Verification and Validation Testing with Ansible and Goss

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Dev Null and the Kernel Panics

122 Tweets

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Dev Null and the Kernel Panics

@TheKernelPanics

A band of Linux SysAdmins, they overclock their Amps and put thermal paste on their strings.

Hampshire, UK github.com/dev-null-and-t... Born 1 January 1970

Joined June 2019

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Dev Null and the Kernel Panics Band

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Introducing - Dev Null And The Kernel Panics

Dev Null and the Kernel Panics Band • 482 views • 1 year ago

Dev Null and the Kernel Panics in rehearsal @ River Studios 23/05/2019. This is a **band** consisting of Linux SysAdmins ...

Dev-Null-And-The-Kernel-Panics :: Helter Skelter :: Live @ The Birdcage

Dev Null and the Kernel Panics Band • 54 views • 7 months ago

Dev-Null-And-The-Kernel-Panics Cover of the Beatles Helter Skelter (1968) Live @ The Bird (Portsmouth) **Band** Members ...

Dev Null and the Kernel Panics - Born To Be Wild (1969)

Dev Null and the Kernel Panics Band • 120 views • 1 year ago

Dev Null and the Kernel Panics in rehearsal @ River Studios 23/05/2019. This is a **band** consisting of Linux SysAdmins ...

Heatwave 2019 at The Bird Cage

Dev Null and the Kernel Panics Band • 84 views • 8 months ago

Martha Reeves & The Vandellas ~ Heat Wave (1963) Written by Holland–Dozier–Holland.

The world of Enterprise

SC Cleared Automation Consultant (Contract)
NATS
Jun 2018 – Dec 2019 · 1 yr 7 mos
Whiteley, Fareham

Automation Engineer using Ansible and Puppet.

SC Cleared Linux Specialist Consultant (Contract)
Arqiva
Aug 2016 – Jun 2018 · 1 yr 11 mos
Winchester

Redhat Satellite 5.x 6.x and Linux Security and patching, puppet, infrastructure as code

Linux Engineer - Critical National Infrastructure
National Grid
May 2016 – Aug 2016 · 4 mos
Wokingham

Redhat Satellite 6 (Katello, Foreman and Puppet) proof of concept and automated builds.

Senior Infrastructure Engineer - The Logic Group
Barclays
Jul 2014 – May 2016 · 1 yr 11 mos
Fleet - Hampshire

Linux Builds, Projects and Automation. Redhat Satellite 5.x 6.x and Linux Security.

Linux Systems Administrator
Visa Europe
Oct 2012 – Jun 2014 · 1 yr 9 mos
Basingstoke

SC Cleared Linux Systems Engineer
QinetiQ
Oct 2010 – Nov 2012 · 2 yrs 2 mos

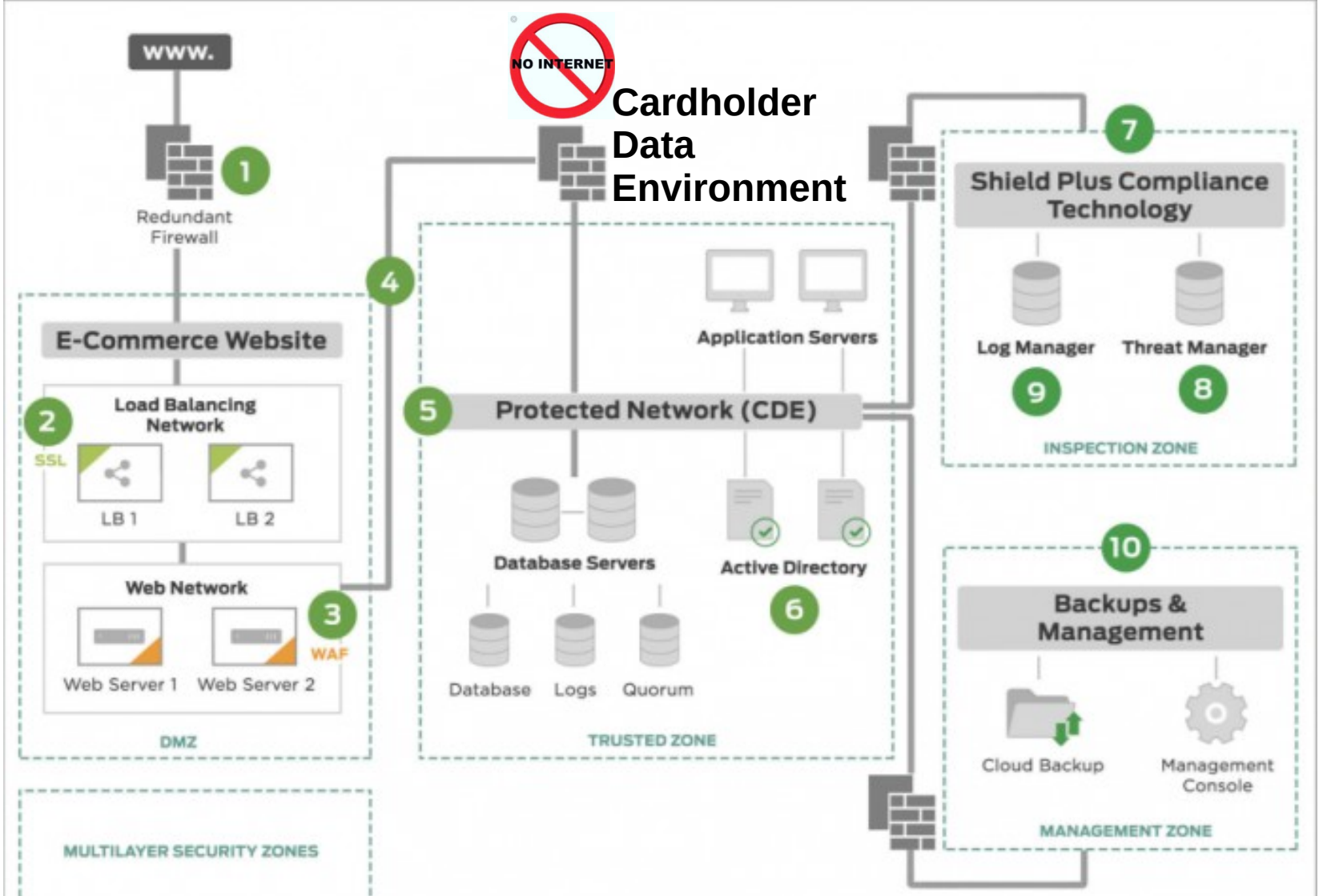
Security cleared to SC level

SC Cleared Linux Systems Administrator
Accenture
Feb 2006 – Sep 2010 · 4 yrs 8 mos
Hampshire

Security cleared to SC level

IT Support Engineer
Torotrak
2003 – 2006 · 3 yrs

ISP Support Analyst
BT
Jan 2000 – Jan 2003 · 3 yrs 1 mo



https://www.inap.com/blog/private-cloud-design-pci-compliance/

OPSWAT

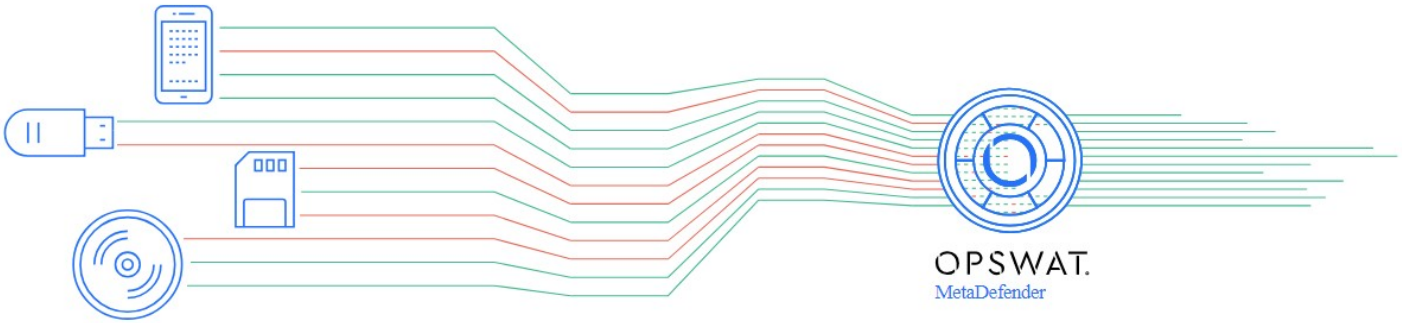
Meta Defender Platform

Modern enterprises of all types and sizes face an increasing number of challenges from major attack vectors, including email, BYOD, the Cloud, and web portals. OPSWAT created a platform for preventing and detecting cyber security threats on multiple data channels and devices. The platform is powered by patented technologies and is controlled by a flexible workflow engine to efficiently prevent advanced threats. OPSWAT main use cases include isolated network protection, web and email security, and secure device access.

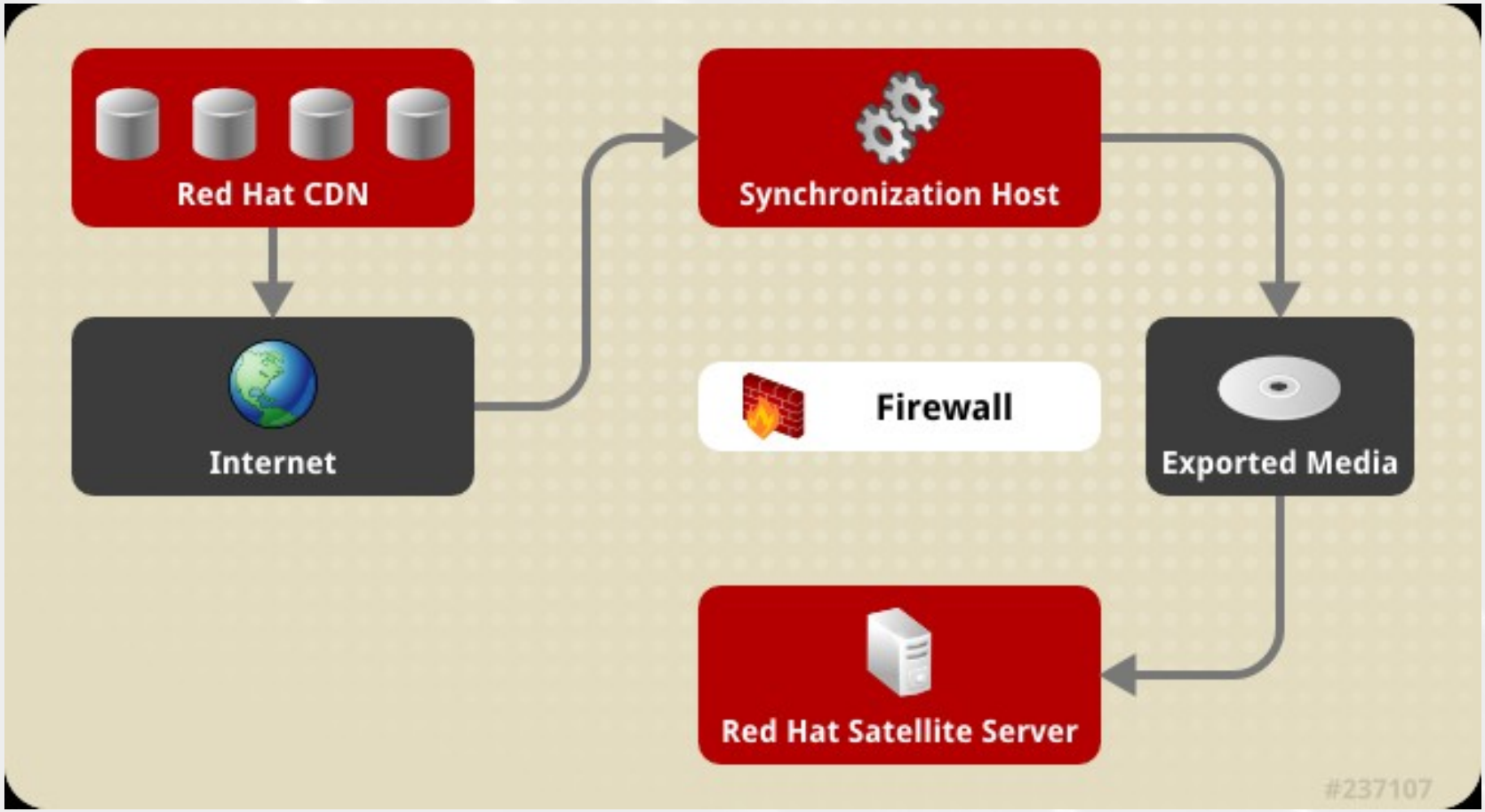
Trust no file.
Trust no device

SOLUTIONS
Isolated Network Protection

Critical networks are especially challenging for security practitioners because isolated and air-gapped networks are vulnerable to attacks from portable media and other file transfer technologies. OPSWAT creates a secure end-to-end process for transferring files to and from isolated networks, which is widely used in manufacturing, energy, government, banking, pharmaceutical, and entertainment industries.



Disconnected Satellite Red Hat Satellite 6.x



Separation of Duties
Data Security, Regulation & Compliance

The basic principle of separation of duties is that no individual person, role, or group, should be able to execute all parts of a transaction or process.

A single person should not be judge, jury, and executioner.

- **Linux Team**
- **Windows Team**
- **Database Team**
- **Virtualization Team**
- **Storage Team**
- **Network Team**
- **Security & Firewall Team**

Dev – Environments
- Laptop/Workstation
- Development Labs

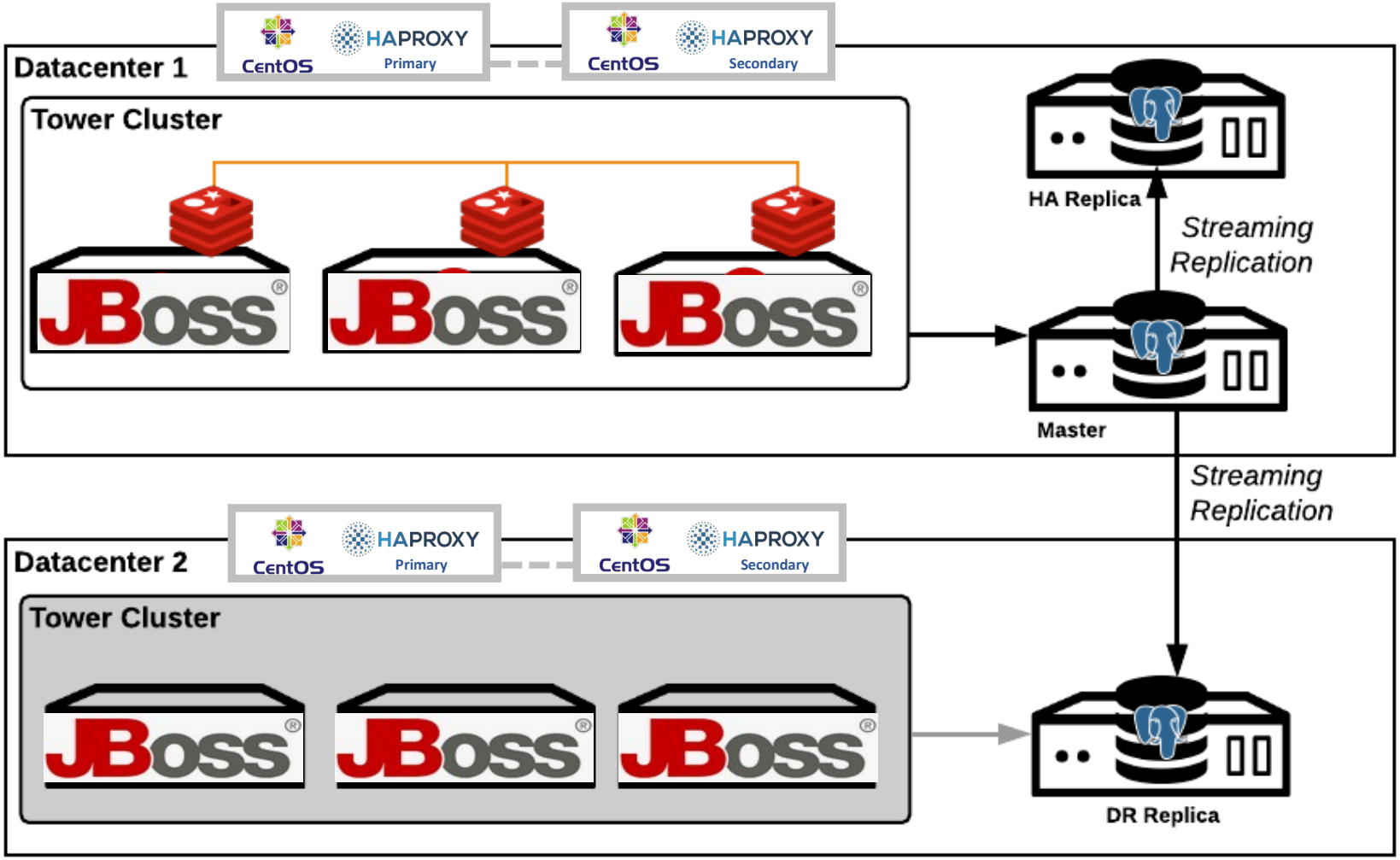
Test - Environments
- DIT - Development Integration Testing
- RIT - Rational Integration Testing
- SIT - System Integration Testing
- PIT - Performance Integration Testing
- UAT - User Acceptance Testing

Pre-Prod
- Staging
- External Client Acceptance

Production

Deployment Environments

Environment/Tier Name	Description
Local	Developer's desktop/workstation
Development/Trunk	Development server acting as a sandbox where unit testing may be performed by the developer
Integration	CI build target, or for developer testing of side effects
Testing/Test/QC/Internal Acceptance	The environment where interface testing is performed. A quality control team ensures that the new code will not have any impact on the existing functionality and tests major functionalities of the system after deploying the new code in the test environment.
Staging/Stage/Model /Pre-production/External-Client Acceptance/Demo	Mirror of production environment
Production/Live	Serves end-users/clients



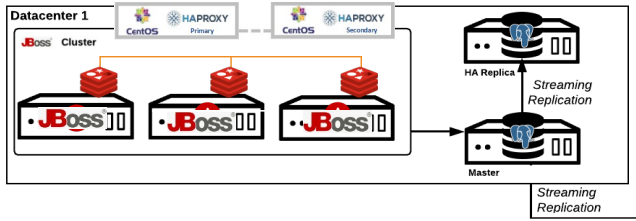
https://github.com/zjpeterson/automate-tower-ha-dr/blob/master/readme_images/TowerClusterReferenceArch.png

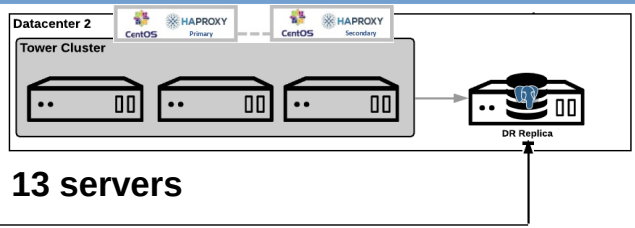
52 Servers in Just one Application Stack – Simple Env

Disconnected Bubble

Prod

Physical Servers

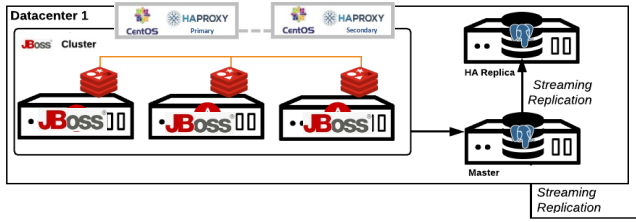


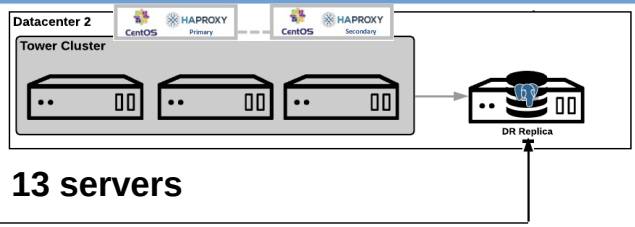


13 servers

UAT

vmware vSphere

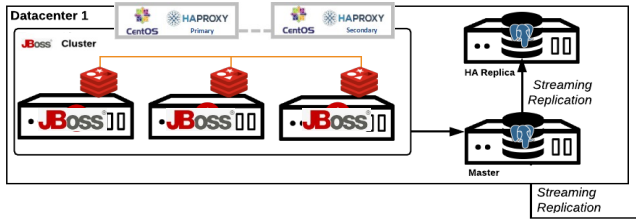


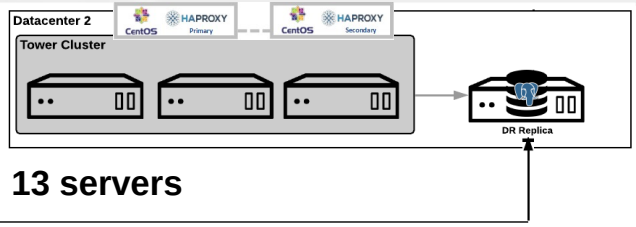


13 servers

Test

aws

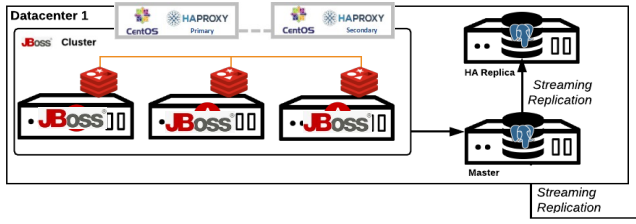


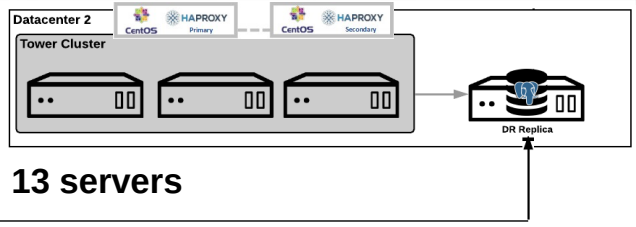


13 servers

DEV

VAGRANT





13 servers

ENTERPRISE DEVOPS ENTERPRISE

Why do I need to test my code? … it's perfect.

ansible_default_ipv4 is not what you think

George Shuklin Follow

Dec 5, 2018 · 2 min read

Most people think that `ansible_default_ipv4` is some magical way to guess what IP address is the 'main' IP for a server.

It is not.

It is the IP address which resides on interface where the default route points to. If you do `ip route` command you can see something like that:

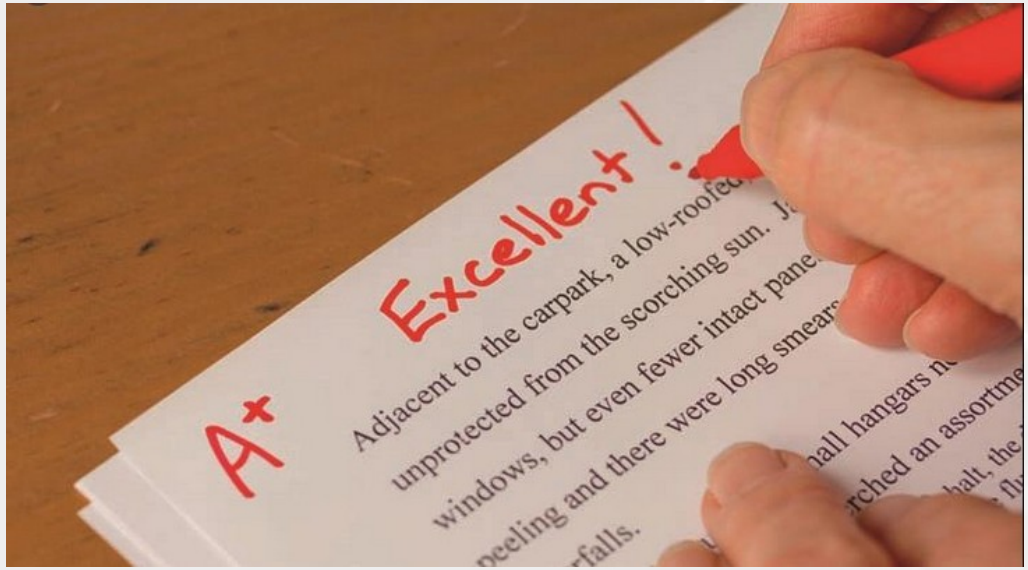
https://medium.com/opsops/ansible-default-ipv4-is-not-what-you-think-edb8ab154b10

Why Can’t I just use Ansible for Testing?

Well of course you can.

However there is a school of thought that says...

“You should never mark your own homework”



puppet Rspec

SERVERSPEC

testinfra

CHEF INSPEC™

Verification and Validation Testing

"One of the most important tests to run when deploying an IT solution is infrastructure verification and validation (V&V). In other words, making sure the system is configured the way it is supposed to be."

The ability to automate the bulk of testing brings huge benefits in terms of time to complete and consistency of results.

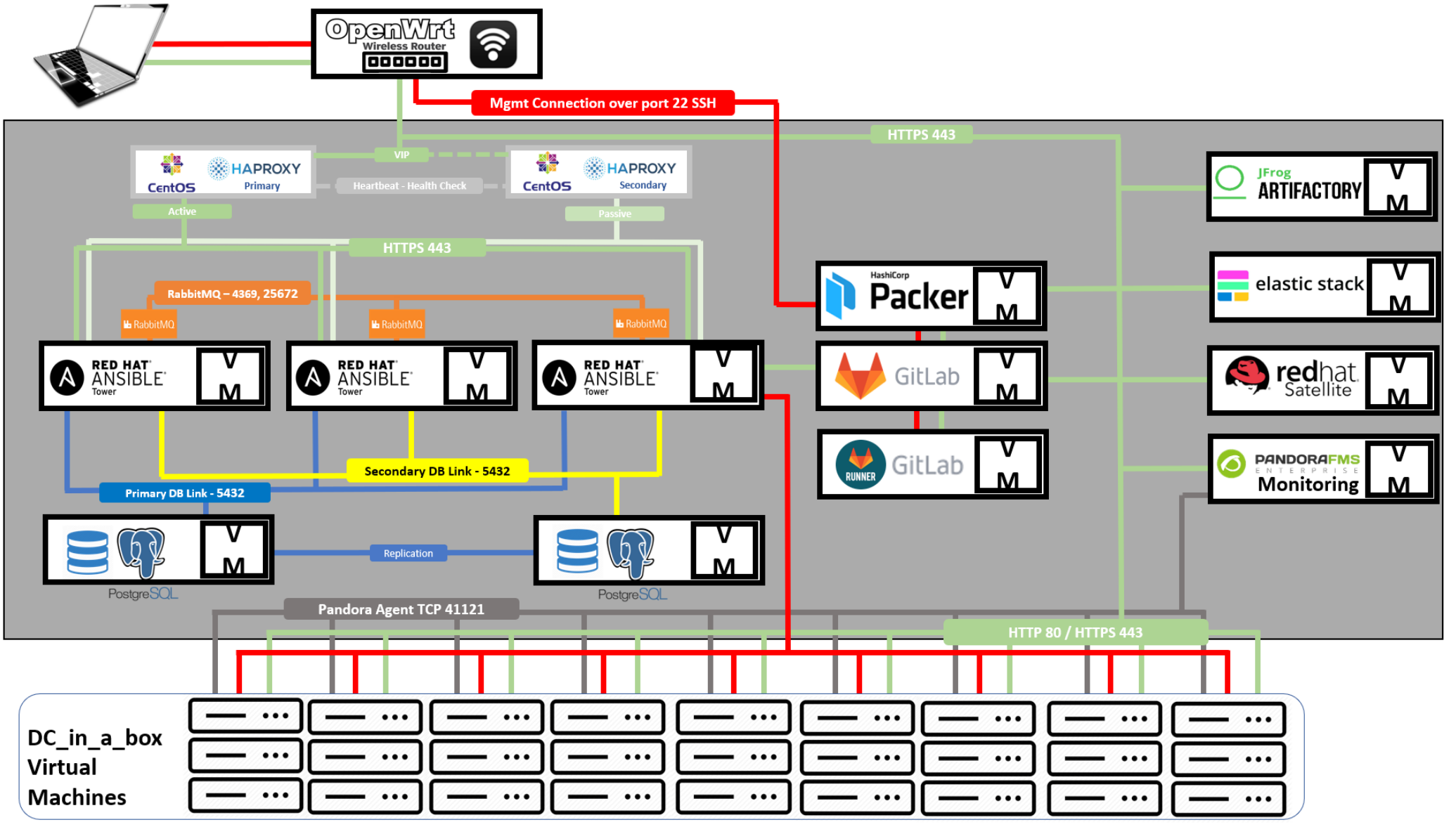
Hosting your repository ?

RubyGems

python™ › pip

JFrog ARTIFACTORY

nexus repository by sonatype


OpenWrt
Wireless Router
Mgmt Connection over port 22 SSH
HTTPS 443
VIP
CentOS
HAPROXY
Primary
Heartbeat - Health Check
CentOS
HAPROXY
Secondary
Active
Passive
HTTPS 443
RabbitMQ – 4369, 25672
RabbitMQ
RabbitMQ
RabbitMQ
RED HAT ANSIBLE Tower
VM
RED HAT ANSIBLE Tower
VM
RED HAT ANSIBLE Tower
VM
Secondary DB Link - 5432
Primary DB Link - 5432
PostgreSQL
VM
Replication
PostgreSQL
VM
HashiCorp Packer
VM
GitLab
VM
GitLab RUNNER
VM
JFrog ARTIFACTORY
VM
elastic stack
VM
redhat Satellite
VM
PANDORAFMS ENTERPRISE Monitoring
VM
Pandora Agent TCP 41121
HTTP 80 / HTTPS 443
DC_in_a_box
Virtual
Machines

What is Goss?

Goss is a YAML based serverspec alternative tool for validating a server's configuration. It eases the process of writing tests by allowing the user to generate tests from the current system state. Once the test suite is written they can be executed, waited-on, or served as a health endpoint.

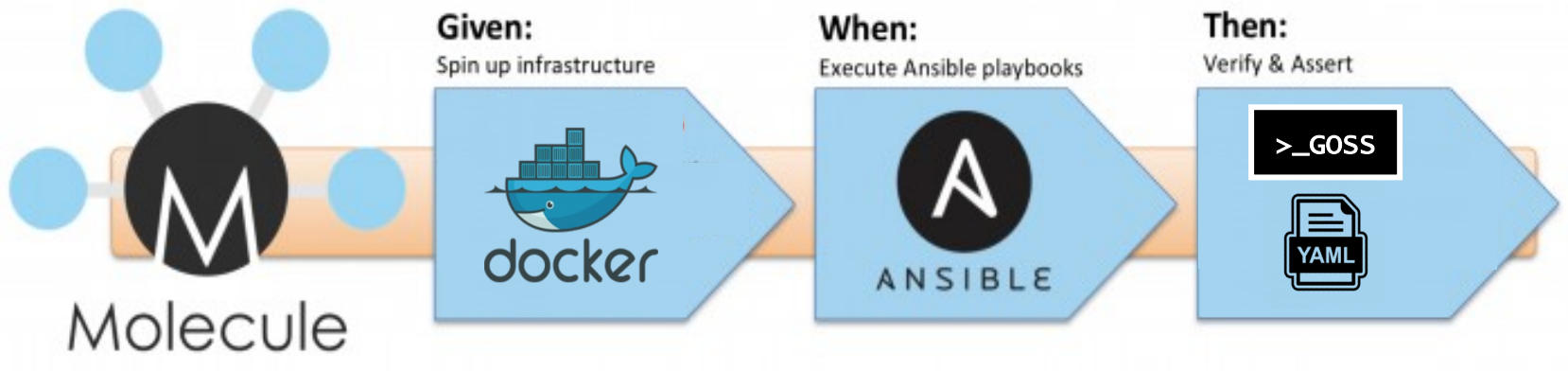
Why use Goss?

Goss is EASY! - Goss in 45 seconds
Goss is FAST! - small-medium test suits are near instantaneous, see benchmarks
Goss is SMALL! - <10MB single self-contained binary

https://github.com/aelsabbahy/goss

https://github.com/aelsabbahy/goss/releases/

You can also use the goss plugin as a verifier for molecule



Based on an image at : http://blog.codecentric.de