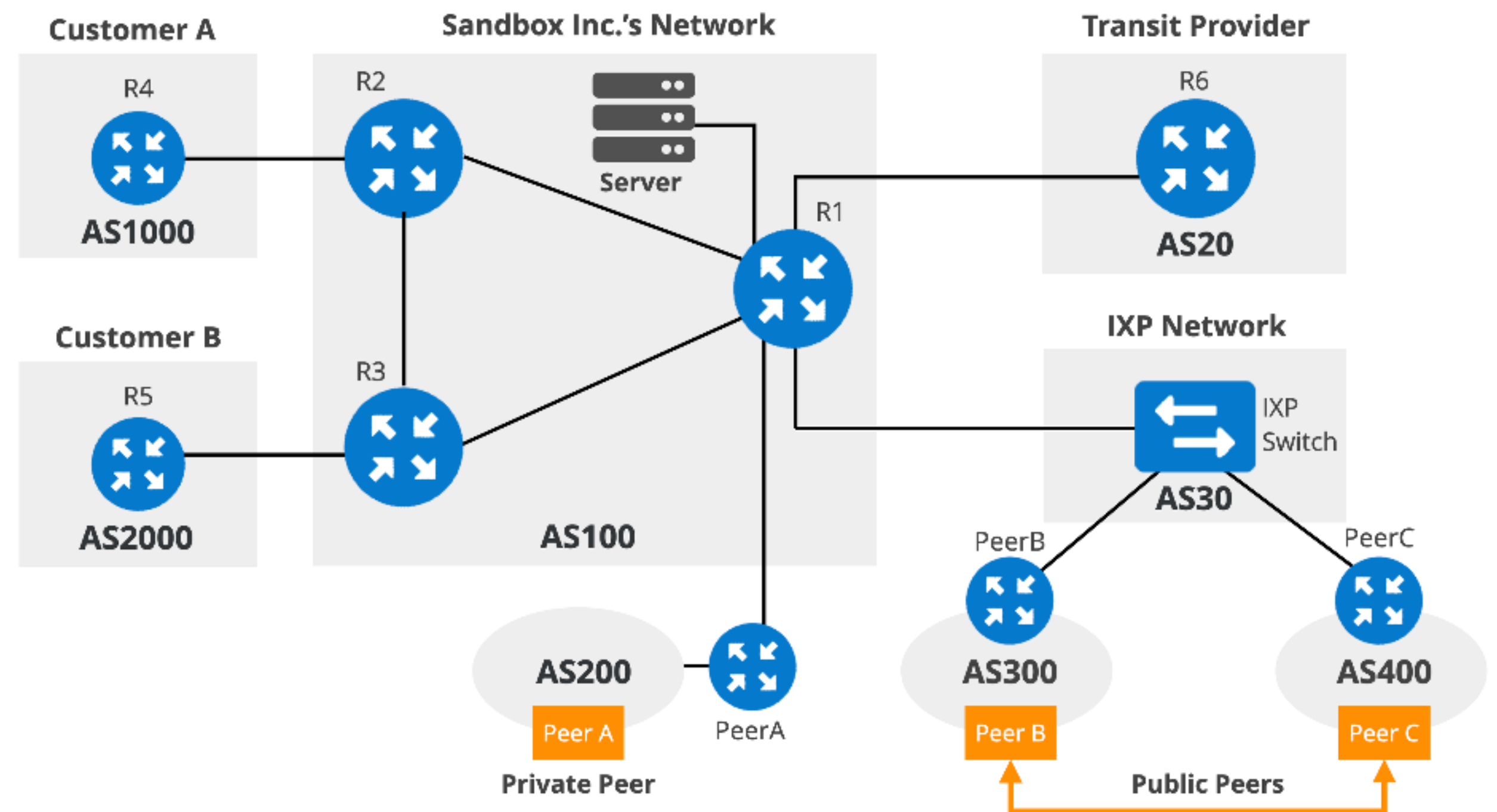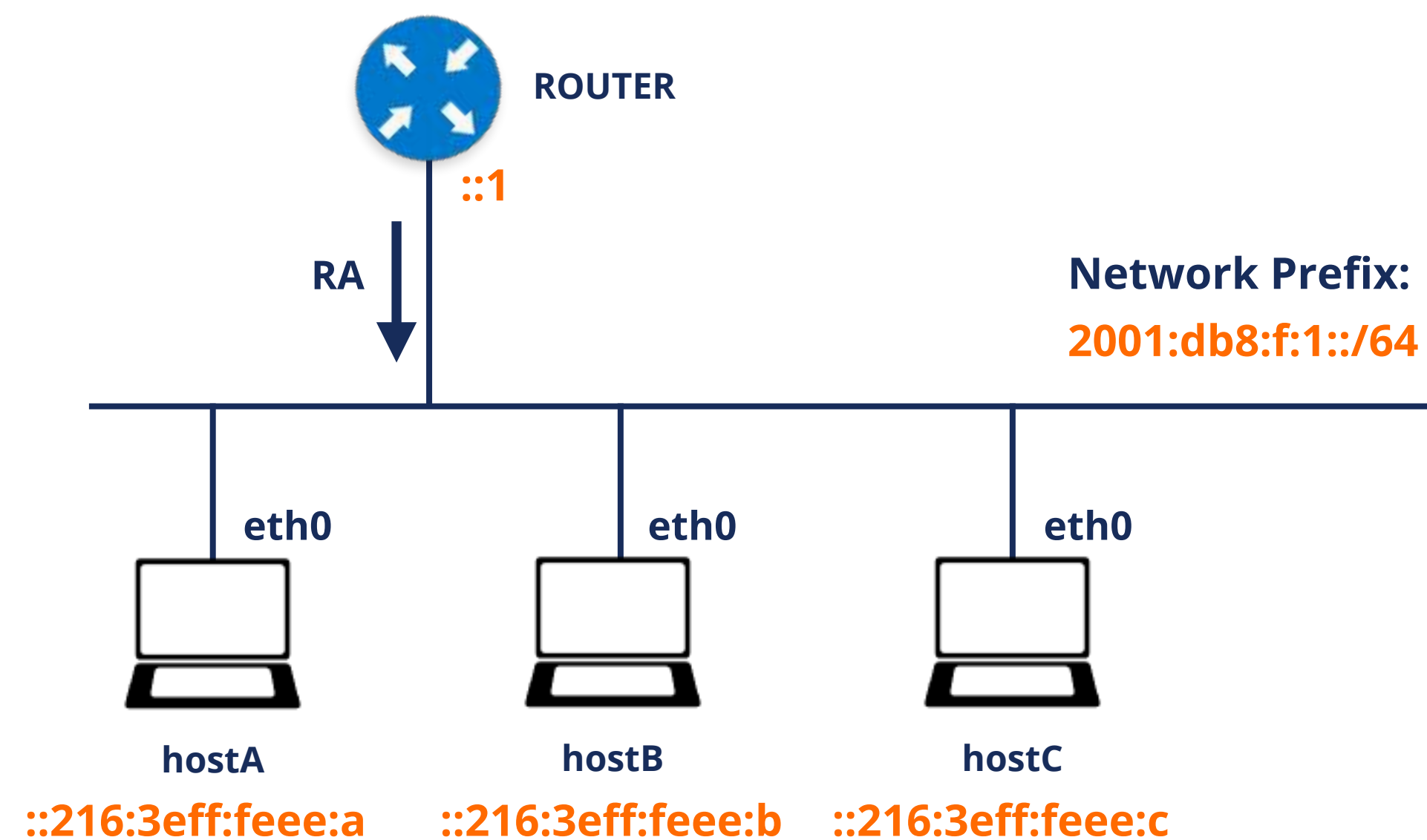# Ubuntu Automated Server Installation

Easy support for multiple architectures and hypervisors

Ondřej Caletka | 19 October 2023 | Engineering Social

E-learning Courses Labs

- IPv6 Security

- BGP Operations and Security

How it started

- Install **VirtualBox**

- Install **Vagrant**

- Type into the Terminal:

```
vagrant init ripencc/ipv6seclab
vagrant up
```

- Open web browser on `http://localhost:8080/`

How is is going

- Only **VirtualBox** supported, only amd64 architecture

- Using **third-party VM image** as a base

- VirtualBox **does not work (well)** on Apple M1/M2

- We run only open source software, which is available for Intel as well as ARM
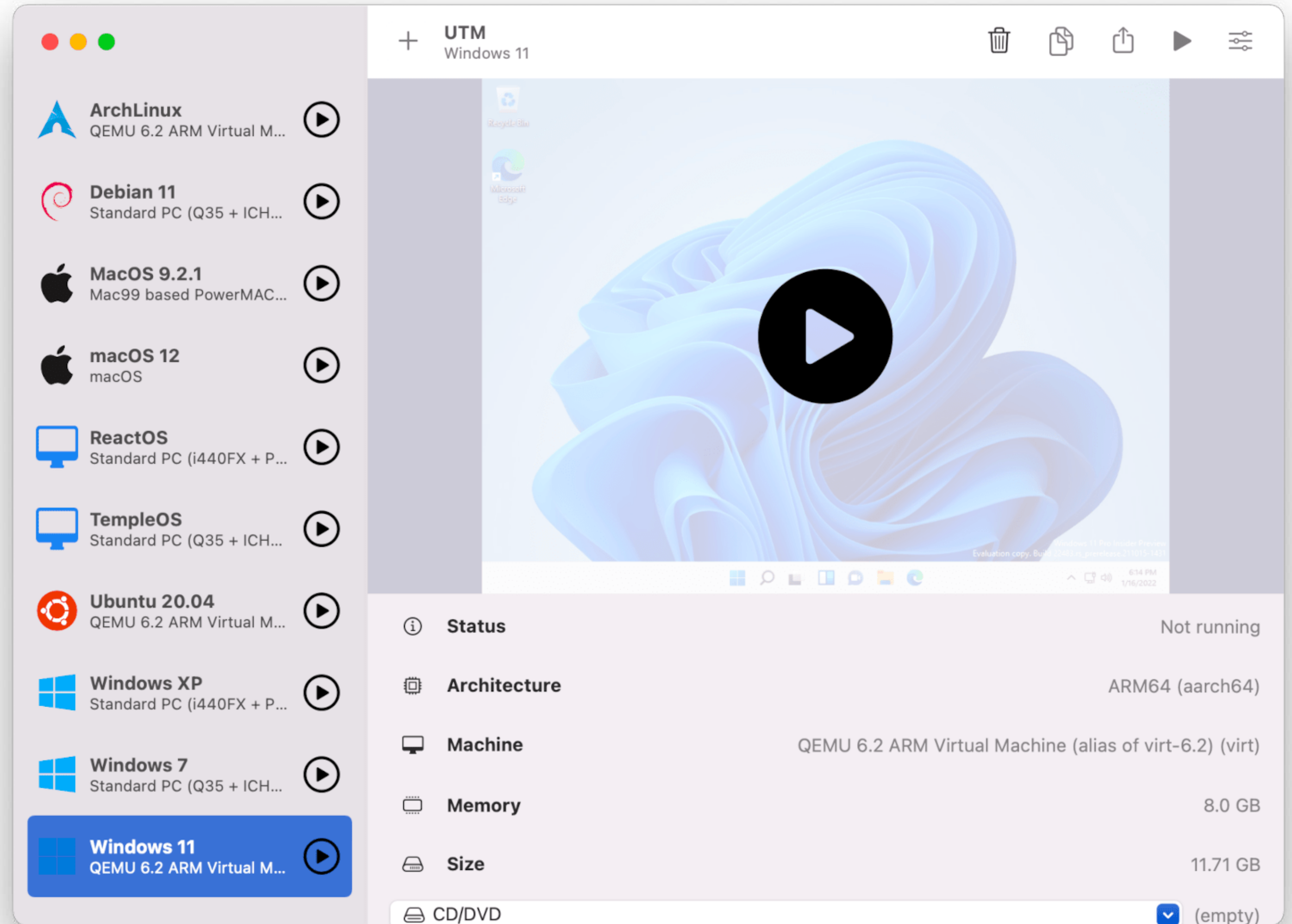
How to run VMs on ARM-based Apples

UTM

- A nice QEMU frontend for macOS (both Intel and M1)

- Virtualization and emulation supported

- Limited offer of base images

- Vanilla Ubuntu 22.04 LTS can be easily installed

Ubuntu Automated Server Installation

- A new way of automating OS installation

- Based on cloud-init YAML format

- Two stage installation:

  - generic OS installation

  - first run and finishing installation by cloud-init

- Works under all hypervisors

- Simple config

```
version: 1
identity:
    hostname: hostname
    username: username
    password: $crypted_pass
```

Kickstart file delivery

- Local volume named CIDATA

- Local file or nebo URL

  - on the kernel command line

  - **in SMBIOS serial number**

- QEMU example:

```
-smbios type=1,serial=ds=nocloud-
net;s=https://raw.githubusercontent.com/
RIPE-NCC/bgp-security-lab/main/ubuntu-
auto-install/
```

Finishing the installation after reboot

- By means of **cloud-init** tool

- Can among others clone a playbook repository and run Ansible

- cloud-init config part of **user-data** key:

```
user-data:
  users:
    - name: ubuntu
      sudo: ALL=(ALL) NOPASSWD:ALL
  runcmd:
   - [ passwd, -d, ubuntu ]
```

Problems

- The ISO image will not get disconnected during the first reboot

- You cannot watch the progress of the provisioning

  - logs are available only after failure

- Not so easy access from the host to the VM

  - you have to implement `vagrant ssh` yourself

Give it a look

```
https://github.com/RIPE-NCC/ipv6-security-lab

https://github.com/RIPE-NCC/bgp-security-lab
```

RIPE NCC
Academy

Learn something new today!

academy.ripe.net

Questions ?

Ondřej Caletka
https://ondřej.caletka.nl