About me

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Agenda

- Uyuni Project
- Uyuni deployment
- Sumaform
  - Architecture
  - Modules
  - Demo
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- Uyuni Project
- Uyuni deployment
- Sumaform
  - Architecture
  - Modules
  - Demo
What?

- Systems management
  - System deployment
  - Patch management
  - Service Pack migration
  - Configuration management

*https://www.uyuni-project.org/uyuni-docs/*
What?

- Systems management
  - System deployment
  - Patch management
  - Service Pack migration
  - Configuration management

- Automate audit and reporting capabilities

- Hardware and software inventories

*https://www.uyuni-project.org/uyuni-docs/*
Supported Client OS

- SLE11/12/15
- RHEL6/7/8
- openSUSE Leap 15
- Ubuntu 16.04/18.04/20.04
- CentOS6/7/8
- Debian 9/10
- Oracle Linux 6/7/8
Agenda

• Uyuni Project
• Uyuni deployment
• Sumaform
  – Architecture
  – Modules
  – Demo
Deployment Architecture

- Server
- Proxy
  - Client SLES15
  - Client RHEL 7
  - Client Ubuntu 18.04

- Client SLES15
- Client SLES12SP4
Deployment Needs

- Development team
  - Bug Fixing: replicate bug environment
  - Test new feature development
Deployment Needs

• Development team
  – Bug Fixing: replicate bug environment
  – Test new feature development

• QA team
  – Manual testing
  – Run cucumber base test-suite
What these architectural needs really mean?
UYUNI
Server
Controller

UYUNI Server

Monitoring Server

Image Builder

UYUNI Proxy

Client

Client

Client

Client

Client

Client

Branch Server

POS Client

Mirror

*: optional
Test-suite Deployments

- >4 versions, 1000 tests, tens of runs per day
Test-suite Deployments

- >4 versions, 1000 tests, tens of runs per day
- >240 VM deployments per day
- 2 physical locations + AWS
Manual deployment is not an option.
• Infrastructure as Code (IaC)
• Infrastructure as Code (IaC)

• Configuration as Code (CaC)
- Infrastructure as Code (IaC)

+ 

- Configuration as Code (CaC)
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What is?

“Sumaform provides UYUNI-specific Terraform modules that leverage OS base images and Salt states to deliver a complete solution: from VM creation to installation of the product to configuration.”

* Silvio Moioli, SUSE Manager Development Team
Architecture

- HashiCorp Terraform
- cloud-init
- SALTSTACK
Terraform

- Infrastructure as Code (IaC)
  - Deploy virtual machines
  - Manage resources life-cycle

- Domain specific modules

- Provisioning
  - Copy salt resources and apply state
Terraform Modules

Provider Independent Modules
• Notion of backend independent modules
  - server
  - proxy
  - minon
  - ...

Provider Specific Modules
• Two modules for each supported provider
  - Base
  - Host
Supported providers (backends)

- libvirt
- SSH
- AWS
- Azure

* run provisioning on existing machines (null provider)
OS image + cloud init

- Public JeOS images

- Cloud init: bring machine to “known base”
  - Install "salt-minion" package
  - Allow ssh login
Salt (CaC)

- Salt states for each machine role
- Parameters for customization
  - auto-register (on server)
  - additional repositories
provider "libvirt" {
    uri = "qemu:///system"
}

module "base" {
    source = "./modules/base"
    cc_username = "..."
    cc_password = "..."
    name_prefix = "uyuni-"
    domain = "tf.local"
    images = ["opensuse152"]
    use_avahi = true
}

module "server" {
    source = "./modules/server"
    base_configuration = module.base.configuration
    product_version = "uyuni-released"
    name = "server"
}

module "min-opensuse"{
    source = "./modules/minion"
    base_configuration = module.base.configuration
    product_version = "uyuni-released"
    name = "opensuse"
    image = "opensuse152"
    server_configuration = module.server.configuration
}
provider "libvirt" {
    uri = "qemu:///system"
}

module "base" {
    source = "./modules/base"

    cc_username = "...
    cc_password = "...

    name_prefix = "uyuni-"
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module "min-opensuse"{
    source = "./modules/minion"
    base_configuration = module.base.configuration
    product_version = "uyuni-released"
    name = "opensuse"
    image = "opensuse152"
    server_configuration = module.server.configuration
}
Demo time..
Finish

Thank You

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