



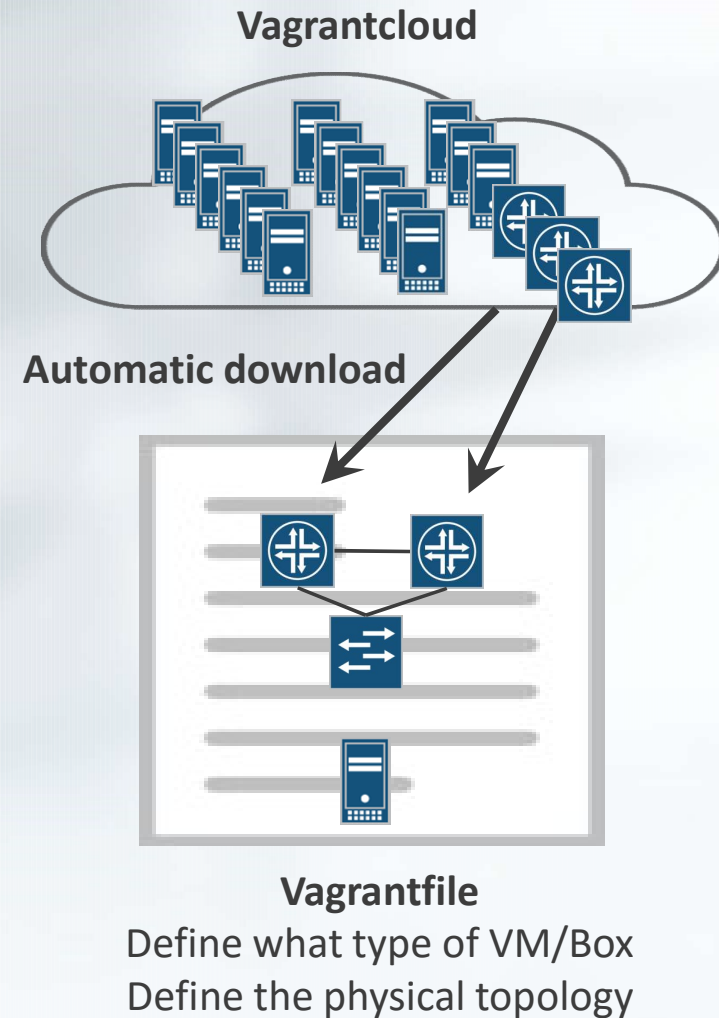
What is Vagrant ?

- Command line utility for managing the lifecycle of virtual machines
- A tool for building a virtualized environment
 - Tool of choice for DevOps
- From hashicorp:
 - Software company based in San Francisco.
 - HashiCorp provides open source tools and commercial products for datacenter management. vagrant, vault,
 - founded by Mitchell Hashimoto
- <https://www.vagrantup.com/>
- requirements: install vagrant and install vbox (Virtualbox)

What is Vagrant ?

A tool for building a virtualized environment

integrated with
Virtualbox/Vmware/docker/hyper-v/...
Ansible/chef/puppet/...
A “Box store” in the cloud



Vagrant providers

- providers:
 - Vagrant uses providers to spin up a virtual machine
 - <https://www.vagrantup.com/docs/providers/>
 - Was originally tied to VirtualBox (more options today)
 - Vagrant support other hypervisors (but not free and the regular one is Virtualbox)
 - Virtual Machines are provisioned on top of VirtualBox, VMware, ...
 - vagrant is free with Virtualbox (<https://www.virtualbox.org/>)

Vagrant provisioners

- provisioners:
 - <https://www.vagrantup.com/docs/provisioning/>
 - Provisioning tools such as Ansible/Puppet/Chef ... can be used to automatically install and configure software on the vagrant boxes

Provider and provisioning

Provisioning



Providers



Vagrant for network engineers

- Vagrant plugins to support of junos boxes:
<https://github.com/JNPRAutomate/vagrant-junos>
- public repo with vagrant boxes:
 - <https://atlas.hashicorp.com/boxes/search?>
 - <https://atlas.hashicorp.com/juniper>
- Use cases:
 - <https://ittechnologist.wordpress.com/2015/09/09/use-vagrant-with-juniper-junos-vms-on-windows/>
 - <https://keepingitclassless.net/2015/03/go-go-gadget-networking-lab/>
 - <https://www.dravetech.com/blog/2016/01/08/vagrant-for-network-engineers.html>

Vagrant for network engineers: Use cases

- building a virtualized environment
 - Tool of choice for DevOps
- testing/learning
 - cli
 - Protocols
 - Automation
- running demo
- automated testing of network changes
 - CI/CD
 - IaC: Ubiquitous, inexpensive virtualized network devices for Infrastructure as a Code
 - <http://www.networkcomputing.com/networking/achieving-infrastructure-code/1330106672>

vagrantfile

- describes the virtual machines you want, what network interfaces they should have ...
- written in Ruby, but no need to be a Rubist since it is mostly simple variable assignment
- see <https://github.com/ksator/vagrant-junos> for some examples

How to start a Vagrant Box

```
vagrant init juniper/ffp-12.1X47-D15.4  
vagrant up  
Vagrant ssh
```

Create Vagrantfile
Download and start
Connect

Vagrant commands

- `vagrant init` (create vagrantfile)
- `vagrant init juniper/ffp-12.1X47-D15.4-packetmode`
- `vagrant up` (download and start)
- `Vagrant status`
- `vagrant ssh`
- `vagrant halt`
- `vagrant destroy`
-

VAGRANT DEMO

VAGRANT DEMO

- Visit <https://github.com/ksator/vagrant-junos>
- Clone this repository <https://github.com/ksator/vagrant-junos.git>
 - There are several vagrantfiles with vsrx boxes, Ubuntu boxes, ansible provisionner, jinja2 templates

THANK YOU!
