

# PGP Key Management

## Basic Principles

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# Core Concepts

- To encrypt data so that it can be read by one person, you need that person's public key.
- To decrypt data someone sent to you, you need your private key.
- To sign some data, you use your secret key.
- To check a signature on some data, you use the public key of the person who used it.

# How do you do all This?

- Using gpg commands at the command line and manipulating text files with them.
- Using built-in tools in your operating system, or your email client.

# Practical Aspects

As in what are the initial steps?

- Install GPG (as a port on FreeBSD).
- Create a public/private key pair. This is associated with your email address.
- Extract your public key. Maybe post it somewhere like <http://pgp.mit.edu/>
- Create your key fingerprint.
- Sign someone's public key.
- Check out <http://www.gnupg.org/>

# A Few Notes



# Install GPG

We'll install via ports. If your ports tree is not up-to-date you might install an older version of GnuPG.

You can always install like this:

```
pkg_add -r gnupg
```

# Create Public/Private Key Pair

- Don't forget expiry date
- passphrase on private? What if none?
- What does this mean?
- How is this related to ssh?

# Extract your Public Key to Text

- Why?
- What do you do with this?

## **Answers:**

- Export to pgp key server
- Place in email
- Have people sign it – why?

Cool Effect – Still awake?



# Create a Key Fingerprint

- Why?
- What does this do?
- Where might you use it?

## **Answers:**

- Bottom of email?
- Pgp key server

# Sign Someone's Public Key

What's the first step?

This is the “web of trust”

Where do the “signatures” go?

- pgp key server

# What will you use this for?

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- Passwords in email
- Financial information
- Contracts
- Other?

Let's go do it!