Datacenter, Rete, Sicurezza Proattiva e Cloud automatizzati con Ansible Tower

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#RedHatOSD

ANSIBLE
v1 - Set config file to use on boot
1. Write multiple configuration files
• For each environment/region
2. Inspect metadata on boot and use the matching config file
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33,000+
Stars on GitHub
7500+
Contributors
1900+
Ansible modules
500,000+
Downloads a month
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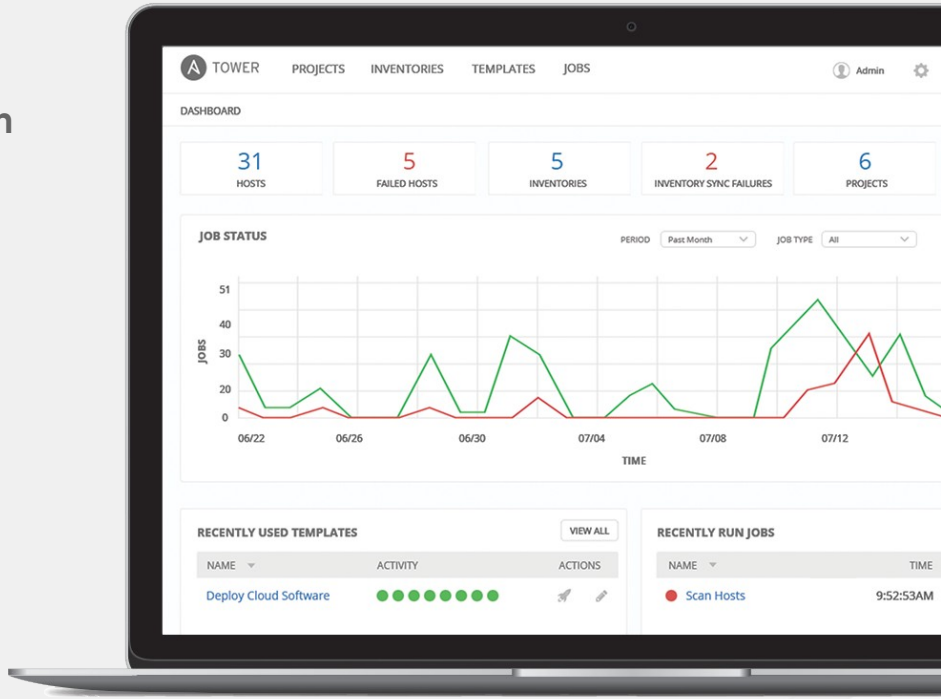
WHAT IS ANSIBLE AUTOMATION ?

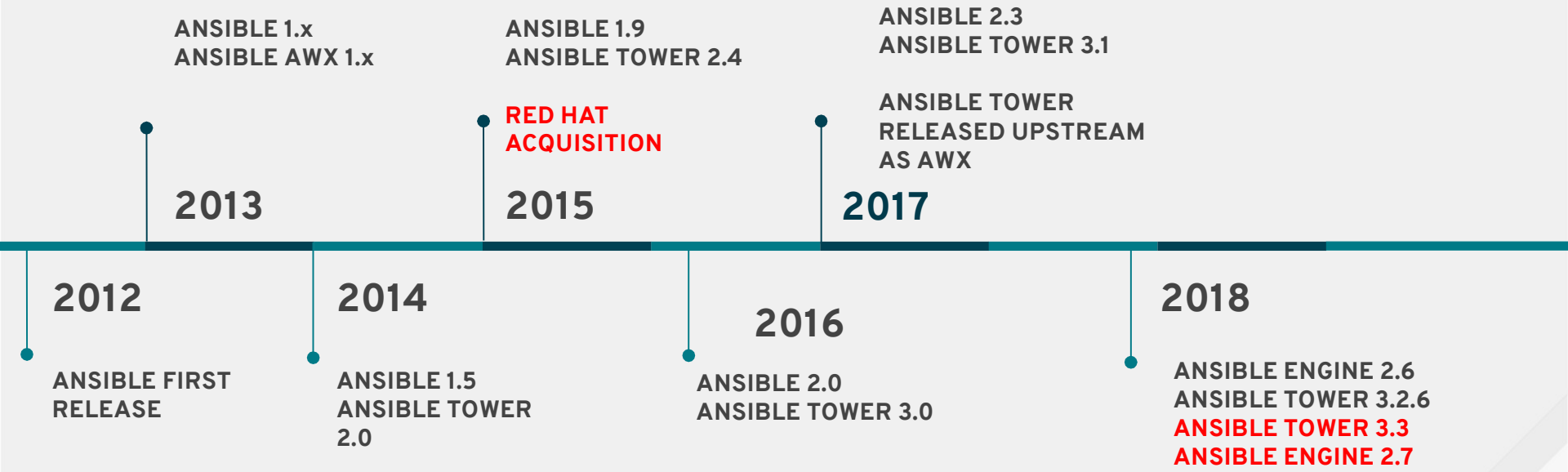
The Ansible project is an open source community sponsored by Red Hat. It's also a **simple automation language** that perfectly describes IT application environments in **Ansible Playbooks.**

Ansible Engine is a **supported product** built from the Ansible community project.

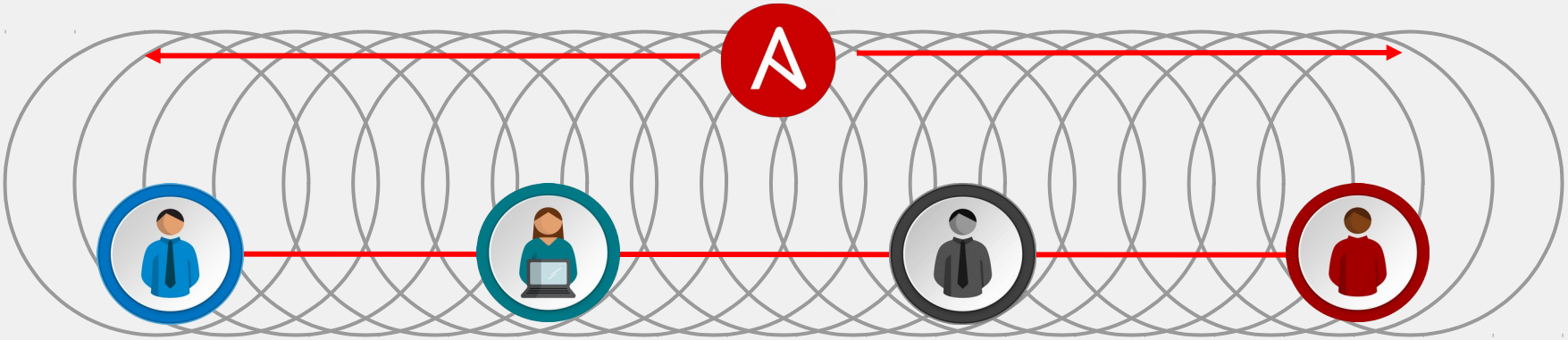
Ansible Tower is an **enterprise framework** for controlling, securing, managing and extending your Ansible automation with a **UI and RESTful API.**



ANSIBLE EVOLUTION



AUTOMATION FOR EVERYONE



EVEN I CAN RUN A PLAYBOOK :-)

A SIMPLE PLAYBOOK

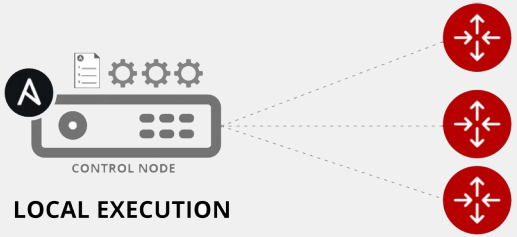
```
---
- name: install and start apache
  hosts: web
  become: yes
  vars:
    http_port: 80

  tasks:
  - name: httpd package is present
    yum:
      name: httpd
      state: latest

  - name: latest index.html file is present
    copy:
      src: files/index.html
      dest: /var/www/html/

  - name: httpd is started
    service:
      name: httpd
      state: started
```

TASK

PLAY

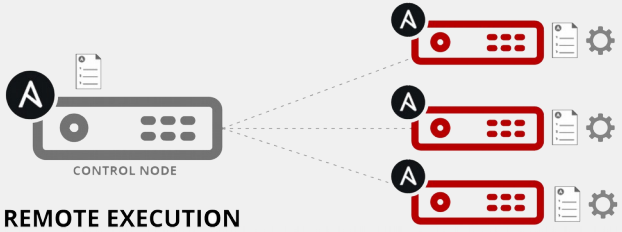
HOW ANSIBLE WORKS

Module code is **executed locally** on the control node



NETWORKING DEVICES

Module code **is copied to the managed node,** executed, then removed



LINUX/WINDOWS HOSTS

WHAT CAN I DO WITH ANSIBLE ?

Automate the deployment and management of your entire IT footprint.

Do this...

- Orchestration
- Configuration Management
- Application Deployment
- Provisioning
- Continuous Delivery
- Security and Compliance

On these...

- Firewalls
- Load Balancers
- Applications
- Containers
- Clouds
- Servers
- Infrastructure
- Storage
- Network Devices
- And more...

WHY ANSIBLE?

SIMPLE

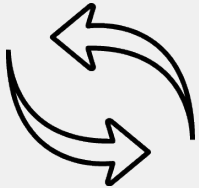
Human readable automation

No special coding skills needed

Tasks executed in order

Usable by every team

Get productive quickly



POWERFUL

App deployment

Configuration management

Workflow orchestration

Network automation

Orchestrate the app lifecycle

AGENTLESS

Agentless architecture

Uses OpenSSH & WinRM

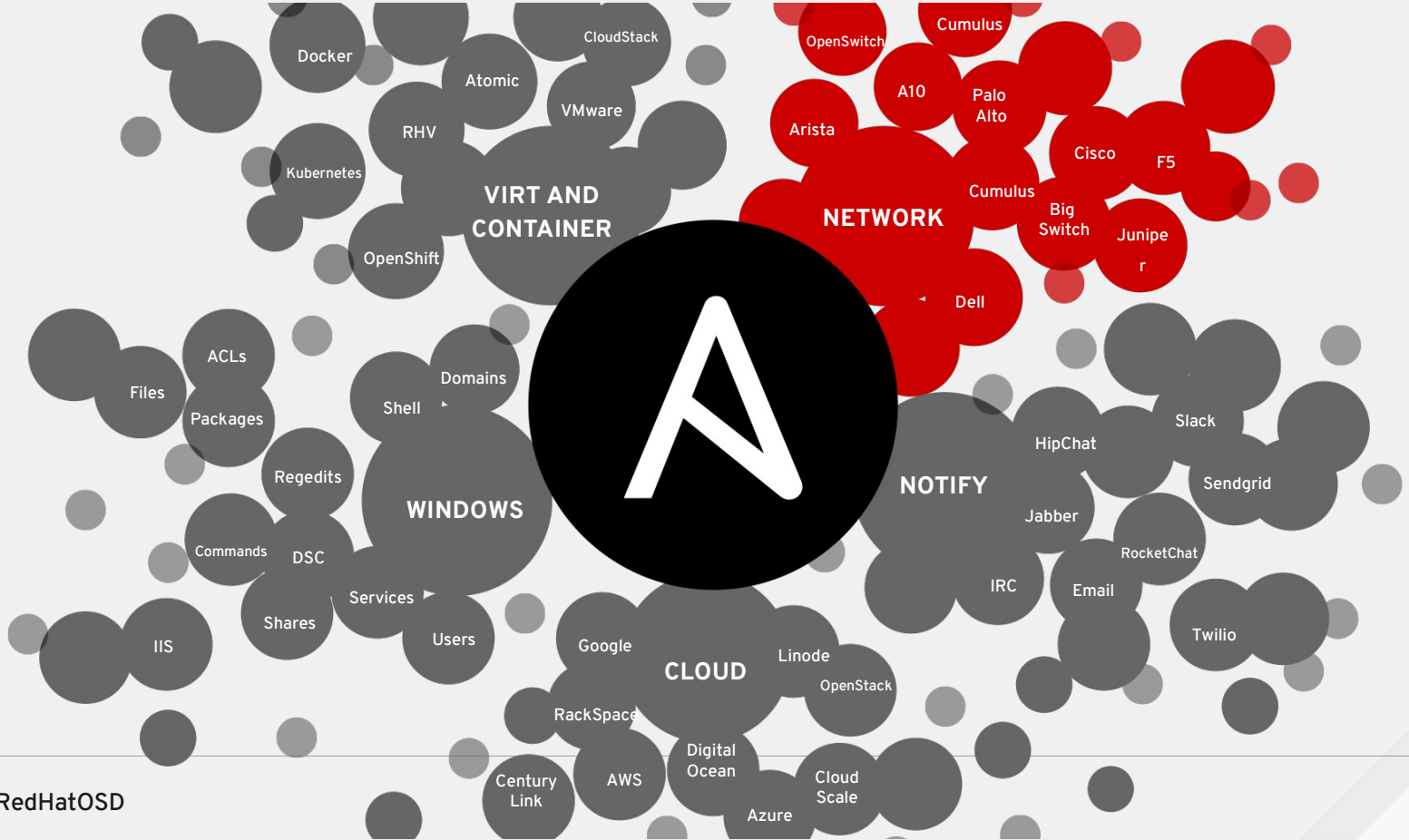
No agents to exploit or update

Get started immediately

More efficient & more secure

ANSIBLE AUTOMATES TECHNOLOGIES YOU USE

OVER 1900 MODULES



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10,000 ROLES AT YOUR DISPOSAL

Re-usable Roles and Container Apps that allow you to do more, faster

Built into the Ansible CLI and Tower

galaxy.ansible.com

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RED HAT INTEGRATED ECOSYSTEM

RED HAT SATELLITE

RED HAT CLOUDFORMS

RED HAT INSIGHTS

+

RED HAT ANSIBLE Automation

POWERS

RED HAT ENTERPRISE LINUX

RED HAT JBOSS MIDDLEWARE

RED HAT OPENSHIFT

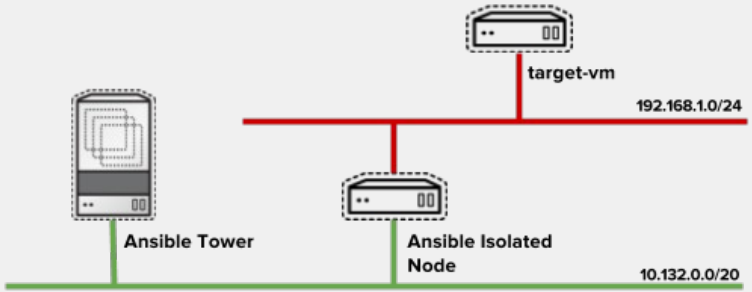
RED HAT STORAGE

RED HAT VIRTUALIZATION

RED HAT OPENSTACK PLATFORM

FUELED BY AN INNOVATIVE **OPEN SOURCE** COMMUNITY

PROXIMITY AUTOMATION WITH TOWER ISOLATED NODES



A Tower Isolated Node is a **headless Ansible Tower** that can be used for local execution capacity either in:

- Constrained networking environment (DMZ)
- Virtual Private Cloud
- Remote Data center/Plants/POPs
- Edge Computing

The only prerequisite is that there is **SSH connectivity** from the Tower Cluster to the Isolated Node

https://developers.redhat.com/blog/2017/12/20/understanding-ansible-tower-isolated-nodes/

DEMO TIME

photo credit: flickr.com/photos/markwalker

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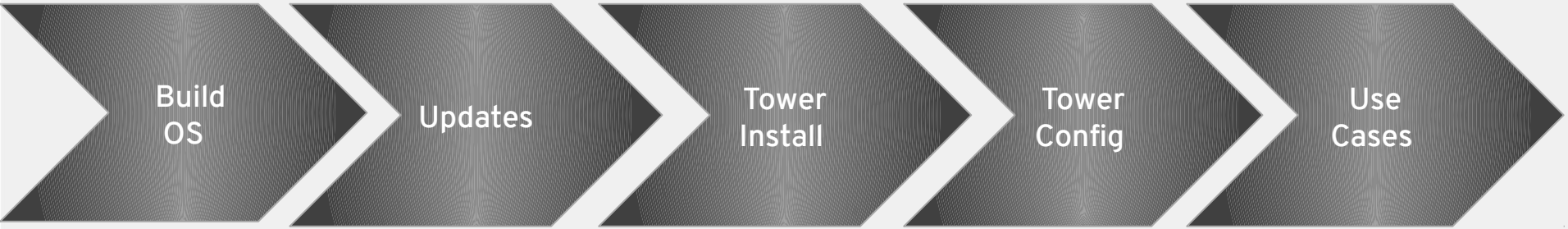
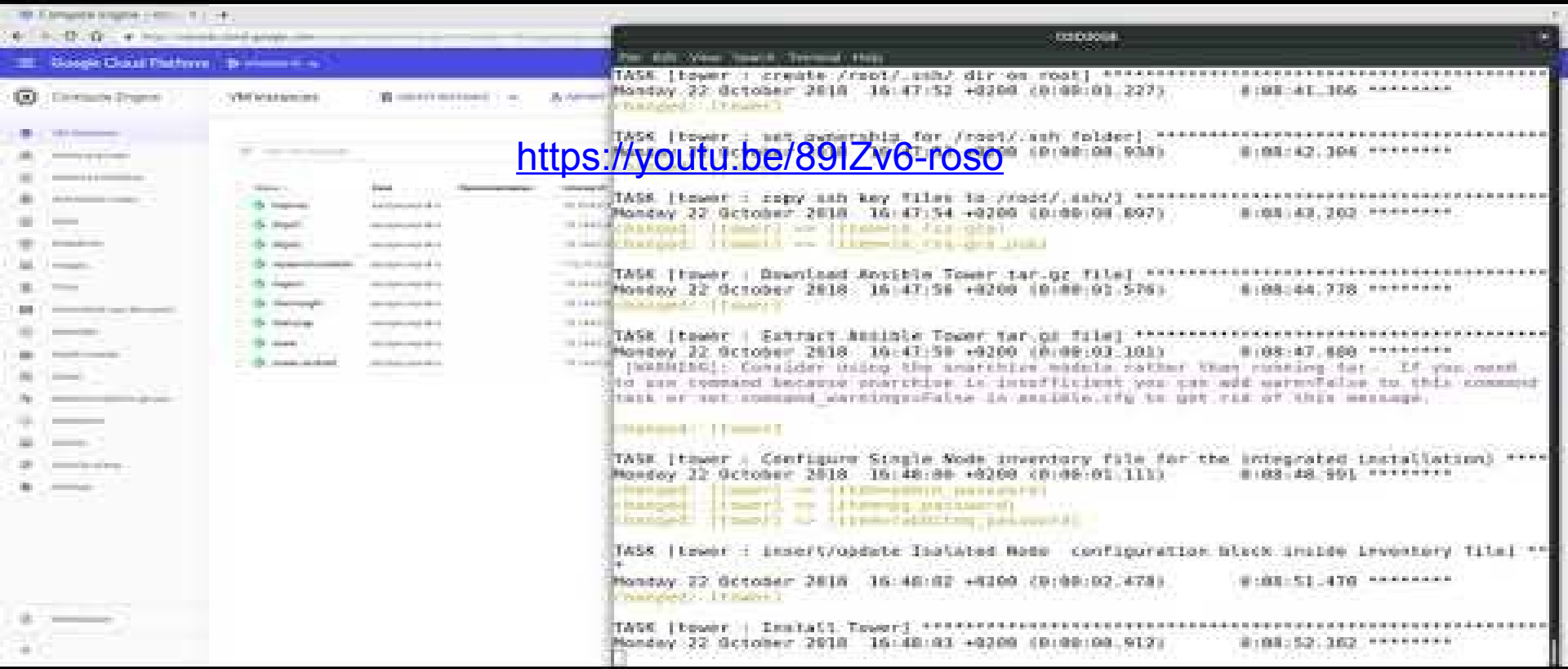
TRADITIONAL AUTOMATION SETUP SCENARIO



END-TO-END AUTOMATION

POWERED BY ANSIBLE

https://cloudformsblog.redhat.com/2018/09/10/infrastructure-tour-italy-part-3/


https://youtu.be/89lZv6-roso

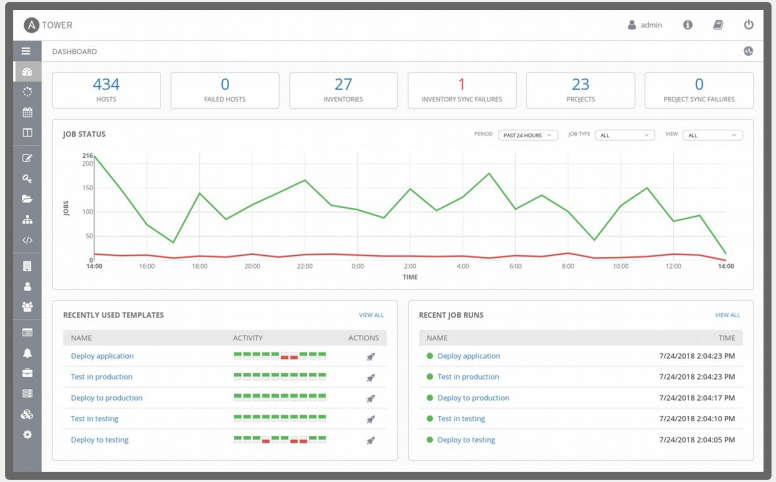
WHAT'S NEW IN ANSIBLE TOWER 3.3

TOWER AS A SERVICE

- Now deployable as a **container** in Openshift
- **Dynamically scale & add capacity** Ansible Tower at runtime
- **Push-button Ansible Tower deployment for Openshift users**

SECURITY

- More granular role-based permissions
- Run **multiple versions of Ansible Engine** in parallel
- New set of **permissions for admin users**

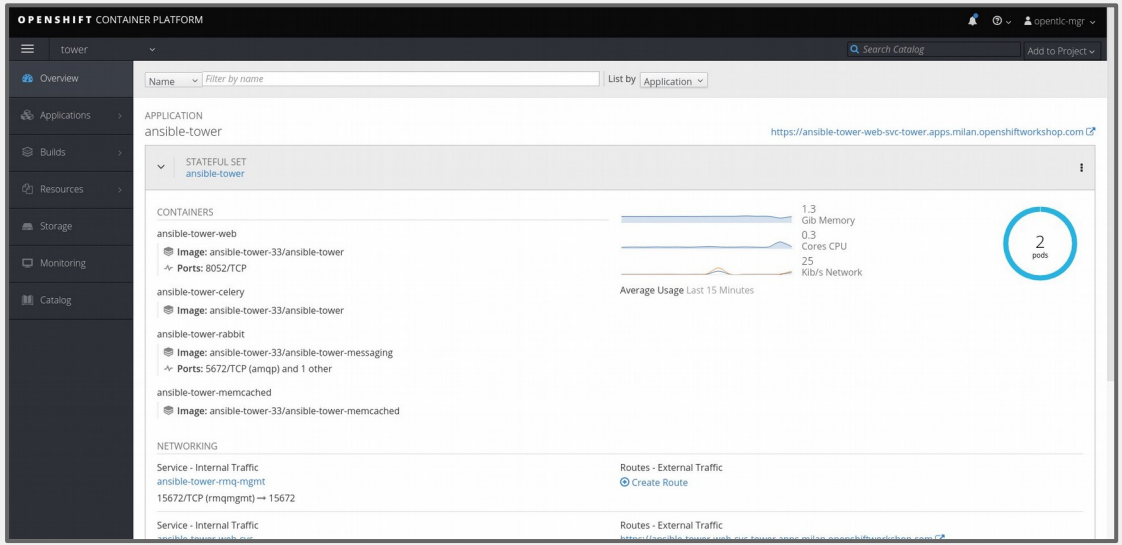


https://www.ansible.com/blog/ansible-tower-3.3-available-now

WHAT'S NEW IN ANSIBLE TOWER 3.3

IMPROVED SCALING

- **Scale up and down** based on job capacity
- **Manage Instance Groups by policy**
- Instance Groups can be defined by **percentage of total cluster capacity**



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DEMO TIME

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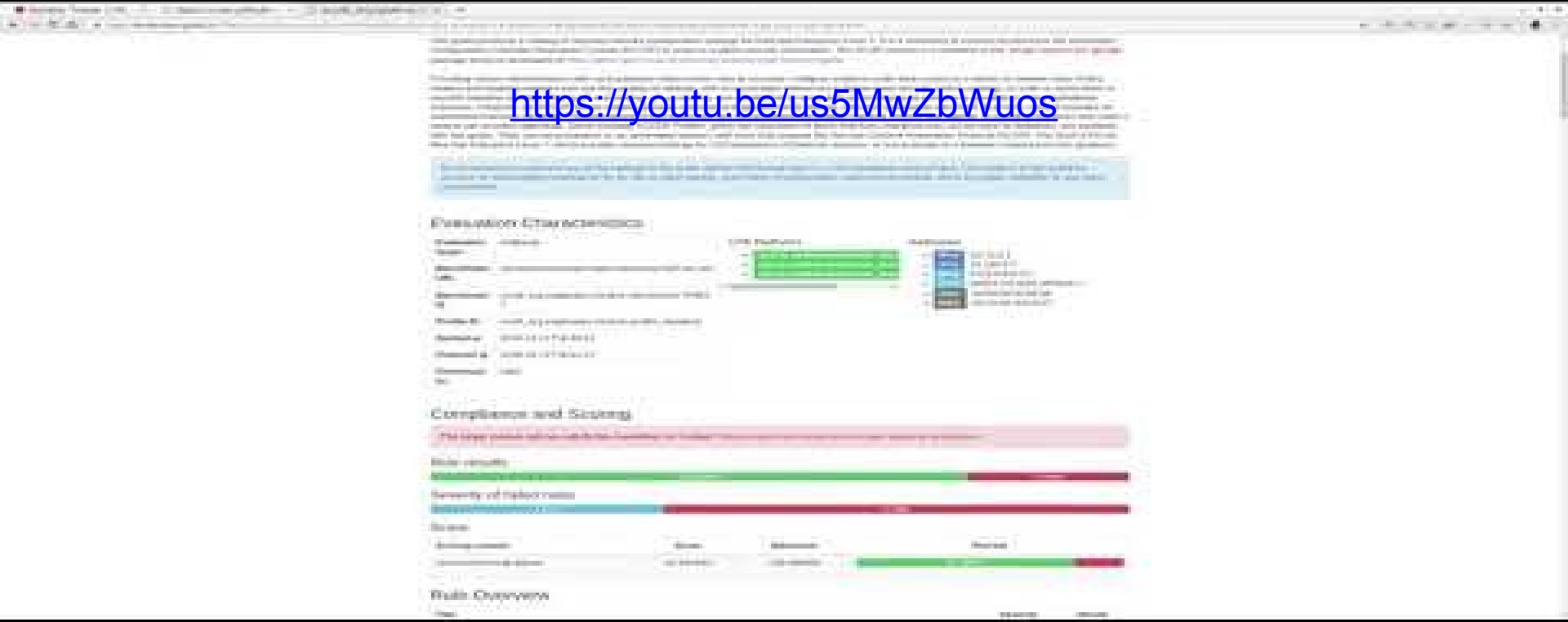
SECURITY AS A CODE

https://youtu.be/us5MwZbWuos



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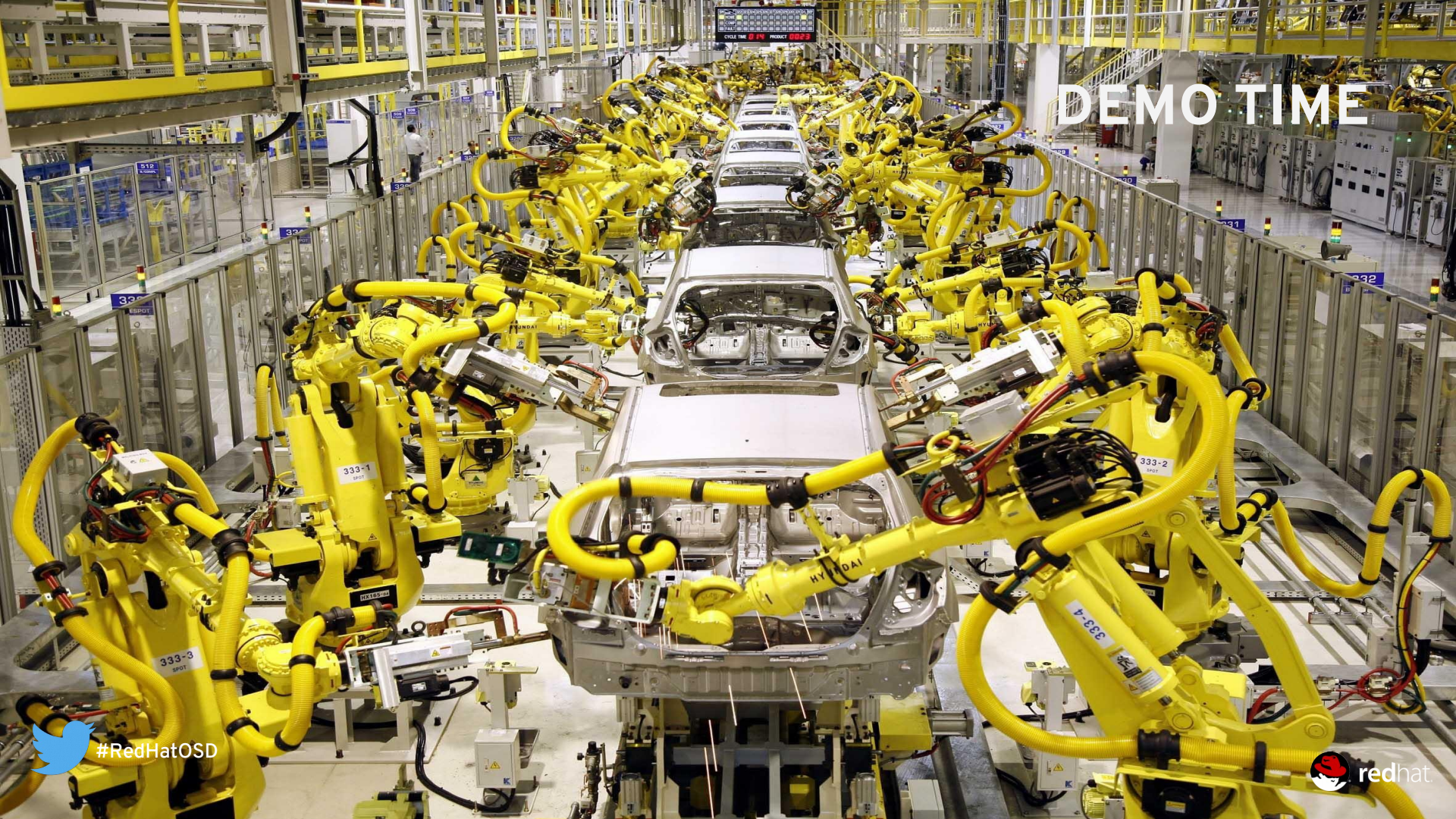
DEMO TIME
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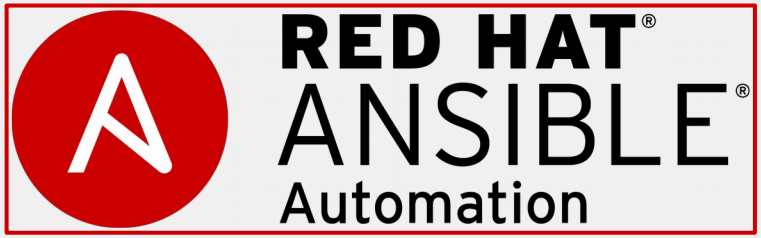
AUTOMATION AS A SERVICE

https://developers.redhat.com/blog/2018/10/26/installing-and-managing-ansible-tower-on-red-hat-openshift-container-platform

https://youtu.be/Ol3whU_BgXw

ANSIBLE NETWORKING

173+ modules developed, maintained and tested by Red Hat



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ansible.com/networking

redhat.

NETWORKING AUTOMATION

Configure, validate, & ensure continuous compliance for network devices

BUILD

with **Red Hat Ansible Engine**

- Get automating quickly.
- Integrate multi-vendor configurations.
- Ideal for both brownfield and greenfield

Automate discrete tasks

MANAGE

with **Red Hat Ansible Engine**

- Methodically track configuration drift.
- Make changes across any set of network devices.
- Validate that changes were successful.

Automate business processes

SCALE

with **Red Hat Ansible Tower**

- Ensure ongoing steadystate on a schedule.
- Use role-based access controls with specific teams.
- Integrate external third-party solutions with RESTful API.

Orchestrate & operationalize automation

RED HAT® ANSIBLE® Engine

RED HAT® ANSIBLE® Engine

RED HAT® ANSIBLE® Tower

RESOURCES

- Get Started with Red Hat Ansible Tower
- The Total Economic Impact of Red Hat Ansible Automation
- Supporting GDPR compliance with automation
- The Automated Enterprise

GRAZIE PER L'ATTENZIONE

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