Enabling EWS Workstations / NetFiles Hacks
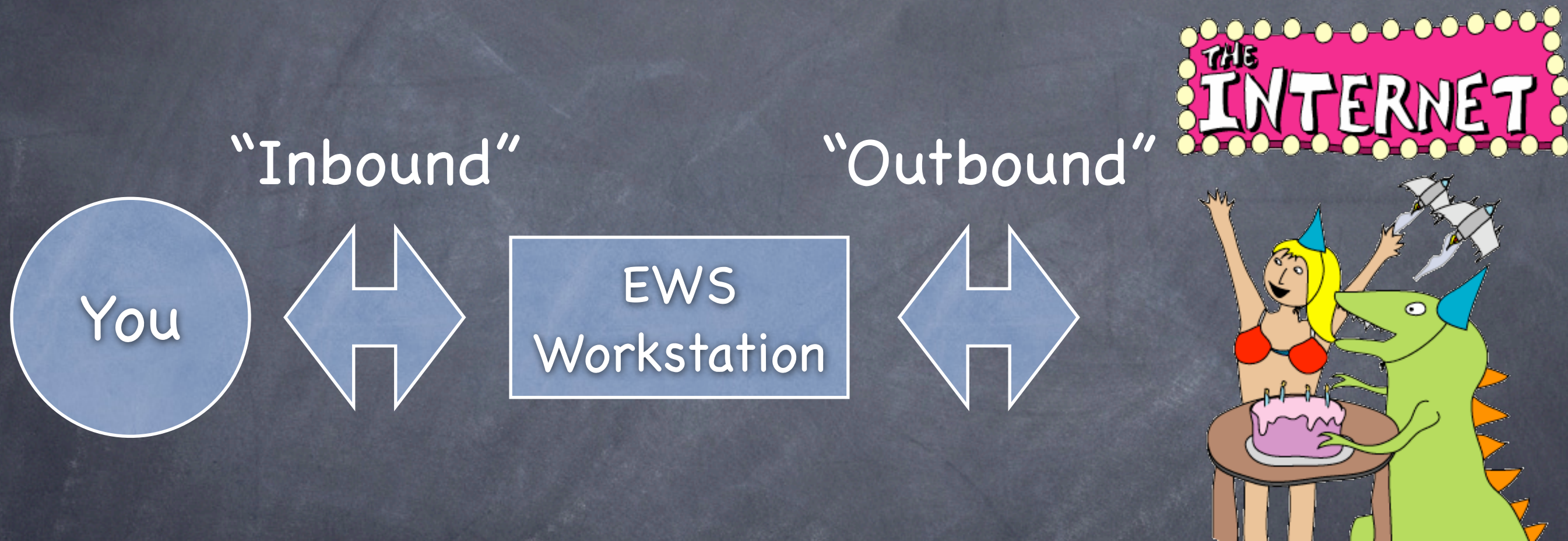
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Part 1: Enabling EWS

"Inbound"   "Outbound"

You ⬌ EWS Workstation ⬌

Lab locations: http://www.ews.uiuc.edu/labs/

Why?

- To get around bandwidth/file transfer quotas set by housing/ISPs

- EWS' bandwidth - plus the ability to have two or more IP addresses on one machine without having to resort to X forwarding

- Standard ssh commands will be used

- Windows users - get PuTTY: http://www.chiark.greenend.org.uk/~sgtatham/putty/

Methods

Inbound

- SSH: TCP/IP

- SSH: SOCKS

- Direct

Outbound

- Connection Forwarding

- Proxy Server

- BitTorrent[1]

- Tor

- Tor Server[2]

- I2P[3]

- Freenet[4]

[1] Practice sensible bandwidth usage
[2] Probably not a good idea
[3] A work in progress
[4] Slooooooooooow

SSH: TCP/IP & SOCKS

- TCP/IP:

  `ssh NetID@ewsmachine.ews.uiuc.edu`
  `-L port:host:hostport`

- SOCKS:

  `ssh NetID@ewsmachine.ews.uiuc.edu -N -D localport`

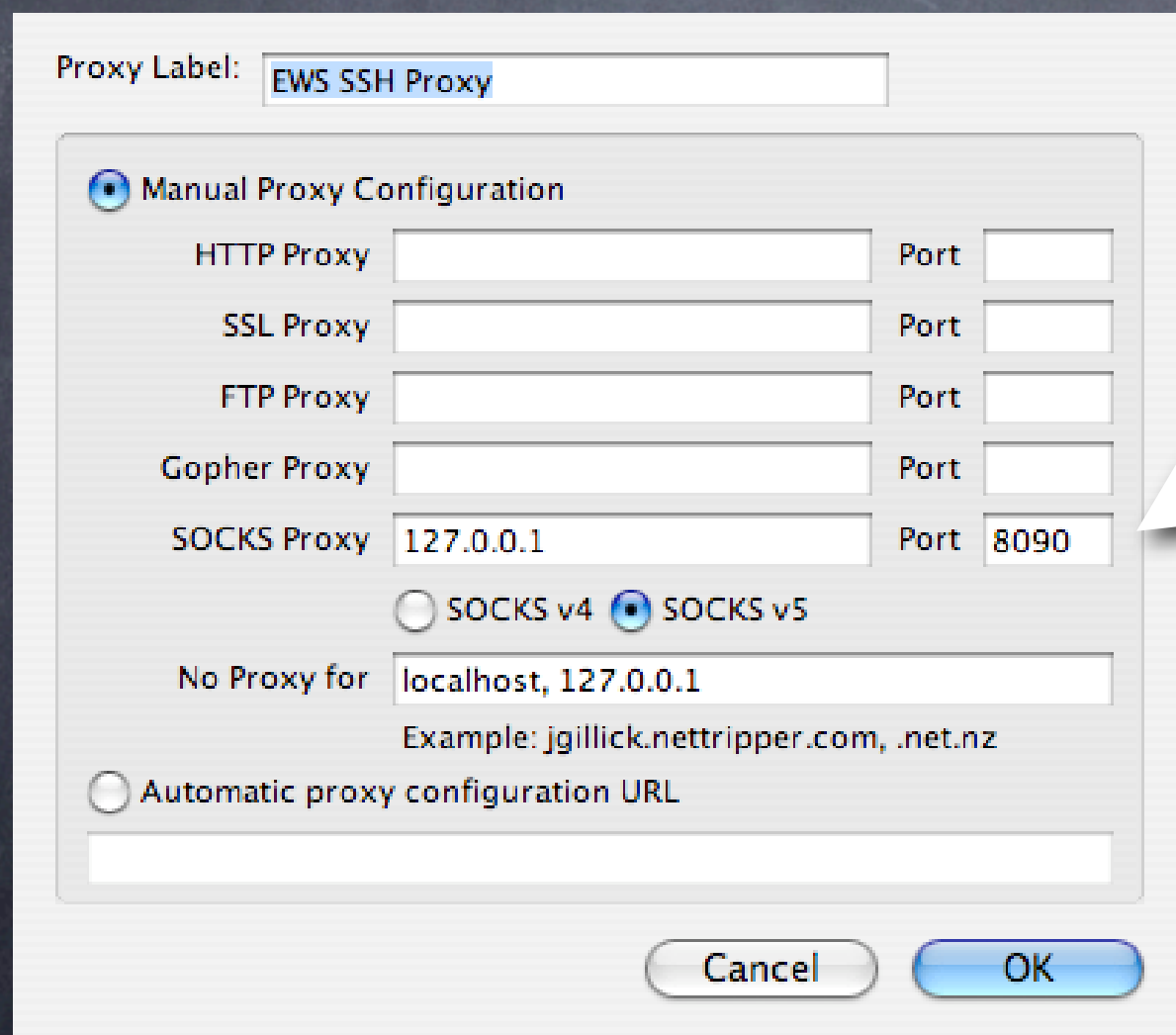Remove if you want to run other commands
on the machine

More detailed write up:
http://p.fscked.org/trickortreat/ssh_tunnel.php

Outbound: Connection Forwarding

- Use SOCKS connection method from previous page

- Configure proxy settings on your machine (or use the SwitchProxy[1] extension for Firefox)

Proxy Label: EWS SSH Proxy

( ) Manual Proxy Configuration

HTTP Proxy [　　　　　　　　] Port [　　]

SSL Proxy [　　　　　　　　] Port [　　]

FTP Proxy [　　　　　　　　] Port [　　]

Gopher Proxy [　　　　　　　　] Port [　　]

SOCKS Proxy [127.0.0.1] Port [8090]

( ) SOCKS v4 ( ) SOCKS v5

No Proxy for [localhost, 127.0.0.1]

Example: jgillick.nettripper.com, .net.nz

( ) Automatic proxy configuration URL

[　　　　　　　　]

(Cancel) (OK)

Here, the localport is 8090

[1]http://extend.flock.com/details/switchproxy

Outbound: Proxy Server

- Lists of proxy servers
  http://www.publicproxyservers.com
  http://www.openproxies.com/

- Run this:

  ```
  ssh NetID@ewsmachine.ews.uiuc.edu
  -L localport:proxyserver:proxyport
  ```

Outbound: BitTorrent

- Use SOCKS connection with your favorite port.

- Azureus configuration using 8090 as the localport:

Connection : Proxy Options

Tracker Communications

☑ Enable proxying of tracker communications [restart required]

☑ I have a SOCKS proxy

Host   127.0.0.1

Port   8090

Username

Password

Peer Communications

☑ Enable proxying of peer communications (outgoing connections only) [restart required]

☐ Inform tracker of limitation

SOCKS version   V5

☑ Use same proxy settings for tracker and peer communications proxy

Host

Port

Username

Password

Outbound: Tor

- Follow directions 3-9 on the bottom of this page:

- http://6sxoyfb3h2nvok2d.onion/tor/TorServerSetup

- Then run:
  ssh NetID@ewsmachine.ews.uiuc.edu
  -L localport:127.0.0.1:TorPort tor

- All TCP/IP traffic going to localport will be routed to the EWS workstation then onto

Part 2: NetFiles Hacks

- Vendor: Xythos (http://www.xythos.com/)

- Internal Name - "Digital Locker Suite":

  http://www.xythos.com/home/xythos/products/products_dls.html

- User Guide:

  http://www.cites.uiuc.edu/netfiles/

- "The University of Illinois at Urbana-Champaign's legacy Unix file system had become too costly to manage and was difficult for most faculty and students to use." - case study

- "NetFiles uses over one terabyte of traffic per month and receives more than one million hits per month. There are more than 1.3 million files in the system." - Case study

- Apache 1.3.29 on Solaris, all connections use SSL (secure but CPU intensive!)

- Tickets allow limited number of page views

- Subscriptions allow the tracking of file changes

- Locking prevents file changes by non-administrators

- "If you have the latest SolarStar (?) jpeg, for example, WFS stores only one instance. We save a lot of file space because of this feature alone." - case study

- Vendor Documentation: https://netfiles.uiuc.edu/xythoswfs/static/en/index.jsp
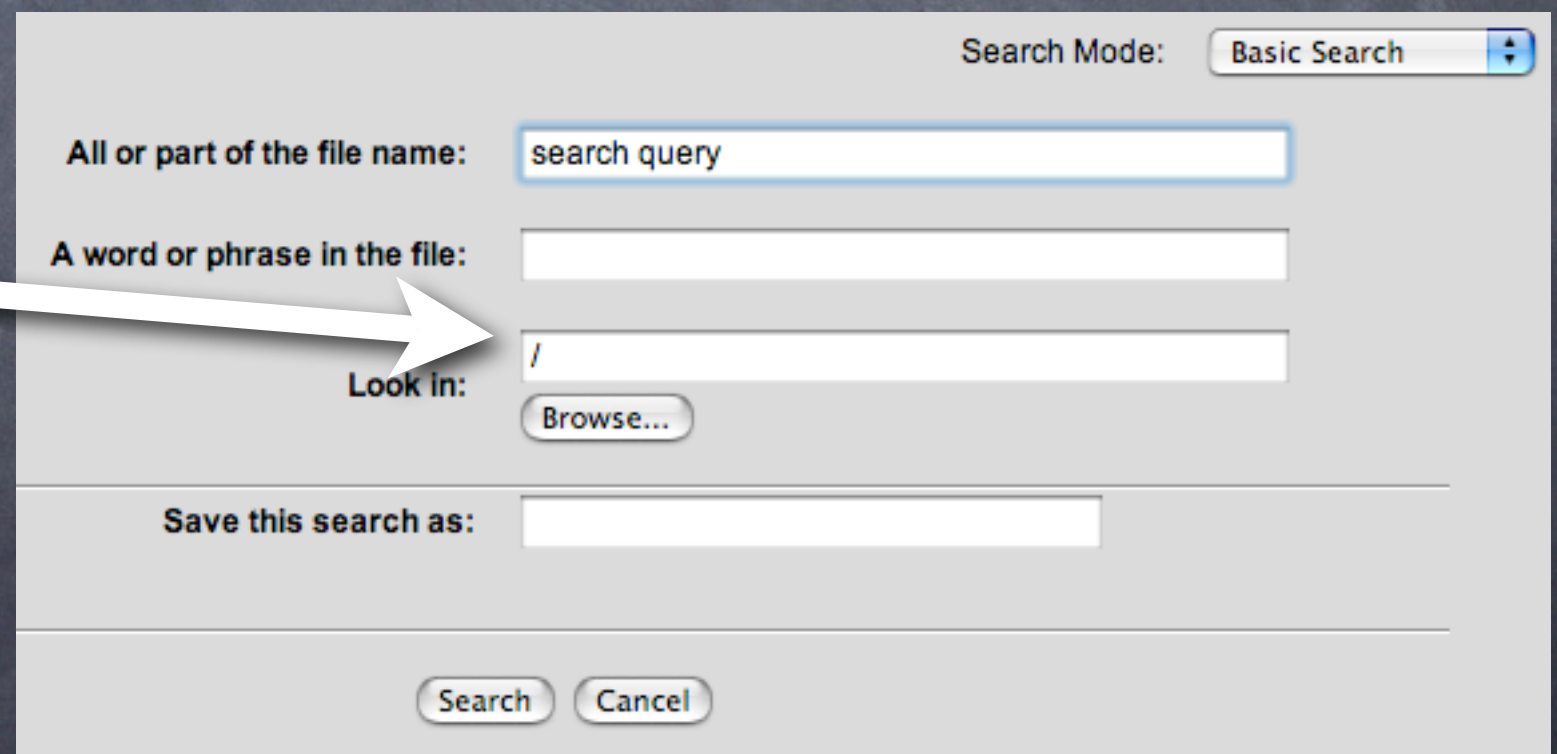
- Possible storage expansion planned

File Permissions

- All files have 3 groups of users.

- Some files can have more than 3: user assigned groups

- Users mismanage permissions

Search

- Searches can be performed across all public directories and files!

- To search for class notes: search root for the class and course number or just the course number other combinations work well too.

Take out your netID to search all public/ user readable directories

Search Mode:	Basic Search

All or part of the file name: | search query

A word or phrase in the file:

Look in: | /
Browse...

Save this search as:

Search Cancel

Interesting Search Queries

- private

- trash

- expiredaccounts

More information

- http://kimmo.suominen.com/docs/ssh/

- http://www.onsight.com/faq/ssh/ssh-faq.html

- http://www.suso.org/docs/shell/ssh.sdf

- Autumn 2005 issue of 2600, pp. 15-18