

# Let's Communicate \*

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VM Neuland im Internet 2021

## Personas

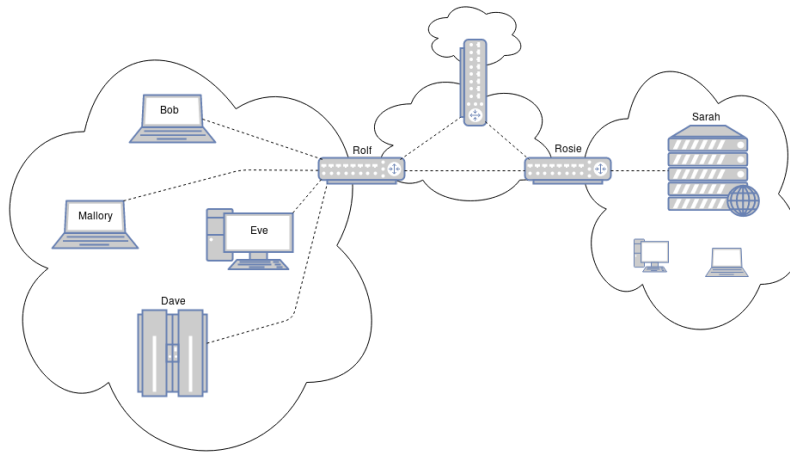


Figure 1: Figure under CC0 1.0

## Bob, a Browser

- Process on some Internet host



Figure 2: Figure under CC0 1.0

- Host with one network card

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\*This PDF document is an inferior version of an OER HTML page; free/libre Org mode source repository.

- IP address 10.0.0.42
- MAC address 0:0:0:0:42
- Default router with IP address 10.0.0.1
- Name server with IP address 10.0.0.2

## Routers: Rolf and Rosie

- Each with lots of network cards, two relevant here

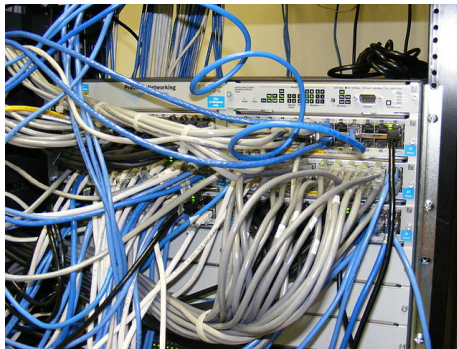


Figure 3: “Switch with cable nest” by Justin Smith under CC BY-SA 2.5; from Wikimedia Commons

- Rolf, first network card
  - \* IP address 10.0.0.1
  - \* MAC address 0:0:0:0:0:1
- Rolf, second network card
  - \* IP address 128.42.42.1
  - \* MAC address 0:0:0:0:42:1
- Rosie, first network card
  - \* IP address 128.42.42.2
  - \* MAC address 0:0:0:0:42:2
- Rosie, second network card
  - \* IP address 128.176.6.1
  - \* MAC address 0:0:0:0:6:1

## Sarah, the Web Server

- DNS name `www.wwu.de`, listening on TCP port 80



Figure 4: Figure under Public domain

- One network card
  - IP address 128.176.6.250
  - MAC address 0:0:0:0:6:250

### **Eve, a curious Eavesdropper**

- One network card



Figure 5: Figure under CC0 1.0

- IP address 10.0.0.5
- MAC address 0:0:0:0:5

### **Mallory, the Malicious Attacker**

- One network card



Figure 6: “Anonymous-Hacker” by Frank Schwichtenberg under CC BY 4.0; from Wikimedia Commons

- IP address 10.0.0.6
- MAC address 0:0:0:6:6:6

## Supporting Roles

- Dave, DNS server at IP address 10.0.0.2
- TCP/IP interfaces as necessary
  - E.g., `java.net.Socket` with `Socket(IPAddressOrHostName, Port)`
    - \* Standard interface
    - \* Vs Internet architecture?
- More characters as necessary

## Task

- Send request from browser Bob to Web server Sarah
  - Use HTTP request `GET /exam-solutions.html HTTP/1.1`
    - \* More on HTTP in separate presentation
    - \* Maybe tell a story involving all personas/roles
      - You may want to change the name of the Web server and choose a suggestive name for the requested resource ...

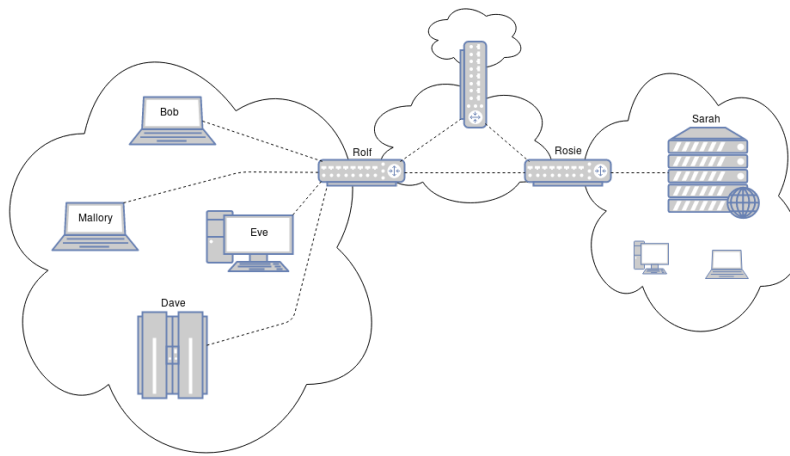


Figure 7: Figure under CC0 1.0

## Persona Summary

- Endpoints
  - Sarah, server `www.wwu.de`, `128.176.6.250`, `0:0:0:0:6:250`
  - Bob, browser, `10.0.0.42`, `0:0:0:0:0:42`
  - Dave, DNS server `10.0.0.2`, `0:0:0:0:0:2`
- Routers
  - Rolf
    - \* `10.0.0.1` with `0:0:0:0:0:1` and `128.42.42.1` with `0:0:0:0:42:1`
  - Rosie
    - \* `128.42.42.2` with `0:0:0:0:42:2` and `128.176.6.1` with `0:0:0:0:6:1`
- Eve, eavesdropper, `10.0.0.5`, `0:0:0:0:0:5`
- Mallory, malicious attacker, `10.0.0.6`, `0:0:0:0:6:6`

## License Information

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