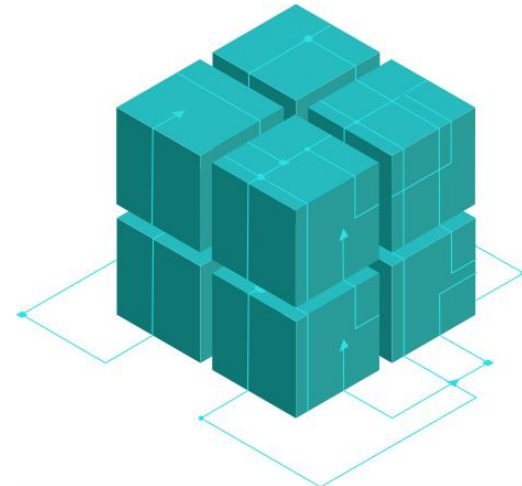# Uyuni, the solution to manage your Linux infrastructure

16.10.2020

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About me

Pau Garcia Quiles

Product Owner & Technical Project Manager
SUSE Manager

Former Debian Developer
Former KDE developer
Former... more things

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What?

- Systems management solution

- Deploy and manage all kind of workloads from a single place

- Automate audit and reporting capabilities

- Hardware and software inventories

- Configuration management: automatically maintain standard configurations

- Virtualization

Architecture

Server

Proxy

Client
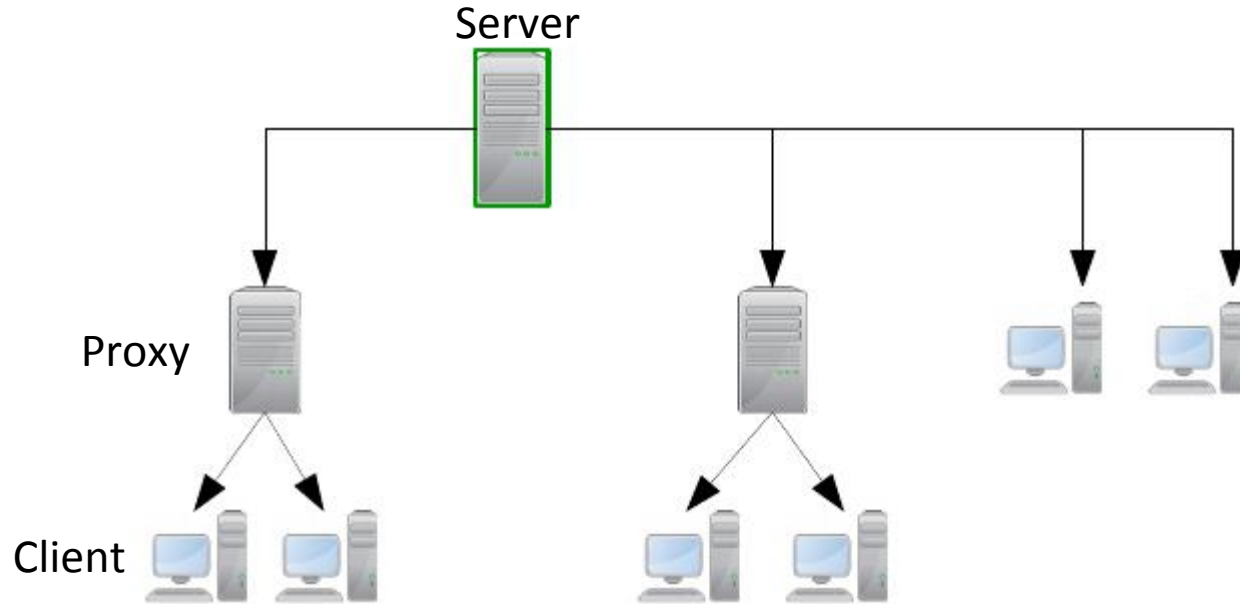
Origins: Spacewalk

- Free & Open Source Systems Management

- Around since 2008

- Base for Red Hat Satellite 5 and SUSE Manager <= 3.2

- EOL: May 2020 (dead!)

"Salar de Uyuni" is the world's largest salt flat*

Uyuni

/ˈujuːni/

Uyuni: the future of Spacewalk

- Simple installation

- Two stacks: traditional client ("spacewalk") and Salt

  - New development goes into Salt clients ("minions")

  - Traditional stack lets you continue using your Spacewalk/Satellite stack and knowledge in Uyuni. No need to convert to Salt.

- Containers/Kubernetes integration

- Scalability

- Usability

- React Web UI

- Python 3 and JDK11 codebase

- Upstream for SUSE Manager >= 4.0 since June 2018

Features

- System deployment

- Patch management

- Service Pack migration

- Configuration management

- Bare-metal provisioning

- Schedule action chains to be performed on systems

- Compliance management: OpenSCAP and CVE Audit! Get alerts and fix in 1-click!

- API

Cool features!

- Transparent integration with Salt

- Manage on-prem, cloud, hybrid cloud or multi-cloud systems

- Content Lifecycle Management: define stages (DEV, TEST, PRO) for your software channels and apply filters to add/remove contents and create new channels

- Recurring actions

- Build OS and container images

- Compliance: CVE audit, SCAP, subscription matching

- Virtualization management

- Monitoring (Prometheus & Grafana stack), including federation

- Formulas with Forms: create YAML automation templates, no programming skills required!

Current situation

- Public repository and public development: upstream first policy

- Mailing lists, IRC, Gitter

- (Semi) Public CI

- Base OS: openSUSE Leap 15.2

- Clients:

  - SLE 11/12/15
  - openSUSE 42.x/15.x

  - RHEL 6/7/8
  - CentOS 6/7/8
  - Oracle Linux 6/7/8
  - SLES ES 6/7/8
  - (Fedora 30/31)
  - Amazon Linux 2[2]

  - Ubuntu 16.04/18.04/20.04
  - Debian 9/10
  - Astra Linux Orel

What's new?

Uyuni progress in 2020

More Uyuni

- Almost-monthly releases: 7 releases from January to September, next release in ~2 weeks from now

- VM and cloud images: AWS, Azure, GCE, KVM, Xen, Hyper-V, OpenStack
  - ➢ Not yet in marketplaces

- Gitter channel

- Uyuni Community Hours

- Google Summer of Code

More features

- Hub: multiple Uyuni Server, with orchestration (WIP)
- Maintenance windows
- Recurring highstate
- Yomi: new installer framework (WIP)
- Virtualization: storage pools
- EFI HTTP boot
- Single Sign On
- New formulas: OpenVPN, CPU mitigations, Prometheus and Grafana
- Add custom headers to reposync (AKA: support RHEL PAYG)

More monitoring

- Prometheus Service Discovery

- Prometheus Federation

- Prometheus reverse proxy (simplify Security setup)

- Grafana dashboards for Uyuni and CaaSP

- Server self-monitoring

- No more server corruption due to exhausted disk space

More clients

- SUSE Container as a Service Platform 4 support

- Debian client support

- RHEL 8-family support

  - Including Content Lifecycle Management: filters, appstream selector and repository flattening

  - Including: CentOS 8, SLES ES 8, Oracle Linux 8 and SpringDale Linux 8 (!?)

- Subscription matching in public clouds

More usability

- Huge performance improvements in reposync, CLM project build, etc

- Automatic migration of database schemas

- Autogeneration of bootstrap repositories

- Passwordless bootstrap of clients with SSH (cloud!)

- Service Pack migration: remember settings after successful dry-run

- Better support for Debian and Ubuntu: headers, signed metadata, etc

- Single Page Application UI

More documentation

- New Large Deployments Guide

- New Public Cloud Quickstart Guide

- Huge improvements to Administration Guide, Client Configuration Guide, Reference Guide, etc

- Salt Kitchensync Formula: see all the features of the Formulas with Forms frameworks in action and write your own formula!

What's next?

The future: new features

- Translations (2020.10/2020.11)

- Support for mirroring retracted patches

- SAP content: Prometheus exporters, Grafana dashboard, quickstart guide

- WebUI themes!

- RedFish power management

- Debian and Ubuntu errata information

The future: enhancements

- More Hub

- More virtualization

- More maintenance windows (end of 2020)

- More cluster management (end of 2020)

- More usability work

- Continue building the community!

How to contribute to Uyuni

Join our community

- Contribute with ideas and feedback: mailing list, Gitter, GitHub issues

- Contribute with code:
  - Set up your development environment: https://github.com/uyuni-project/uyuni/wiki
  - Hack & submit pull request

- Contribute with translations:
  https://l10n.opensuse.org/projects/uyuni/
  https://github.com/uyuni-project/uyuni/wiki/Translating-Uyuni-to-your-language
  https://github.com/uyuni-project/uyuni-docs-toolchain-vm

Opportunities for the community

- Translations: software strings, documentation (no coding skills required)
- Learning pills (articles or videos)
- Take Salt formula, add form: Active Directory authentication, Samba, web server, etc (no real coding skills required)
- Import Debian and Ubuntu patch ("errata") information
- Debian autoinstallation: preseed and/or Kickstart support
- Amazon Linux 2 metadata import (sqlite vs XML)
- Virtual host gatherers for your favorite cloud or virtualization platform: XenServer/XCP? OVH? Hetzner? You name it
- Enable Virtual Desktop Infrastructure
- Containers: manage Helm charts, integrate containers + packages in CLM, use Harbord for staging, etc
- Virtualization enhancements: network configuration, snapshot management, PXE boot, etc
- Support for more operating systems: MS Windows, Mac, Android, etc
- Integrated file viewer/editor with LSP support (e. g. Eclipse Theia / Microsoft Monaco)
- Integrate create-your-own-dashboards framework

HacktoberFest 2020

- Contribute code or docs or translations and get a t-shirt

- Existing idea or create your own

  - Get it touch first if your own

https://github.com/uyuni-project/uyuni/labels/hacktoberfest

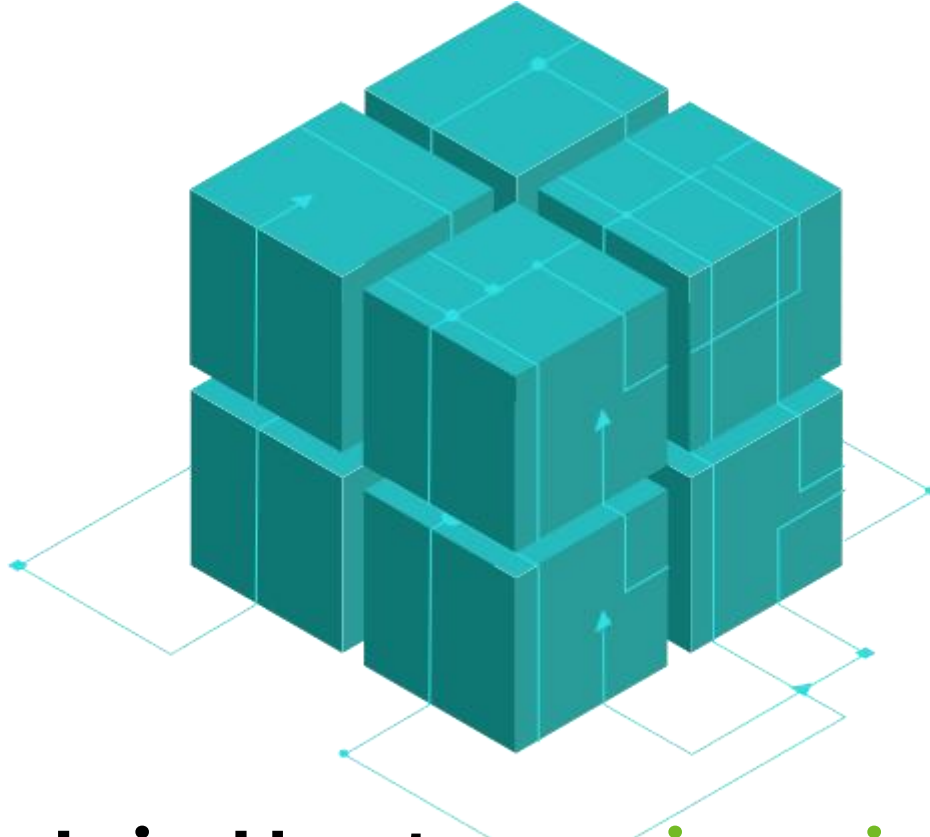https://hacktoberfest.digitalocean.com/

Q&A

A&Q

- Is Uyuni available for CentOS/RHEL/OL/Debian?
  - No but we will accept it if the community contributes it
  - At least one community effort already in that direction

A&Q

- Can Uyuni manage Microsoft Windows?
    - Not yet
    - My pet project
    - Contact me if you want to help, it's not that difficult

Join Us at uyuni-project.org

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Credits