

What is cloud computing?



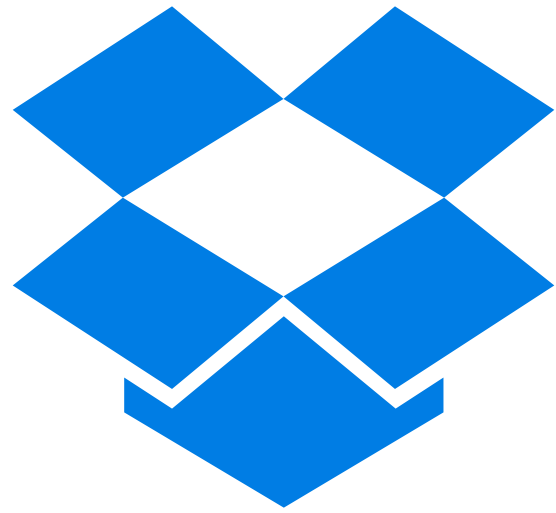
Before they called it *the cloud*



Before they called it *the cloud*, ctd.

flickr





Dropbox











<http://www.theatlantic.com/special-report/beneath-the-cloud/>

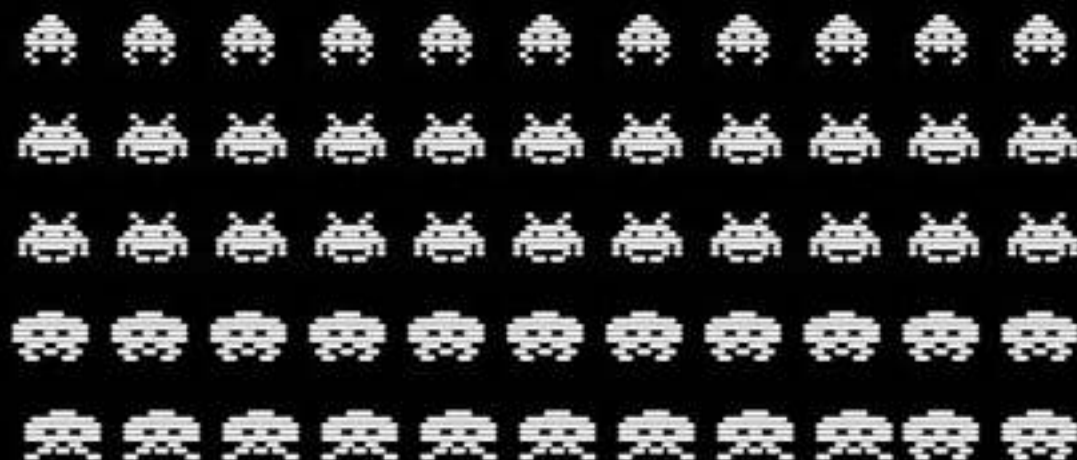
Google data center locations in the US and Europe



SCORE<1> HI-SCORE SCORE<2>

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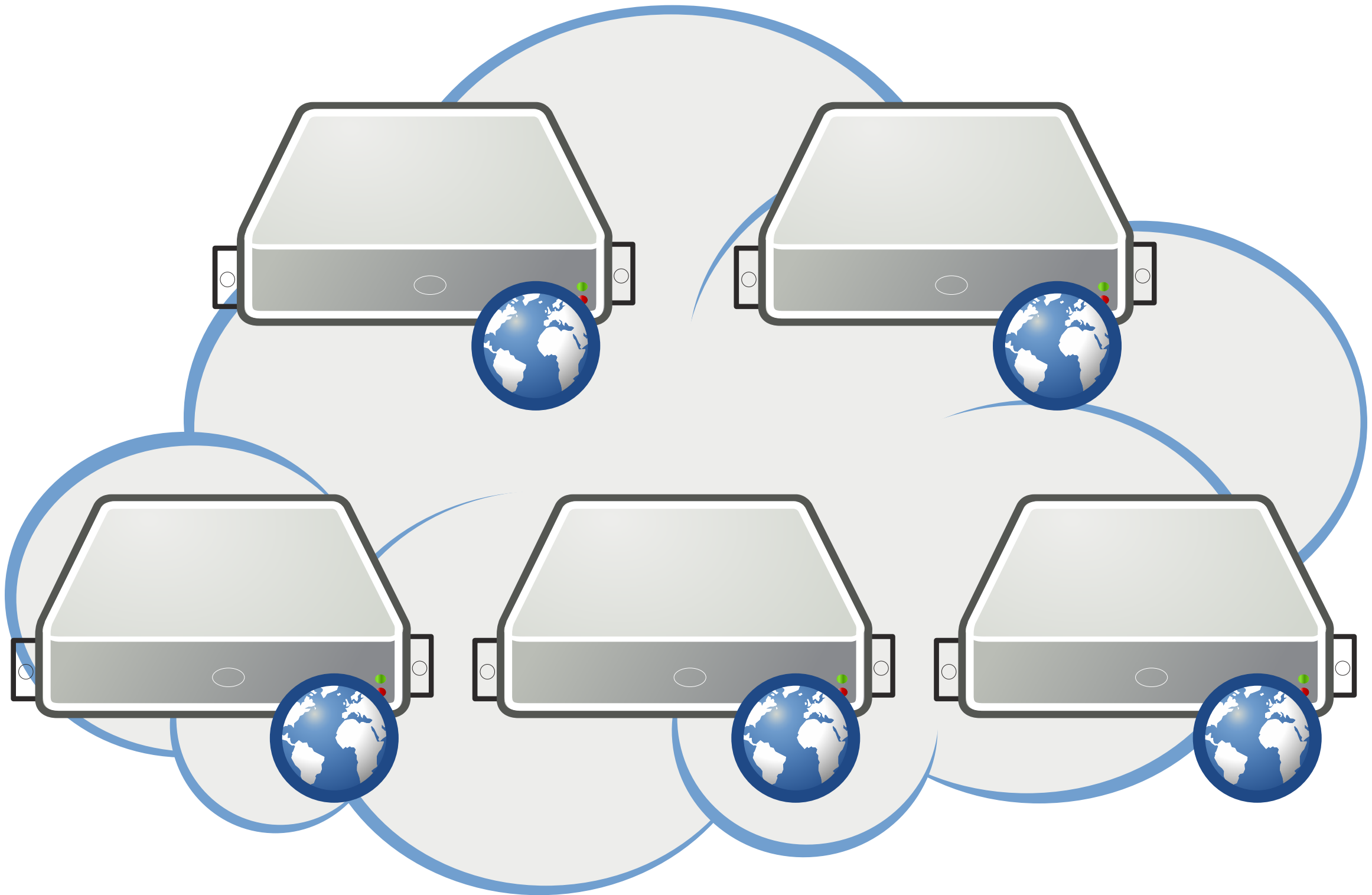
CREDIT 00







The Cloud



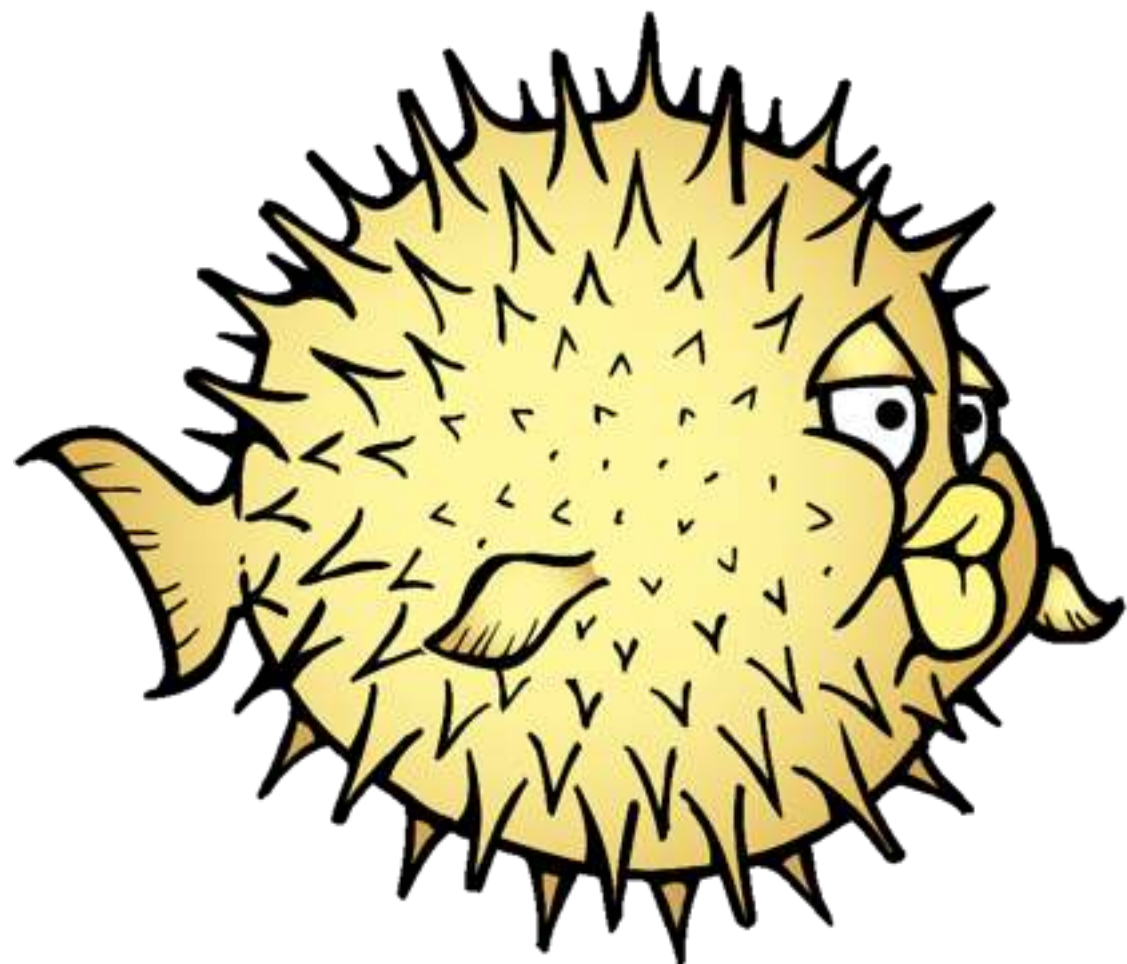
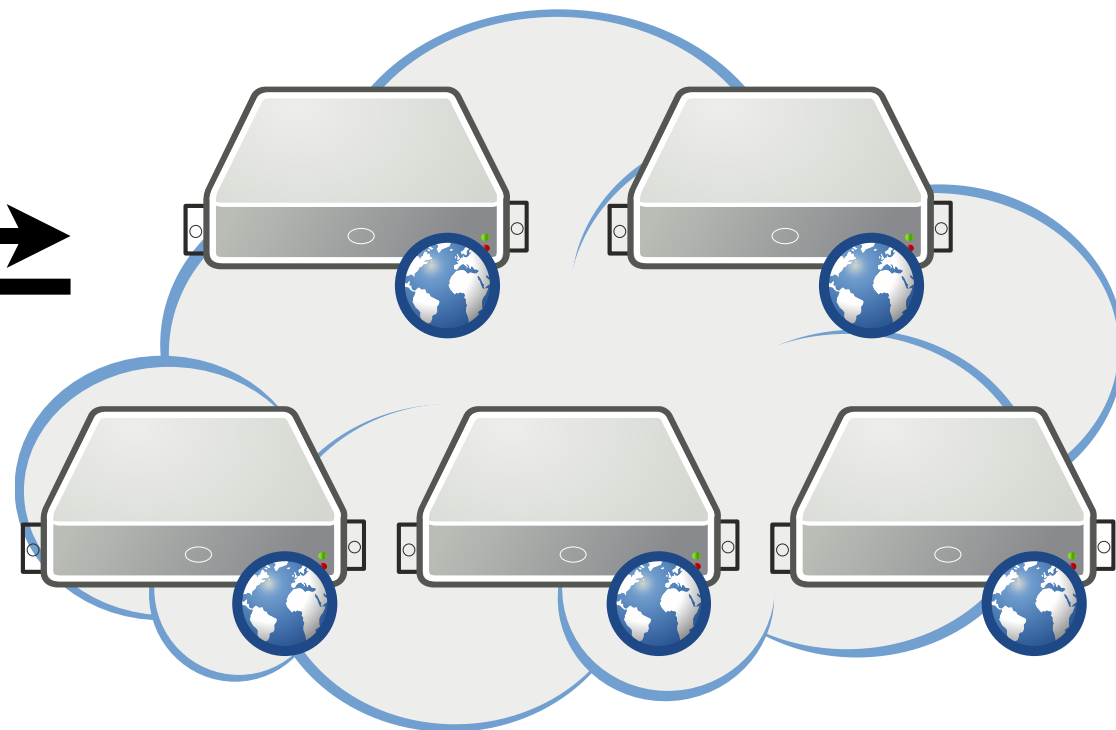
How do we communicate with *the cloud*?



Penn State University, Pattee Library



The Cloud

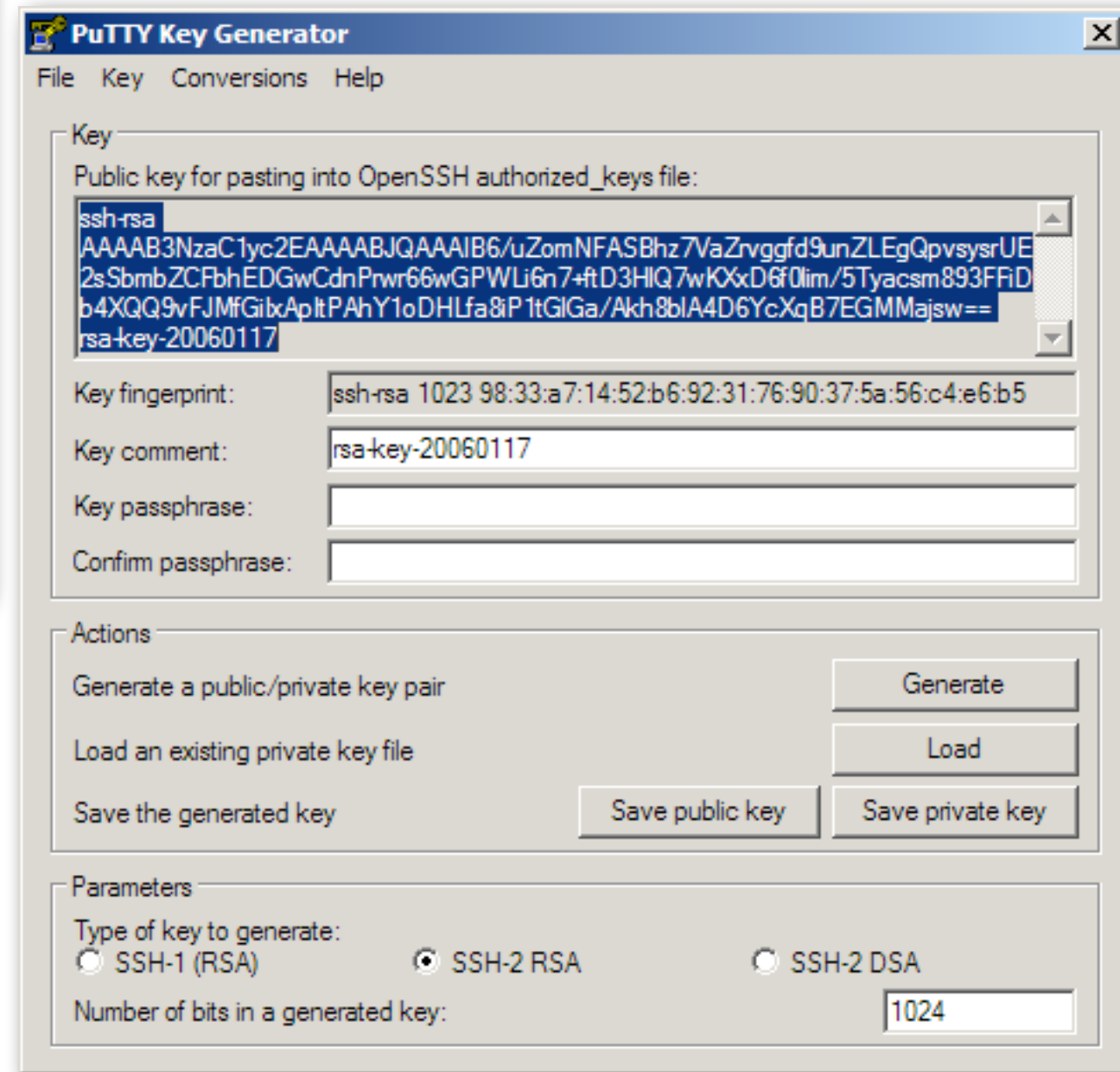
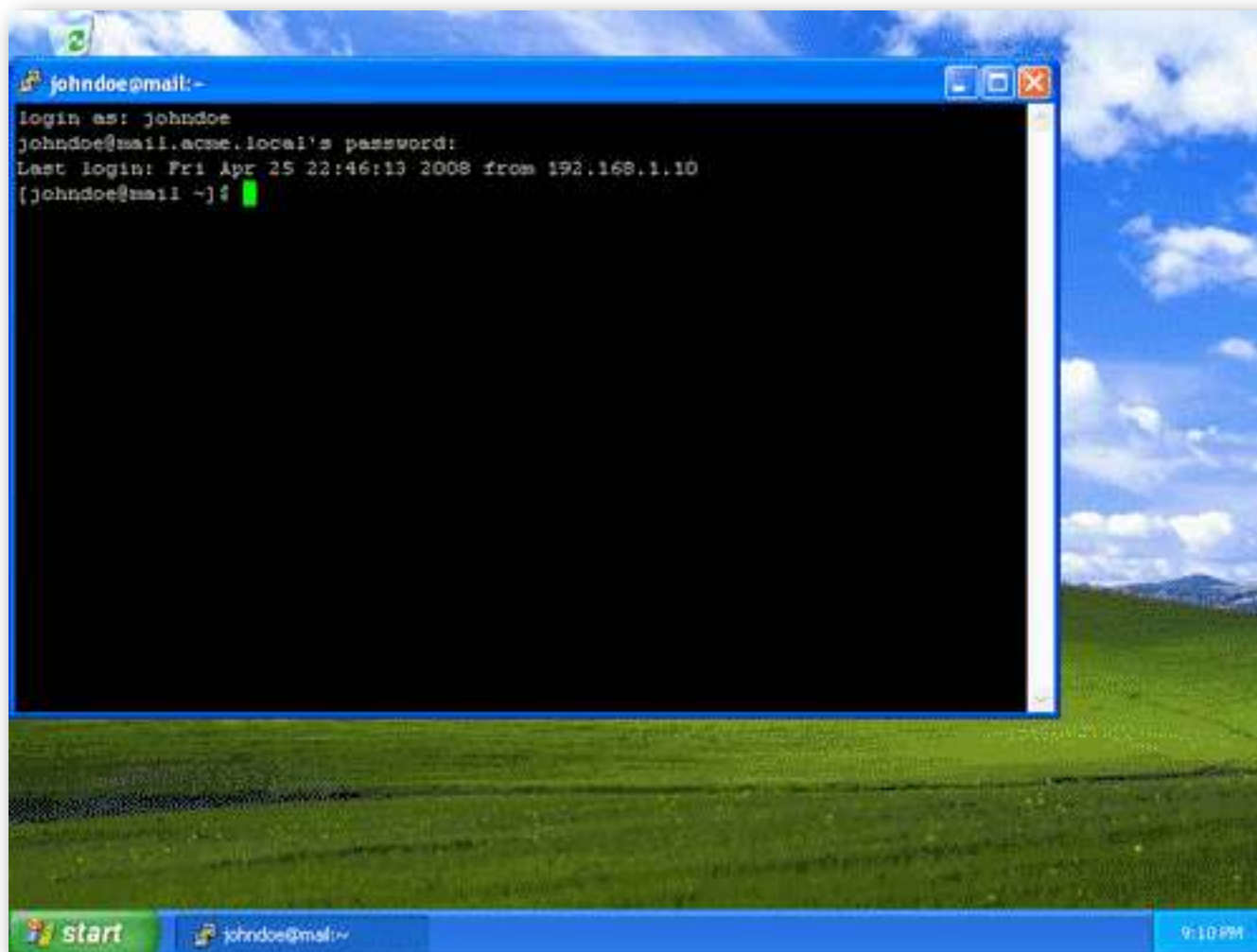


Secure Shell (ssh)

On a Mac: the Terminal Application

```
ubuntu@ip-10-4-230-31: ~/working — ssh — 141x44
ubuntu@ip-10-4-230-31:~/working$ ls -la ~/
total 444
drwxr-xr-x 18 ubuntu ubuntu 4096 2012-01-09 22:50 .
drwxr-xr-x  6 root   root   4096 2011-11-14 17:12 ..
-rw-r----- 1 ubuntu ubuntu 3757 2012-03-12 12:11 .bash_history
-rw-r--r--  1 ubuntu ubuntu  220 2011-05-18 10:00 .bash_logout
-rw-r--r--  1 ubuntu ubuntu 3581 2011-11-14 17:16 .bashrc
lrwxrwxrwx  1 root   root    21 2011-11-14 12:25 bin -> ../../usr/proftpd/bin
drwxrwxr-x  2 ubuntu ubuntu 4096 2011-11-14 17:16 .byobu
drwxrwxr-x  4 ubuntu ubuntu 4096 2011-11-14 14:33 .cabal
drwx----- 3 ubuntu ubuntu 4096 2011-11-14 11:37 .cache
lrwxrwxrwx  1 root   root    20 2011-11-14 12:23 conf -> ../../usr/nginx/conf
-rwxrwxrwx  1 ubuntu ubuntu  992 2011-11-14 17:12 configure_freemx.sh
drwx----- 3 ubuntu ubuntu 4096 2012-01-08 22:52 .emacs.d
lrwxrwxrwx  1 root   root    21 2011-11-14 12:25 etc -> ../../usr/proftpd/etc
drwxr-xr-x  2 ubuntu ubuntu 4096 2011-11-14 12:51 .fontconfig
drwx----- 2 ubuntu ubuntu 4096 2011-11-14 14:18 .gconf
drwxr-xr-x  3 root   root   4096 2011-11-14 16:58 .gem
drwx----- 2 ubuntu ubuntu 4096 2011-11-14 14:51 .gnupg
lrwxrwxrwx  1 root   root    20 2011-11-14 12:23 html -> ../../usr/nginx/html
lrwxrwxrwx  1 root   root    25 2011-11-14 12:25 include -> ../../usr/proftpd/include
drwxrwxr-x  4 ubuntu ubuntu 4096 2011-11-28 17:49 install
drwxrwxr-x  3 ubuntu ubuntu 4096 2011-11-14 12:27 .lein
-rw-r----- 1 ubuntu ubuntu  65 2011-11-14 13:07 .lessht
lrwxrwxrwx  1 root   root    21 2011-11-14 12:25 lib -> ../../usr/proftpd/lib
lrwxrwxrwx  1 root   root    25 2011-11-14 12:25 libexec -> ../../usr/proftpd/libexec
lrwxrwxrwx  1 root   root    20 2011-11-14 12:23 logs -> ../../usr/nginx/logs
drwxrwxr-x  2 ubuntu ubuntu 4096 2011-11-14 12:51 .m2
drwxrwxr-x  2 ubuntu ubuntu 4096 2011-11-14 14:18 .matplotlib
-rw-r----- 1 ubuntu ubuntu 2964 2012-01-09 22:50 .mysql_history
-rw-r--r--  1 ubuntu ubuntu  675 2011-11-14 17:16 .profile
drwxr-xr-x  2 root   root   4096 2011-11-14 12:25 sbin
-rw-rw-r--  1 ubuntu ubuntu  0 2011-11-14 11:37 .screenrc
lrwxrwxrwx  1 root   root    23 2011-11-14 12:25 share -> ../../usr/proftpd/share
drwx----- 2 ubuntu ubuntu 4096 2011-11-14 11:33 .ssh
-rw-rw-r--  1 ubuntu ubuntu 338416 2012-01-09 16:12 stacks-0.998.tar.gz
drwxrwxr-x  3 ubuntu ubuntu 4096 2011-11-14 13:44 .subversion
-rw-r--r--  1 ubuntu ubuntu  0 2011-11-14 11:38 .sudo_as_admin_successful
drwxrwxr-x  2 ubuntu ubuntu 4096 2012-01-09 04:42 tmp
lrwxrwxrwx  1 root   root    21 2011-11-14 12:25 var -> ../../usr/proftpd/var
-rw-r----- 1 ubuntu ubuntu 7522 2012-01-09 20:35 .viminfo
lrwxrwxrwx  1 ubuntu ubuntu  12 2012-01-08 22:49 working -> /mnt/working
-rw-r----- 1 ubuntu ubuntu  196 2011-12-12 12:04 .Xauthority
ubuntu@ip-10-4-230-31:~/working$
```

On Windows: Putty + Putty KeyGen



<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

Welcome to NoMachine

NOMACHINE

Use a service to connect to this machine

`nx://127.0.0.1`

Insert the service URL and press enter

Go to server settings to set up the services

☐ Don't show this message again

Continue

