based mail clients on Mac, Windows, and Linux systems. With support for thousands of users per server, Active/Active server clustering, and no per-user licensing fees, these high-performance mail services offer significant cost savings for small organizations and large enterprises alike.

Core mail services in Mac OS X Server use the high-speed Postfix server for SMTP messaging and the scalable Cyrus mailbox server for accessing mail accounts via POP and IMAP. Active/Active clustering with Xsan and flexible mail storage make it easy to scale the mail server to meet growing needs, and high-performance indexing ensures continued responsiveness to client actions. To guard your network mail services against unauthorized access or abuse, Mac OS X Server version 10.5 builds in strong authentication, SSL/TLS encryption, adaptive junk mail filtering using SpamAssassin, and virus detection using ClamAV. Completing its suite of robust mail solutions, Mac OS X Server includes Mailman, one of the most widely deployed listserve solutions in the world, and webmail services using the popular open source SquirrelMail project.

Mail Services at a Glance

1. High-performance mail server sends messages over SMTP, POP, and IMAP protocols.
2. The built-in Mailman listserve solution makes it easy to create and maintain mailing lists.
3. Mail messages are encrypted using SSL/TLS, ensuring privacy on your network.
4. Webmail services allow users to access and send email from their web browser.



Support for email on iPhone
Mac OS X Server v10.5 provides iPhone users with secure over-the-air access to email using the IMAP over SSL protocol. And since Mac OS X Server includes a robust VPN server that supports the same industry-standard VPN protocols as iPhone—L2TP/IPSec and PPTP—you can give iPhone users "behind the firewall" access to their corporate email.

Standards-Based Mail Services

Mail services in Mac OS X Server are based entirely on open standards, providing compatibility with your existing network infrastructure, as well as with email clients on Mac, Windows, and Linux platforms—and even Apple iPhone. And because there are no per-user licensing fees, Mac OS X Server can scale to support hundreds of thousands of mail accounts without draining your software licensing budget.

Postfix and Cyrus mail services
Mac OS X Server uses Postfix, a highly secure, high-performance mail server, as its SMTP mail transfer agent and Cyrus for scalable, enterprise-class IMAP and POP mail services. These powerful open source mail services are easy to configure and manage using the Server Admin utility built into Mac OS X Server. Postfix is a more secure, compatible alternative to the widely used SendMail program. Support for existing SendMail infrastructures and scripts makes in-place migration to the new mail server easy.

Mailing lists
Mac OS X Server includes robust group mailing list support for the distribution of email messages to multiple recipients. Using UNIX group mailing lists, administrators can enable email lists for any standard group configured in Open Directory. When mail is sent to the group at the default host name, the email addresses for all members are looked up and the message is sent automatically. Group mailing lists can be enabled by the administrator in Workgroup Manager or by a Mac OS X Leopard user in the Directory application.

Also provided is a graphical user interface for Mailman, one of the most widely deployed listserve solutions in the world. Designed for end users, the web-based interface makes it easy to create and maintain lists. In addition, it provides robust features such as list archiving, content filtering, and digest delivery options.

Email encryption using SSL
With SSL/TLS encryption for SMTP, POP, and IMAP, Mac OS X Server can encrypt the data sent between the server and the mail client. This allows secure and confidential transport of mail messages and attachments within a network. For maximum security, SSL can be required for communication on any protocol, including SMTP, POP, and IMAP.

Strong authentication to prevent unauthorized access
Mac OS X Server simplifies administrative control of authentication levels. You can choose from Kerberos, CRAM-MD5, and APOP, depending on the needs of your organization. Fully integrated into Open Directory, Kerberos provides the added benefit of single sign-on—for both Mac and Windows users—to all "Kerberized" services across the network.

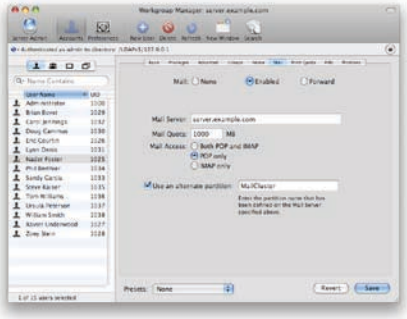
Server clustering
For enhanced mail server reliability and scalability, Mac OS X V10.5 Server supports Active/Active clustering when used with Xsan as the back-end data store. This ensures that each of the IMAP and POP mail servers has access to the same data. It also allows user connections to be spread evenly across all servers in the cluster using standard DNS round-robin load balancing or a hardware load balancer. In the event of a server failure, affected mail clients transparently reestablish a connection to a remaining server in the cluster. To handle more simultaneous user connections, simply add a mail server to your cluster and configure it to use Xsan.

Webmail using SquirrelMail

Webmail allows you to extend your mail services, enabling users to access their email from any standards-based browser. Apple's webmail is based on SquirrelMail, an open source webmail package written in PHP 4, and provides all the functionality you would want from an email client—including support for MIME, address books, and folders for organizing stored messages. Since PHP is fully integrated with the Apache web server, webmail pages render in pure HTML 4.0—with no JavaScript required—for maximum compatibility across browsers. SquirrelMail is very easy to configure and works with any IMAP server.

Setting Up Mail Services

The Server Admin application in Mac OS X Server provides all the tools for configuring and delivering secure, authenticated mail services to users across your organization.



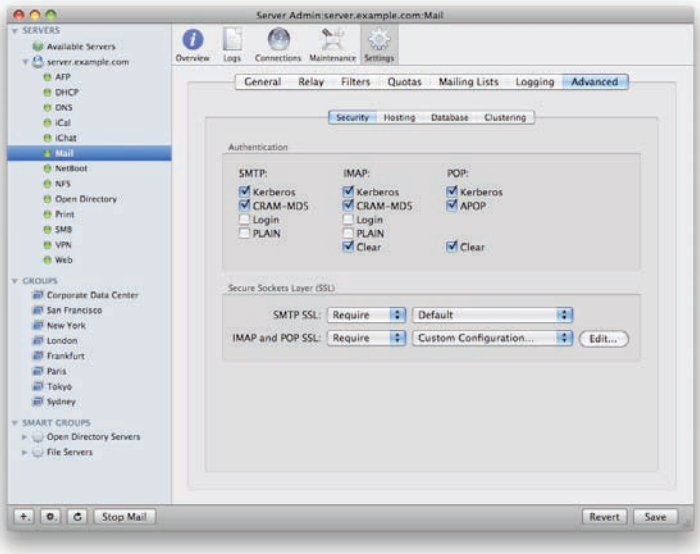
Directory-based account management
Mac OS X Server makes it easy to manage mail settings and policies. Thanks to built-in directory-based management tools, you can create IMAP/POP accounts, enable mail services, set individual quotas, specify mail storage location, and define authentication methods. User account information is stored in Open Directory, Apple's standards-based directory services architecture that works with any LDAP server.

Enabling services

Server Admin features an easy-to-use interface for setting up SMTP, POP, and IMAP services and managing mail settings. Simply select the protocols you want to enable and click the Start Mail button. You can also define general postmaster settings, including the copying of undeliverable messages to a specified email address and archiving of incoming and outgoing messages.

Advanced settings for mail services

Server Admin also makes it easy to configure more advanced mail server options. For example, you can define multiple mail server host names, or virtual domains, for the local server, and you can choose authentication methods and security settings for each mail protocol. You can also designate any storage volume connected to the server as the default location for storing mail messages. Organizations handling high volumes of email or requiring data protection may choose to use a high-availability solution such as RAID or Xsan.



Mail Server Clustering

For mission-critical reliability and increased scalability, you can cluster multiple mail servers using Xsan as the back-end data store. This ensures reliable data access for all servers in the cluster and makes it easy to scale your mail server infrastructure to handle increasing load.

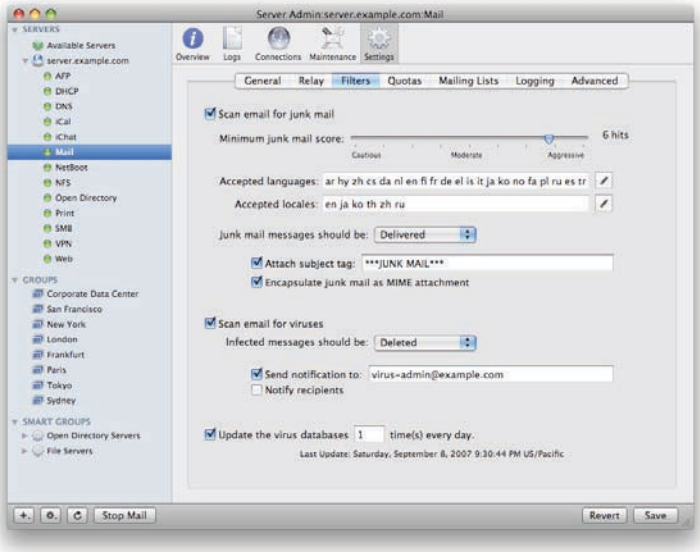
Mail server clusters are typically made up of three or more servers: at least one for Xsan and two or more for mail services. Each cluster member, or node, runs a copy of Xsan and is configured to have direct Fibre Channel access to RAID storage. In this way, each node has direct block-level access to the same shared data store.

It's also possible to balance the load across multiple mail servers using a hardware load balancer and a technique known as round-robin DNS. When a DNS request is sent to a round-robin–configured DNS server, it responds by returning IP addresses in rotation. For example, if a mail cluster is made up of five servers, the IP address for the first server is delivered to the first IMAP request, then the second address in the list is given to the second IMAP request, and so on, in a continuous loop. When a sixth IMAP client request is received, the first IP address is once again returned.

In the event of a server failure, mail clients can reconnect automatically to a remaining server in the cluster. If the failed server was in the middle of processing an SMTP spool file, another node in the cluster will take over the processing of its spool file. Although this response is automatic, you will see it noted in the mail service log files.

Protection Against Junk Mail and Viruses

To protect your organization from unwanted mail and destructive viruses, Mac OS X Server integrates two popular open source projects: SpamAssassin for adaptive junk mail filtering and ClamAV for virus detection and quarantine.



With SpamAssassin, Mac OS X Server analyzes the text of each mail message. Using a wide variety of local and network tests, it assigns a probability rating that the mail is spam. If the probability is high, it classifies the mail as potential junk mail and allows the user to decide how to handle it. The SpamAssassin junk mail filter is adaptive, which means you can train it to recognize which marginal mail messages are spam and which are not. Training can be automatic: SpamAssassin can analyze the content of user inboxes every night and adapt its filters accordingly. Or for greater control, postmasters and users may prefer to train SpamAssassin manually.

Mac OS X Server uses ClamAV to scan mail messages and attachments for viruses. Administrators can choose how to handle a suspected virus: The mail server can bounce the message back to the sender, delete the message immediately, or quarantine the message in a specific directory for further analysis. The server can also generate an automatic email notifying a postmaster or sender that the message has been quarantined.

In addition to these capabilities, Mac OS X Server works with real-time blacklists and allows you to register your own junk mail blacklists, refusing incoming email traffic from these hosts. It's also easy to prevent unauthorized outsiders from using your server to send email, and you can choose to refuse email messages that exceed a specified file size.

Remote Monitoring and Management

Certificate management
The Server Admin application in Mac OS X Server v10.5 includes a digital certificate management interface. It lists all of your certificates in one location, identifying the certificate authority, date of validation, and date of expiration. For each service that uses certificates, Server Admin displays a list of available certificates, making it easy to select and manage all of your server's certificates.

Server Admin enables you not only to configure mail services but also to securely monitor services and activity logs from any Mac OS X v10.5 system, anywhere on the Internet. Real-time data on service usage allows you to see who is connected, how long they've been connected, and the IP address of the client system. You can also review users' mail storage quotas and see how much disk space has been used. This extensive information can help you create usage reports and plan allocation of server resources for your organization. And for UNIX-savvy administrators who prefer a scriptable, command-line environment, all Server Admin capabilities are accessible from the Terminal application.

Apple Server Solutions

Standards-based mail services are among the powerful workgroup and Internet solutions built into Mac OS X Server, Apple's UNIX server operating system. Combining the latest open source technologies with Mac ease of use, Mac OS X Server unleashes the power of Xserve, Apple's rack-optimized server hardware. With phenomenal performance, massive storage capacity, high-bandwidth I/O, and integrated remote management tools, Xserve running Mac OS X Server is the ideal solution for education, small businesses, and enterprises alike.

For More Information

For more information about Mac OS X Server, Xserve, and other Apple server solutions, visit www.apple.com/server.