OpenBSD: add VMM to ’packer’

projects/tasks done @ Hack4Glarus Summer-2019

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sysfive.com portfolio

- Continous system and application operation
- Collaborations with Providers, Developers, Services and QA
- Hybrid cloud provisioning
- cost efficient scaling on commodity HW
- scale out to AWS/RS/GCE
- Incident, problem, disaster response

- Service availability independent of solution scenario
- migrate from or to private/public cloud or own HW
- robust, scalable technology portfolio
- continuous improvements in security and server architecture
- coherent provisioning across platforms (dev/stage/live)
- vendor/provider independence, OSS focus

>

Projects

- Rookie Guide - see Redmine-Wiki
- APU2 - teach Evil Ham how to install OpenBSD on those and configure IPv6 interfaces/routing
- packer/VMM
-

What’s packer anyway?

```
Packer is an open source tool for creating *identical* machine images
for multiple platforms from a *single source* configuration.
Packer is lightweight, runs on every major operating system,
and is highly performant, creating machine images for multiple
platforms *in parallel*.

Packer does not replace configuration management like Chef or Puppet.
In fact, when building images, Packer is able to use tools like Chef
or Puppet to install software onto the image.
```

- written in golang
- small core providing communications (rpc)
- everything else is a plugin (but linked into one binary)
- configuration in JSON (+ optional variables)

Builders + Post-Provisioning

By default the following “builder” engines are supported. Where needed the accompaning “post-processor” is typically available, too (e.g. EC2/AMI upload):

Alicloud ECS, Amazon EC2, Azure, CloudStack, DigitalOcean, Docker, File, Google Cloud, Hetzner Cloud, HyperOne, Hyper-V, Linode, LXC, LXD, NAVER Cloud, Null, 1&1, OpenStack, Oracle, Parallels, ProfitBricks, QEMU, Scaleway, Tencent Cloud, Triton, Vagrant, VirtualBox, VMware, Yandex.Cloud.

Further “builders” can be found in the wild and are just added as a single go binary in certain paths (e.g. ˜/.packer.d/plugins/)

By default additional provisioning support for the following tools:

Ansible, Breakpoint, Chef, Converge, File, InSpec, PowerShell, Puppet, Salt Masterless, Shell.

Plugin development

tools + space

- pkg_add: golang, packer, git
- $VISUAL / $EDITOR
- diskspace: 1.5G go-dependencies + generated images/diskfiles

directory layout

- / - Makefile, main.go, go.mod
- /builder/packer-builder-openbsd-vmm - work cellar

* DEMO TIME*

```
{
  "builders": [
    {
      "type": "openbsd-vmm",
      "name": "packer-obsd64-vmm-amd64",
      "vm_name": "myvm",
      "disk_size": "1500M",
      "disk_format": "raw",
      "output_directory": "images",
      "http_directory": "./docroot",
      "iso_image": "~/Downloads/install65.iso",
      "bios": "/bsd.rd",
      "boot_wait": "5s",
      "boot_command": [
        "http://{{ .HTTPIP }}:{{ .HTTPPort }}/packer-auto_install.conf<ente
        "I<enter>",
      ],
      "ssh_username": "root"
    }
  ]
}
```

https://asciinema.org/a/247058

asciinema play ~/devel/presenter/presentations/BSDCan/2019/demo-packer.cast

Status

- VMM: everything on deck (full/real PXE would be add-on)
- plugin: all architectural integration (config/builder/driver)
- plugin_steps: create disk/VM/boot/provide auto_install infra

Outlook

Fixme / Finish

- GetTapIpAddr - still with some assumption, but not funky monkeypatching on non-tap machines
- observe VM going down instead fixed waiting time
- GetVMId done. Loop-function missing

Ohai + Links + Thanks

- Code/Slides - https://v.gd/packobsd
- Kickoff - Glarus, Switzerland / https://hack4glarus.ch
- Thanks to Claudio for the idea of vmctl -B at Winter h4g
- Thanks to grubernaut for go.mod, review, ISO+QCOW2 support and other spurious fixes
- Any help/pull request very welcome (e.g. multi-disk)

sysfive

com securing performance

See you again in December? I’ll be there!

Code/Slides - https://v.gd/packobsd