



MIRAPOINT®

Implementing Emergency Broadcasts

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1 Executive Summary

Disasters happen, and when one occurs, you need to be able to communicate immediately with your user community. Recent headline events have highlighted the need for emergency broadcasts to all users. However, more mundane disasters such as a major snow storm or a power outage may require you to communicate information to your workforce or campus population in as rapid a manner as possible.

Mirapoint provides several methods of performing emergency broadcasts – each with its own strengths and underlying considerations. This white paper discusses the advantages of the different methods.

1.1 Introduction

There are many distinct methods that can be utilized to send broadcast messages to the user population. These will be discussed below, and include:

- Broadcast Mailbox
- The E3_broadcast patch
- Distribution Lists
- Distribution List Manager
- Banner Advertising
- User Message Filters
- SMS Emergency Broadcast System

All of these techniques will work with MOS v3.6 or later releases, but may require additional systems, software and/or licenses.

2 Broadcast Mailbox

The broadcast mailbox is built into each and every currently supported Mirapoint MOS release and does not require any additional licenses to implement (although a small number of IMAP licenses would assist in usage). Messages placed into the broadcast mailbox are directly delivered to each user INBOX when that user logs into the system.

2.1 Strengths

- Bypasses user filters, forwards and auto-replies to ensure delivery into the INBOX
- Not processed by antispam scanners
- No additional licenses or systems required for implementation

2.2 Important considerations

- Increases login time irrespective of if broadcast messages are available
- Can cause load issues during peak access periods
- Domain centric (a single system-wide message cannot be delivered to all domains)
- Single box only (so if a domain spans multiple appliances, multiple mailboxes must be used)
- One broadcast mailbox per domain can be used
- Does not scale well because you must deliver the message to each user
- Only delivers on login (if the user is already logged in, delivery does not happen)

2.3 Configuration

The broadcast mailbox must be established before it is required. To create a mailbox within a domain, first select the domain (if using delegated domains), then create a mailbox, and then set the mailbox as the broadcast mailbox.

```
DOMAIN SETCURRENT domain.com
MAILBOX ADD broadcast
MAILBOX SETACL broadcast anyone +lrs
MAILBOX SET BROADCAST broadcast
```

In addition, it will be necessary to provide access restrictions to the mailbox. For example, to ensure that only administrators can publish broadcast messages, use the following:

```
MAILBOX SETACL broadcast administrators +lrswip
```

2.4 Usage

You should not use distribution lists and allow users to email the broadcast mailbox. This will open up a security hole and probably cause a load problem if users find out they can email the broadcast mailbox. We recommend as a best practice, that you set up a distribution list called "emergency-broadcast" which has the system administrator as the recipient. After reviewing the message, the administrator can appropriately deliver the emergency broadcast message.

To submit a broadcast message, the Administrator should compose a message and send it to himself (thus obtaining all the appropriate headers and formatting). The Administrator should read the message in an IMAP capable client (for example, Mozilla Thunderbird, Mac Mail or similar). When the message is to be delivered, the Administrator can simply drag the message into the broadcast mailbox.

For broadcasting to more than one thousand mailboxes, Mirapoint recommends as a best practice the use of E3_broadcast. This is documented in the next section of this document.

3 E3_broadcast Enhancement Patch

To provide the benefits of the broadcast mailbox with the benefits of a distribution list, Mirapoint produced an enhancement patch known as E3_broadcast. Like the broadcast mailbox, messages are delivered to all users within the domain (thus alleviating the need for active care of a list). Like the distribution list mechanisms, the messages are delivered via normal delivery mechanisms (thus they obey user filters and forwards). Unlike either mechanism, E3_broadcast uses a background process to deliver messages at around 50-100 messages per second, which is much more scalable. For example, a school of 25,000 mailboxes can expect delivery in approximately 10 minutes.

3.1 Strengths

- No additional licenses or systems required for implementation
- User filters and forwards apply to messages (for mobile devices / external accounts)
- Not processed by antispam scanners
- Can handle multiple broadcast mailboxes
- Scalable solution
- Operates with auto-provisioning

3.2 Important Considerations

- Domain centric (so system-wide message cannot be delivered to all domains)
- Single box only (so if a domain spans multiple appliances, multiple mailboxes must be used)
- If a user is over quota, they won't see the message

3.3 Configuration

The E3_broadcast patch needs to be installed prior to usage. It is expected that this patch will be integrated into a future MOS release.

To install the patch, type the following:

```
UPDATE INSTALL ftp://ftp.mirapoint.com/pub/updates/E3_broadcast
```

To create a broadcast mailbox, firstly prepare a mailbox for use:

```
MAILBOX ADD emergency-broadcast  
MAILBOX SETACL emergency-broadcast administrators +lrswip  
X-BROADCAST ADD emergency-broadcast
```

To see which mailboxes are currently enabled as broadcast mailboxes, use the following command:

```
X-BROADCAST LIST
```

Please note: the mailbox name in these commands is case sensitive.

3.4 Usage

As with the broadcast mailbox (see 2.4 above), to submit a broadcast message, an approved user should compose a message and send it to himself (thus obtaining all the appropriate headers and formatting). The approved user should then read the message in an IMAP capable client (for example, Mozilla Thunderbird, Mac Mail or similar). When the message is to be delivered, the approved user can simply drag the message into the broadcast mailbox.

4 Distribution Lists

Mirapoint has a distribution list system that can be used for delivering messages to a distribution list. The distribution list for “everyone” or “emergency-broadcast” needs to be put into LDAP so that distribution list controls (such as allowed senders) can be provided. In addition, as a new user is added or a user is deleted from the system, the distribution list must be updated.

The LDAP Routing license is required for this functionality.

4.1 Strengths

- Multiple domains can be handled
- Multiple appliances can be handled
- Subject to forwards (for delivery to mobile devices or external accounts)
- Distribution lists can be nested

4.2 Important Considerations

- Delivery can be slow depending on the size of the distribution list
- Users may get multiple copies of the same message, if they are on multiple lists
- Subject to filters (so no guarantee that the user will receive the message)
- Subject to antispam scanning (so no guarantee that the user will receive the message)
- Subject to auto-replies (so bounces must be handled)
- Requires LDAP Routing license and an LDAP Directory Server
- Requires constant supervision to ensure all users are in the distribution list
- Does not scale well because a message gets delivered to every member of a managed list

4.3 Configuration

The first step to configuration is to ensure that LDAP Routing is enabled and working on each host. Ensure particularly that the LDAP group expansion is working (test the mailgroup:members and mailgroup:allowedbroadcaster LDAP queries). This step is beyond the scope of this document. However, full information is available in the Message Server Administrator’s Guide. Once LDAP configuration is done, create an LDAP entry as follows:

```
dn: cn=emergency-broadcast, o=Top
objectclass: mailGroup
cn: emergency-broadcast
mail: emergency-broadcast@domain.com
mgrpAllowedBroadcaster: user1@domain.com
mgrpRFC822MailMember: user1@domain.com
mgrpRFC822MailMember: user2@domains.com
```

Note that the attribute mgrpAllowedBroadcaster can be specified multiple times and includes the email address of each person allowed to send to the emergency broadcast list. Also, the attribute mgrpRFC822MailMember is specified multiple times and includes the email address of each person to receive the message. Since the size of an LDAP entry is limited, the number of email addresses that can be delivered to is also limited. In this case, it is best to split the list up into smaller sub-lists (each of which is set up the same way) and then include the sub-lists in the emergency broadcast list. For example, you could split by domain, department, or anything else you deem appropriate.

To ensure that fake broadcasts are not allowed, SMTP Authentication should be used. Consult the Mirapoint Message Server Administration Guide for details.

5 Distribution List Manager

A number of open-source distribution list managers integrate seamlessly with Mirapoint since they only use Mirapoint for the outbound delivery. In each case, the user can generally choose to subscribe or not to the emergency broadcast system, and access is generally controlled.

5.1 Strengths

- Multiple domains can be handled
- Multiple systems can be handled
- Flexible approval process
- Very scalable
- Subject to forwarding (for delivery to mobile devices or external accounts)
- Distribution lists can be nested

5.2 Important Considerations

- Requires an extra system to run the DL Manager
- Delivery can be slow (depending on the DL Manager)
- List must be maintained as users are added and removed
- Subject to filters (so no guarantee that the user will receive the message)
- Subject to antispam scanning (so no guarantee that the user will receive the message)
- Subject to auto-replies (so bounces must be handled)

5.3 Configuration

With a Distribution List Manager, no special configuration of the Mirapoint hosts is required. If you have a functioning Mirapoint mail service, then the Distribution List Manager will integrate easily. Mirapoint knows of the following List Managers that have been integrated in the past:

<i>Name</i>	<i>Website</i>
GNU Mailman	http://www.gnu.org/software/mailman/
LISTSERV	http://www.lsoft.com/
Sympa	http://www.sympa.org/
Dada Mail	http://mojo.skazatt.com/
Majordomo	http://www.greatcircle.com/majordomo/

6 Banner Advertising

If you use Mirapoint WebMail exclusively, then you can alter the WebMail home page to include the message that you wish to deliver. Many organizations use a custom entry point from their portal, in which case, the portal can be updated.

In addition, Mirapoint allows the addition of an “Advertising banner” to be included in WebMail Standard Edition. This can be used for alert messages as easily as banner advertising.

6.1 Strengths

- Easily implemented by anyone who can write HTML
- Very scalable because individual messages are not sent to each user
- Not subject to antispam scanners

6.2 Important Considerations

- POP or IMAP users will not see banner
- Requires a re-start of the WebMail service (which logs everyone out)
- User might not notice the banner

6.3 Configuration

Refer to the Mirapoint Branding Guide for information on how to brand the Mirapoint WebMail.

There are four places that you will need to alter to ensure adequate coverage:

- The login page for WebMail Standard Edition
- The login page for WebMail Corporate Edition
- The advertisement banner in WebMail Standard Edition
- The advertisement banner in WebMail Corporate Edition

After you have downloaded and unpacked the brand file, the following files should be edited:

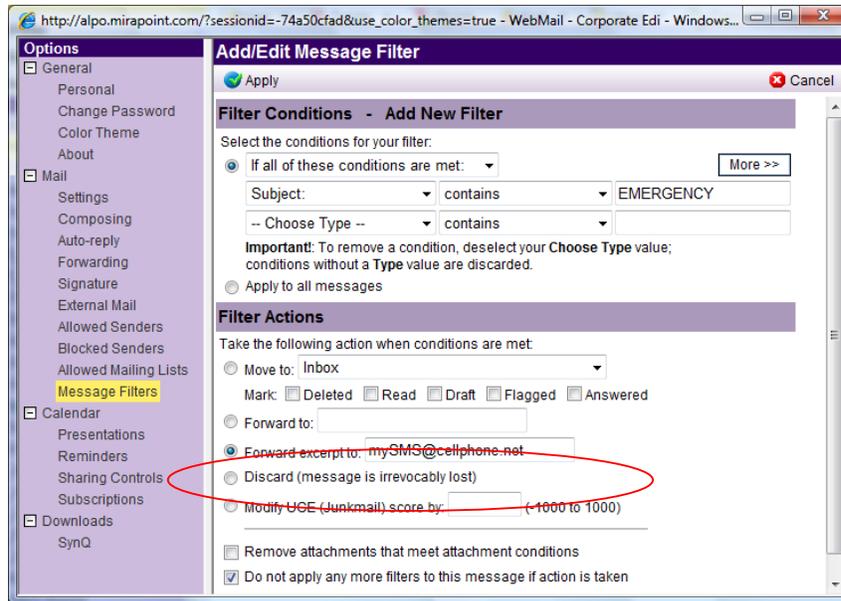
- `Mirapoint_apps_3.x/mail/locale/en_US.ISO-8859-1/login.html`
- `Mirapoint_apps_3.x/eml/locale/en_US.ISO-8859-1/login.html`
- `Mirapoint_apps_3.x/mail/locale/en_US.ISO-8859-1/banner.html`
- `Mirapoint_apps_3.x/eml/locale/en_US.ISO-8859-1/banner.html`

Once editing is complete, pack up and publish the brand file again. Remember to start and stop the WebMail service to ensure the changes are recognized.

7 User Message Filter with Forward Excerpt

Mirapoint's user filter mechanism offers a "Forward Excerpt" feature which can provide additional benefits in an emergency situation. An individual user can create a filter rule such that any message delivered to their mailbox with "Emergency" in the subject will result in an excerpt forwarded to their SMS/mobile phone, or alternate email address. In order for this feature to be effective in a campus wide emergency, it would need to be used in conjunction with the E3_Broadcast or Distribution List manager solutions listed above. But this solution has the added benefit that it could also be used for personal emergencies as well. (Such as having your spouse or boss send you a message with "Emergency" in the subject.)

For example:



7.1 Strengths

- Users do not need to have email connectivity to get a notification because a copy gets sent to their SMS/mobile phone

7.2 Important Considerations

- A unique message filter is required for each user. It is expected behaviour that this filter will be created by each individual user.
- Mirapoint Professional Services can provide a site specific application which will automatically create these unique message filters for each and every user with an SMS address. Consult your Mirapoint Sales Representative for more information.
- Users must keep their SMS/mobile phone numbers updated in the user directory
- Requires SMS/cell phone connectivity
- Subject to anti-spam scanning
- Processing a user filter for a large population could place an unacceptable load on the system

7.3 Configuration

Each user can create this filter (and others if desired) on their own. Mirapoint Professional Services can also provide a site specific application which will automatically create a unique message filter for each and every user with an SMS address. Consult your Mirapoint Sales Representative for more information.



8 SMS Emergency Broadcast System

Mirapoint Professional Services offers a standalone Appliance specifically designed as an Emergency Broadcast System. The mechanism is an extremely valuable complementary solution to the E3_Broadcast Mailbox and/or list service mechanisms described above.

8.1 Strengths

- Users do not need to have email connectivity to get a notification, a copy goes to their SMS/mobile phone almost immediately
- The SMS Emergency Broadcast System operates independently of the mailbox message delivery methods described above thus bypasses any inherent latency issues.
- Bypasses the need to create a unique user mail filter for sending the SMS message

8.2 Important Considerations

- Requires a complementary Mirapoint Appliance delivered by Mirapoint Professional Services
- Users must keep their SMS/mobile phone numbers updated in the user directory
- Requires SMS/cell phone connectivity
- Subject to anti-spam scanning
- Subject to SMS carrier latency

8.3 Configuration

Mirapoint Professional Services provides an effective SMS Emergency Broadcast system tailored specifically to meet the customer configuration. The SMS Emergency Broadcast system will automatically send an SMS message based upon a Customer defined trigger mechanism to each user contained in the user directory. Consult your Mirapoint Sales Representative for more information.



Appendix A

About Mirapoint

Founded in 1997, Mirapoint is the market leader in appliance-based solutions for secure message networks in enterprise, service provider, and education organizations, with more than 115 million mailboxes served and secured worldwide. Mirapoint messaging appliances provide superior security, reliability and performance because they are purpose-built devices. Mirapoint addresses today's messaging challenges with best-of-breed solutions.

Mirapoint's unique appliance-based model simplifies the task of building and maintaining a secure messaging infrastructure that meets the messaging needs of the enterprise. Our appliances deliver bullet-proof security and superior performance with "five-nines" reliability, while dramatically reducing the cost of enterprise messaging.