

Using Distribution Lists (dlists)

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For information related to this topic refer to:

- [Sending Mail to Groups](#)
(<http://www.cmu.edu/computing/email/mail-to-groups/index.html>)
- [Using Mailman Lists](#)
(<http://www.cmu.edu/computing/doc/email/mailman/index.html>)
- [Getting Started with Massmail](#)
(<http://www.cmu.edu/computing/doc/email/massmail/index.html>)

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Introduction

If you send to and receive one time or sporadic mail from smaller groups, you may want to establish a distribution list. Distribution lists are created by placing a list of mail recipients in a file called "distribution list." This file is stored in an AFS directory in your Andrew account. It is conventional to name distribution list files with a ".dl" extension (e.g., group.dl). In general, a different distribution list is needed for each group to whom you want to send mail. The distribution list contains at least two types of information:

- The names of the people on the list
- Information about where errors in the distribution list should be sent (usually, to the person or persons who can fix the distribution list).

Names included in the list must represent actual user ID's as recognized by the mailing system or a valid email address.

Any user at any site can send to a distribution list if he or she:

- can send mail successfully to an Andrew user
- uses the proper notation for sending the mail, as explained below

Note: If you prefer to use a mailing list in which members can join or cancel their involvement as needed, you may want to use the Andrew Mailman System (see the [Using Mailman Lists \(http://www.cmu.edu/computing/doc/email/mailman/index.html\)](http://www.cmu.edu/computing/doc/email/mailman/index.html) document).

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Creating a Distribution List

Users often have more than one distribution list. So, it is common for a user to create a subdirectory in his or her home directory on AFS called, for example, "dl", "dists", or "dlists." In the following example, we assume that Joe User (ju33) has a subdirectory called "dlists" in which he places his distribution lists. He decides to create a distribution list or "dlist" for a group of colleagues who are interested in special education. His distribution list file is called "special.dl" and looks like this:

```
; Errors to Joe's mailbox
Distribution-errors-to: ju33+andrew.cmu.edu
; Distribution list for special-ed colleagues Distribution-content:
eeKr+@andrew.cmu.edu, banana@fruitsalad.stanford.edu, hgCd+@andrew.cmu.edu
(Hal's new addr), pat@cs.cmu.edu
```

Comments and blank lines

Comments are ignored when email is sent to a dlist; they are for your information only. There are two types of comments possible in distribution lists: semicolons and parentheses. The first and fourth lines in Joe's file are semicolon comments; they explain what the other lines do and must start at the beginning of a line (you cannot insert a semicolon in the middle of a line to start a comment). Blank lines, such as line three above, can be inserted anywhere in the distribution list file to improve readability. The eighth line above has a comment in parentheses after an address. This is also an acceptable form of commenting, but you still need to follow the address line with a comma.

Distribution-errors-to

The second line in Joe's file begins with the words "Distribution-errors-to:" (note the colon at the end). This line has to come before the "Distribution-content:" and tells the Message System to return to Joe any error notices generated by the addresses in the dlist. An error notice is generated when mail cannot be delivered to an address included in the distribution list (e.g., a recipient's account may no longer be active). By having rejected mail returned to himself, Joe will be aware of any updates he must make to the dlist.

The presence of the "Distribution-errors-to:" line also avoids another problem. Suppose another user on the dlist, such as eeKr, sent mail to the dlist and generated an error notice because one of the pieces of mail was undeliverable. Ordinarily, the error notice would go back to eeKr because he sent the mail. However, since the undeliverable address is on Joe's dlist, the error notice goes back to Joe, the person who maintains the distribution list. The "Distribution-errors-to:" line ensures that no matter who uses Joe's dlist, any error notices go back to Joe, who can then correct the list.

If no "Distribution-errors-to:" line appears in a dlist, the Message System will form an address from the name of the owner of the dlist file (usually, the owner is the person who created the file). For example, if Joe did not include a "Distribution-errors-to:" line in his dlist, the address to which error notices are sent would be "ju33+@andrew.cmu.edu". In Joe's case, the end effect is the same with or without his "Distribution-errors-to:" line, as long as he remains the owner of the file.

There are conditions under which ownership of the dlist file can change. For example, some text editors cause the owner to become the person who last edited the file. If you omit the "Distribution-errors-to:" line from your dlist, you should check the dlist file periodically to see that you are still the owner (by typing "ls -l" filename), particularly if more than one person is maintaining the dlist. In addition, other users may want to do more complex routings of error notices as described in the section on "Advanced examples." In those cases, an automatically-formed address would not necessarily correspond to what the user would have specified in the "Distribution-errors-to:" line.

Distribution-content

The fifth line in Joe's file begins with "Distribution-content:". This signals the beginning of the list of addresses that are part of the special education distribution list. The addresses must be separated by commas. If an address appears on a line by itself (as in the example above), a comma should appear at the end of the line. Addresses may also be placed one after the other instead of on separate lines as long as they are separated by commas, as in this example:

```
Distribution-content:
eeKr@andrew.cmu.edu, banana@fruitsalad.stanford.edu,
hgCd+@andrew.cmu.edu, pat@cs.cmu.edu
```

Placing each address on a separate line makes the distribution list easier to correct and maintain. Remember that mail aliases cannot be included in distribution lists unless you are using dlc to maintain them.

Capitalization in distribution lists

The tags that begin with "distribution" in dlists, such as "Distribution-content:" and "Distribution-errors:", can be capitalized in any way without disrupting mail service. However, what follows the colon after the tag is usually a mail address and should be typed exactly as it would appear in a message-sending window.

Protections for distribution lists

The directory that contains a distribution list must allow any Andrew user (system:anyuser) or the mail system (postman:dlist) to read and lookup the files contained there. For instructions on how to update these permissions, see the [Using PTS Groups & Setting Directory Protections \(http://www.cmu.edu/computing/doc/unix/pts-groups/index.html\)](http://www.cmu.edu/computing/doc/unix/pts-groups/index.html) document.

For Joe's dlist directory, the protections would need to be:

```
% fs la dlists
Access list for dlists is
Normal rights:
System:anyuser rl
yk22 rlidwka
```

Giving "system:anyuser" read and look-up rights to the directory where the dlist is stored allows any Andrew user in the dlist to be able to read the file and see who else is

on the list. The protections for his home directory must have at least look-up access for "system:anyuser" for this instance.

If you want people to be able to send to your dlist but not be able to view who else is on the dlist, you can remove the permissions for "system:anyuser" on your dlist directory, and give "postman:dlist" read access to both your dlist directory and to your home directory. The protections for this would be:

```
% fs la dlists
Access list for dlists is
Normal rights:
postman:dlist rl
yk22 rlidwka
```

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Sending mail with distribution lists

Once Joe has created his distribution list, he is ready to send mail using it. To do so, he types this line in To: header in his email program:

```
+dist+~ju33/dlists/specialed.dl
```

The "+dist+" signals to the Message System that what follows is the pathname to a distribution list. You can use the tilda (~) followed by a user ID to abbreviate the path to your home directory (as in ~ju33). You can optionally use the full pathname as in the following:

```
+dist+/afs/andrew.cmu.edu/usr7/ju33/dlists/specialed.dl
```

Distribution list addresses such as the one shown above can be used at the CC: header in the email program, or any other header that takes a mailing address. In addition, distribution list can be used in conjunction with other types of addresses. Joe might decide that one particular message about special education is of interest to Andrew user dtYv who is not part of the distribution list. The To: line of his message could look like this:

```
To: +dist+~ju33/dlists/specialed.dl, dtYv
```

Note that the two addresses are separated by a comma. This is the standard way of separating multiple addresses. Non-local users can use the same type of addresses with an "@andrew.cmu.edu" attached, as in this example:

```
To: +dist+~ju33/dlists/specialed.dl@andrew.cmu.edu, dtYv@andrew.cmu.edu
```

Distribution List Aliases

If a distribution list will be used among a wider community than Carnegie Mellon users, such as with research collaboration among users at other universities, you may want to consider requesting an alias for your distribution list. People who send email to an aliased list do not have to use the full distribution list name when sending email, which makes the distribution list more convenient for users.

To request a distribution list alias, send email to [Advisor \(mailto:advisor@andrew.cmu.edu\)](mailto:advisor@andrew.cmu.edu) with the following information:

- A brief description and purpose of the dlist
- A suggested name for the dlist. The requested alias must have a "-" in the name. For example: metals-research
- The location of the dlist file

To use the distribution list, once it's been created, users can type the alias into the To: line of the email message instead of the +dist+ address. For example, if a user originally has a dlist in the form of +dist+~ju33/dlists/metals.dl and they obtain an alias for this dlist with the name "metals-research", users can send email to either:

```
+dist+~ju33/dlists/metals.dl@andrew.cmu.edu  
or
```

metals-research@andrew.cmu.edu

Determining Who Receives Mail from a Distribution List

To determine who receives mail from a distribution list, you need to look at the dlist file and examine the recipients listed there.

Looking at the dlist file is straightforward since the full path to the file is given in the "+dlist+" notation; you can simply try to list the contents of the file. For example, the dlist file for the address

```
+dist+~ju33/dlists/specialed.dl@andrew.cmu.edu
```

is

```
~ju33/dlists/specialed.dl
```

You could try to read "specialed.dl" in order to see who is on the distribution list. However, you might not be able to edit the file because the maintainer of the list (in this case, ju33), might not choose to make the dlist file publicly readable. If you are denied permission to read the dlist, you cannot find out who is on it. The decision about whether to allow users to examine a dlist file is up to the maintainer of the dlist.

For a distribution list alias, finding out who receives mailings is a little more complicated because you will not always see the full path to the dlist file in the address. To find out where the dlist file is for a published distribution list, you can use the finger program on Andrew with the name of the distribution list. For example, to find out where the dlist file for "special-ed@andrew.cmu.edu" is located, you could give the command:

```
finger special-ed
```

If finger finds a dlist corresponding to the name you supplied, it will provide both the mailing address and the dlist in a format like this:

```
name:                Physical
login name:          Chemistry
e-mail:              Metals
forwarded            metals-
to:                  research
                     metals-
                     research@andrew.cmu.edu
                     +dlist+~ju33/
                     dlists/
                     metals.dl@andrew.cmu.edu
```

The mail-forwarding address forwarded to shows the path to the dlist file. Once you have found the path, you can try to read the dlist file to see who is listed on it, just as you would for an unpublished dlist. Again, there is no guarantee that the maintainer of the list will choose to make the dlist file publicly readable.

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Error Handling in distribution lists

Error messages sent back to the sender Any email messages which cannot be delivered will be returned to the email address in the Distribution-errors to: line. If you wish to have error notices go back to the sender of a piece of mail rather than to you (the owner of the distribution list), you can do so with the following line:

```
Distribution-errors-to-originator: yes
```

Due to a protocol limitation (not specific to Andrew), there is no way to send error notices both to the sender and to a list maintainer.

Error Messages to more than one email address You can only specify one address in the "Distribution-errors-to:" line. However, if you wish to route error notices to more than one address (because, for example, there are multiple maintainers for the dlist in question), you can give a distribution list in the "Distribution-errors-to:" line, like this:

```
Distribution-errors-to: +dist+~ju33/dlists/spec-ed-errors
```

Please be careful with this feature; unless you use it carefully, you may find yourself routing returned messages back and forth from one distribution list to another.

Ignoring error notices

If you do not want to know about errors in the distribution list, you can choose to have error notices ignored altogether instead of having them sent to yourself or to the originator of the mail by giving two angle brackets as the "errors" address as shown below:

```
Distribution-errors-to: <>
```

Note: There is no space between the two angle brackets. You might choose to ignore error notices in a particular dlist file if that dlist is used in the "Distribution-errors-to:" line of another dlist file. Suppose, for example, that you and three friends are maintaining a large published distribution list. You want error notices from the large dlist to go to all four of you, not to any one individual, so you create a maintainer's dlist containing each maintainer's address and put the maintainer's dlist into the "Distribution-errors-to:" line of the large dlist. You might then choose to ignore error notices in the maintainer's dlist. First, because it may help prevent error notices from bouncing from the large dlist to the maintainer's dlist and back again, and second, because even if there is an error in one of the four maintainer addresses, the other three will get the error notice so the large dlist can still be maintained.

An example illustrating many dlist features. Suppose you are the manager of the BOFORO project at Carnegie Mellon. You expect the BOFORO project to go on indefinitely, so you do not want to route errors to any particular person, but rather to a dlist that would ostensibly contain the names of maintainers who work for you. You also want to lay out the dlist so that you can make any needed changes to subgroups in the list quickly and easily. Here, using a combination of blank lines and comments, is what you might do:

```
; Distribution list for the BOFORO project
```

dlists-pdf

```
; Distribution errors to the boforo-errors mailbox
Distribution-errors-to:
+dist+/afs/andrew.cmu.edu/usr8/ju33/dlists/boforo-errors

Distribution-content:
;Members working in Building C
edFl+@andrew.cmu.edu,
cantaloupe@veggie.cmu.edu,

; Members working Hall Atwater building
joe.boss@psy.cmu.edu,
ryEr+@andrew.cmu.edu,

; Member(s) at a remote site
honeydew@melon.cs.dod.edu,

; Members at a remote site who are part of an Internet dlist
boforo-remote-dist@berries.li.ukent.edu
```

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