

THE POWER OF A COMMON LANGUAGE

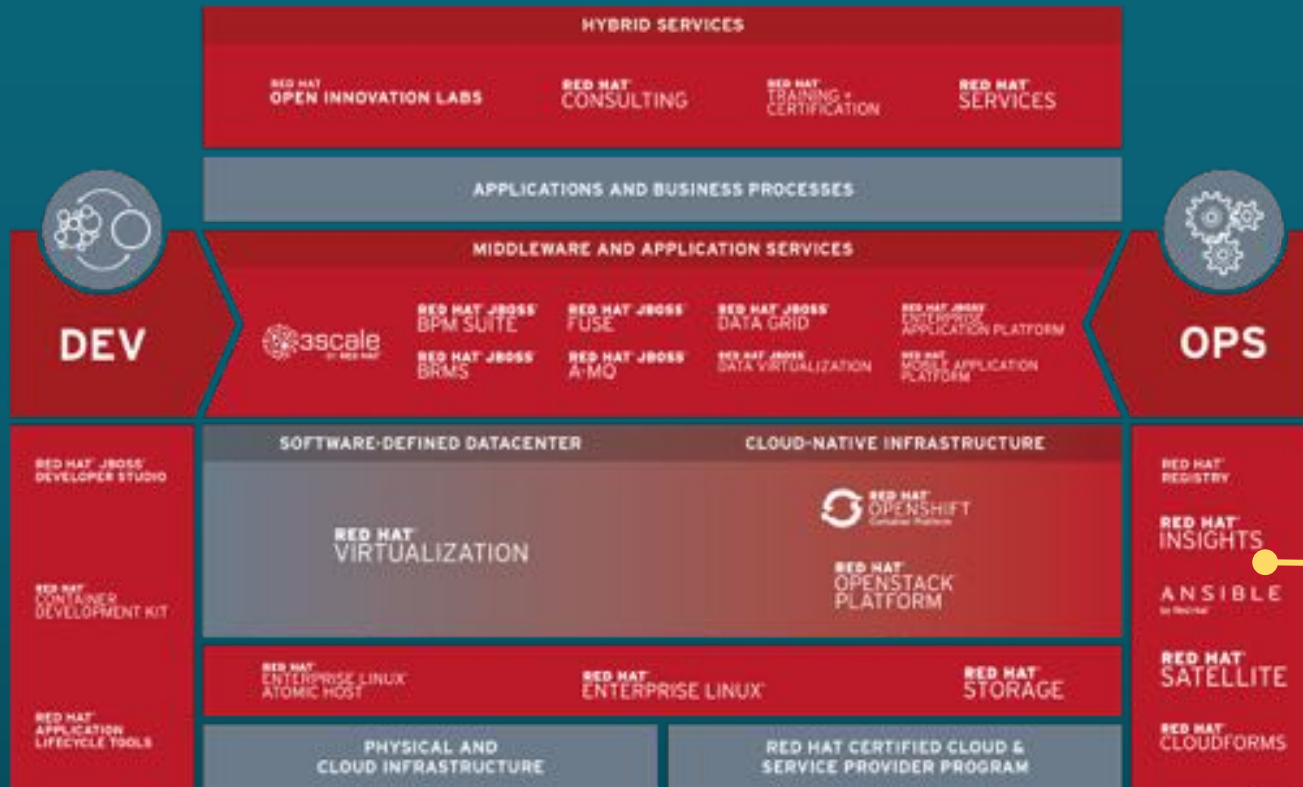
RED HAT MANAGEMENT WITH ANSIBLE INSIDE

Karl Stevens and Olive Power

Red Hat Solution Architects

October 2017

Tool Chain for Modern Applications



You are here.

Digital business gives IT infrastructure and operations leaders a mandate to implement **organization-wide automation**...

The benefits are compelling – automation improves accountability, efficiency and predictability, while reducing cost, variability and risk...

...so why aren't more organizations further down the automation path?

Gartner®

Automation: The Next Frontier for IT
May 18, 2016 - Susan Moore

“upgrades that previously took a day—and caused hours of system downtime each month—can now be performed in less than 2 hours with high availability. Overall, change delivery is now typically 75% faster”



ARMY



The (Little) Tower
of Babel

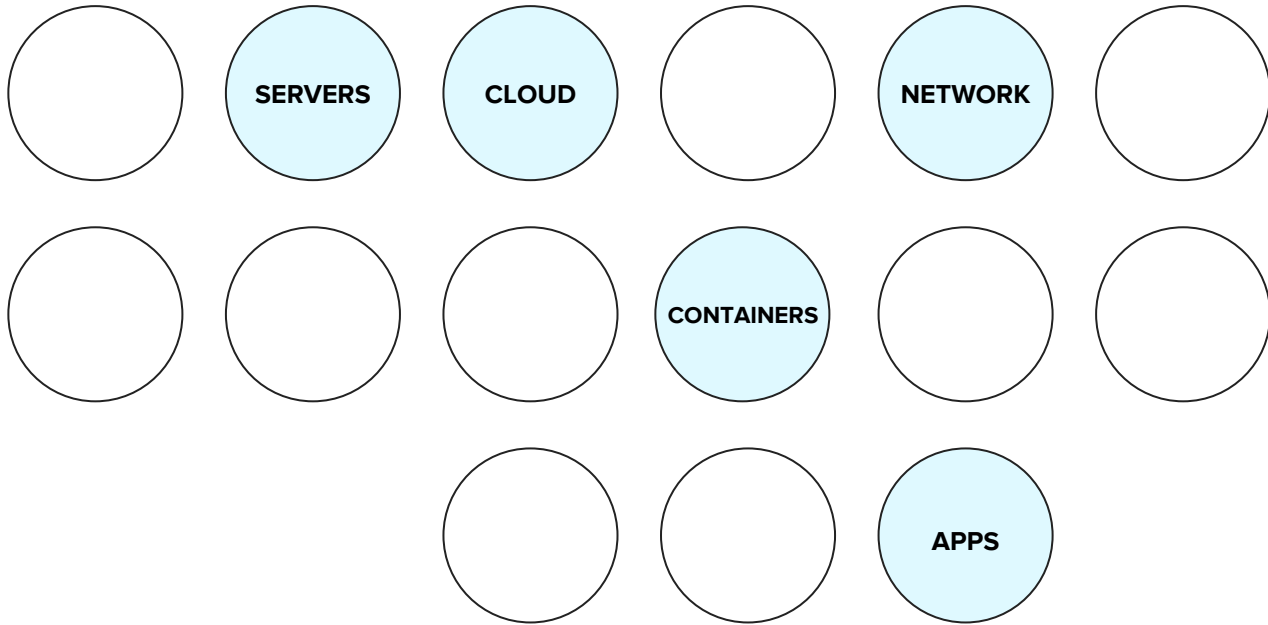
Pieter Bruegel the
Elder

c. 1563

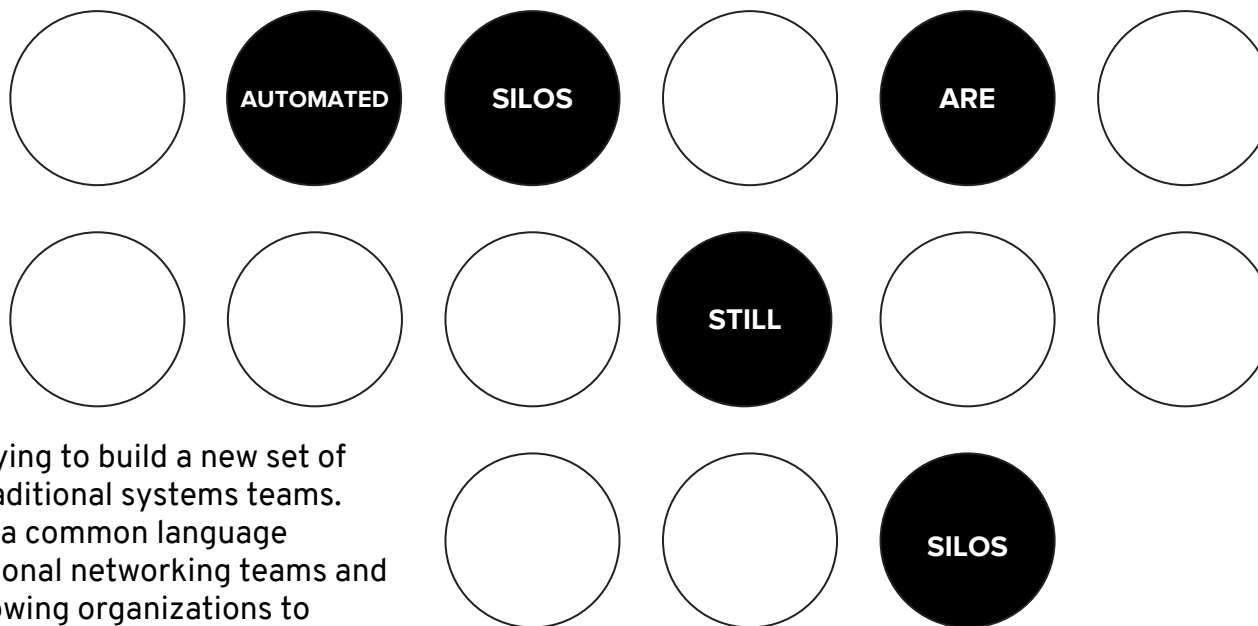


The "confusion of tongues" by Gustave Doré, a woodcut
depicting the Tower of Babel from Abrahamic myth. 1865

AUTOMATION IN ENTERPRISE IT TODAY



AUTOMATION IN ENTERPRISE IT TODAY



“[Ansible] is not trying to build a new set of tools to cater to traditional systems teams. They have built a common language between the traditional networking teams and DevOps teams, allowing organizations to benefit from the knowledge base of both teams.”

- CIO Magazine - 2016

Ansible solves these problems
where no other technology has
been able to do so.

SIMPLE POWERFUL AGENTLESS EXTENSIBLE

“Before only 1 or 2 people knew how a server was built from the beginning. With Ansible, storing playbooks in source control gives everyone the ability to rebuild the server at any time.”

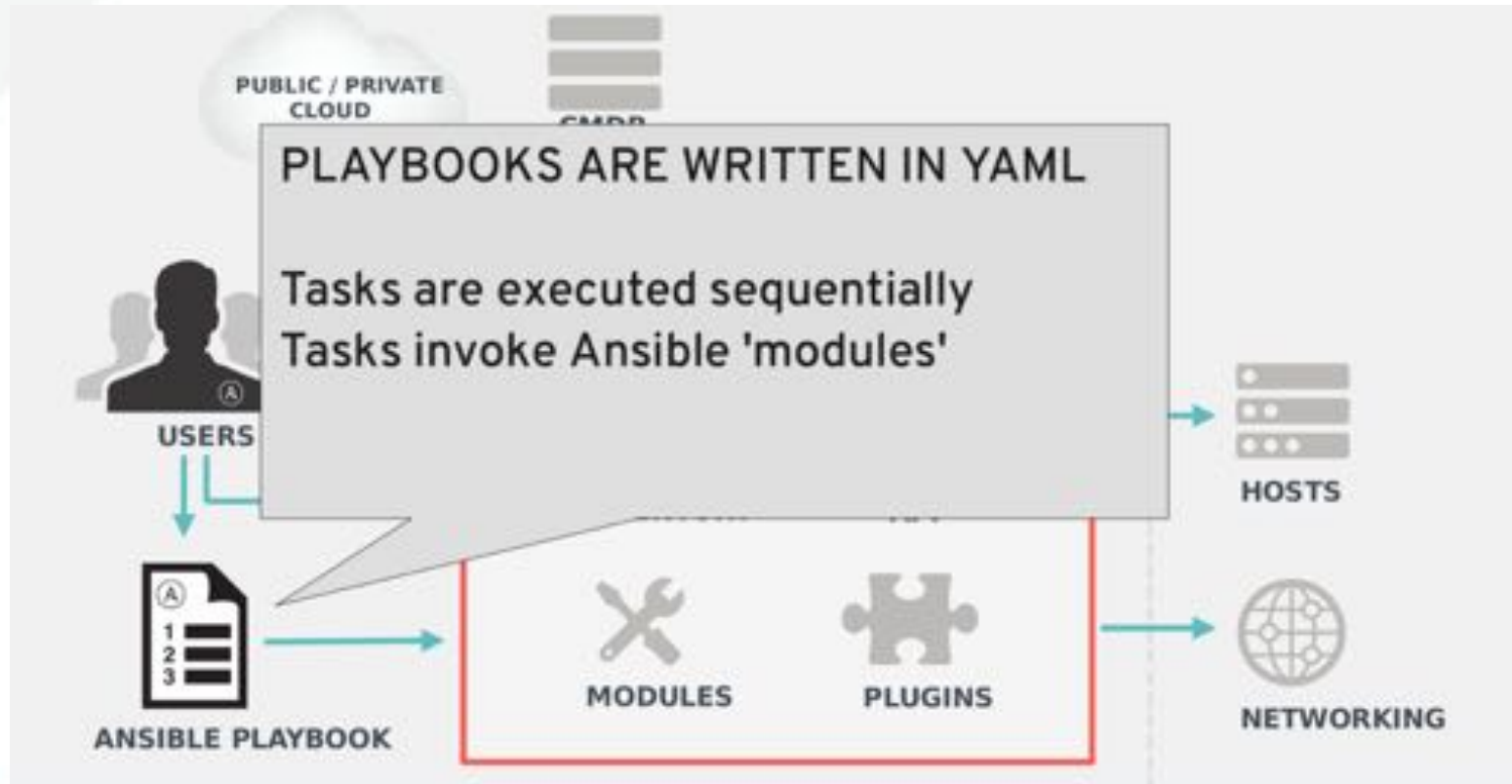


WHAT IS ANSIBLE?

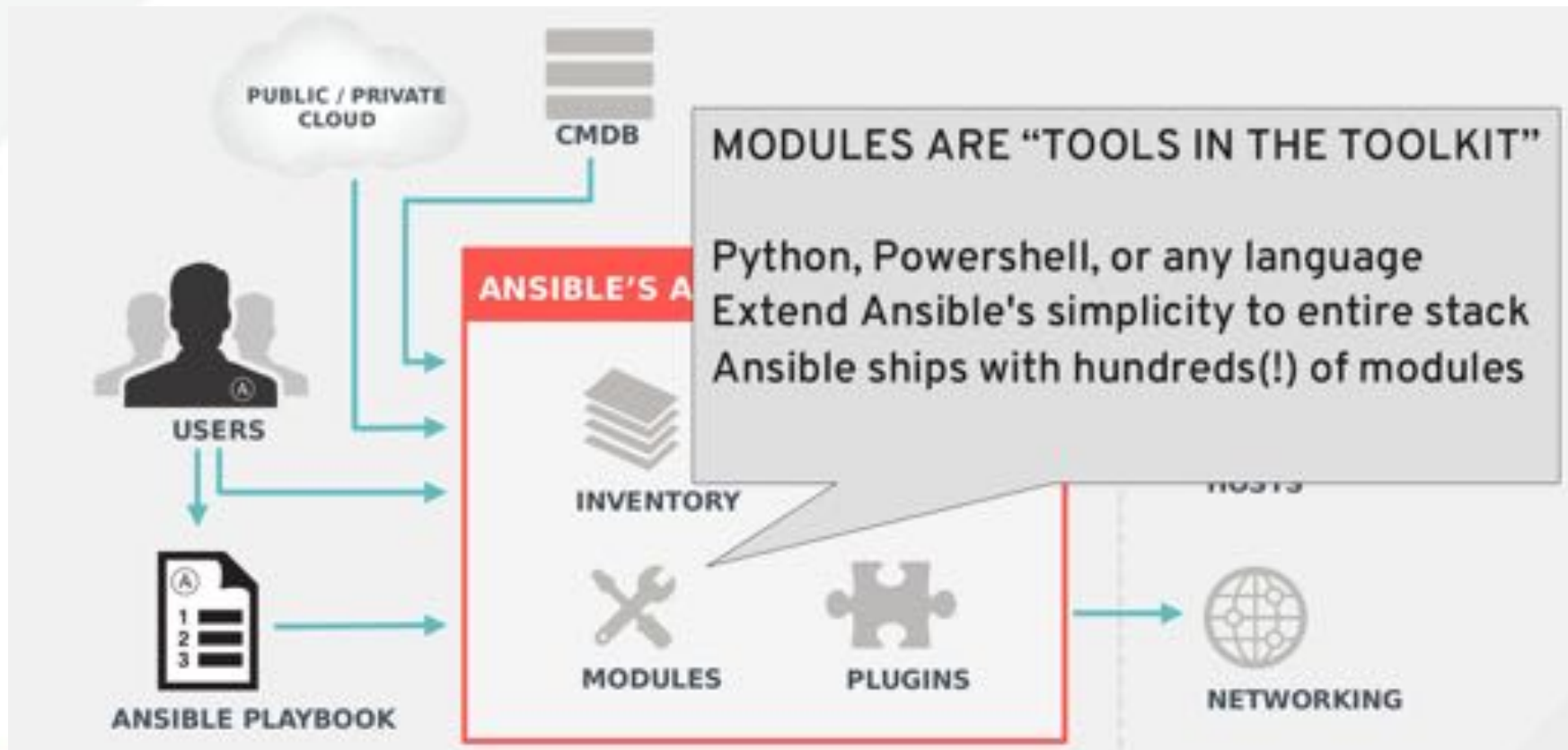
- It's a simple automation language to describe an IT application infrastructure in Ansible Playbooks.
- It's an automation engine that runs Ansible Playbooks.

GitHub
THE MOST POPULAR OPEN-SOURCE
AUTOMATION COMMUNITY ON GITHUB

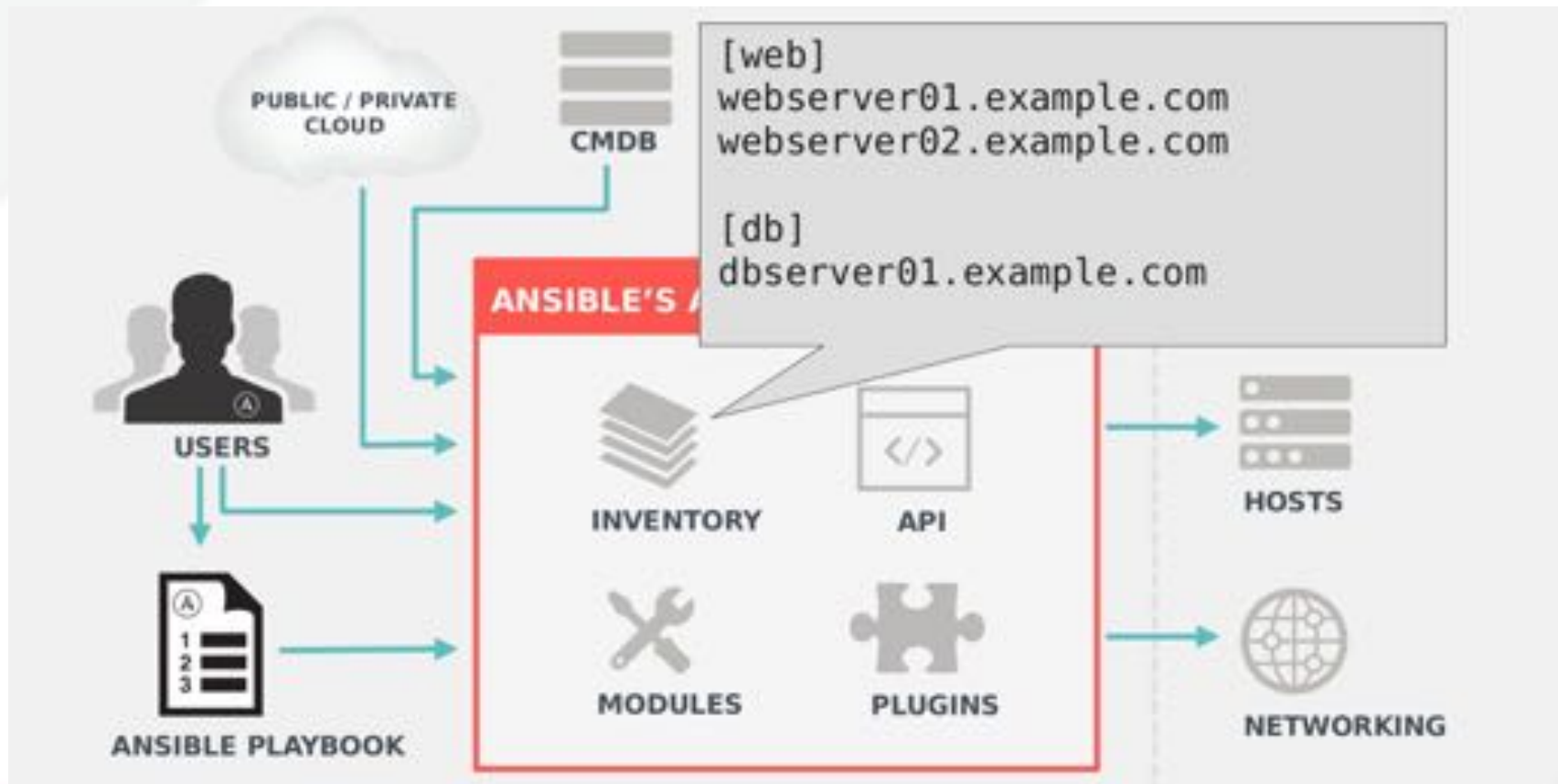
HOW ANSIBLE WORKS



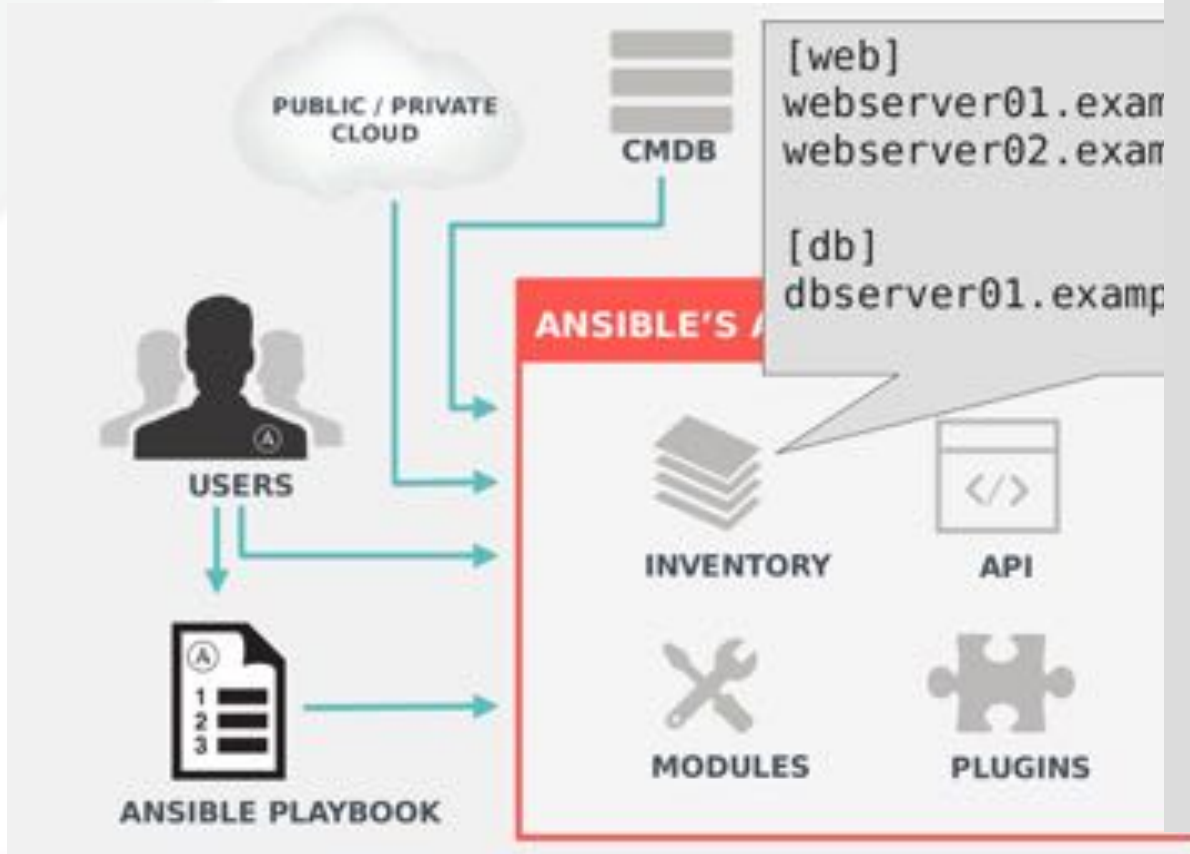
HOW ANSIBLE WORKS



HOW ANSIBLE WORKS



HOW ANSIBLE WORKS



- name: install and start apache
hosts: all

vars:
 http_port: 80
 max_clients: 200
 remote_user: root

tasks:

- name: install httpd
 yum: pkg=httpd state=latest
- name: write the apache
 configuration file
 template: src=/srv/httpd.j2
 dest=/etc/httpd/conf/httpd.conf
- name: start httpd
 service: name=httpd
 state=running

ANSIBLE AUTOMATION

is at the core of Red Hat's management strategy

RED HAT MANAGEMENT AND AUTOMATION FOR IT OPERATIONS



CENTRALIZE
AUTOMATION GOVERNANCE

RED HAT®
CLOUDFORMS

DELIVER AUTOMATION
ACROSS YOUR HYBRID
CLOUD

RED HAT®
INSIGHTS

PREVENT CRITICAL ISSUES
BEFORE THEY OCCUR

RED HAT®
SATELLITE

BUILD A TRUSTED & SECURE
RED HAT ENVIRONMENT

ANSIBLE

AUTOMATE YOUR
I.T. PROCESSES & DEPLOYMENTS

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ANSIBLE

AUTOMATE YOUR
I.T. PROCESSES & DEPLOYMENTS

- CloudForms runs automation actions in response to events
- The automation language of CloudForms is **Ansible**
- CloudForms executes ansible **playbooks** against your infrastructure

Repositories

op_repo (Summary)













Properties	
Name	op_repo
Created On	Thu, 07 Sep 2017 18:35:49 +0000
Updated On	Thu, 07 Sep 2017 18:35:49 +0000
Status	successful

Relationships	
Provider	Embedded Ansible Automation Manager
Playbooks	5
Credential	

Repository Options	
SCM Type	git
SCM URL	https://github.com/opowbow/ansible
SCM Branch	
SCM Clean	false
SCM Delete on Update	false
SCM Update on Launch	true






Playbooks

Playbooks (Embedded Ansible)

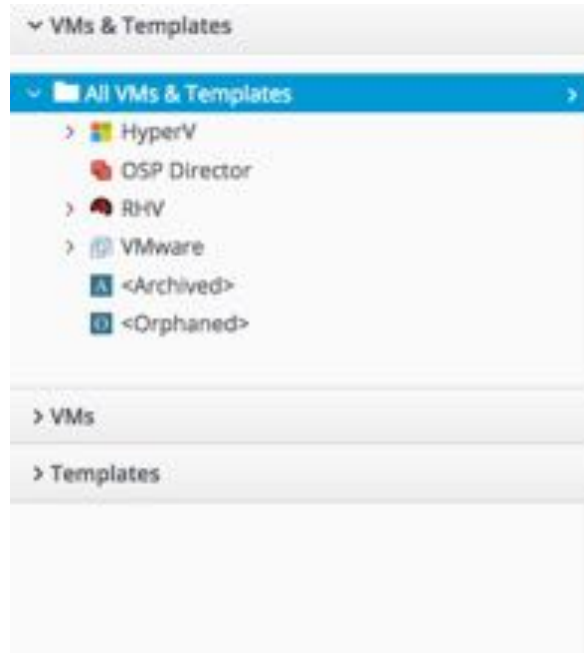
	Name	Description	Repository
<input type="checkbox"/>	 install.yaml		op_repo
<input type="checkbox"/>	 node_configure.yaml		matt_repo_pci
<input type="checkbox"/>	 node_deploy.yaml		matt_repo_pci
<input type="checkbox"/>	 node_foreman_pages.yaml		matt_repo_pci
<input type="checkbox"/>	 node_patch.yaml		matt_repo_pci
<input type="checkbox"/>	 node_remediate.yaml		matt_repo_pci
<input type="checkbox"/>	 node_sanitise.yaml		matt_repo_pci
<input type="checkbox"/>	 node_scan.yaml		matt_repo_pci
<input type="checkbox"/>	 pinglocal.yaml		op_repo
<input type="checkbox"/>	 playbooks/create_vm.yaml		op_repo
<input type="checkbox"/>	 sample_pb_op.yml		op_repo
<input type="checkbox"/>	 security.yaml		op_repo

Credentials

Credentials

	Name	Type	User
<input type="checkbox"/>	 AWS	Credential (Amazon)	user001
<input type="checkbox"/>	 CFME Default Credential	Credential (Machine)	
<input type="checkbox"/>	 Database Servers - Production	Credential (Machine)	admin
<input type="checkbox"/>	 Linux	Credential (Machine)	root
<input type="checkbox"/>	 WebServer - Pre-Production	Credential (Machine)	admin
<input type="checkbox"/>	 Windows	Credential (Machine)	administrator

Inventory



All VMs & Templates



CLOUDFORMS - WHEN PLAYBOOKS ARE RUN

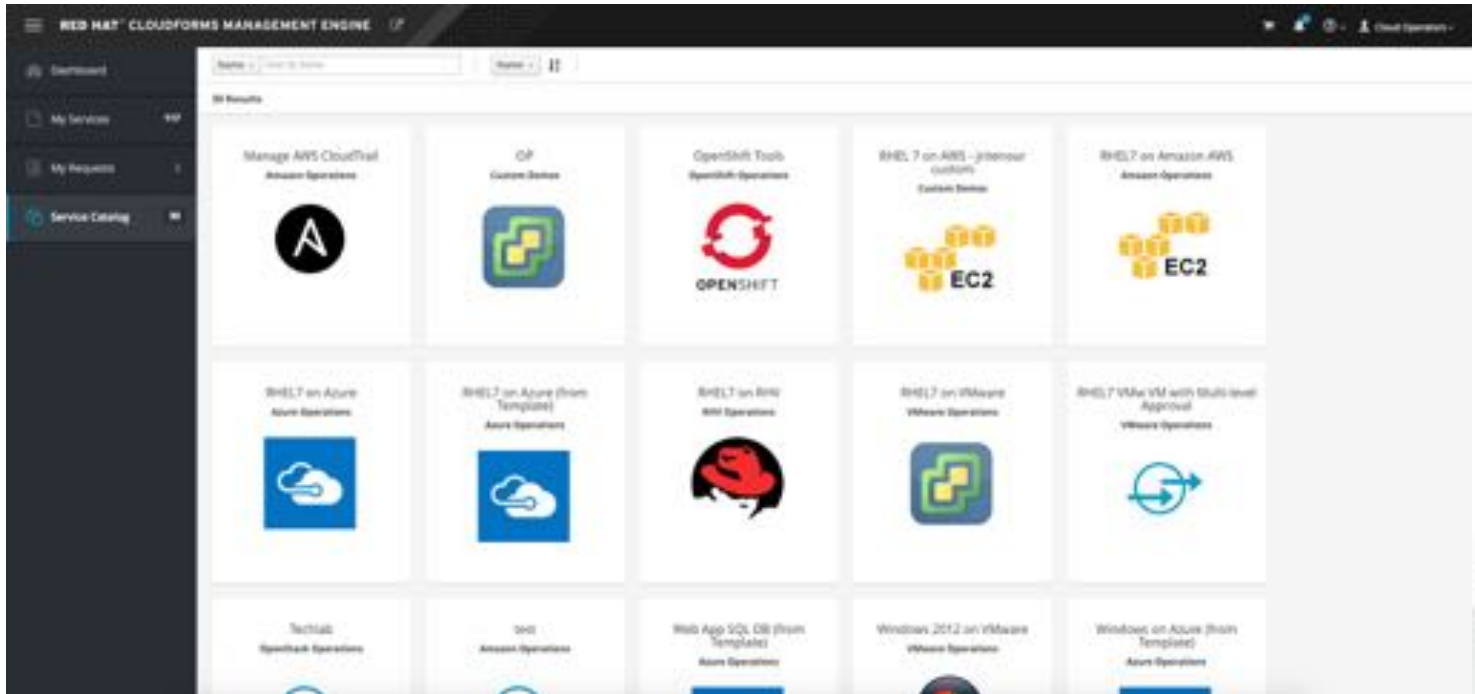


#1 - Self Service



#2 - Monitoring

#1 SELF SERVICE

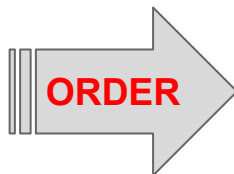


Dialogs provide runtime configuration options

RHEL7 on VMware



Description ⓘ



Order Service "RHEL7 on VMware"

Options

VM Name

vCPU

<Choose>



Memory

<Choose>



One CloudForms Service

=






Many (Teams) Playbooks

RHEL7 on VMware



Description ⓘ






	Provision VM
	Storage
	Networking
	Patching
	Install Application

#2 MONITORING

Event/Alerts	Action
New system is powered on	Patch it
Storage capacity limits	Add storage
Cluster Resources Peak Usage	Provision a new VM into cluster

MONITORING

Event	Action	====>	Playbook
New system powered on	Patch it		 Patching
Storage capacity limits	Add storage		 Storage
Cluster Peak Usage	Provision a new VM into cluster		 Provision VM

CLOUDFORMS - WHAT PLAYBOOKS ARE RUN



#1 - Self Service



Provision VM



Storage



Networking



Patching



Install Application



#2 - Monitoring



CLOUDFORMS - CHOOSES THE RIGHT PLAYBOOK



CLOUDFORMS - WORKS ACROSS MANY PLATFORMS



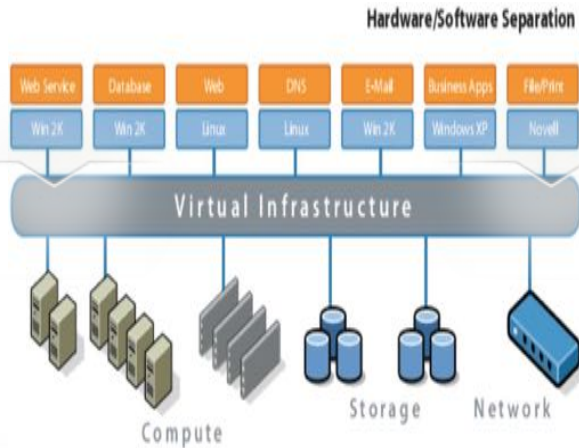
OPENSIFT



Containers



Containers



openstack™
CLOUD SOFTWARE





“Red Hat technology has helped us to work in a more efficient way, with speed and agility as the biggest outcomes. By continually using the platform, we expect huge benefits over the coming months and years. We're just at the beginning of the journey.”

LUIS UGUINA, CHIEF DIGITAL OFFICER, MACQUARIE'S BANKING AND FINANCIAL SERVICES GROUP

“We saved almost 10 years of time and almost \$5 million in soft savings.”

JASON CORNELL, MANAGER OF CLOUD AND INFRASTRUCTURE AUTOMATION, COX AUTOMOTIVE

“There's always pressure to deliver quickly. We have to be more efficient in how we deliver software, as well as underlying infrastructure, upgrades, maintenance, and support.”

LT. COL. DORIAN SEABROOK, HEAD OF OPERATIONS, INFORMATION APPLICATION SERVICES (IAS) BRANCH, BRITISH ARMY

“The openness and flexibility of the private cloud solution and the excellent support we receive...drove our decision to select Red Hat for our new IT infrastructure.”

DON O'CONNOR, MANAGING DIRECTOR, TECHNOLOGY OPERATIONS, MUGB UNION BANK

TO SUMMARIZE

Everyone is talking about the power of automation.

The adoption of a common language like Ansible will empower enterprises to automate.

Red Hat Management powered by Ansible uniquely solves automation challenges - right playbook at the right time.

CloudForms is a cross platform orchestration tool - making it a very powerful piece of your automation architecture

Olive Power

power@redhat.com

Q & A

DEMO ZONE

Demo Zone (Pepys):

Various Demo's, including CloudForms technical walk through, presenting playbooks from git into CloudForms, managing windows and linux VMs with Cloudforms and Ansible, Self Service provisioning in CloudForms and Ansible



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