

# **Email Gateways Using MDAemon 6.0**

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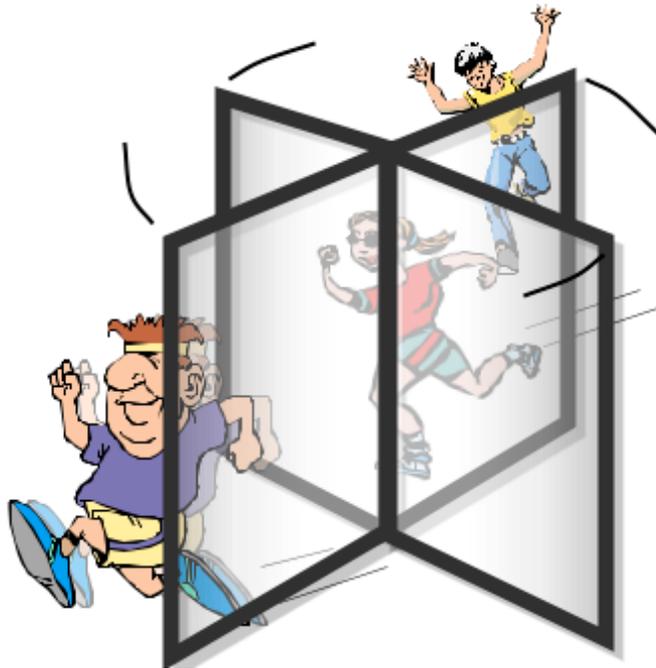
## Abstract

An email gateway collects, stores and forwards messages to a primary domain server. A gateway typically has no individual accounts. Email gateways can help both large and small enterprises solve some of the problems inherent to Internet email services. For a small organization, a gateway can make a private email domain affordable. This is because a service provider supplies the gateway at a reasonable cost by sharing the hardware and software with other smaller ventures. The primary domains in such cases can have either permanent or dialup connections to the Internet. Larger establishments can employ security-hardened gateways to provide protection and content filtering for their more vulnerable enterprise email systems. Gateways can also be configured to supply automatic realtime mail storage backup when a primary domain goes offline for any reason. One copy of MDaemon can simultaneously operate gateways for dozens of email domains, even while running a primary domain server of its own.

# Gateways

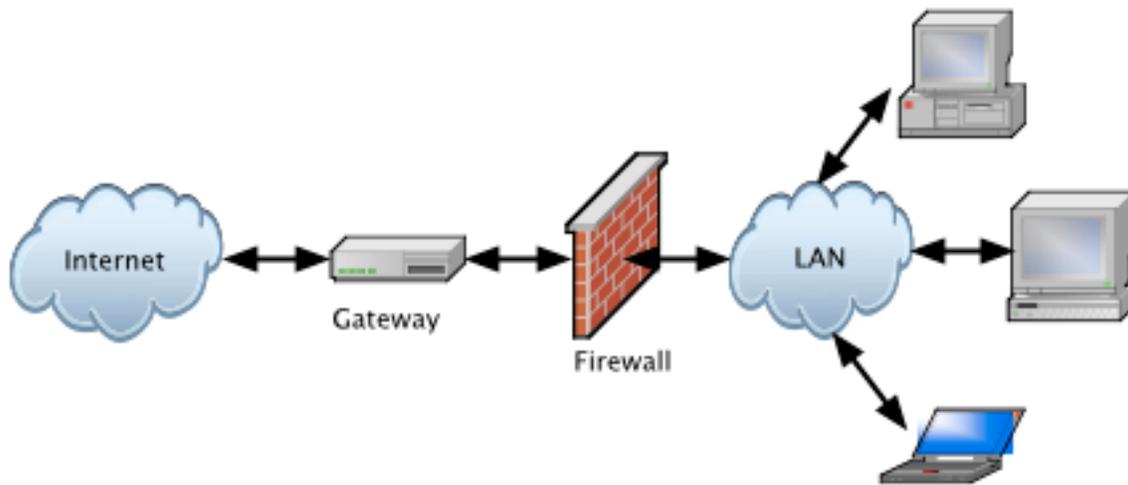
## Real Life Gateways

In real life a gateway regulates the flow of people and things. It might be a revolving door, a traffic light, a turnstile or, well, a gate. Gateways serve many purposes. On the street the traffic light increases safety and usually smooths the movement of traffic. The gate at the concert hall slows the inflow of the crowd for the ticket taker. The amusement park gateway limits the number of people who can get on a ride. In theory, gateways may sound like restrictive devices, but in practice, they improve the quality of life. In or out, a gateway regulates clutter.



## Digital Gateways

A gateway in a digital communications network is a machine connected to the Internet or some other large system. The gateway shares its connection with other computers on a local network. It can serve as a buffer between the larger network and the local computers. It can route and limit network traffic in both directions. It might provide security. A gateway can also operate with an optional firewall. The illustration shows a network gateway and firewall at work.

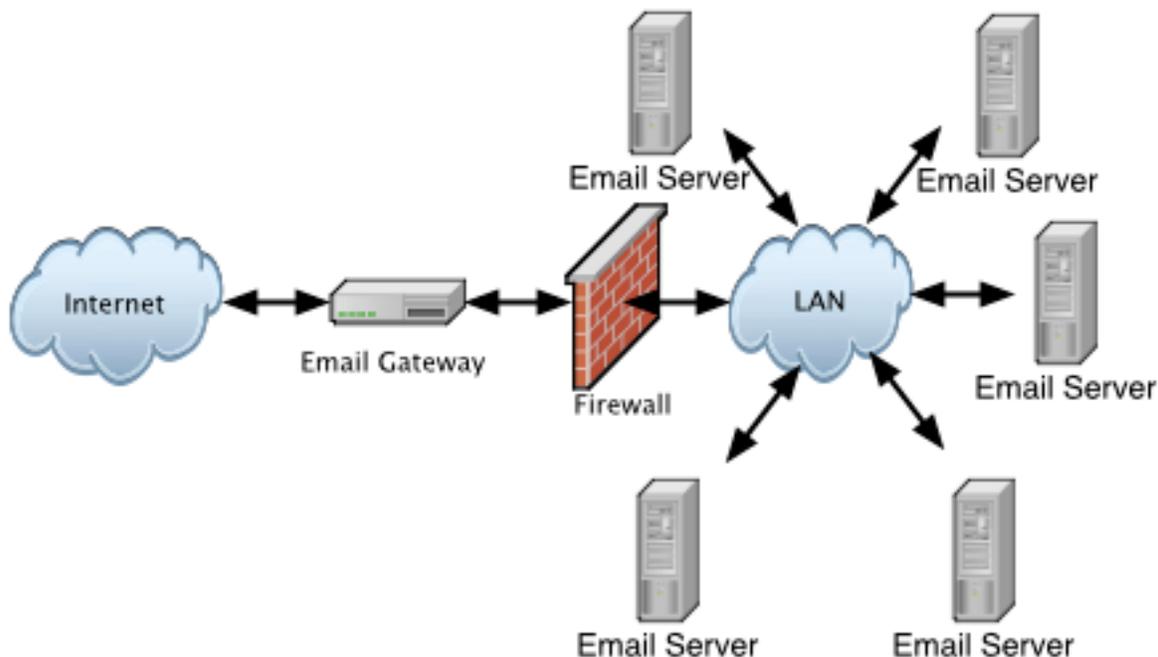


## Email Gateways

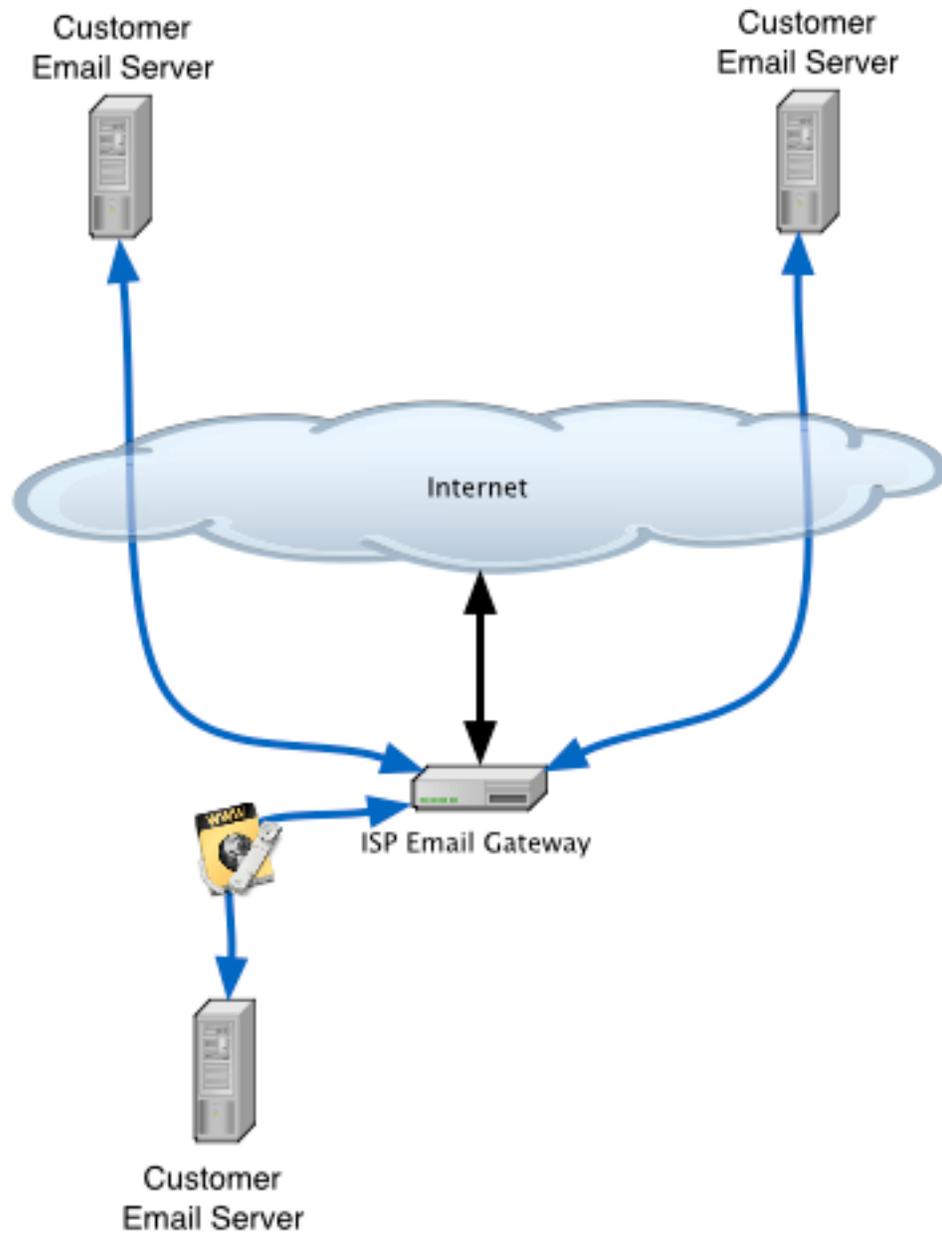
An email gateway is similar to one serving a network. It regulates and routes email for one or more domain servers. For company use, it typically sits on the Internet side of a network and collects messages for internal servers. For a service provider, an email gateway collects messages for multiple customer domains. Except for special uses, the email server does not contain any accounts of its own. For both companies and service providers, the email gateway simply stores incoming messages then forwards them to the specified domain servers using schedules or when polled. Gateways can work with both online and dialup domain servers.

Email gateways can also block unsolicited mail or mail violating company policy before it reaches the domain servers. Optionally, a gateway can join forces with a firewall to provide additional security for the email servers on the protected side. Gateways can also serve as realtime backup devices should the primary server fail.

The first illustration shows a company email gateway serving multiple domain servers located behind a firewall.



The illustration on the next page shows a service provider gateway. The arrow between the email gateway and the Internet represents public messages from any source. The arrows between the gateway and customer servers shows two online and one dialup domain server for customers.



# MDaemon Gateways

## MDaemon Gateway Applications

MDaemon comes with a set of options for configuring, maintaining and operating email gateways. MDAemon gateways can serve multiple applications for corporate and service provider email systems.

### Service to Multiple Domains

One copy of MDAemon can simultaneously serve as a gateway for dozens of email domains. The messages for each domain can be sent to or accessed by only authorized domain servers so the mail is secure. Mail from the gateway can be forwarded to a host or to a single email address. In the first case, forwarding would be similar to conventional relaying between a mail sender and a mail receiver. Forwarding to an email address is typically used for DomainPOP, ETRN and ATRN applications where the email domain server connects to the gateway through a dial up line.

### Security Front End

MDaemon is a secure email server. When deployed as a gateway, it can function as a safe front end for email servers more vulnerable to break in. In a typical application, an MDAemon gateway would sit outside the firewall and collect messages. The messages would pass to the protected domain servers through a single port in the firewall. In this way the more assailable domain servers are protected by the more security-hardened gateway.

### Virus and Spam Front End

MDaemon contains tools for server-side scanning for viruses, spam and policy violations. These tools provide fast performance. By deploying these checks at the gateway level, an enterprise or service provider can reduce or eliminate these problems for the primary email servers.

### Low Cost Dial Up Interface

Sometimes adding dial up functionality to a large corporate email server costs hundreds or thousands to purchase and deploy the hardware and software. Dial up capability comes standard with MDAemon. If the server hardware hosting MDAemon provides access to a modem, the standard gateway can receive calls from or initiate calls to domain servers. This eliminates the need for add-ons.

### Live Backup

An MDAemon gateway can provide “dynamic” backup for a primary domain server. This backup uses Mail Exchanger (MX) records. It configures the gateway as a lower priority email destination. If the primary domain server fails, the gateway collects and stores all messages until the server goes back online.

## Manual Configuration

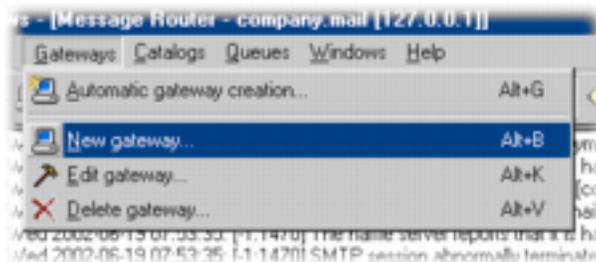
Manual configuration is for setting up the gateway as a relay to one or multiple email domain servers. Each destination can contain customer configuration options. Enterprises and service providers might manually configure a gateway for each of their customers including tailored options. The *Gateway Configuration* section of this paper provides an overview of the options.

## Automatic Configuration

If gateways are intended to backup multiple domain servers, automatic configuration can save time and work. The primary use of this function is to automatically back up mail delivery for a failed server without having to manually set up the gateway options.

## Gateway Configuration

Gateway configuration is for manually setting up gateways plus defining templates (patterns) for automatic gateway creation. All of the commands are available through the Gateways menu. This menu provides commands for creating, editing and deleting gateways.



MDaemon can handle hundreds of gateways. Performance depends on the hardware configuration and the amount of traffic on the network connection.

## Manual Gateway Configuration

Manual configuration requires some knowledge of email processing, but not formal study of information technology. This is consistent with MDaemon's ease of use for amateur administrators as well as for experts.

Creating a gateway uses the Gateway Editor dialog.

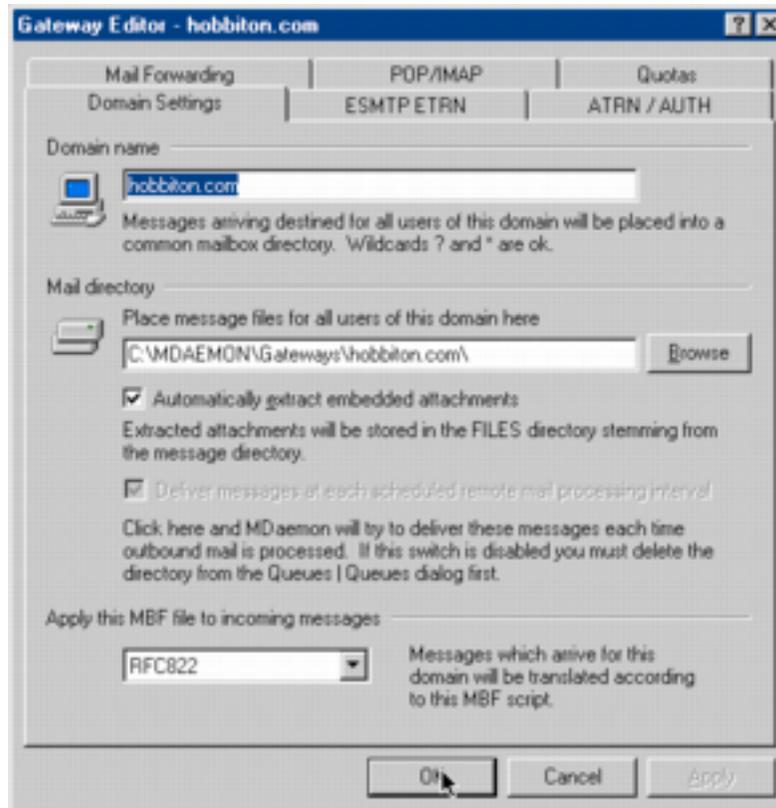
Gateway editing also uses the same dialog. This dialog contains all of the options for configuring a gateway. The options are available in tabs for:

- Domain settings
- Mail forwarding
- ATRN options
- ETRN options
- POP or IMAP account setup
- Quotas for controlling the number of messages or total size of all messages to store.

The domain settings and mail forwarding tabs are most commonly used for setting up gateways for constantly online primary servers. The POP/IMAP, ATRN and ETRN tabs are for dial up primary domain servers.

### Domain Settings

The domain settings apply to every gateway.



Items on this tab include controls for :

- Entering the domain name
- Setting the mail directory for the domain
- Extracting and storing attachments
- Setting the delivery schedule

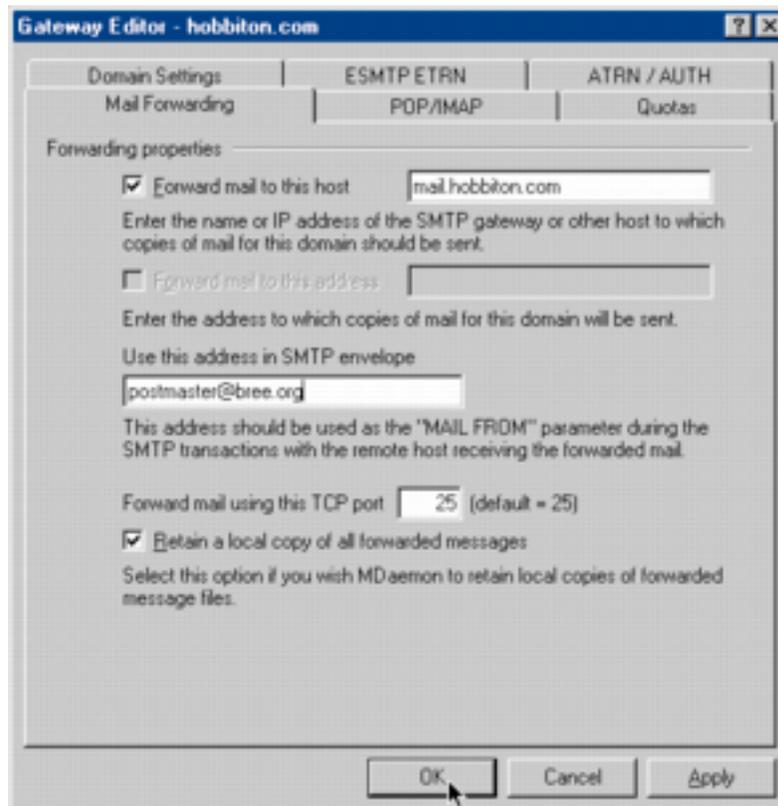
Every gateway should be named for its domain. For example, the gateway for *altn.com* would be named *altn.com*. While this may seem to be an obvious policy, it helps keep track of settings, especially for machines hosting multiple gateways. The gateway name also becomes the name of the folder storing the emails, but the administrator can manually change this, for whatever reason.

At the domain level, the gateway can strip out all attachments. This is basically used for compatibility with domain server software that disallows attachments. While this option could be used for stopping the spread of viruses by eliminating all attachments, that is not the purpose of extracting attachments. Virus, spam and content filtering should be accomplished using the MDAemon tools designed for these purposes.

Often a gateway waits to send its messages until contacted by the primary domain server. This is especially true when the primary domain server uses a dialup connection. However, the gateway for domain can be set to send out messages at the time all mail is processed.

### Mail Forwarding

Mail forwarding is what gateways do. This tab tells the gateway where to forward the mail. The gateway can forward mail to a primary domain email server or an account.



The controls are for:

- Entering the name of the primary domain server.
- Entering the name of the “forward to” account
- Entering an SMTP “from” address
- Setting a port number for sending the messages
- Determining whether to keep a copy of all forwarded messages

The domain server name can be a DNS name such as *mail.altn.com* or an IP address such as 192.168.1.104.

The account name to receiving all mail sent to one email account on the primary domain server; it is mutually exclusive with the domain server name.

The SMTP “from” address is just for an “envelope” used for forwarding; it does not change the “from” address the final recipient sees.

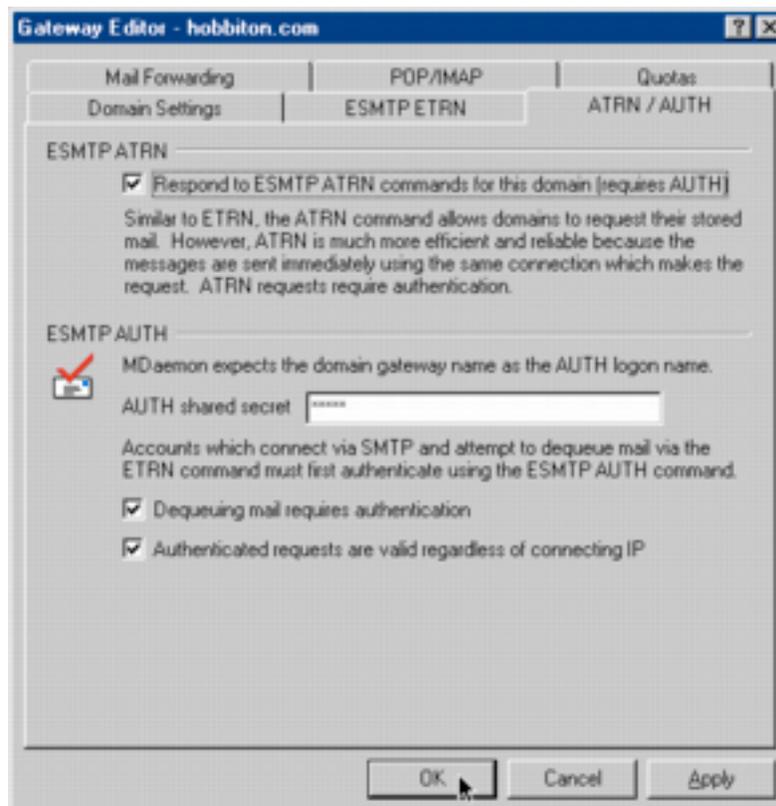
The port number is the software port used for sending the messages. By default this is port 25, the industry standard, but can be set to another port. Setting this to another port can provide additional security against snoopers. The receiving primary domain server must be configured to look for mail on the port set here. Most domain servers look for mail on port 25 by default.

### *ATRN/ERTN/DomainPOP*

The ATRN, ETRN and DomainPOP tabs are for configuring connections with dialup domain servers. All three enable a dialup server to receive its mail from a gateway and send the messages to the correct recipients. A gateway can only use one of these methods. Of the three, ATRN is the most recent technology and ETRN is the most widespread. Both ATRN and ETRN are Internet mail standards. DomainPOP is an invention of Alt-N. ATRN and ETRN must be enabled on the primary domain server for these capabilities to work.

**ATRN/AUTH** allows messages to be transferred between MDAemon and a primary domain server on demand. If the primary domain server supports ATRN this is the preferred system to use. It can replace the DomainPOP system. It also overcomes some potential security holes in ETRN. ATRN does not require elaborate configuration or message parsing, as does DomainPOP. It is 100 percent reliable.

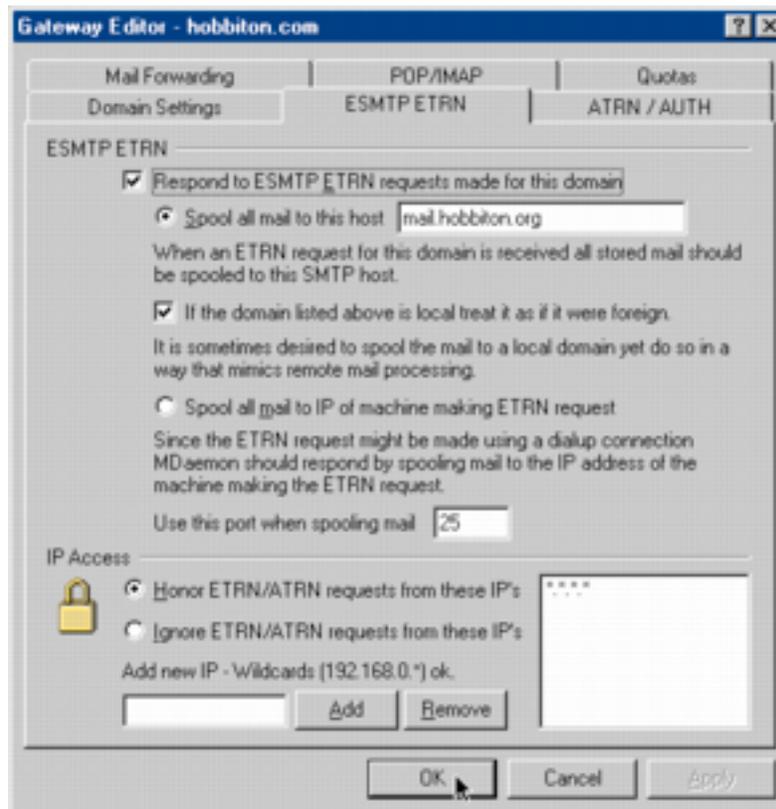
The ATRN/AUTH tab shows that ATRN is very simple to configure.



It contains controls for:

- Enabling ATRN
- Setting the shared secret (password) required for both the gateway and primary domain server
- Determining if authentication is required for dequeuing
- Determining if the IP address must be valid to accept authentication

**ETRN** allows two SMTP hosts, a client and a server, to exchange messages on request. This is usually done through a dialup connection. In practice, the client email server contacts a host email server and requests the sending of messages for email accounts on the client. ETRN has some potential security holes, but these can be overcome through IP access management.



The ETRN tab contains options for:

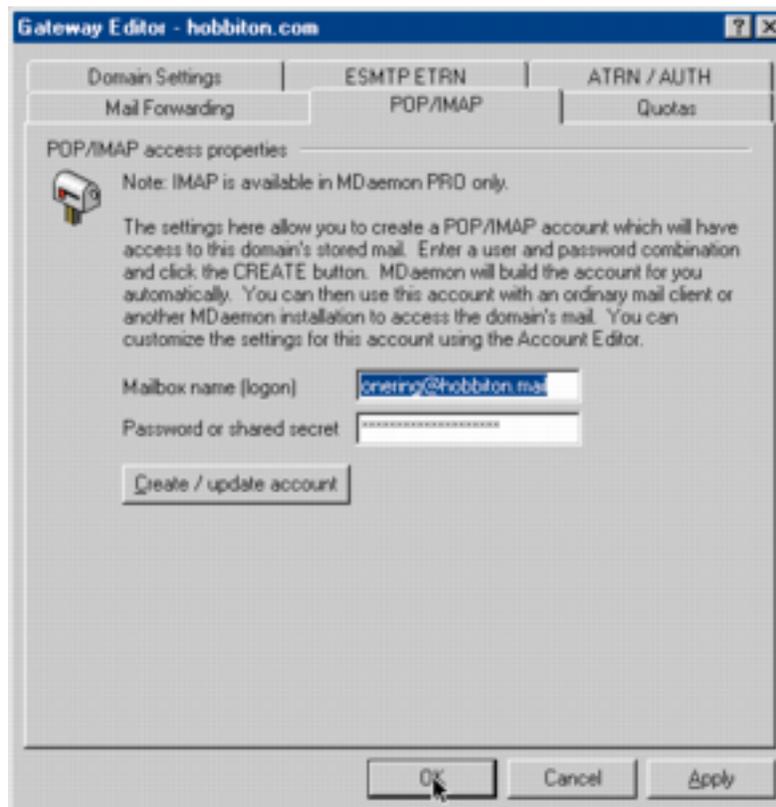
- Enabling ETRN for the gateway
- Setting an email server to receive the messages
- Choosing to always send mail to the IP address of the machine requesting the mail
- Setting a communications port
- Enabling and disabling connections by IP address

The most secure ETRN connections occur when:

- The address of the primary domain server is specified. Mail is not spooled to the machine making the request, but always to a specified address.
- ETRN commands are accepted from only a specified list or range of IP addresses.

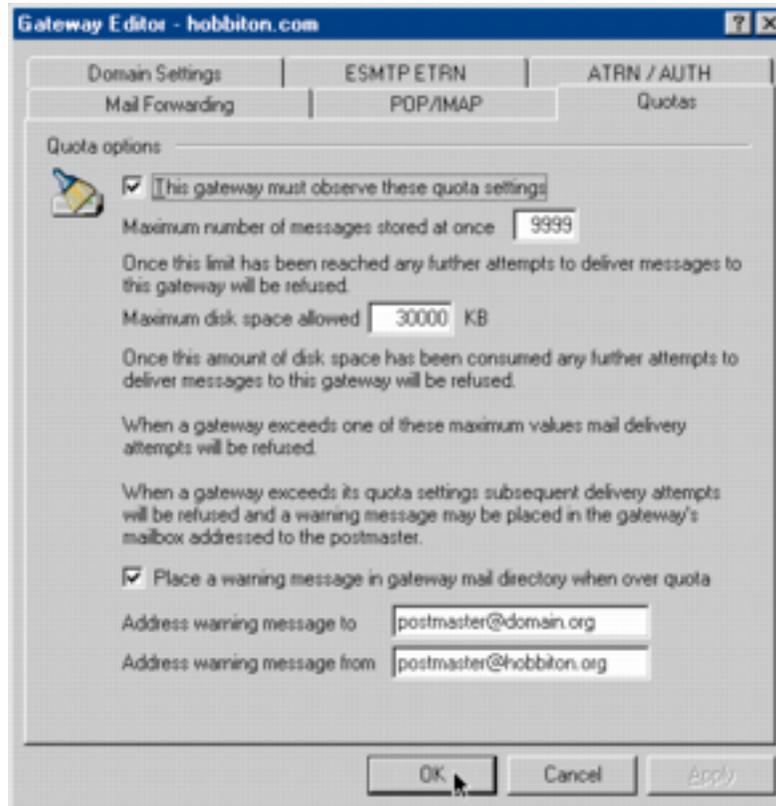
**DomainPOP** allows MDAemon to download mail from a remote POP mailbox for redistribution to users. This allows a primary domain server with limited traffic to periodically connect to a service provider to collect mail. It requires the set up and periodic maintenance of email parsing rules.

The POP/IMAP dialog allows for setting up an email account with access to the mail in the gateway. This is the account DomainPOP uses when requesting messages from the gateway.



## Quotas

Quotas set limits on the number of messages or amount of space a gateway can use on a gateway server. If the gateway exceeds the limits, MDAemon accepts no more messages until something is deleted or the quota is increased. This is useful if a mail server has limited disk space or if a service provider charges for disk space usage.



The Quotas tab has text boxes for entering the:

- Maximum number of messages
- Maximum amount of disk space
- Email address to notify when quotas are reached
- “From” email address for the notification

There are also controls for enabling quotas and notification.

## Automatic Gateway Configuration

Automatic Gateway Configuration is designed for creating a dynamic backup for one or multiple primary domain servers. MDAemon can do this economically with one gateway for each server. A backup gateway is active only if the primary domain server goes offline for any reason. If MDAemon is providing backup for multiple primary servers, setting up the gateways can be time consuming and therefore expensive. To help solve this problem, MDAemon can automatically create backup gateways as they are needed.

For secure operation, automatic gateway creation relies partly on Mail Exchanger (MX) records. MX records contain publicly available information for determining the email server address for each domain. Every domain, such as *altn.com* has an MX record. To allow for “dynamic” backup of email, MX records can define more than one email server as a delivery destination. The servers are given priorities, which say, in effect, “If you cannot deliver the messages here, try there instead.”

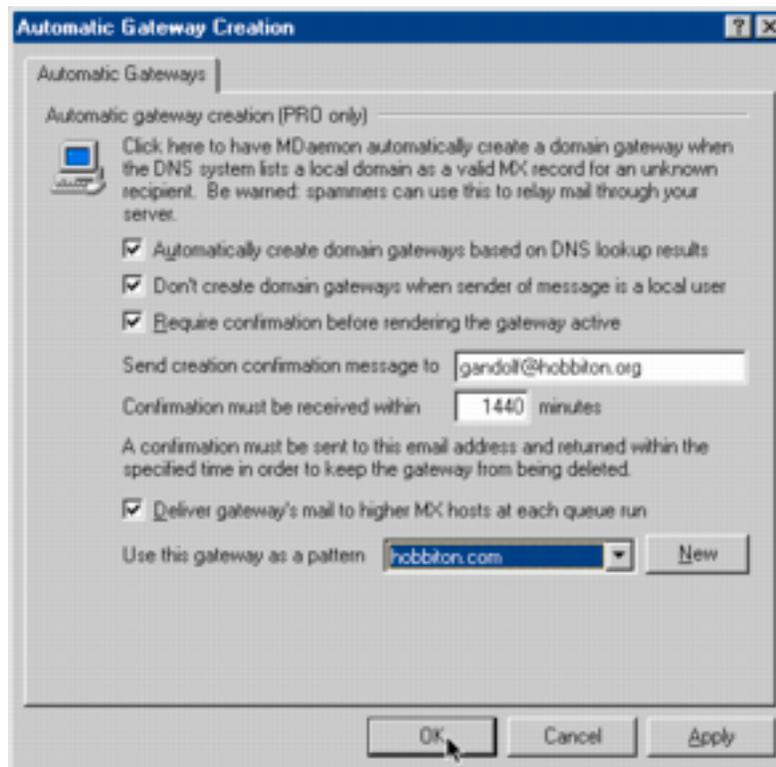
Here is a sample of a partial MX record.

```
oohay.com.      1D IN MX 30 gateway.oohay.com.  
oohay.com.      1D IN MX 10 mail-in.oohay.com.
```

The circled numbers mark the delivery priority. The lower the number, the higher the priority. The gateway has a lower priority.

When an MDAemon gateway is listed as a lower priority destination, it receives email messages if the primary server becomes unavailable. The gateway collects and keeps all of its incoming email until it can deliver the messages to a primary domain server. The gateway determines the address of the primary server by checking the MX records for the domain.

Automatic configuration starts up when the gateway receives an email from an unknown domain. The gateway checks the MX record for the domain. If the record includes the gateway address as one of its email servers, MDAemon automatically creates a gateway for the domain using a template. Because spammers can exploit this feature on a publicly accessible gateway (by adding the gateway address to their MX record) automatic configuration includes an optional manual confirmation.



The Automatic Gateway Creation dialog contains controls for:

- Enabling automatic gateway creation
- Limiting gateway creation to remote domains
- Requiring confirmation before activating a gateway
- Sending confirmation messages and setting the maximum time to confirm
- Configuring the gateway to send mail to the mail server with the next highest priority
- Selecting a template to use for automatic gateway creation