

Introduction to Networking

Curt Clifton
Rose-Hulman Institute of Technology

Protocol

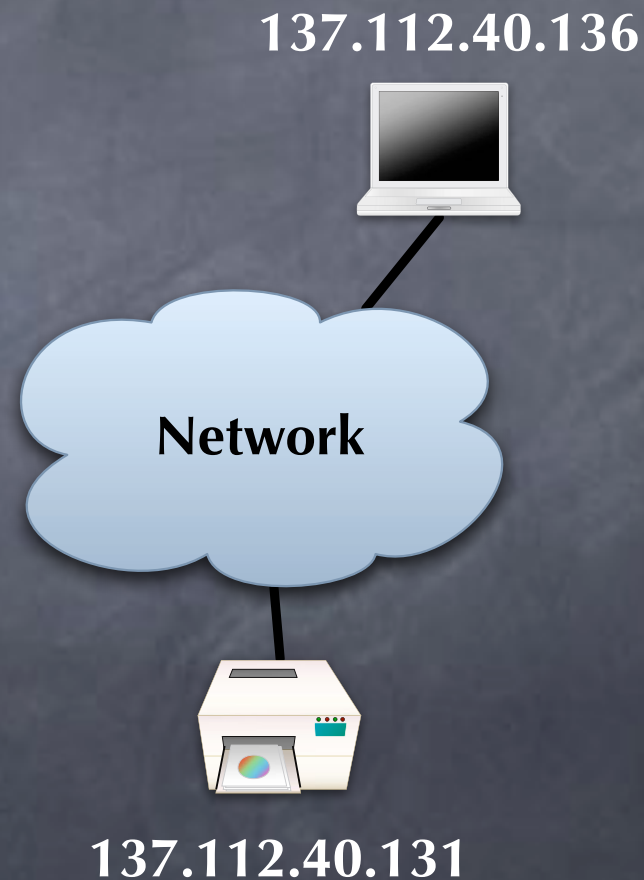
- Protocol: a set of rules for interaction



- Networking uses a variety of protocols:
 - Physical hardware
 - Sending/receiving raw data
 - Verifying data transmission

IP – Internet Protocol

- Low-level rules that route “packets” of data between machines
- IP address
 - associated with a connection point on network
 - allows packets to be directed to a destination



TCP – Transmission Control Protocol

- Uses “handshaking” to ensure that data reaches source
- Retries if failure
- Notifies sender of success or failure
- Uses “ports” to make sure data goes to correct program

TCP Networking Anthropomorphizing

Machine One



Program
using
a port



Network
port
using
TCP



Network
using
IP

Machine Two



Network
port
using
TCP



Program
using
a port

Socket

- A two-way connection between two programs
- Hides all the intermediate details

