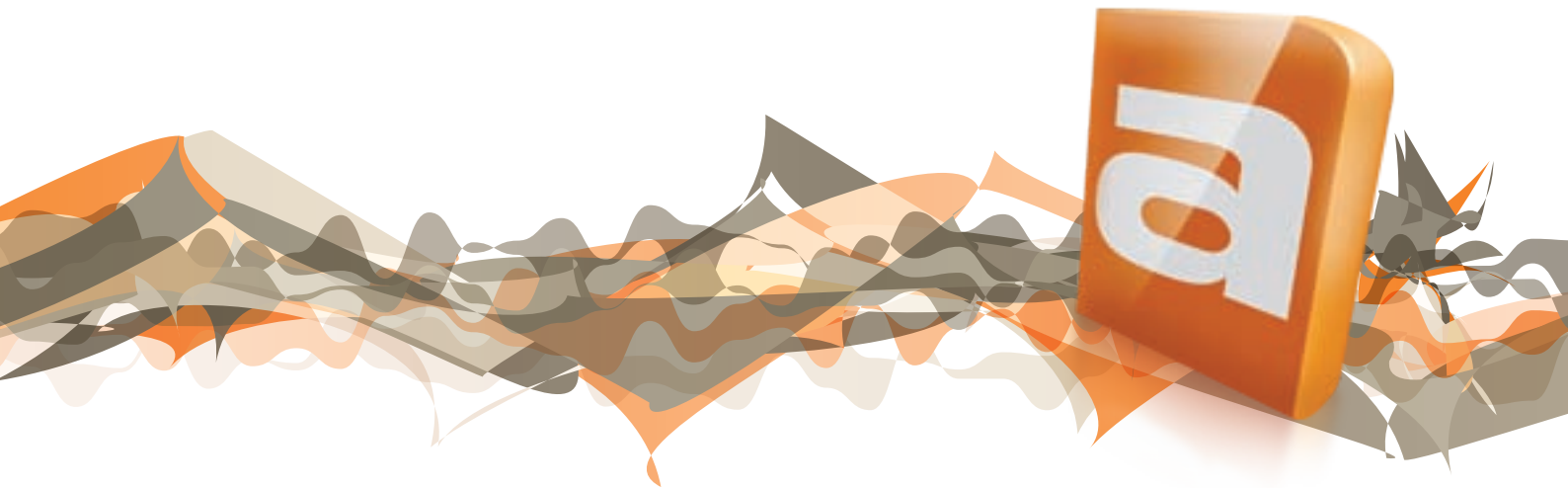


Project Case Study

Implementing AXIGEN Mail Server at SchoolCenter



A NEW KIND OF MATH

How to support over

3 times more users with 40 % less hardware

1. Customer Profile



SchoolCenter is a leading provider of Internet-based solutions for the K-12 educational sector in the USA. In its 12 years of experience, the company has established partnerships with over 6,000 schools, helping them achieve their communication goals through a wide range of web management tools covering web hosting, email services, podcasting, document management and much more. Their comprehensive range of Web tools enable users to easily create and update web content, share and exchange information throughout the districts, schools and classrooms.

SchoolCenter is devoted to providing products and services that make a difference in the K-12 community. In recognition of their efforts to support the educational community, SchoolCenter received a Technology and Learning Award for Excellence in 2006.

2. The Initial Scenario

SchoolCenter previously used a custom-made email solution based on Vpopmail/qmail and MySQL. In time, this system reached a performance limitation. As a result, SchoolCenter started to look for a replacement, a new messaging platform that could provide the service availability and scalability required for their growing base of customers and evolution of their needs.

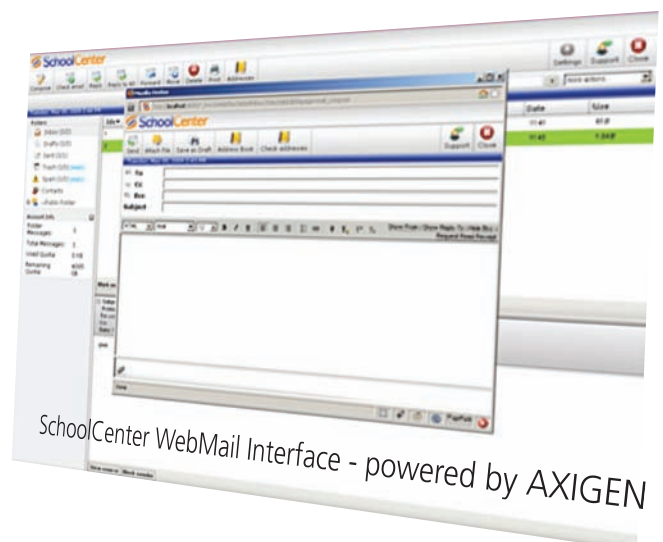
3. Switching to AXIGEN

After a thorough research on the market, SchoolCenter selected the AXIGEN Mail Server with a license of 75,000 mailboxes. The clustered **Service Provider Edition** was the perfect choice, as its carrier-class technology is able to sustain complex setups and accommodate changing usage scenarios, while keeping hardware investments to a minimum. The figures spoke for themselves: **over three times more supported mailboxes while using 40% less hardware resources than the previous mail solution**, which automatically translated into increased productivity and significantly lower operational costs. Add to this AXIGEN's support for Linux and SchoolCenter got the powerful mix that they needed.

As also underlined by Shari McMillan-Strack, VP of Product Development at SchoolCenter: "Another reason for which we chose AXIGEN was kind of a unique requirement to us: we needed the ability to skin the product. More precisely, we required our company branding to be integrated in the product that went out to our customers. We also wanted **the ability to skin the product** at an even deeper level in order to create customer specific skins per domain. Our customers are school districts and they are very happy to pay additional design fees to have their school mascot, their school logo displayed on their internal email. So we found that as an actual benefit.

The calendar and collaborative tools also pushed AXIGEN on the top of our decision list. Not only that this is a major differentiator among the mail server vendors that we have reviewed, but it will also give us a competitive edge in the market."

Using AXIGEN on Linux also entailed a series of benefits such as increased speed and productivity, ease of administration, low TCO and fast return on investment.



3.1 AXIGEN Setup

The AXIGEN Service Provider solution was deployed in a full clustering and horizontal scalability architecture built on existing elements in SchoolCenter's network such as load balancers, redundant network infrastructure, firewalls etc. The math was simple:

- **Previous Vpopmail/qmail + MySQL setup: 10 servers (4 front-end server, 6 back-ends and 1 fileserver) supported 60,000 users**
- **Clustered AXIGEN Service Provider: SAN storage and 6 servers (2 Front-ends, 2 Back-ends, 1 LDAP and 1 Hot Stand-by) able to support more than 200,000 mailboxes**

This results in an outstanding 330% increase of the setup capacity, while requiring 40% less hardware resources!

AXIGEN's clustered multi-tier setups (front-end/back-end) enabled SchoolCenter to separate services (such as SMTP/ IMAP/POP3 etc) on different tiers in order to increase the overall security of the system and ensure service high availability. The back-end nodes provided the means for segmenting customers based on domains, on separate, individual cluster computer members each having dedicated storage. The front-end layer provided an active-active load balancing. This way, end customers were provided with single entry points for all email services: IMAP, POP, SMTP, WebMail.

The LDAP Authentication and Routing feature also supported the multi-tier setup, allowing account passwords and routing information to be stored in a central point.

The horizontal scalability both at front-end and back-end layers represents a key success factor for SchoolCenter. It allows them to grow by simply adding new servers to the cluster without affecting existing customers at all. It also leads to an increased overall capacity, preventing any system downtime and keeping administrative costs to a minimum.

3.2 Challenges

One of the biggest challenges was generated by one of SchoolCenter's key differentiators: an in-house built content management solution (CMS) specifically tailored for their customers. Deploying a separate mail platform was not an option, as the administration of email services was made through the content management system itself.

SchoolCenter thus required AXIGEN to provide the technical means for a tight integration between their existing CMS and the mail platform. Building on AXIGEN's API along with the Professional Services department and Development support enabled SchoolCenter to achieve this much sought after target: AXIGEN's WebMail interface and provisioning are now tightly integrated with SchoolCenter's content management system enabling them to offer their customers a packaged product that differentiates them from competitors.

"Our primary business is the content management system, but the administration of our email product is actually made through this system. So we had to seamlessly build all the management features to answer this requirement. With AXIGEN's API we were easily able to continue administration through our CMS product", says Shari McMillan-Strack, VP of Product Development at SchoolCenter.

3.3 Seamless Migration

Once the setup was finalized, the next step was to move all SchoolCenter's customers from the previous email solution to the new, state of the art, AXIGEN-based email system. The Professional Services department at AXIGEN created a procedure which would smooth the transition from one platform to the other and enable SchoolCenter to move customers at its own pace. This allowed SchoolCenter to get a live trial of the platform, observe or identify any potential issues before the actual large-scale production roll-out and complete the migration successfully.

4. Implementation Benefits

The implementation of the clustered Service Provider Edition entailed significant cost and productivity benefits for SchoolCenter: it allowed them to do more with less, more precisely to be able to **grow their base of supported customers to more than 200,000, while cutting down hardware investments by 40%**, as compared to their previous Vpopmail/qmail + MySQL setup.

The flexible licensing, with simple and inexpensive upgrade procedures, and 24x7 technical support services also weighted in favor of the AXIGEN messaging solution.

4.1 Benefits for SchoolCenter

■ Seamless integration of AXIGEN's CLI API into SchoolCenter's CMS

The provisioning of domain and account operations has been integrated in SchoolCenter's existing Customer Management System through the use of the **AXIGEN Command Line Interface (CLI)**. Existing customers are thus able to use the same management interface as before AXIGEN in order to perform domain and account operations such as creating new accounts, modifying passwords and aliases and so on.

■ Structured administration and differentiated user groups

SchoolCenter works with school district administrators, teachers and staff to assist them in effectively communicating with their stakeholders: students, current and prospective parents, community members, vendors and government. At the core of this streamlined email communication process stands the ability of setting differentiated service levels and permissions according to each user's role within the district.

AXIGEN Mail Server's **Delegated Administration** feature enables SchoolCenter to create multiple administrative users and groups with predetermined membership hierarchies and permissions, having limited administrative rights, thus allowing the delegation of administrative tasks for a specific domain/sub-domain or even for specific domain or sub-domain operations (such as creating and managing new users, mailing lists, groups etc).

SchoolCenter administrators can also create **classes (groups) of accounts** with different behavior patterns in order to provide basic and premium accounts, with differentiated service levels (such as allowed services, message size quota, filters applied etc).

“A feature that we most definitely appreciate is the possibility to assign mail administrators per specific domains and the ability to have multiple administrators per domain. From our perspective, in school districts, we allow administrators to manipulate filters, users or mailing lists etc. Some of our larger schools can have multiple email domains, and many thousands of users to administrate, so it would not be reasonable for one postmaster or one person in that school to administer all those duties. Allowing him the possibility to assign several administrators within its school district or specifically assign him to a domain is very helpful”, says Shari McMillan-Strack.

■ **Enhanced management over email sending and receiving**

AXIGEN's SmartProcessing™ technology reduces email processing time to a minimum by enabling the server to automatically choose the best course of action based on preconfigured options.

Optimized message processing: messages in the queue can be inspected by the administrator using different filters, such as sender, message size, retry count, etc; different actions (such as: delete, reschedule, send NDR) can be taken on the matching messages. AXIGEN also creates **virtual queues** for distinct remote domains, protecting the server from potential overload generated by multiple simultaneous email sending attempts to an unresponsive domain. All messages for the unresponsive domain are held from delivery until the first email is successfully sent.

■ **Advanced security for all users**

The AXIGEN GrowSecure™ architecture ensures unmatched manageability and control by making it possible to apply **differentiated security policies at server, domain or even user or user groups' levels** (quotas, restrictions, secure password enforcement policies, different AntiVirus and AntiSpam applications).

Administrators can also configure **message acceptance / sending policies** so that the server automatically rejects emails from impersonated and unauthenticated users or emails suspicious to be spam (looping emails, emails with too large attachments etc), while automatically accepting emails that come from trusted sources (Whitelisting) or from secure connections.

Profanity filtering: SchoolCenter's 'Student-Safe Email' system is based on AXIGEN's ability to apply word list filtering at every possible level of access in the system. System wide, filtering is only controlled by SchoolCenter Staff. Then each Domain has a "MSA (Mail Systems Admin) Account" which has additional filters that can be applied at the domain level by a designated 'Postmaster' at the school. Finally, each mailbox (end-user) has additional filters that can be applied individually.

■ **Intelligent UltraStorage™**

AXIGEN's intelligent UltraStorage™ system helps avoiding service downtime or loss of data even when dealing with traffic peaks in the email flow or performing complex backup operations.

The storage module identifies and isolates areas with corrupted information in order to prevent data loss. **Keeping a single copy of a message sent to multiple recipients** ensures an effective space management and is particularly useful for distribution lists and groups. Moreover, the sys admin can **add subsequent storage units** to one domain, thus increasing the available space without downtime.

■ Customized support with Service Level Agreement

With AXIGEN Mail Server, Service Providers benefit from around the clock technical support services with guaranteed response time. The support is ensured by a professional team of experts and can be customized according to each company's needs and requirements:

"To all these features and benefits adds AXIGEN's technical support service: they are available 24x7x365 and anytime we have an issue, or a question, they are very responsive. When we came aboard, we had a lot of unique requirements and they satisfied those just for us. When we moved to AXIGEN, or we found a bug, they catered to our needs. I think support is among the top reasons for recommending AXIGEN", says Shari McMillan-Strack.

4.2 Benefits for administrators at domain level

(eg. School District Technology Coordinators)

Precise selection of service availability per domain / account: administrators can **enable or disable specific sets of services** (IMAP, POP3, WebMail, RPOP etc) in order to differentiate end-user service levels. In addition to this, the **sub-domain management** feature enables sub-domain creation and management tasks to be delegated to different administrators.

4.3 Benefits for end users

Through the implementation of the AXIGEN Mail Server, SchoolCenter provides customers with advanced messaging features and customization settings to help them increase efficiency and bring a personal touch to their email experience. They benefit from:

Per domain WebMail look-and-feel important for schools wishing to preserve the visual identity, logo or other settings that their staff or students are already familiar with; as well as a plethora of customization options for how the WebMail interface is displayed (e.g. Messages per view, HTML/Text message)

Local access to mailboxes through standard email clients set up with either POP or IMAP

SchoolCenter is also in the process of extending their email service offering by implementing AXIGEN's advanced groupware and collaboration features such as Personal Organizer (Calendar, Tasks, Notes and Journal), shared folders and permissions, public folders, free/busy status based on calendar events, sending emails in the name of other users, Outlook Connector.



About **AXIGEN**

The Mail Server For IT Professionals

Established in 2001, Gecad Technologies SA, member of the GECAD Group, is the vendor of AXIGEN, a messaging solution for professionals that ensures an efficient and secure worldwide communication environment and business growth for both service providers and companies of all sizes. Currently, AXIGEN is distributed internationally by over 200 partners from 80 countries and manages email traffic for more than 11,000 companies with 6 million end-users.

Our team of seasoned professionals, with 15 years of experience in messaging and IT security delivers cutting-edge products, by developing an innovative carrier-class technology based on proprietary architectures such as AXIGEN GrowSecure™, AXIGEN SmartProcessing™ and AXIGEN UltraStorage™.



For more information, please visit:
www.axigen.com