Action at a distance: network tools

Lecture 6 - COMP 364
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Why talk about the internet?

- Lots of resources are available over the internet
  - Data sets
  - Workstations
  - Computing clusters
- Three activities of interest
  - Testing a connection
  - Remotely logging into a computer
  - Transferring files (both uploading and downloading)
Architecture of the internet

IP Address: 132.206.51.6
Domain name: inkido.cs.mcgill.ca
ping: testing a connection

- ping <internet address>

- ping -c # <internet address>

- Sends individual packets to the address and tells you if it received responses (one response per packet)
traceroute: mapping the route to a computer

- traceroute <internet address>

- Print out all the routers and computers a packet passes through on its way to a specific address.
ssh: Remotely logging into a computer

- ssh <login name>@<remote computer internet address>
  - ssh terminus.cs.mcgill.ca

- Connect to a remote (UNIX) computer and start a command prompt

- From this point on, you can interact with it using any of the commands we’ve learned on the command line

- GUIs (Graphical User Interfaces) are NOT available (this is where pico becomes useful)
scp: copying files to/from a remote server

- `scp <source> <destination>`
  - In concept, works just like “cp” (cp `<source> <destination>`)
  - Source and destination have the following format:
    - If local: `<path>`
    - If remote: `<computer address>:<path on remote computer>`
      - Or: `<username>@<computer address>:<path on remote computer>`

- Exercises
  - Copy the local file foo.txt to the file `~/foo_remote.txt` on terminus.cs.mcgill.ca
  - Copy the directory angelia_emails on terminus.cs.mcgill.ca to `~/` on your computer.
curl: Getting general stuff off the internet

- `curl <thing you want to download>`

- Question: Do we have what we need to download all the emails from here?