

Mozilla With Enigmail and GnuPG Mini Howto

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Contents

1 Introduction	3
1.1 Thanks	3
1.2 Overview	3
1.3 History	4
1.4 Feedback	4
2 What is Mozilla?	4
3 What is Enigmail?	6
4 What is GnuPG?	7
5 Using GnuPG	8
5.1 Generating a Key Pair	8
5.2 Exporting Your Public Key	9
5.3 Importing a Public Key	10

<i>CONTENTS</i>	2
5.4 Checking Your Key Ring	10
5.5 Editing a Key	11
5.6 Keyserver	12
5.6.1 Finding a Public Key on a Keyserver	12
5.6.2 Receiving a Public from a Keyserver	13
5.6.3 Sending Your Public Key to a Keyserver	13
5.7 Signing Keys	14
5.7.1 Method of Key Signing	14
5.8 Generate a Revocation Certificate	15
6 Configuring Mozilla Mail	15
6.1 Creating a New Mail Account	16
7 Getting and Installing Enigmail	19
8 Configuring and Testing Enigmail	20
8.1 Enigmail Preferences For Mozilla Versions Before 1.5 and Netscape 7	20
8.1.1 Default Encryption Options	21
8.1.2 Advanced Preferences	22
8.1.3 When Sending Mail	23
8.1.4 More Options	23
8.1.5 Choose PGP/MIME Option	24
8.1.6 Keyserver	24
8.2 Enigmail Preferences For Mozilla Versions 1.5 and Above	24
8.2.1 Basic Settings	25
8.2.2 Sending	26
8.2.3 Key Selection	27
8.2.4 PGP/MIME	27
8.2.5 Advanced	28
8.2.6 Debugging	30
8.2.7 Account Settings	31
9 Using Mozilla Mail with Enigmail	32
9.1 Receiving Mail	32
9.2 Composing Mail	33
9.2.1 Composing and Sending Email for Mozilla versions 1.5 and above	34
9.3 Decrypting and Verifying Signatures	35
9.4 Saving Decrypted Mail	35
9.5 Importing a Public Key	35
9.6 Generate Key	35

1	INTRODUCTION	3
10	Conclusion	36
11	GNU Free Documentation License	36
11.1	APPLICABILITY AND DEFINITIONS	36
11.2	VERBATIM COPYING	38
11.3	COPYING IN QUANTITY	38
11.4	MODIFICATIONS	39
11.5	COMBINING DOCUMENTS	40
11.6	COLLECTIONS OF DOCUMENTS	41
11.7	AGGREGATION WITH INDEPENDENT WORKS	41
11.8	TRANSLATION	41
11.9	TERMINATION	42
11.10	FUTURE REVISIONS OF THIS LICENSE	42

1 Introduction

1.1 Thanks

The author wants to thank all of the fine developers and the ones who have written the fine documentation for:

GnuPG <http://www.gnupg.org/>

Mozilla <http://www.mozilla.org/>

Enigmail <http://enigmail.mozdev.org/>

Phil Zimmermann <http://www.philzimmermann.com/>

Without all of the work that has preceded this document, there would have not been the possibility of good solid encryption offered by both PGP and GnuPG. If Phil Zimmermann's code was never published on the Internet, the United States Government would have done everything in its power to prevent the people from having good encryption.

1.2 Overview

The purpose of this document is to help the users who do not like to read documentation familiarize themselves with the concepts of using Mozilla along with Enigmail and GnuPG for both sending and receiving email that is signed, encrypted, or with both features.

The author hopes that the reader will benefit and have a better understanding about using Mozilla and encrypted email.

1.3 History

Mozilla is the free open source version of Netscape Communicator. Enigmail is a separate add-on application to Mozilla that makes sending and receiving signed, encrypted, or both email messages work with a mouse click. Enigmail depends upon GnuPG being installed on the system.

1.4 Feedback

Any suggestions, comments, and constructive criticisms are welcome. I read all of my email, but I don't have the time to respond to every message.

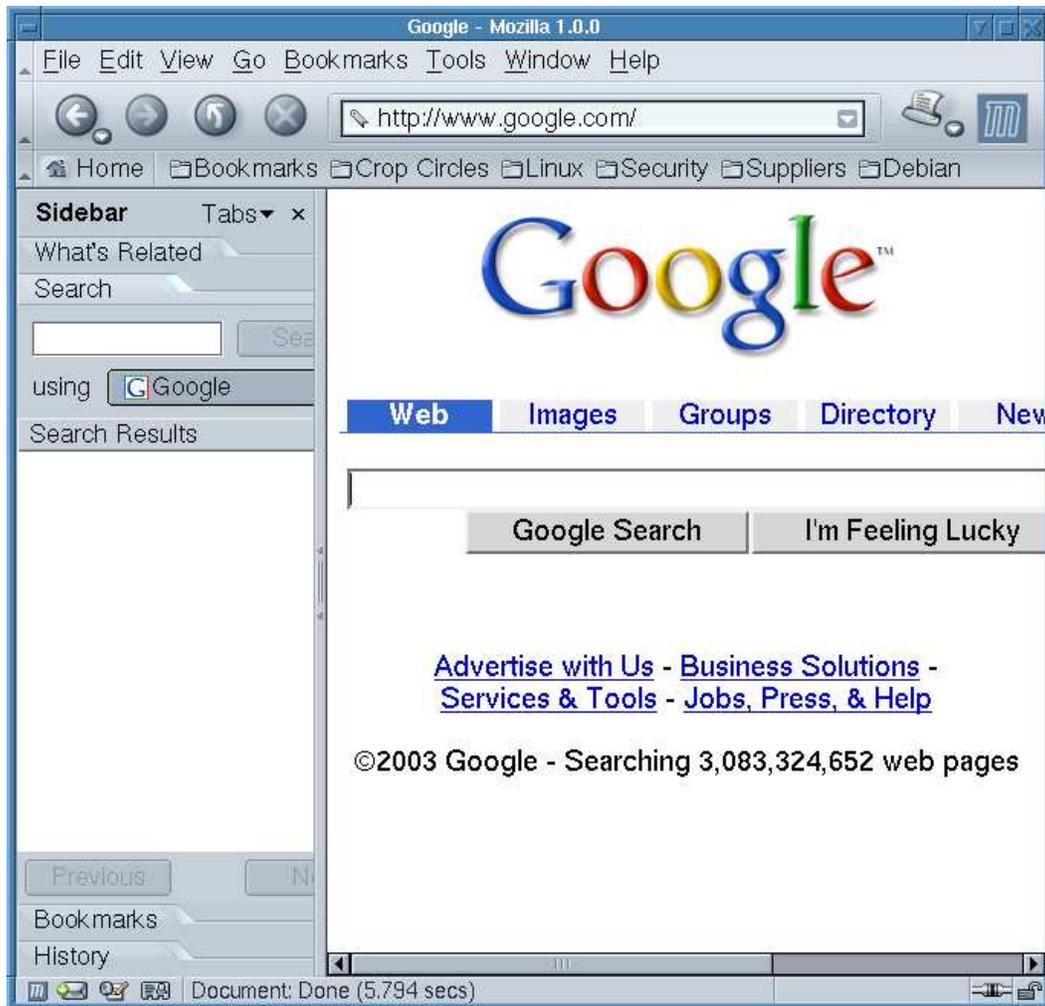
All flames will end up in /dev/null.

2 What is Mozilla?

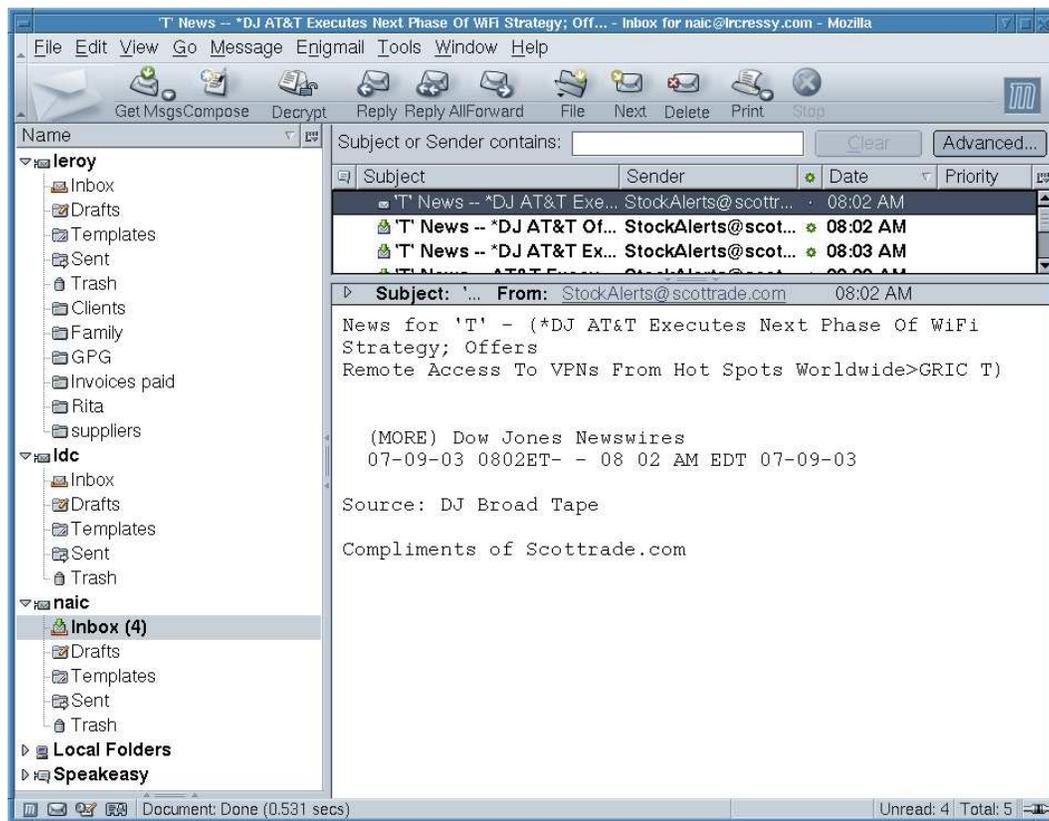
Mozilla is a descendent of Netscape Communicator. It contains:

- World Wide Web Browser
- Mail Client
- News Reader
- Address Book
- Html Composer

Mozilla looks like the following graphic:



To open the various applications in Mozilla, click on the menu **Window** button and choose what application you want to use. For reading and composing email, select **Mail & News Groups**. This opens the mail and newsgroups window.

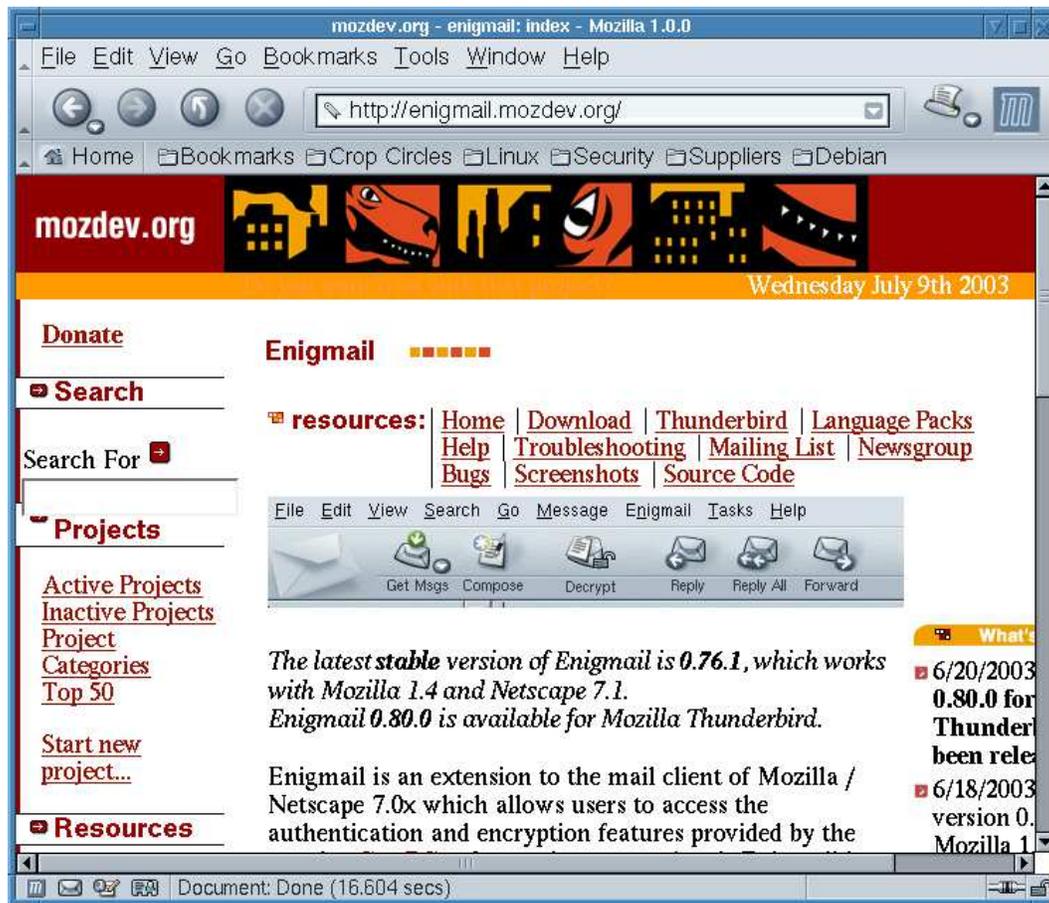


Mozilla allows you to have multiple pop3/IMAP email accounts along with multiple news accounts. Like you can have two on Comcast, one Juno, and another on your company's network. The former versions of Netscape allowed you to only have one pop3 account. This is a tremendous improvement that has also been implemented into the newest release of Netscape.

Later on we will concentrate on the various portions of the Mozilla email client. Now it is time to move on and look at the Enigmail add on application to Mozilla.

3 What is Enigmail?

Enigmail is a separate development add-on package to the Mozilla email client. Enigmail depends on the GnuPG package being installed with a key pair already generated. Enigmail is named after the German Enigma machine in World War II. The home page for the Enigmail project is <http://enigmail.mozdev.org/>



Enigmail makes sending and receiving secure encrypted messages both easy and reliable. There are other email clients that integrate with GnuPG like mutt, but using a text based email client does not provide graphics support like the browser based email clients. My mother-in-law routinely sends photos of the family with her email messages. So for the person who wants to use both secure encryption and graphics with their email, Mozilla is the way to go.

As stated earlier, you will need to have GnuPG loaded on your system along with a generated key pair to make this application work.

4 What is GnuPG?

GnuPG is the GNU version of PGP (Pretty Good Privacy) developed by Phil Zimmermann. PGP had problems with the U.S. export laws, so the Gnu people started the GnuPG project with the requirements that only developers that have no ties to the United States could work on the project. This meant that any U.S. citizen could not work on the initial project. Needless to say when the export laws were relaxed, U.S. citizens were welcomed to work on the project.

GnuPG provides true military grade encryption, enabling a very high level of security. This enables a user to send an encrypted message to anyone in the world provided that they have the public key. Only the person who has the private key corresponding to the public key can view the message. Also all of the attachments

are encrypted in the message. This level of security provides both the sender and the receiver protection from prying eyes. For the corporate user, this elevates security where corporate espionage is concerned. The present method that the majority of companies use is plain text messages that provide no security at all. If an employee sends an email containing sensitive corporate material outside of the corporate network, everyone along the line to the final destination can view the message. When the recipient downloads the message, there is continued danger from prying eyes.

I have found that most corporations have a very lax concept of computer security and are in grave danger of having their corporate information stolen. Employees send and receive email all over the country while never paying any attention to corporate security policies. Also, many load software on their corporate computers thinking that the virus protector will protect their system. How many times have you lost data and man hours by some computer being infected by a virus? One time is too much if the infection came from a total disregard to corporate security policies.

Let's take for example an employee sending an email concerning the hot new product that is being developed to a co-worker who is working at another office. If this email is sent without encryption, then everyone along the way can read about the developing product. It could be, that someone will be able to bring this product to market faster with the information provided by the email. Are you ready to take that risk?

Enigmail enables for the default setting to be set at "encrypt + sign" if possible. Also if you are using Linux or UNIX, you can set the file permissions of the configuration files so only the system administrator can edit them. This does not provide total security, but will elevate security to prevent the "normal" user from changing the configuration files in their home directory.

If I have made you contemplate your computer security I have done my job. Now it is time to get on with the show and start using the tools that are available to us.

5 Using GnuPG

The first thing a user should do is generate a key pair. Following the generation of a key pair, the user might grab some keys from the keyserver of his choice in order to communicate with his friends.

For quick help type: `gpg --help`

5.1 Generating a Key Pair

GnuPG uses keys that are divided in half. The first portion of the key pair is the public key. This portion of the key pair can be put on your web site, sent to a key server, and allow everyone to see it. This will enable anyone to use your public key to send you a private encrypted message. Only the holder of the secret key that corresponds to the public key can decrypt the message, provided they know the pass phrase. The second portion of the key pair is the secret key. The secret key **should not** be available to the world. This is your private property and needs to be safeguarded like a key to a safe deposit box in a bank.



```
gpg --gen-key
```

The above command generates a key pair interactively asking you all kinds of questions like the type of key and etcetera as is shown below.

```
gpg --gen-key
gpg (GnuPG) 1.2.0; Copyright (C) 2002 Free Software Foundation, Inc.
This program comes with ABSOLUTELY NO WARRANTY.
This is free software, and you are welcome to redistribute it
under certain conditions. See the file COPYING for details.
```

```
Please select what kind of key you want:
  (1) DSA and ElGamal (default)
  (2) DSA (sign only)
  (5) RSA (sign only)
Your selection? 1
DSA keypair will have 1024 bits.
About to generate a new ELG-E keypair.
      minimum keysize is 768 bits
      default keysize is 1024 bits
      highest suggested keysize is 2048 bits
What keysize do you want? (1024) 2048
Requested keysize is 2048 bits
Please specify how long the key should be valid.
  0 = key does not expire
  <n> = key expires in n days
  <n>w = key expires in n weeks
  <n>m = key expires in n months
  <n>y = key expires in n years
Key is valid for? (0)
Key does not expire at all
Is this correct (y/n)? y
```

5.2 Exporting Your Public Key

After you have generated your key pair then you need to export your public key with the command:

```
gpg --export -a > ~/.gnupg/my-key.asc
```

This will create an ASCII armored public key that can be copied to your web site, sent to your co-workers for them to sign and import into their public key ring. In your `.gnupg/` directory, there is a file called “pubring.gpg” that contains your public key along with those of your friends, co-workers, and acquaintances. There is also a `secring.gpg` that contains your secret keys.

These key rings are like the key ring that is in your pocket. You want to make sure that you don’t lose them, so a good back up is vital.

5.3 Importing a Public Key

When someone sends you their public key in an email or you download the key from their web site then you can import the key to your public key ring.

```
gpg --import filename
```

The “filename” argument is whatever name you saved the key. I like to use the format “name.gpg.asc” for the file names of the ASCII armored keys that I am importing to my public key ring. After the key is imported there is no need to keep the key on your hard drive.

If someone emails you a key and you are using Enigmail, then you can click on the menu Enigmail and select Import public key item. This will automatically import the key to your public key ring.

5.4 Checking Your Key Ring

To see what keys are on your key ring type:

```
gpg --list-keys
```

To see who signed your key or check the signatures on your key ring type:

```
gpg --list-sigs leroy@lrcressy.com  
gpg --check-sigs leroy@lrcressy.com
```

If there are keys on your key ring that have a photo signature, you can run the command and not only see the keys on your key ring, but also the photographs of some of the individuals on your key ring.

```
gpg --show-photo --list-key
```

If you want to see the fingerprint of one or all of the keys on your key ring then type:

```
gpg --fingerprint leroy@lrcressy.com  
pub 1024D/8501AFEA 2003-01-03 LeRoy D. Cressy (ldc)  
    <ldc@lrcressy.com>  
Key fingerprint = 62DE 6CAB CEE1 B1B3 359A 81D8 3FEF E6DA 8501 AFEA  
uid          LeRoy D. Cressy (ldc) <leroy@lrcressy.com>  
uid          LeRoy d. Cressy (ldc) <ldc@lrcressy.com>  
sub 2048g/B16A47D6 2003-01-03
```

5.5 Editing a Key

Let's say I want to edit my key or I want to sign a friends key.

```
gpg --edit-key 8501AFEa
gpg (GnuPG) 1.2.0; Copyright (C) 2002 Free Software Foundation, Inc.
This program comes with ABSOLUTELY NO WARRANTY.
This is free software, and you are welcome to redistribute it
under certain conditions. See the file COPYING for details.
```

Secret key is available.

```
gpg: checking the trustdb
gpg: checking at depth 0 signed=12 ot(-/q/n/m/f/u)=0/0/0/0/0/2
gpg: checking at depth 1 signed=22 ot(-/q/n/m/f/u)=10/0/0/0/2/0
gpg: checking at depth 2 signed=0 ot(-/q/n/m/f/u)=16/0/0/0/1/0
gpg: next trustdb check due at 2004-02-21
pub 1024D/8501AFEa created: 2003-01-03 expires: never      trust: u/u
sub 2048g/B16A47D6 created: 2003-01-03 expires: never
(1) LeRoy D. Cressy (ldc) <leroy@lrcressy.com>
(2). LeRoy D. Cressy (ldc) <ldc@lrcressy.com>
(3) LeRoy d. Cressy (ldc) <ldc@lrcressy.com>
```

Command> ?

```
quit          quit this menu
save          save and quit
help          show this help
fpr           show fingerprint
list          list key and user IDs
uid           select user ID N
key           select secondary key N
check         list signatures
sign          sign the key
lsign         sign the key locally
nrsign        sign the key non-revocably
nrlsign       sign the key locally and non-revocably
adduid        add a user ID
addphoto      add a photo ID
deluid        delete user ID
addkey        add a secondary key
delkey        delete a secondary key
addrevoker    add a revocation key
delsig        delete signatures
expire        change the expire date
primary       flag user ID as primary
toggle        toggle between secret and public key listing
pref          list preferences (expert)
showpref      list preferences (verbose)
setpref       set preference list
updatepref    updated preferences
passwd        change the passphrase
trust         change the ownertrust
revsig        revoke signatures
revkey        revoke a secondary key
```

```

disable    disable a key
enable     enable a key
showphoto  show photo ID

```

```
Command> q
```

When you enter the command `gpg --edit-key gpg` first checks to see if a secret key is available and then checks the levels of trust. At the prompt `Command>` entering a `?` will produce a list of all the commands that are available. Entering `q` will quit. Now you can edit any key that is on your key ring. If someone has requested that you sign their key, then you need to use this command to sign the key. For details you need to read the GnuPG manual.

5.6 Keyservers

Keyservers allow you to post and receive public keys. All of the keyservers sync with each other daily so you only need to work with one. My favorite is ["pgp.mit.edu."](http://pgp.mit.edu) For a list of keyservers and their status, see <http://pgp.uni-mainz.de/bigbrother/>.

When you find a keyserver that you like, edit `~/.gnupg/options` file with `keyserver pgp.mit.edu` or whatever keyserver you are going to use as your default.

5.6.1 Finding a Public Key on a Keyserver

There are several methods to use a keyserver. The easiest is if the keyserver is a "http" keyserver where they have a nice interface for searching keys. The method I use is

```
gpg --keyserver pgp.mit.edu --search-keys ldc@lrcressy.com
```

which produces the following:

```

gpg: searching for "ldc@lrcressy.com" from HKP server pgp.mit.edu
Keys 1-3 of 3 for "ldc@lrcressy.com"
(1)      LeRoy D. Cressy (ldc) <leroy@lrcressy.com>
         1024 bit DSA key 8501AFEA, created 2003-01-03
(2)      LeRoy D. Cressy (ldc) <ldc@lrcressy.com>
         1024 bit DSA key 8501AFEA, created 2003-01-03
(3)      LeRoy d. Cressy (ldc) <ldc@lrcressy.com>
         1024 bit DSA key 8501AFEA, created 2003-01-03
Enter number(s), N)ext, or Q)uit >

```

You will notice that there are three responses for my search. All three are actually the same key with different self signatures. GnuPG prompts you to enter a number, `N)ext`, or `Q)uit`. Entering the number `'1'` produced:

```

gpg: key 8501AFEA: "LeRoy D. Cressy (ldc) <ldc@lrcressy.com>"
not changed
gpg: Total number processed: 1
gpg:                unchanged: 1

```

Let's say you just enter your last name like "Cressy."

```

gpg --keyserver pgp.mit.edu --search-keys Cressy
gpg: searching for "Cressy" from HKP server pgp.mit.edu
Keys 1-6 of 6 for "Cressy"
(1)      Sibylla Cressy (Billie) <scressy@comcast.net>
        1024 bit DSA key AAA49F65, created 2003-07-07
(2)      LeRoy D. Cressy (ldc) <leroy@lrcressy.com>
        1024 bit DSA key 8501AFEA, created 2003-01-03
(3)      LeRoy D. Cressy (ldc) <ldc@lrcressy.com>
        1024 bit DSA key 8501AFEA, created 2003-01-03
(4)      LeRoy d. Cressy (ldc) <ldc@lrcressy.com>
        1024 bit DSA key 8501AFEA, created 2003-01-03
(5)      Rita J. Cressy (rita) <rita@lrcressy.com>
        1024 bit DSA key BCDCEEf1, created 2002-12-30
(6)      Colin J. Cressy <Colin.Cressy@jcu.edu.au>
        1024 bit DSA key B60E5883, created 1998-05-04
Enter number(s), N)ext, or Q)uit > 6
gpg: key B60E5883: public key
"Colin J. Cressy <Colin.Cressy@jcu.edu.au>" imported
gpg: Total number processed: 1
gpg:          imported: 1

```

You see that there are six responses. The number that I enter will be imported to my public key ring if it is not already there.

If you specified a keyserver in the configuration file, then you do not need to specify the keyserver on the command line.

5.6.2 Receiving a Public from a Keyserver

The output from the above section specified a key ID number like **AAA49F65**. To receive a key from the keyserver, we need the key ID number. To receive a key from a keyserver, we need to type:

```

gpg --recv-key AAA49F65
gpg: key AAA49F65: "Sibylla Cressy (Billie)
<scressy@comcast.net>" not changed
gpg: Total number processed: 1
gpg:          unchanged: 1

```

Since the key was already on my key ring, there were no changes made; but if the key wasn't on my key ring, it would have been added.

5.6.3 Sending Your Public Key to a Keyserver

Sending your key to the keyserver is just as easy.

```

gpg --send-key leroy@lrcressy.com
gpg: success sending to 'pgp.mit.edu' (status=200)

```

Every time someone signs your key, the web of trust becomes larger. Thus the more people that have signed your key, the greater the trust level. So the key grows in size with every signature.

5.7 Signing Keys

Now you may not think that it is very important to sign keys and have others sign your key. Where key signing is important comes in when you do not personally know someone you wish to correspond with, but you have a couple of friends who know the individual. They have both signed his key, thus you can be reasonably sure that the individual that you wish to correspond with is who he says he is.

This is called building up a web of trust. The more people who sign your key, the more you are trusted by others who do not know you. Also when you sign your friends' keys, you are helping them build up a web of trust.

5.7.1 Method of Key Signing

1. Print Your Fingerprint

There is an excellent package that helps in exchanging fingerprints called signing-party which has the utility gpg-key2ps.

```
#          Get Your Key-ID
gpg --fingerprint "Your Name"
#          Print A nice sheet of tags with your fingerprint
gpg-key2ps -p letter key-ID | lpr
```

2. Verification

The first step in signing keys is to verify that the person whose key you are going to sign is who they say they are. To do this requires verifying the photo ID issued by the state, or checking the passport and making sure that the picture matches the person whose key you are signing.

3. Exchange Fingerprint Tags

4. Email Your Public Key

```
gpg --export -a Key-ID > filename.gpg.asc
```

Email filename.gpg.asc as an attachment to the person that you are signing keys with.

5. Exchange a Secret Message

This verifies that the person that you have the fingerprint of is really the one who can decrypt your message. Conversely, they should be doing the same thing.

6. Edit the Key You Are Signing

When the person that you are exchanging keys with sends you their key, import their key to your key ring.

```
gpg --import filename.gpg.asc
```

```
gpg --edit-key scressy@comcast.net
gpg (GnuPG) 1.2.0; Copyright (C) 2002 Free Software Foundation,
This program comes with ABSOLUTELY NO WARRANTY.
This is free software, and you are welcome to redistribute it
```

under certain conditions. See the file COPYING for details.

```
pub 1024D/AAA49F65  created: 2003-07-07 expires: never
   trust: -/f
sub 2048g/CAB78B8E  created: 2003-07-07 expires: never
(1). Sibylla Cressy (Billie) <scressy@comcast.net>
```

```
Command>sign
```

7. Export the Signed Key

```
gpg --export -a AAA49F65 > scressy.gpg.asc
```

8. Email the Signed Key as an Attachment

NOTE:

All the communication between the key signing parties should be signed and encrypted email. This will ensure that you are dealing with the right person, for they are the only ones who can read your messages.

5.8 Generate a Revocation Certificate

The next thing you want to do is generate a revocation certificate. This certificate should not be stored on the hard drive of your computer since you don't need a pass phrase to use it.

```
gpg --output revoke.asc --gen-revoke mykey
```

The argument `mykey` must be a key specifier, either the key ID of your primary keypair or any part of a user ID that identifies your keypair. The generated certificate will be left in the file `revoke.asc`. If the `-output` option is omitted, the result will be placed on standard output. Since the certificate is short, you may wish to print a hard copy of the certificate to store somewhere safe such as your safe deposit box. The certificate should not be stored where others can access it since anybody can publish the revocation certificate and render the corresponding public key useless.¹

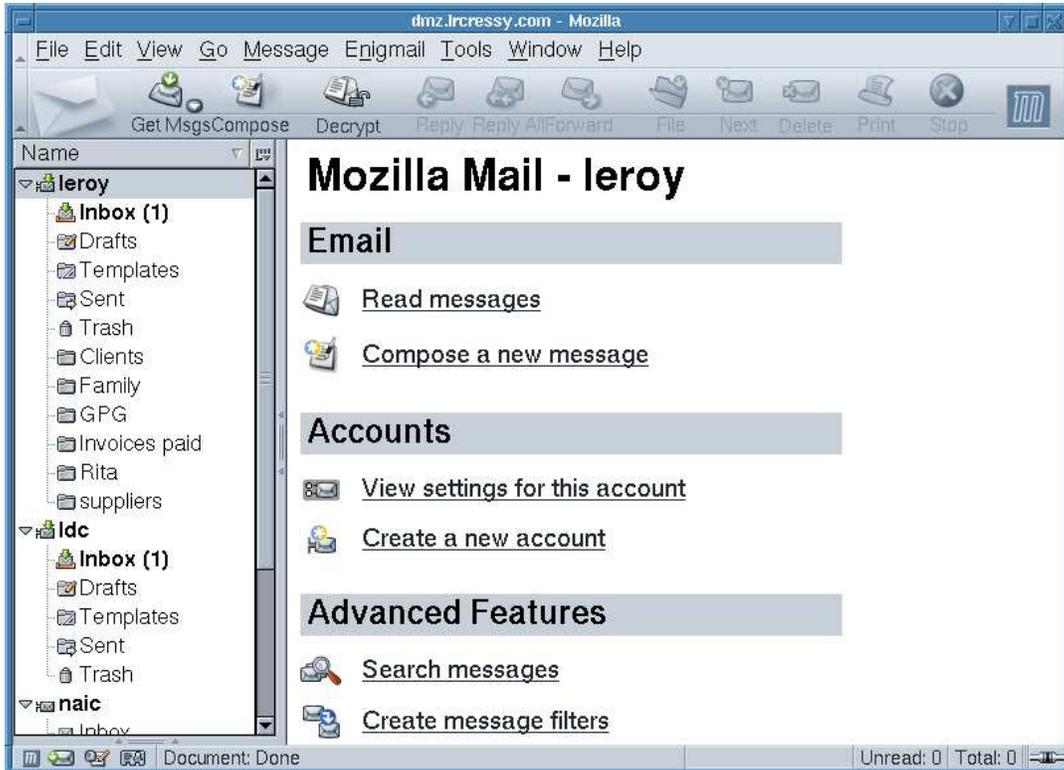
6 Configuring Mozilla Mail

Mozilla enables you to have several pop email accounts. Each one has its own configuration parameters. We will first take you through the process of setting up a new account.

¹<http://www.gnupg.org/gph/en/manual/c14.html>, The GnuPG Manual

6.1 Creating a New Mail Account

The first step is to click on the top user mail entry of the Mozilla mail client.



Since we are creating a new account, we will click on **Create New Account** which opens up the mail account creation wizard.



Since this is a new mail account, we will click on **email account.**



Account Wizard

Identity

Each account can have its own identity, which is the information that identifies you to others when they receive your messages.

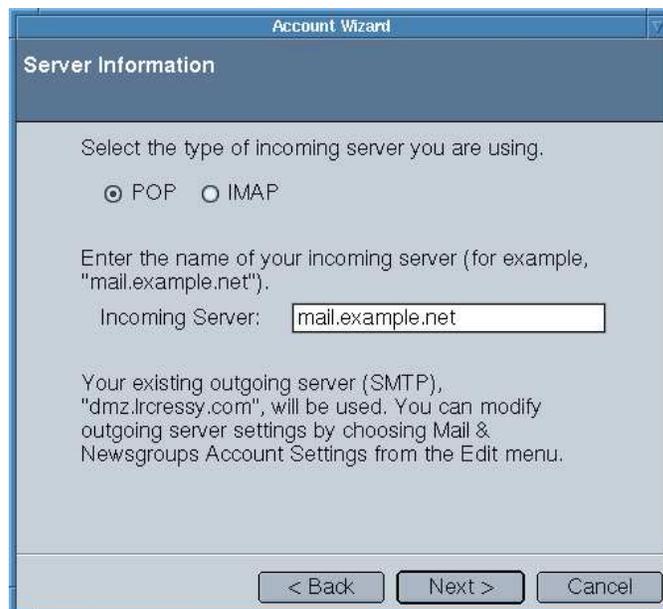
Enter the name you would like to appear in the "From" field of your outgoing messages (for example, "John Smith").

Your Name:

Enter your email address. This is the address others will use to send email to you (for example, "user@example.net").

Email Address:

< Back Next > Cancel



Account Wizard

Server Information

Select the type of incoming server you are using.

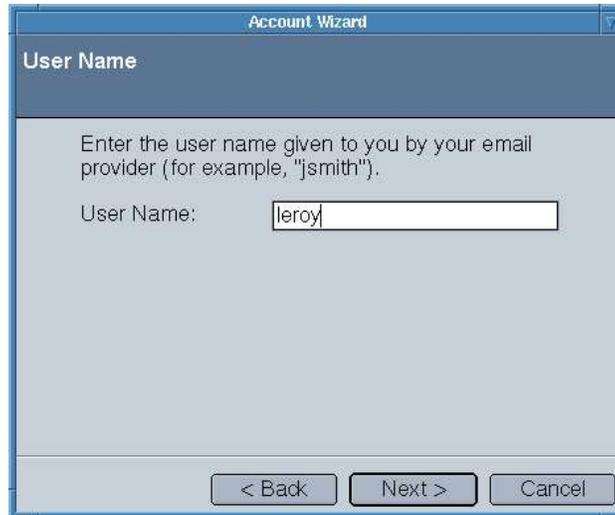
POP IMAP

Enter the name of your incoming server (for example, "mail.example.net").

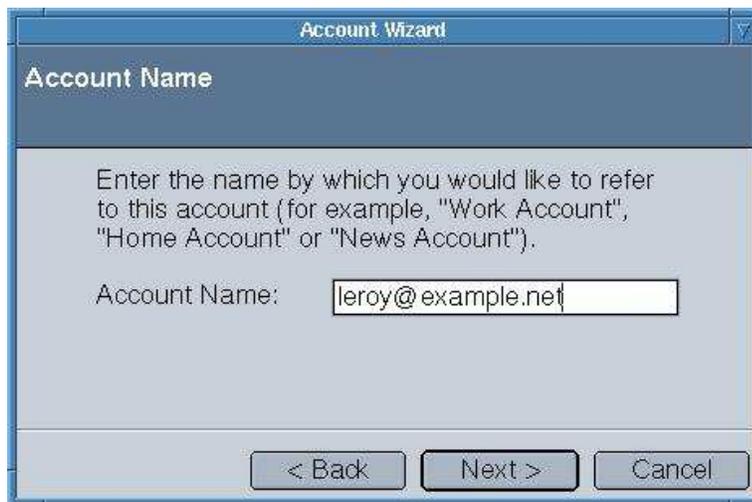
Incoming Server:

Your existing outgoing server (SMTP), "dmz.lrcressy.com", will be used. You can modify outgoing server settings by choosing Mail & Newsgroups Account Settings from the Edit menu.

< Back Next > Cancel



The screenshot shows the 'User Name' step of the Account Wizard. The window title is 'Account Wizard'. The title bar is blue. Below the title bar, the text 'User Name' is displayed. The main area contains the instruction: 'Enter the user name given to you by your email provider (for example, "jsmith").' Below this, there is a label 'User Name:' followed by a text input field containing the text 'leroy'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'.



The screenshot shows the 'Account Name' step of the Account Wizard. The window title is 'Account Wizard'. The title bar is blue. Below the title bar, the text 'Account Name' is displayed. The main area contains the instruction: 'Enter the name by which you would like to refer to this account (for example, "Work Account", "Home Account" or "News Account").' Below this, there is a label 'Account Name:' followed by a text input field containing the text 'leroy@example.net'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'.



The screenshot shows the 'Congratulations!' step of the Account Wizard. The window title is 'Account Wizard'. The title bar is blue. Below the title bar, the text 'Congratulations!' is displayed. The main area contains the instruction: 'Please verify that the information below is correct.' Below this, there is a list of settings:

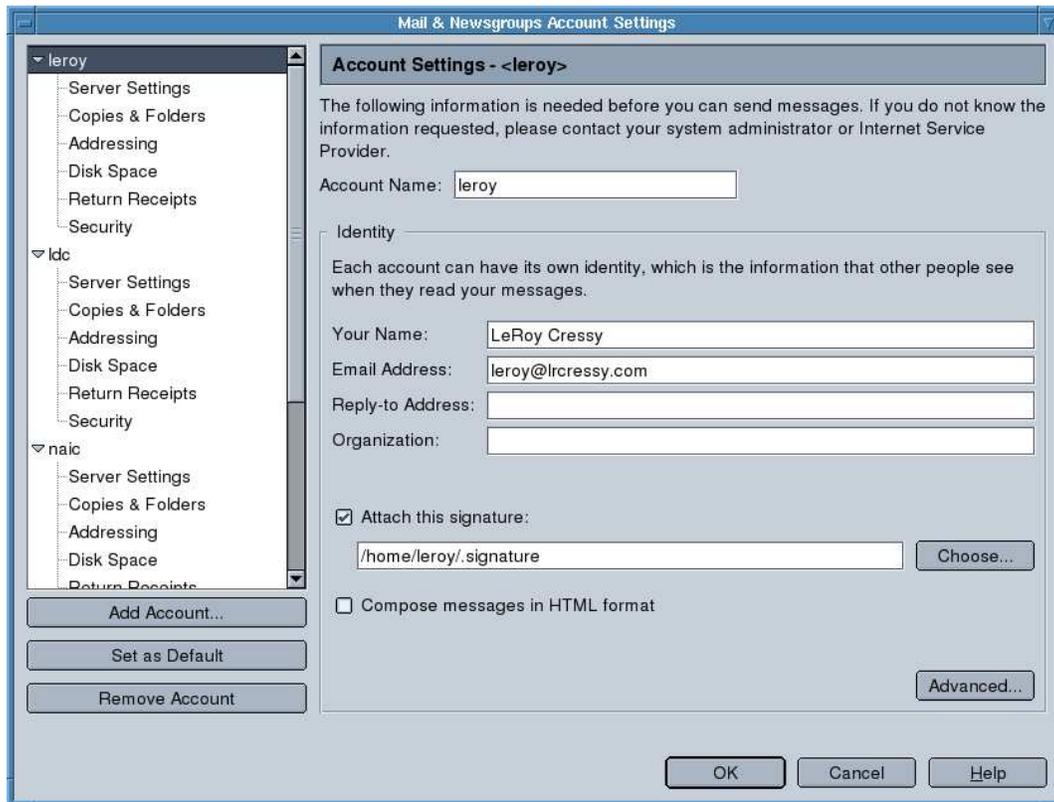
Account Name:	leroy@example.net
User Name:	leroy
Email Address:	leroy@example.net
Incoming Server Name:	mail.example.net
Incoming Server Type:	POP3
Outgoing Server Name (SMTP):	dmz.lcressy.com

Below the list, there is the instruction: 'Click Finish to save these settings and exit the Account Wizard.' At the bottom of the window, there are three buttons: '< Back', 'Finish', and 'Cancel'.

As you can see, the account wizard has most of the help right on each screen. It is mostly self explanatory.

NOTE:

You need to make sure that your account settings do not compose email in html format. Right click your mouse on the email or news account and select **Properties**. The account settings window will pop up.

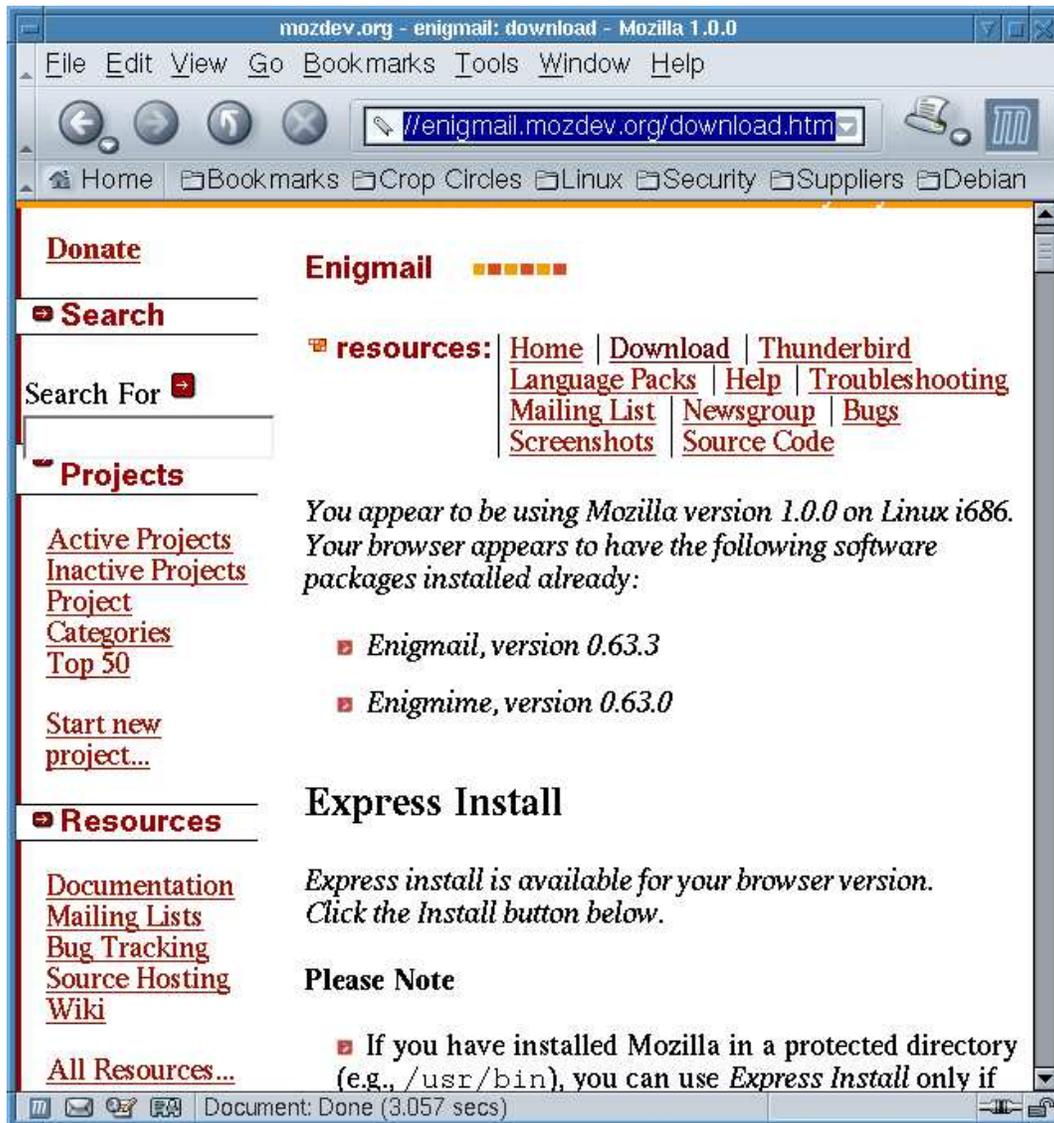


If the **Compose messages in HTML format** is checked, you will not be able to sign outgoing mail with Enigmail.



7 Getting and Installing Enigmail

The first thing to installing Enigmail is to download the version that matches your browser. To find out exactly what version of Mozilla or Netscape you are using, click on the help menu and choose "About Mozilla" or "About Netscape." Enigmail supports Netscape 7 and Mozilla. The web site <http://enigmail.mozdev.org/download.html> is where you will find the download page for enigmail.



CAUTION

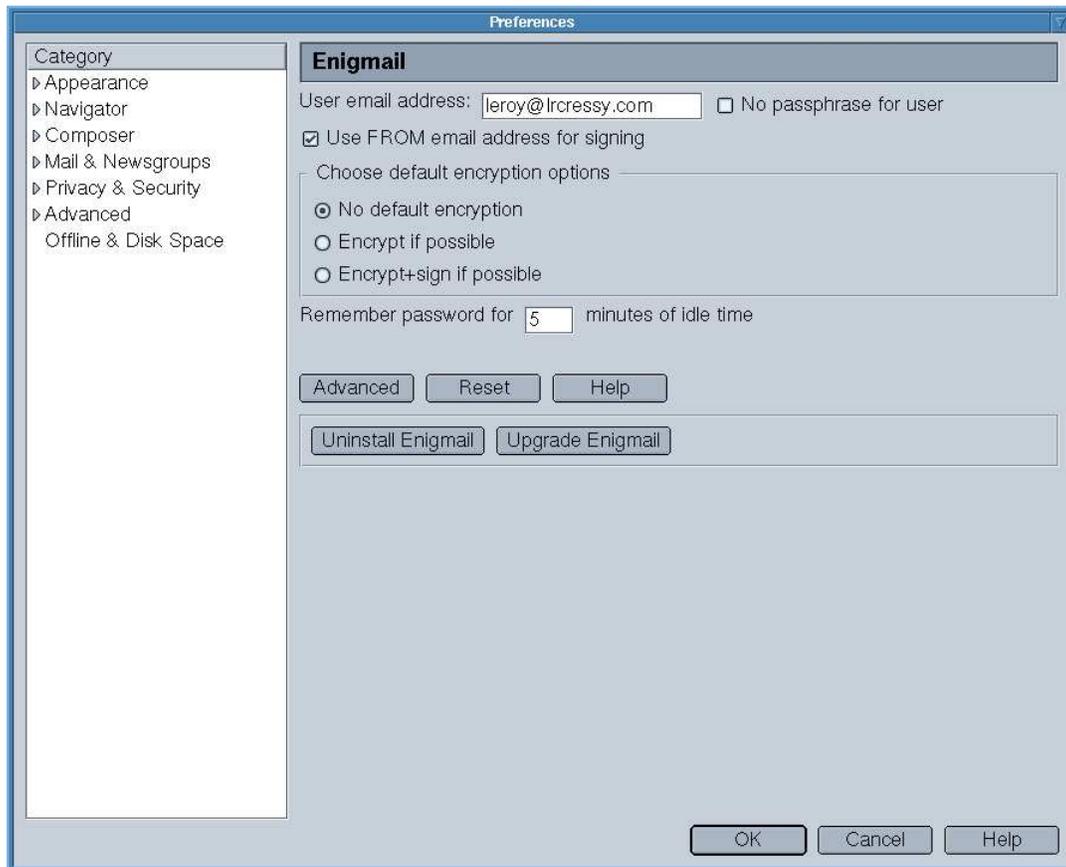
You must read the entire download page to determine the correct version for your browser. Also, you need to ensure that you have root privileges along with `/usr` mounted as `rw`.



8 Configuring and Testing Enigmail

8.1 Enigmail Preferences For Mozilla Versions Before 1.5 and Netscape 7

After you have Enigmail installed on your system in the mail + newsgroups window, you will see a new menu item Enigmail. Clicking on preferences of the enigmail menu produces:



There is a little check box next to the user email address that says, “No passphrase for user.” Checking this box is not safe and can lead to security troubles. Let’s say you walk away from your computer without logging out or setting the lock screen password. You are only going to the coffee machine to get a quick cup of go juice. A co-worker comes around and uses your computer to send some email, and it is signed with your signature. This can have drastic consequences for you if the co-worker was intending some damage.

So making you type in the pass phrase for each message that you send may seem like an onerous task, but the consequences of making it easy for yourself can be disastrous.

8.1.1 Default Encryption Options

There are three default encryption options:

- No default encryption
- Encrypt if possible
- Encrypt + sign if possible

The choice that you make depends on the level of security level that you want to achieve. Careful consideration should be made before changing the default

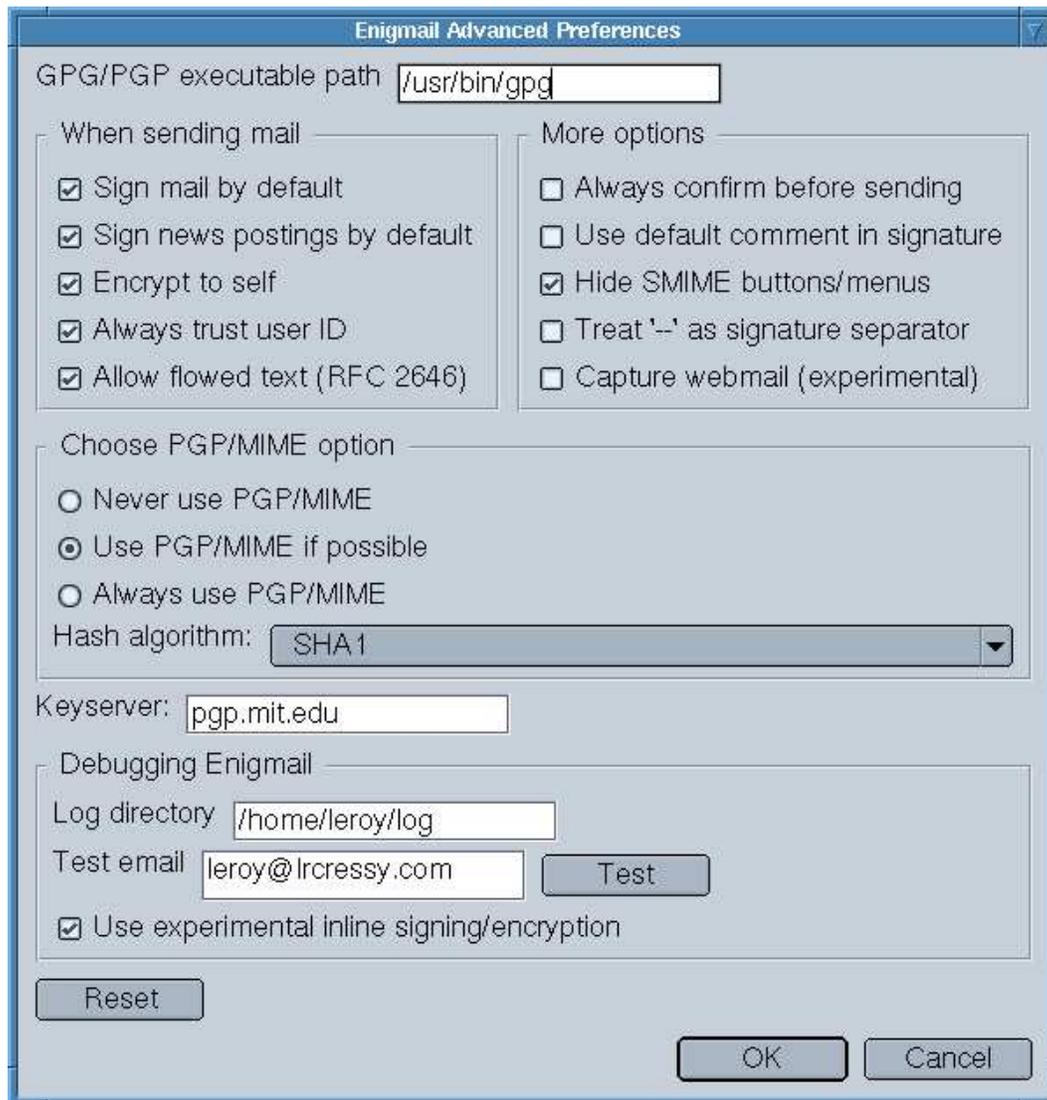


settings. With the new key selection window enabled, possibly the most secure method would be

Encrypt + sign if possible. How about if the recipient is away on vacation and not receiving email where their secret key is available? Thus for me it is best to leave the default as **No default encryption.**

8.1.2 Advanced Preferences

Clicking on the **Advanced** gives you the details of your enigmail configuration.



Careful consideration should be taken when changing any of the default settings.

8.1.3 When Sending Mail

- **Sign mail by default** This is a good setting where all of the mail that you send will be signed with your signature assuring the recipients that you're the sender. Also, the recipient does not need to have their secret key to view the message.
- **Sign news postings by default** The same advice holds true as for signing mail.
- **Encrypt to self** This is a good choice if you are sending a message to yourself, causing the message to be encrypted by default. Why would you want to encrypt a message to yourself? Let's say you have a password file that contains all of the various passwords for all of the accounts you have on line. These may include the New York Times, Wall Street Journal, Credit Card accounts, Stock broker, and Various suppliers. Now I know that maintaining a password file is stupid, and against all advice about computer security, but many people have such files in a plain text or some word processor format. Thus sending this file to yourself encrypted would provide a reasonable level of safety.
- **Always trust user ID** By default, Enigmail enables the `--always-trust` option for GPG to allow outgoing mail to be encrypted to any key, even untrusted ones. If you would like to encrypt only to trusted keys, you should disable this option in the Advanced Preferences. (This setting does not affect signature verification on received messages: you will always be warned if the signing key is untrusted.)

On my system I stick with the default, but in a corporate environment the security policy might be to turn this option off. Depending on the level of security that you want to achieve, you might want to turn the default option off.
- **Allow flowed text (RFC 2646)** If you are sending ASCII Art and the image gets messed up, you might want to turn this option off. For normal operations, it is safe to leave this option on.

8.1.4 More Options

- **Always confirm before sending** This option is off by default, and turning it on will normally cause fatigue and frustration to the end user. Most people will just click the button without rereading what they are sending. So it is wise that the default setting should be left alone.
- **Use default comment in signature** I have not been able to verify this, but I think this adds the `gpg` comment to the `gpg` signature.
- **Hide SMIME buttons/menus** The default is to turn this feature off, but you may choose to have the mime buttons and menus available.
- **Treat '- -' as signature separator** Causes the "- -" separator of mail signatures (not to be confused with PGP signatures) to be treated in a way that when replying, the sender's signature is cut.
- **Capture webmail experimental** If you use an isp that uses web mail, then you might want to try this. I run my own server, thus I don't have this feature on my system.

8.1.5 Choose PGP/MIME Option

- Never Use PGP/MIME** This causes all attachments, encryption, and signatures to be inline.
- Allow to use PGP/MIME if possible** This is the default setting where if the end user is using mutt or enigma, the mail will work. Whenever you send a message with attachments, there will be a warning asking if you are sure that the recipient is capable of receiving PGP/MIME messages with PGP attachments.
- Always use PGP/MIME** This will cause all messages to be sent as MIME attachments, even if the recipient's system cannot use PGP/MIME.

8.1.6 Keyserver

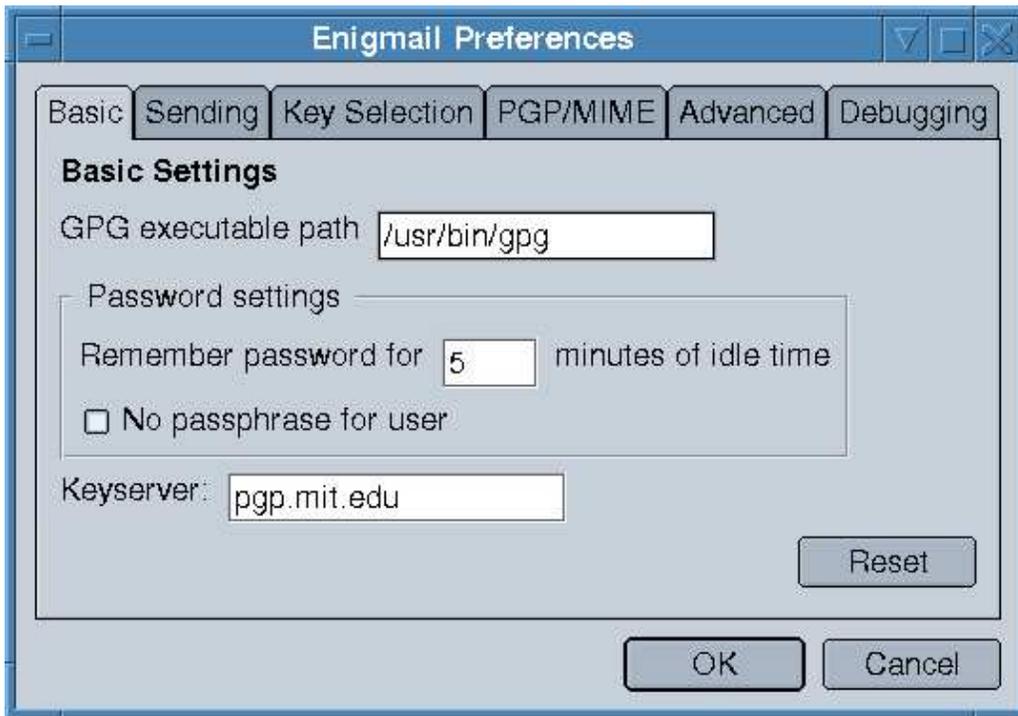
Here you specify a keyserver. The default keyserver www.keyserver.net has never worked for me, so I use pgp.mit.edu which has always worked.

8.2 Enigmail Preferences For Mozilla Versions 1.5 and Above

If you are using Mozilla ≥ 1.5 along with all versions of Thunderbird, and have Enigmail ≥ 0.81 here are the preferences for you. To determine what version of Enigmail that you are using click on the use the Enigmail menu choosing About Enigmail.



8.2.1 Basic Settings



In the basic portion of the Enigmail configuration we set the `gpg` executable path along with the along with the keyserver and password settings. If you are using a Windows based operating system, the path might look like:

GPG Executable Path `c:\gnupg\gpg.exe`

You set the absolute path so that enigmail will not be dependant upon the path enviroment variable. For those who are using one of the UNIX type operating systems please see the screen capture.

It is a very bad idea to check the “No Passphrase for User” box.

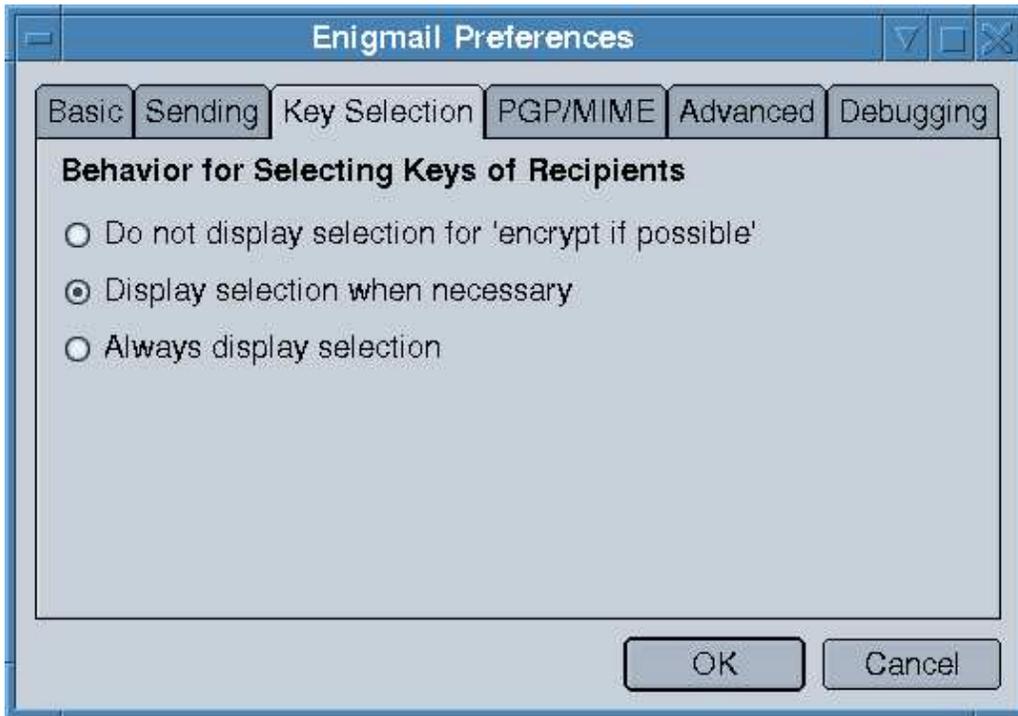
As far as a keyserver selection is concerned, choose one that is reliable and meets your requirments. I like the ones that are synced on a regular basis.

8.2.2 Sending



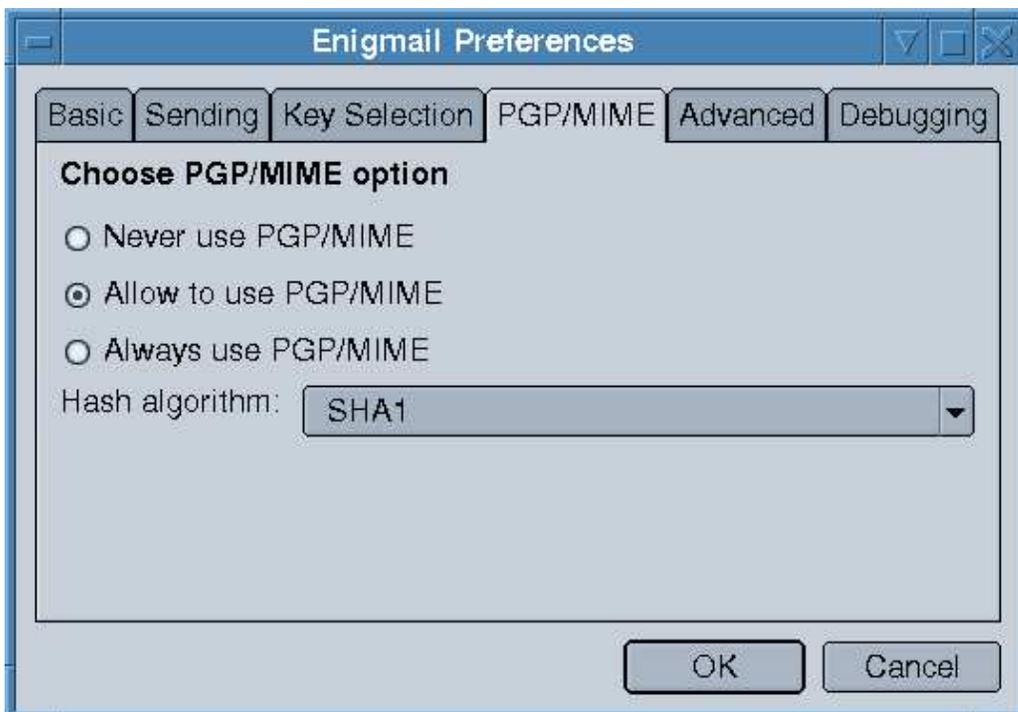
Here you just check off the items that you want when sending mail. The option `Always trust user ID` is especially useful. This causes `gpg` to use the `--always-trust` option which is useful if you do not have an ultimately trusted key on your keyring.

8.2.3 Key Selection



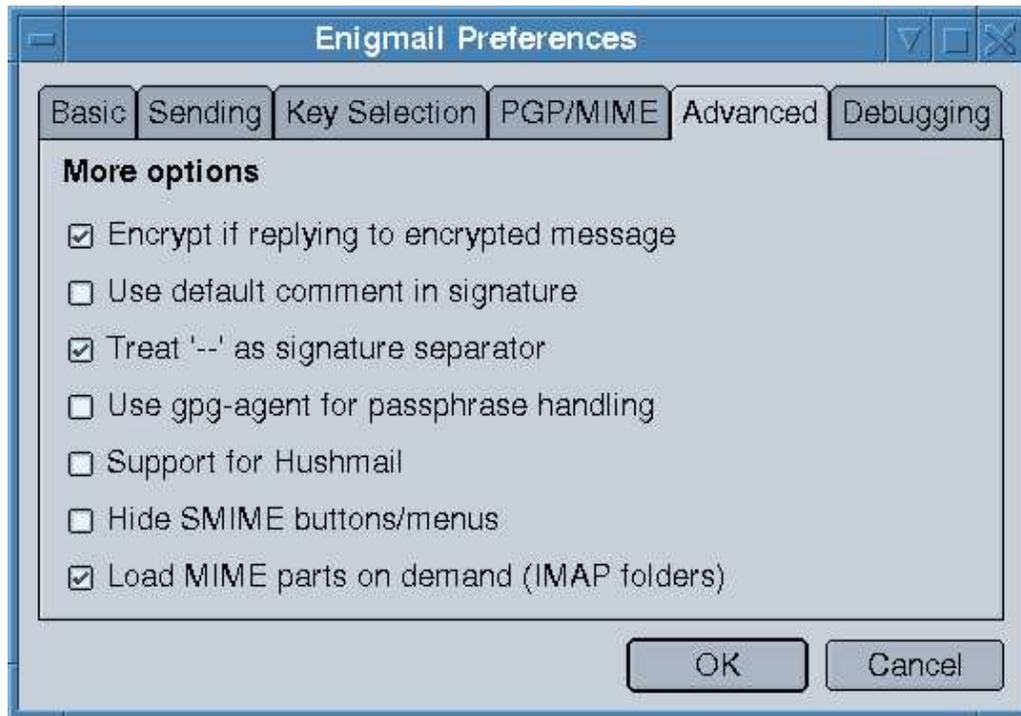
The options presented here are a radio button list where you can only pick one. The default, `Display selection when necessary` is usually sufficient.

8.2.4 PGP/MIME



Here is another radio button list of options. PGP/MIME may not work for all systems, so selecting `Always use PGP/MIME` is not advised. For most users the `Allow to use PGP/MIME` is sufficient.

8.2.5 Advanced



Here is a list of checked items that you can choose.

Encrypt if replying to encrypted message

This makes sense if you are replying to a message and you want to keep the communication secure.

Use default comment in signature

If you have configured your gpg configuration file with a comment, you would want to have this option checked so that your comment will show.

Treat -- as signature separator

On UNIX type systems you can have a `.signature` file in your home directory. Every email that I send puts this signature at the end of the message.

```
Rev. LeRoy D. Cressy  mailto:leroy@lrcressy.com  /\_/\
                    http://lrcressy.com      ( o.o )
                    Phone: 215-535-4037      > ^ <
                    FAX: 215-535-4285
```

```
gpg fingerprint: 62DE 6CAB CEE1 B1B3 359A 81D8 3FEF E6DA 8501 AFEA
```

```
For info on enigmail: http://lrcressy.com/linux/mozilla.pdf
```

```
For info on gpg: http://www.gnupg.org/
```

Jesus saith unto him, I am the way, the truth, and the life:

no man cometh unto the Father, but by me. (John 14:6)

As you can see I like to use a little ASCII art of a cat. Most of the people I send messages to use plain text to read their email. Some of the few unconverted windows users that I communicate with use proportional fonts to read email making the cat image all messed up.

It use to be that the .signature file should not exceed more than four lines, but with higher bandwidth and disk space It seems that the four line limit is no longer.

-- is a standard separator between the message and the signature so you want this option checked.

Use gpg-agent for passphrase handling

For those who are using SUSI Linux that uses gpg-agent by default, you need to have this checked. Those who are using Debian and other distributions that do not install a gpg-agent package by default should not have this option checked.

The choice of using this option depends on your distribution. If you are using windows, I do not think that you need this option.

Support for Hushmail

Hushmail information can be found at <https://www.hushmail.com/>. If you are using this service you should check this option.

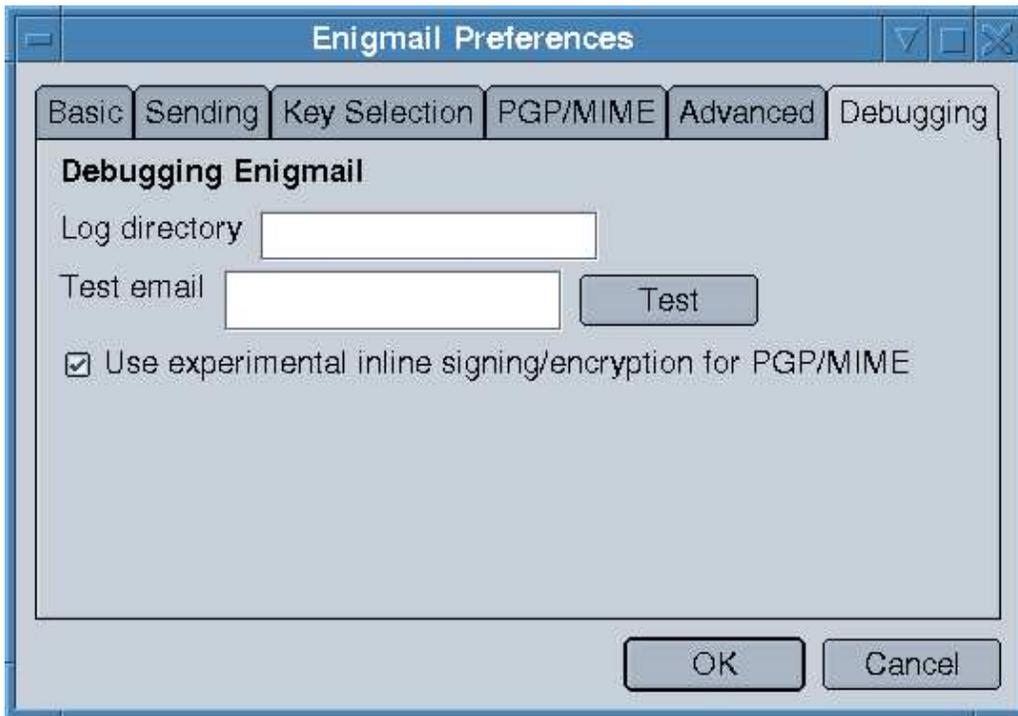
Hide SMIME buttons/menus

If you do not want to see theses you can hide them.

Load MIME parts on demand (IMAP folders)

If you are using a UNIX based system, then this is a good option, on the other hand if you are using a Windows based system, there are reported some problems with the MIME standard.

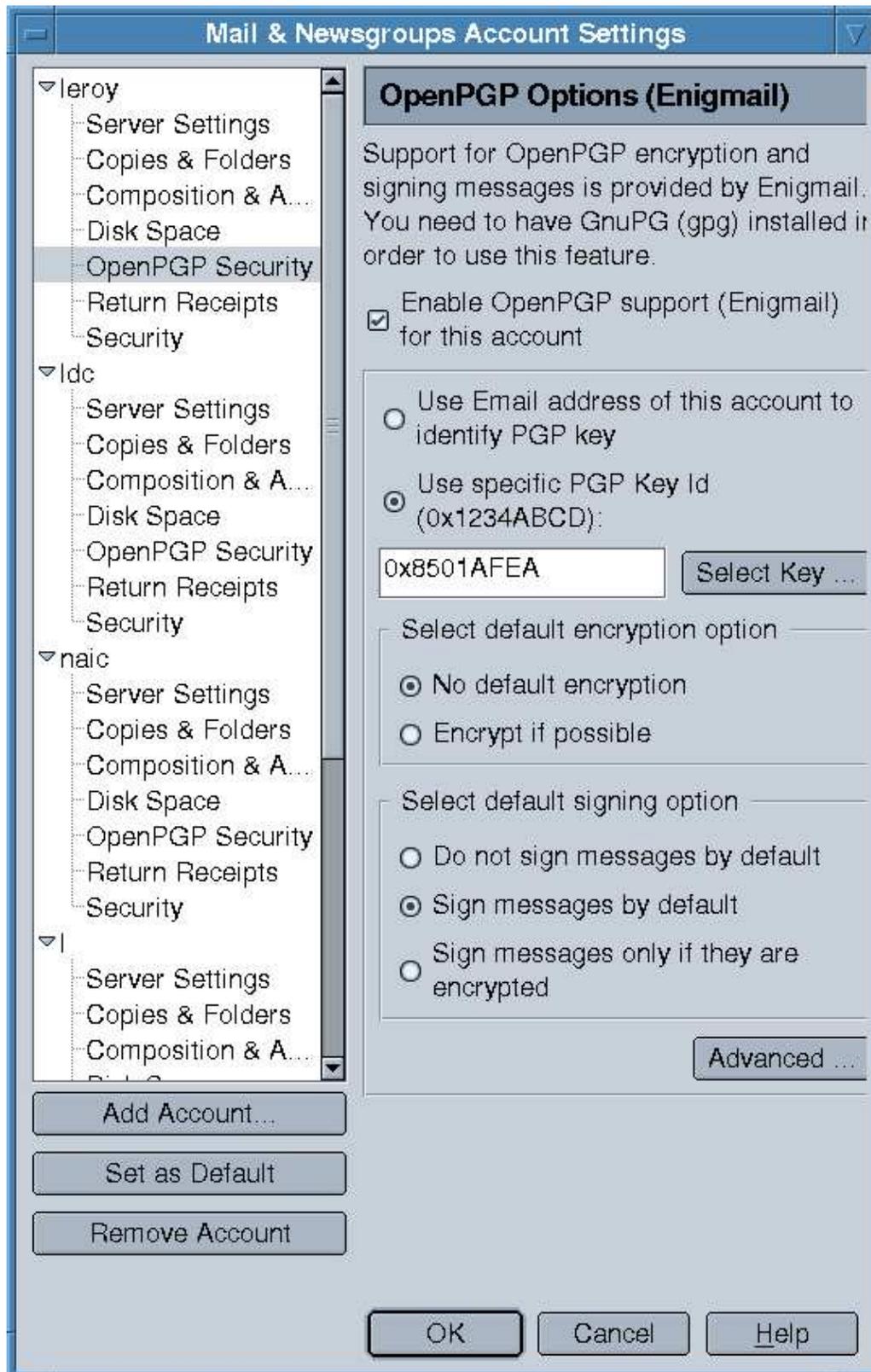
8.2.6 Debugging



If you are having trouble with enigmail, this is where you can find the problem. First you should create a directory where the log files will go. Enter this value in . The next item is to fill in your own email address so you are sending the message to yourself.

Finally, you need to read the log that you have created to see where the problem is located.

8.2.7 Account Settings



The newer versions of Enigmail have enabled per account settings for enigmail. Check the

- Enable OpenPGP Support (enigmail) for this account

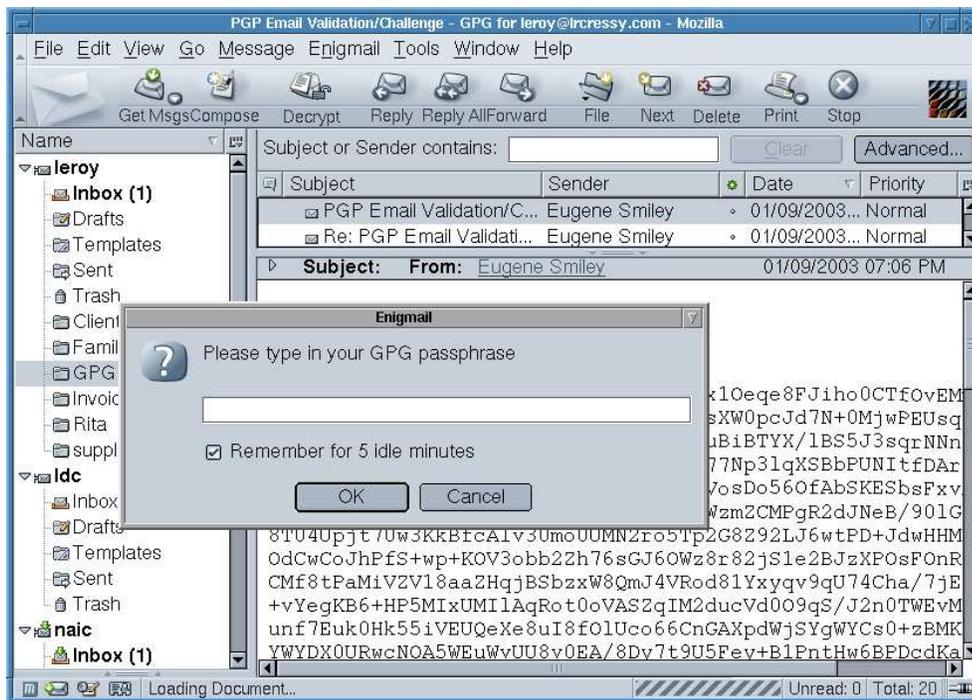
Checking this box enables you to set up the default key, default encryption and signing options for this account. Many of us have several email accounts so this is a good feature. Some of us even have our own mail servers working for us.

9 Using Mozilla Mail with Enigmail

Finally after all of the installation and configuration, now we are all set to seamlessly use Enigmail, Mozilla, and GnuPG.

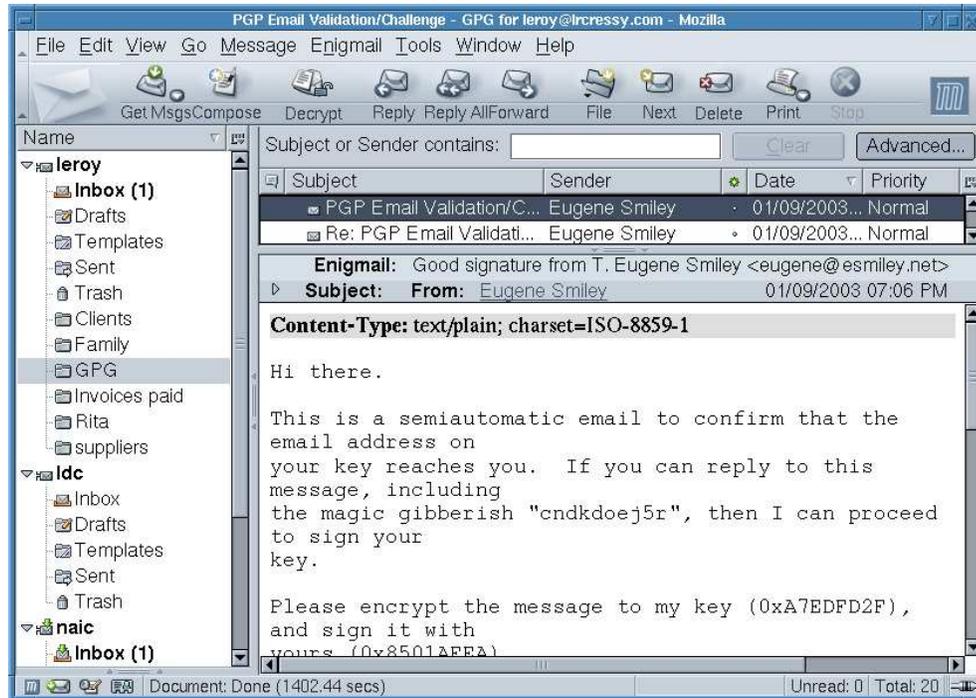
9.1 Receiving Mail

Reading email that has been sent to you encrypted is just as easy as reading other email. All you have to do is enter your pass phrase in the message box as shown.

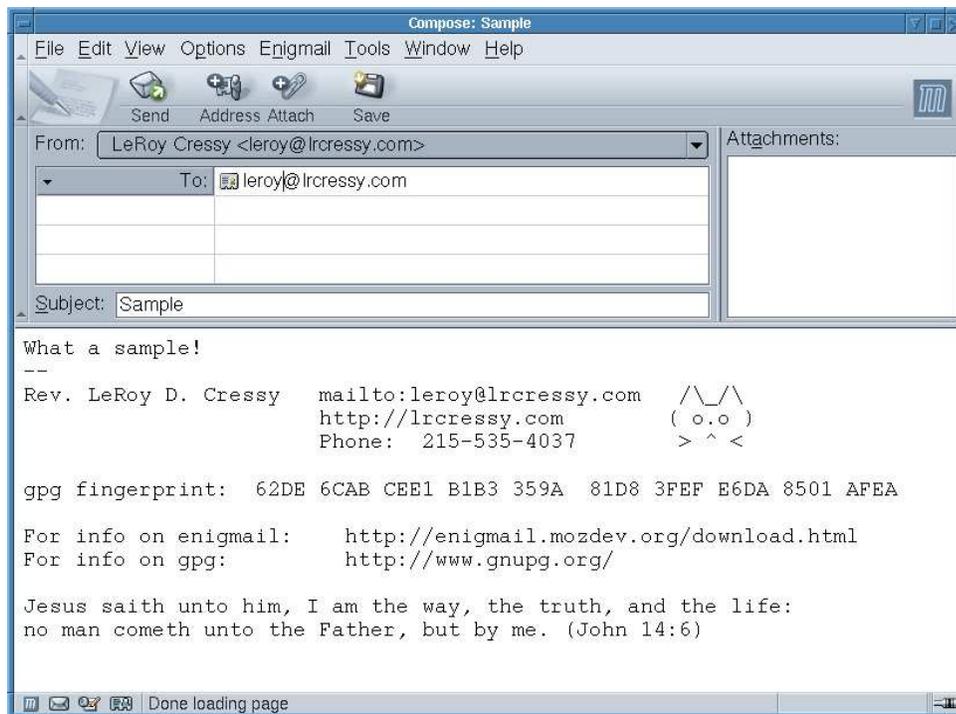


As you can see, the text is totally unintelligible to you until you enter in your pass phrase and click the button.

Then the message appears so you can read it.



9.2 Composing Mail



Composing an email message in Mozilla is very easy. The only thing is you now have a choice on how you want to send it.

- Signed send

- Encrypted send
- Encrypted + signed send
- Plain text send

Clicking on the **Enigmail** menu button gives you the options on how you want to send this message. If you click on the **send** icon, then whatever the default that was set during the configuration process will indicate how the message is sent. For instance if you have the default set at signed send, then a message box will pop up asking for your pass phrase. If you type the wrong pass phrase, an error box will pop up saying that the message was not sent. If you have a little box checked Save pass phrase for 5 minutes then the wrong pass phrase is in Mozilla's memory. In this case you need to click on the **Enigmail** and click on **Clear saved passphrase**

9.2.1 Composing and Sending Email for Mozilla versions 1.5 and above

Clicking on the **Enigmail** button produces the following menu.



You can choose to either just press the send button using the defaults you have set, or customize how you want the message sent. If You have not done the account settings yet, you will be prompted to set up the enigmail options for this account.

Clicking on any of the options in this menu will not cause the mail to be sent. These will only alter how the mail will be sent when you click the send button.

9.3 Decrypting and Verifying Signatures

By default, Enigmail will decrypt a file asking you for your pass phrase, but every now and then you may need to click on the **Decrypt** button to accomplish this.

9.4 Saving Decrypted Mail

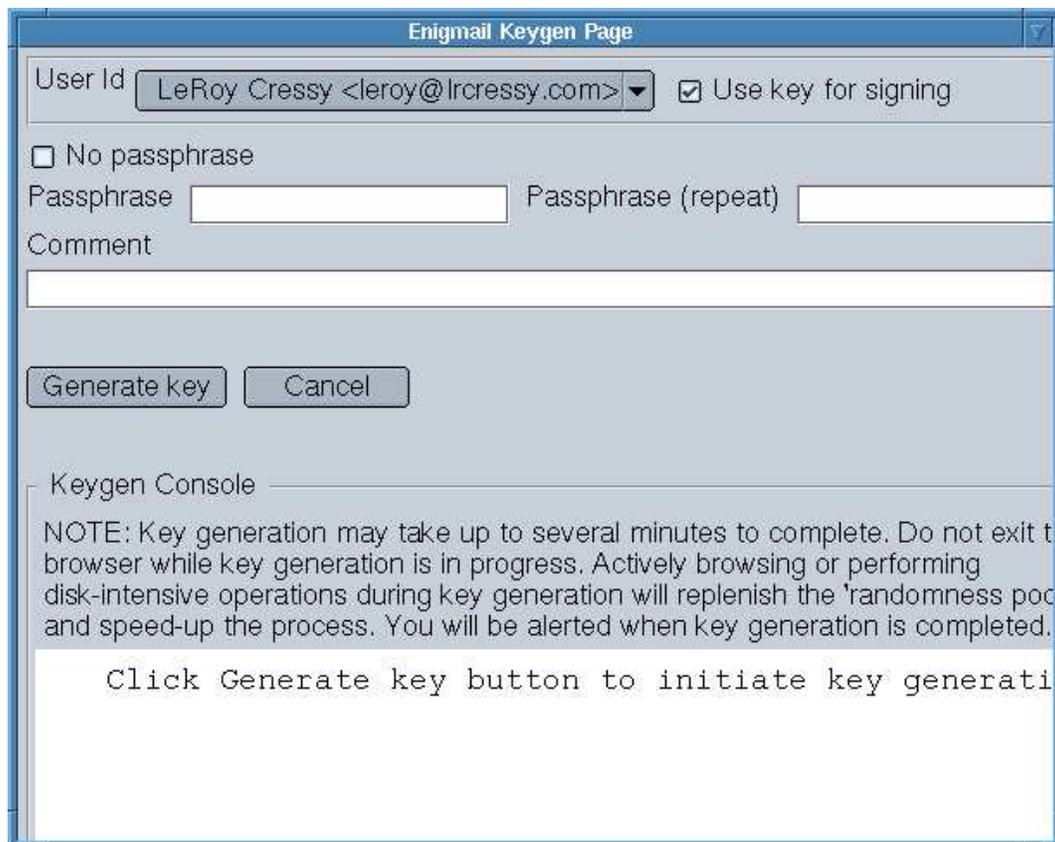
The **Enigmail** has an option to save a decrypted mail message to a plain text file. You have a choice to either save the message as plain text, or you can save the message as it came and decrypt it every time you want to see it.

9.5 Importing a Public Key

If someone sends you their public key, then you can click on the **Enigmail** menu button and select **Import Public Key** and the imported public key will be added to your key ring.

9.6 Generate Key

You can even use Enigmail as a front end to GnuPG to generate a key pair. I have never used this function, so this is a first for me.



The screenshot shows a dialog box titled "Enigmail Keygen Page". It contains the following elements:

- User Id:** A dropdown menu showing "LeRoy Cressy <leroy@lrcressy.com>".
- Use key for signing**
- No passphrase**
- Passphrase:** An empty text input field.
- Passphrase (repeat):** An empty text input field.
- Comment:** An empty text input field.
- Buttons:** "Generate key" and "Cancel".
- Keygen Console:** A text area containing a note: "NOTE: Key generation may take up to several minutes to complete. Do not exit t browser while key generation is in progress. Actively browsing or performing disk-intensive operations during key generation will replenish the 'randomness poc and speed-up the process. You will be alerted when key generation is completed." Below the note, it says "Click Generate key button to initiate key generati".

I noticed that using the Enigmail front end for generating keys will only generate a 1024 bit key and not prompt you for the key size like GnuPG or PGP does. For most cases this is secure enough, but if you want better security then use `gpg --gen-key` and follow all of the prompts.

10 Conclusion

When I first switched from Netscape Communicator to the free Mozilla browser, I had a hard time in figuring out how to configure the mail client. This was several years ago when there was not a lot of documentation for Mozilla. Now I have several email accounts on various servers, the main one being mostly on `lrcressy.com` which I control myself.

When Enigmail came out, I almost stopped using `mutt` except when I am logged in through `ssh`. I have found using Mozilla to be very beneficial and rewarding.

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