



AXIGEN Mail Server Technical Overview

There are a lot of mail servers out there, both Open Source and commercial, and that for each foreseeable platform. However, AXIGEN Mail Server (<http://www.axigen.com>), a fully self developed solution, brings real innovations in several respects, and stands out from the crowd thanks to its unique scalability and configurability.

Innovation according to AXIGEN

For the AXIGEN team, "**Innovation**" means adding extra functionality and effectiveness to existing standard mail server service. This messaging solution offers the entire range of mail services -SMTP, POP3, IMAP, Webmail - includes List server, Logging and Reporting modules and provides various, **flexible administration options** (including a central Web administration interface – Web Admin). It is currently available for several Linux distributions and FreeBSD, but platform compatibility is never a closed issue with AXIGEN. And this is precisely its first point of innovation, the MPA porting technology.

MPA (**Multi Platform Architecture**) is a proprietary cutting-edge technology that allows porting the AXIGEN server on multiple platforms (Linux, BSD, MAC OS, Windows) while keeping the same set of features. This makes it possible to adapting the product to any demanded platform, while guaranteeing stability, and makes it easier for users to switch to a different platform, whenever their requirements change.

But what makes AXIGEN a truly innovative mail server is its **storage**. Everything related to it - the directory/file structure, the individual message store format and the filling procedure -is brand new and very effective. This optimized storage architecture, doubled by a similar queue architecture, with RAM cached index based access reduces I/O operations and disk access. Messages are stored in **container files, a proprietary format** that supports an effective space-saving filling procedure, allowing system administrator to specify the locations and number of directories/files allowed for message storage. Regular consistency checks are performed and a storage compactor tool is available for additional space saving.

Configurability redefined

Built with administration needs in mind, AXIGEN provides System Administrators with **unmatched configuration possibilities** for each and every module or feature. Only a few of them are mentioned here, to give you an idea to what extent AXIGEN can accommodate administration requirements.

One important configurability asset in AXIGEN is that it incorporates a **multi-threaded engine**, which can break server activity into multiple parallel processing threads. This enables system administrators to allocate a certain **number of processing threads** to specific modules (SMTP incoming / SMTP outgoing / Web mail / IMAP, etc.). So, not only can you allocate hardware resources to the module/service of your choice, but you can adapt resource allocation to any usage scenario you may choose for AXIGEN: main mail server, backup server, gateway mail server. Also, you

can fine tune server behavior for both high and low peaks in activity, by using the corresponding maximum and minimum connection thread parameters. You may also find this useful when in need of a dedicated service server: for instance, if you only want to run the SMTP service, AXIGEN can run with all other services inhibited by allocating all processing threads to SMTP.

Furthermore, AXIGEN architecture is based on a distinguishing configurability concept – **IP based Client Management**. Most AXIGEN services (SMTP Incoming, SMTP Outgoing, POP, IMAP, Webmail) make use of configurable listeners to define rules for accepting or denying connections from/with specific clients. In defining listeners, system administrators can configure an extensive set of parameters. These parameters deal both with connection issues (number of connections to be accepted in a specified time interval) and with SSL-specific issues. This brings increased granularity in handling connections established by/with specific mail clients. However, defining these parameters is purely optional, and default values and suggested values are always available when setting parameters in the intuitive web configuration interface - Web Admin. Configuration in AXIGEN is always as easy/basic or as advanced/granular as you need it to be.

Also, just to set an example of **advanced service configuration** options in AXIGEN, here are some of the parameters System Administrators can set both at domain and at account level in WebMail: mailbox quota, attachment size limit, mail size limit, session idle & activity timeout, maximum number of messages sent per hour by one account, etc.

Server protection and strong, custom security solutions

While extremely important, configurability is not the most critical concern of system administrators. The AXIGEN development team, having a vast IT security background, is highly aware of server protection and security requirements in Internet communications. That is why **connection error control** parameters are implemented in every module. These parameters allow system administrators to limit the number of failed/wrong commands received from /established with SMTP/POP/IMAP clients during one session. This way, incomplete connections or connections that are not RFC compliant are dropped and the corresponding messages are not accepted, thus freeing important bandwidth.

In terms of security, an **extensive security tool** set is implemented, which is in its turn, highly configurable. System Administrators can flexibly use the filtering rules available at server, domain and user level, by specifying what filters to use, the order of applicable filters and the actions to be taken according to the results of the scanning process. Filtering in AXIGEN includes Antivirus/Antispam, Antispoofing (SPF authentication rules) and custom SIEVE scripts. We should also mention that AXIGEN integrates at present connectors for Open source Antispam and Antivirus applications (SpamAssassin and ClamAV) but thanks to its API interface for external connectors, it can integrate with virtually any AS/AV application requested by users.

Automation, last, but not least

AXIGEN addresses automation requirements of system administrators by comes with an alternative configuration interface – **CLI (Command Line Interface)**. Apart from providing an alternate method of performing basic configuration tasks, CLI **automates repetitive tasks**, which can be really time consuming when performed manually. Adding users and account migration can raise real effective issues in ISP or large organization environments where hundreds of thousands of mailboxes are necessary. AXIGEN CLI can solve these in a matter of minutes using the automations scripts.

These are just a few of the innovative, distinctive functionalities of AXIGEN, but there's only one way to see just how stable, fast and configurable it is (it takes minutes to install) – trying it out!

<http://www.axigen.com/mail-server/downloads.php>