

# Ansible Automation Platform 360 Degrees View

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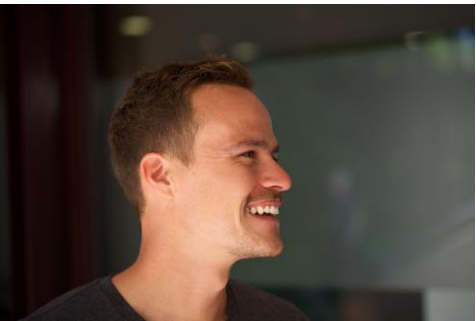


11:15-12:00

# About



apiVersion: redhat.io/v30  
kind: **SolutionArchitect**  
metadata:  
  name: **dominik-hahn**  
  namespace: switzerland  
  annotations:  
    specialized: openshift, ansible, rhel  
  labels:  
    sport: kitesurf,wakeboard,motorcycle  
spec:  
  replicas: 1  
  containers:  
    - image: kubeadm.ch/dominik:latest



apiVersion: redhat.io/v42  
kind: **SolutionArchitect**  
metadata:  
  name: **karoly-charlie-vegh**  
  namespace: austria  
  annotations:  
    specialized: ansible, rhel, insight  
  labels:  
    freetime: gaining and losing weight,e- bass  
spec:  
  replicas: 1  
  containers:  
    - execution\_environment:  
      github.com/kvegh



# What we will discuss today:

## **Automation:**

- ▶ The WHY
- ▶ The HOW
- ▶ The WHAT

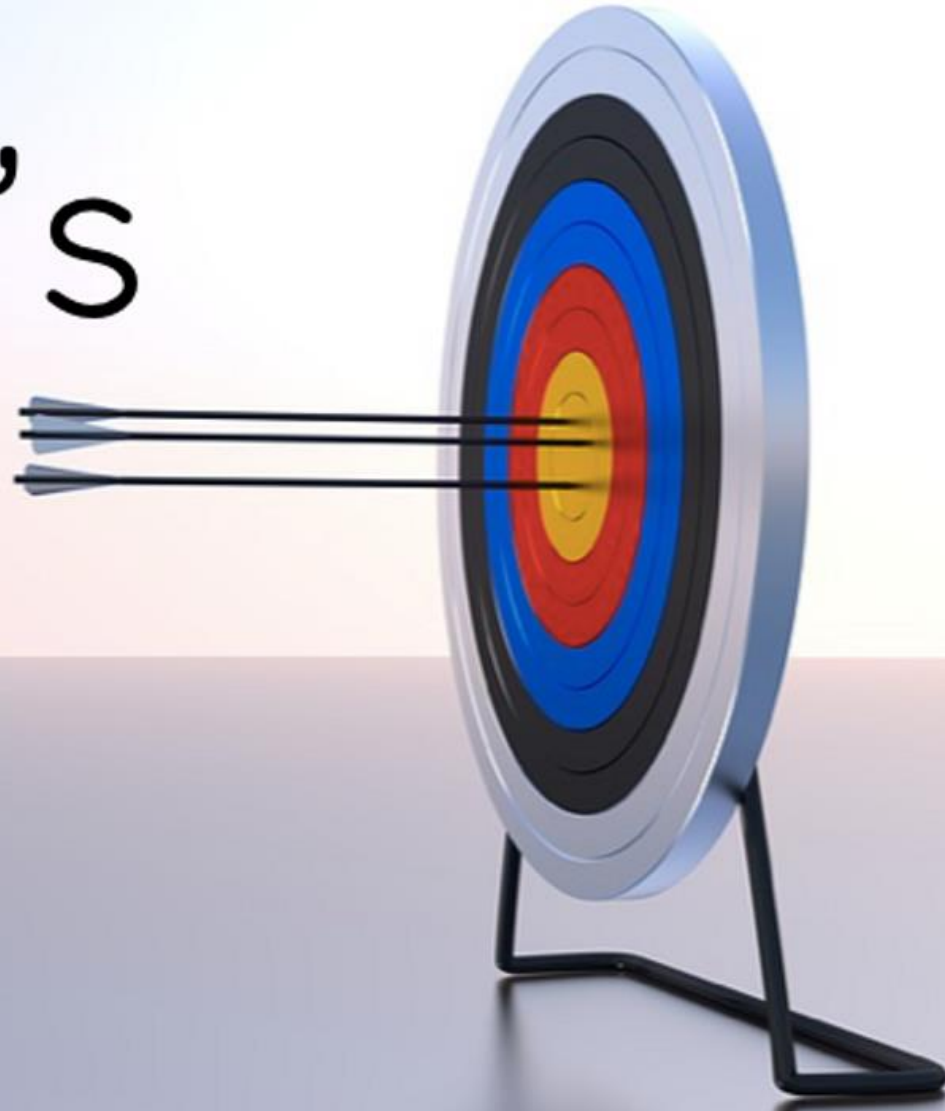
---

# About the **WHY**

...we automate, sure!



What's  
the  
Goal?



# The goals we can aim for

What are we trying to achieve?

- Efficiency - a boring, but absolutely relevant goal
- Infrastructure as Code



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  - **Security Compliance automation**

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  - **Security Compliance automation**
  - **AIOps**

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- Infrastructure as Code
- **Validation of Running Configurations**
- **Services of Teams provided for self-service consumption**
- **Cross-Team Workflows**
- Collaboration
- Reduce Human Errors, Increase Reliability and Reproducibility
- Automatic documentation of the infrastructure
- **Integration with ITSM**
- **Security Compliance automation**
- **AIOps**
- Auto remediation
- Ansible as a Service for SW deployment (SPUDS)
- Ansible on Z

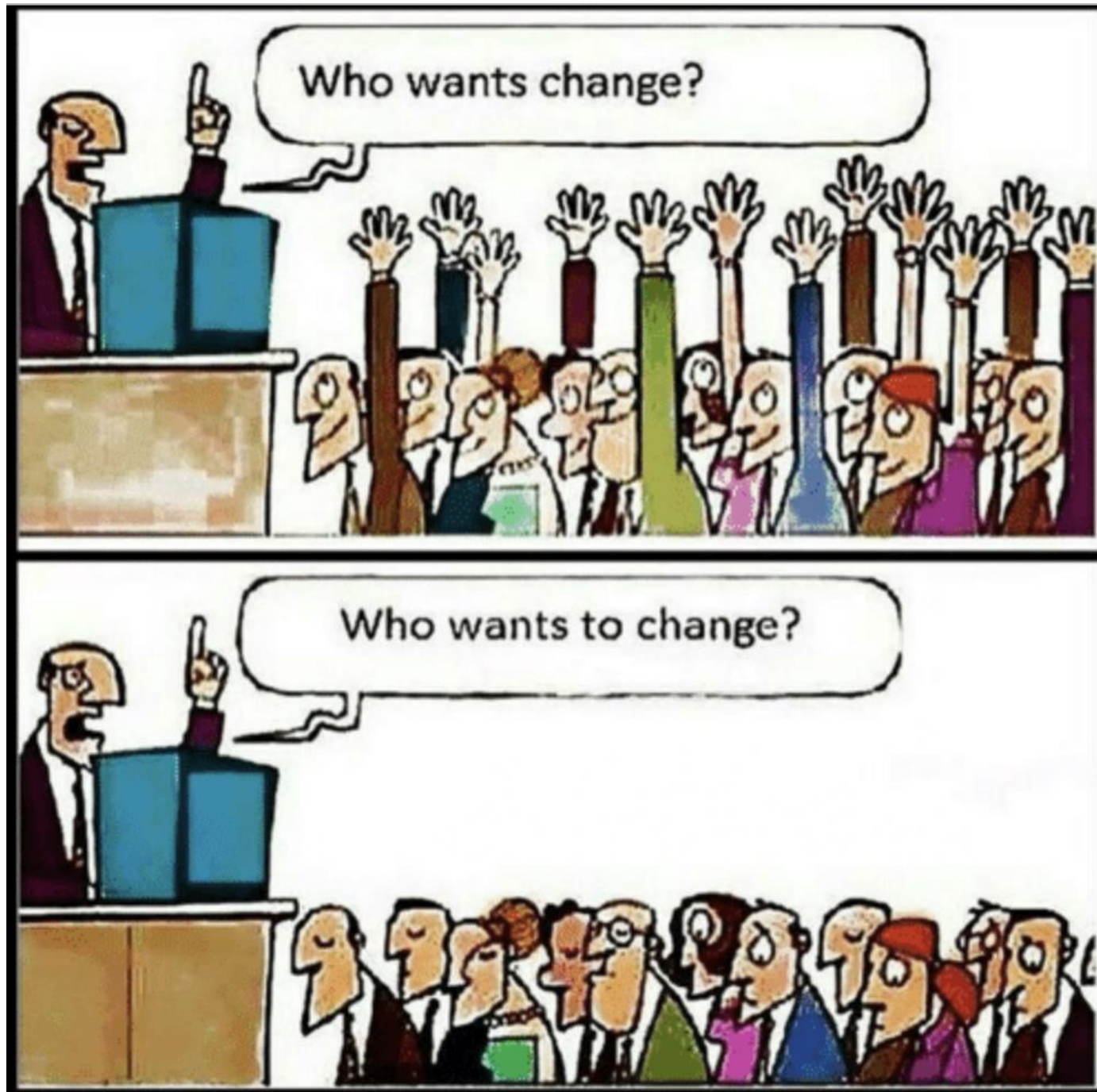
---

# About the HOW

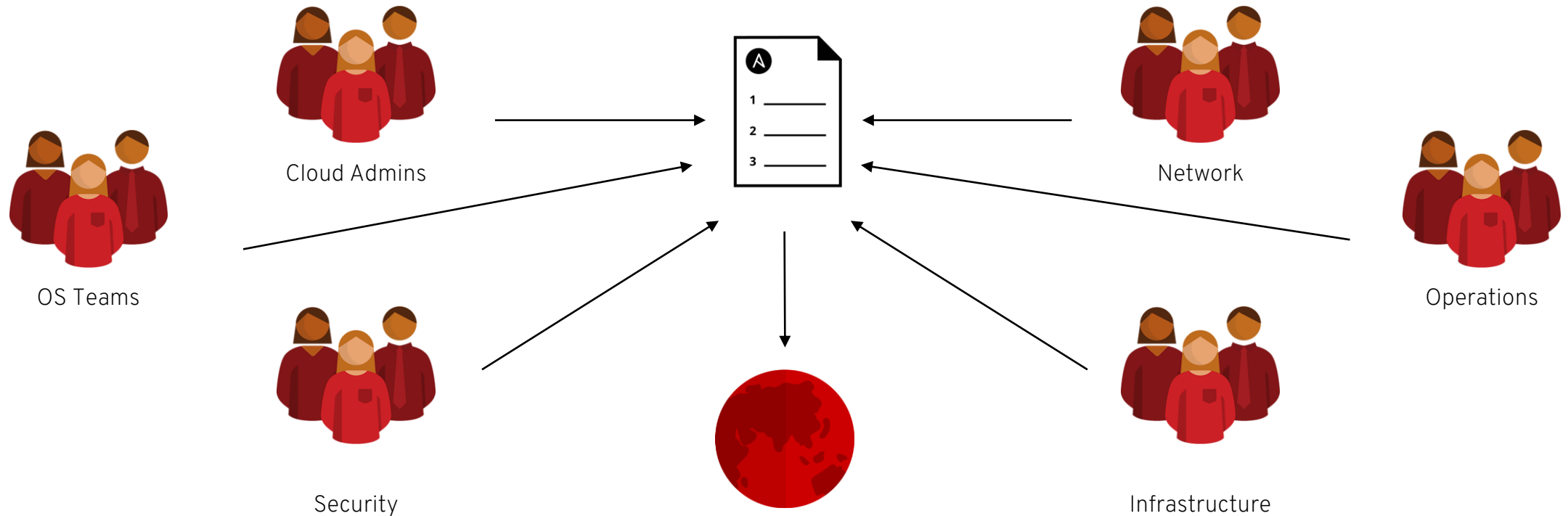


Automation is a CHANGE





# When automation crosses teams, you need an automation platform



So, **HOW** shall we automate?

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- As a **standard approach** for every IT Task

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- Across Teams

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- With everyone **involved**



# So, **HOW** shall we automate?

- As a **standard approach** for every IT Task
- Across Teams
- With everyone **involved**
- With **clear goals** to pursue

---

# About the **WHAT**

**WHAT** are the right **Use Cases** to start with?

Technologies well supported  
by Ansible

Technologies implemented in  
the corporate platform



**The SWEET SPOT**  
**The LOW HANGING FRUITS**  
**The QUICK WINS**

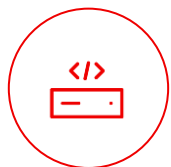
# Supported and certified **content you can trust.**

# 130+

Certified Content Collections

# 55+

Certified technology partners



Infrastructure



Cloud



Network



Security



Edge



Activities Firefox Do, 27. Okt 14:46 85%

















Automation Hub | console x +

https://console.redhat.com/ansible/automation-hub/partners

Red Hat Hybrid Cloud Console All apps and services Karoly Vegh

**Ansible Automation Platform**

- Overview
- Automation Hub
  - Collections
  - Partners**
  - Repo Management
  - Task Management
  - Connect to Hub
- Automation Analytics
- Documentation
- Red Hat Insights
- Inventory
- Advisor
- Drift
- Policies
- Register Systems
- Remediations

 <b>A10 Networks</b> a10 <a href="#">View collections</a>	 <b>Amazon</b> amazon <a href="#">View collections</a>	 <b>Red Hat</b> Ansible ansible <a href="#">View collections</a>	 <b>ARISTA</b> Arista arista <a href="#">View collections</a>
 <b>Aruba</b> arubanetworks <a href="#">View collections</a>	 <b>Microsoft</b> azure <a href="#">View collections</a>	 <b>Check Point</b> check_point <a href="#">View collections</a>	 <b>chocolatey</b> chocolatey <a href="#">View collections</a>
 <b>Cisco</b> cisco <a href="#">View collections</a>	 <b>Citrix</b> citrix <a href="#">View collections</a>	 <b>cloud</b> cloud <a href="#">View collections</a>	 <b>COHESITY</b> Cohesity cohesity <a href="#">View collections</a>
 <b>Confluent</b> confluent	 <b>CrowdStrike Inc.</b> crowdstrike	 <b>cumulusnetworks</b> cumulusnetworks	 <b>CyberArk</b> cyberark

Feedback

# Supported and certified content you can trust.

Find the list of certified Ansible Collections on the Customer Portal:

<https://access.redhat.com/articles/3642632>



10



28



## Ansible Automation Platform Certified Content

Updated October 11 2022 at 12:16 PM - English

Beginning with Ansible 2.9, the Ansible Content Collection subsystem was included as fully supported by Red Hat, and the following certified content should be using this packaging format and distributed via Ansible Automation Hub.

Certified content may be downloaded and installed from two different delivery locations:

- [Ansible Automation Hub](#)
  - Ansible 2.9 and newer, contains Collections
- The legacy Ansible distribution
  - Ansible 2.9 and older, contains Modules only

### NOTES:

- Ansible Automation Hub requires a valid Red Hat Ansible subscription for access.
- A subset of the certified collections below are developed, tested, built, delivered, and supported by Red Hat. Additional supportability claims for these collections may be provided under the "Maintained and Supported By" column below for more information.
- For issues that involve **both** Red Hat, and a third party (see the "Maintained and Supported By" column below), when opening a case with Red Hat, it is require to have a ticket with said third party as well, as that is a requirement for Red Hat to collaborate with partner through [TSANet](#). For more information consult the "Collaboration between partners" section of [Best practices for engaging with Red Hat Support](#).

### Certified Content in Ansible Automation Hub

Entity	Collection Name	Description	Maintained and Supported By	2.9 Certified	2.11 Certified
Amazon	<a href="#">amazon.aws</a>	Amazon AWS	<a href="#">Red Hat Ansible</a>	✓	✓
Ansible	<a href="#">ansible.netcommon</a>	Ansible Netcommon	<a href="#">Red Hat Ansible</a>	✓	✓
Ansible	<a href="#">ansible.network</a>	Ansible Network	<a href="#">Red Hat Ansible</a>	✓	✓
Ansible	<a href="#">ansible.posix</a>	Ansible Posix	<a href="#">Red Hat Ansible</a>	✓	✓
Ansible	<a href="#">ansible.security</a>	Ansible Security	<a href="#">Red Hat Ansible</a>	✓	✓
Ansible	<a href="#">ansible.controller</a>	Ansible Controller	<a href="#">Red Hat Ansible</a>	✓	✓

Couple of examples.



## Example I:

**Use Case:** Virtualization with VMWare

**Goal:** Consumable VM Deployment Service

## Step 1: Find the certified VMWare Ansible Collection on the Automation Hub:



Certified



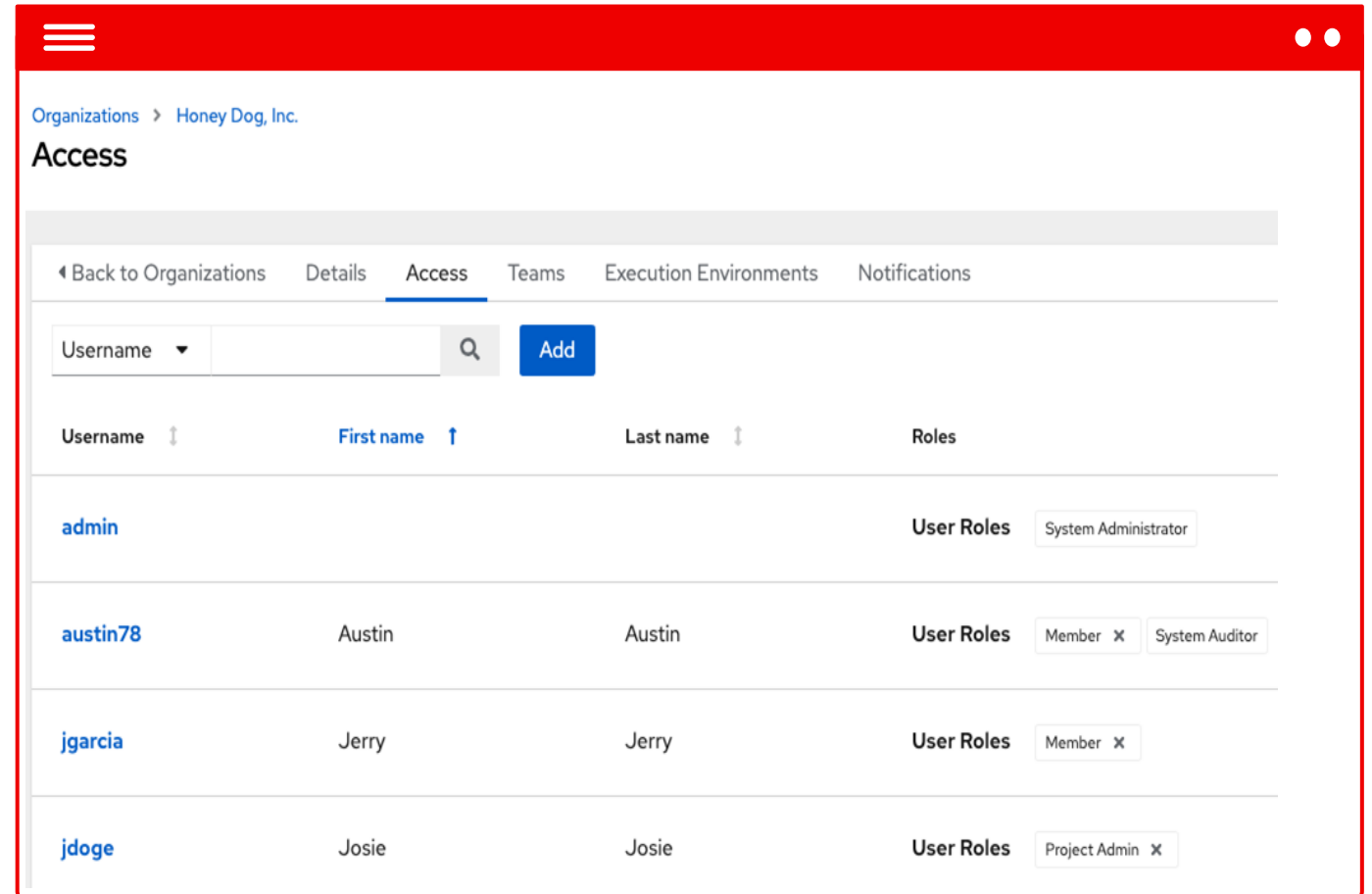
**vmware\_rest**

Provided by vmware

<a href="#">vcenter_vm</a>	module	Creates a virtual machine.
<a href="#">vcenter_vm_guest_customization</a>	module	Applies a customization specification on the virtual machine
<a href="#">vcenter_vm_guest_filesystem_directories</a>	module	Creates a directory in the guest operating system
<a href="#">vcenter_vm_guest_identity_info</a>	module	Return information about the guest.
<a href="#">vcenter_vm_guest_localfilesystem_info</a>	module	Returns details of the local file systems in the guest operating system.
<a href="#">vcenter_vm_guest_power</a>	module	Issues a request to the guest operating system asking it to perform a soft shutdown, standby (suspend) or soft reboot
<a href="#">vcenter_vm_guest_networking_info</a>	module	Returns information about the network configuration in the guest operating system.
<a href="#">vcenter_vm_guest_networking_interfaces_info</a>	module	Returns information about the networking interfaces in the guest operating system.
<a href="#">vcenter_vm_guest_networking_routes_info</a>	module	Returns information about network routing in the guest operating system.
<a href="#">vcenter_vm_guest_operations_info</a>	module	Get information about the guest operation status.
<a href="#">vcenter_vm_guest_power_info</a>	module	Returns information about the guest operating system power state.

## Step 2:

- Automate the VM provisioning job
- Use the Automation Controller's **RBAC** to provide access to it for other teams



The screenshot shows the 'Access' page for the organization 'Honey Dog, Inc.'. The page has a red header with a hamburger menu icon and window control buttons. Below the header, there is a breadcrumb trail: 'Organizations > Honey Dog, Inc.'. The main title is 'Access'. A navigation bar contains links for 'Back to Organizations', 'Details', 'Access' (which is highlighted), 'Teams', 'Execution Environments', and 'Notifications'. Below the navigation bar is a search bar with a dropdown menu for 'Username', a search icon, and an 'Add' button. The main content area is a table with columns for 'Username', 'First name', 'Last name', and 'Roles'. The table contains four rows of user data.

Username	First name	Last name	Roles
admin			System Administrator
austin78	Austin	Austin	Member x System Auditor
jgarcia	Jerry	Jerry	Member x
jdoge	Josie	Josie	Project Admin x

# Example II:

**Use Case:** Network: Cisco/Juniper/Arista config

**Goal:** Configuration Validation

Step 1: Find the certified **Cisco/Juniper/Arista** Ansible Collection on the Automation Hub:



**junos**

Provided by junipernetworks

Ansible Network Collection for Junipernetworks Junos



Certified



**ios**

Provided by Cisco

Ansible Network Collection for Cisco IOS devices.

**ARISTA**

Certified



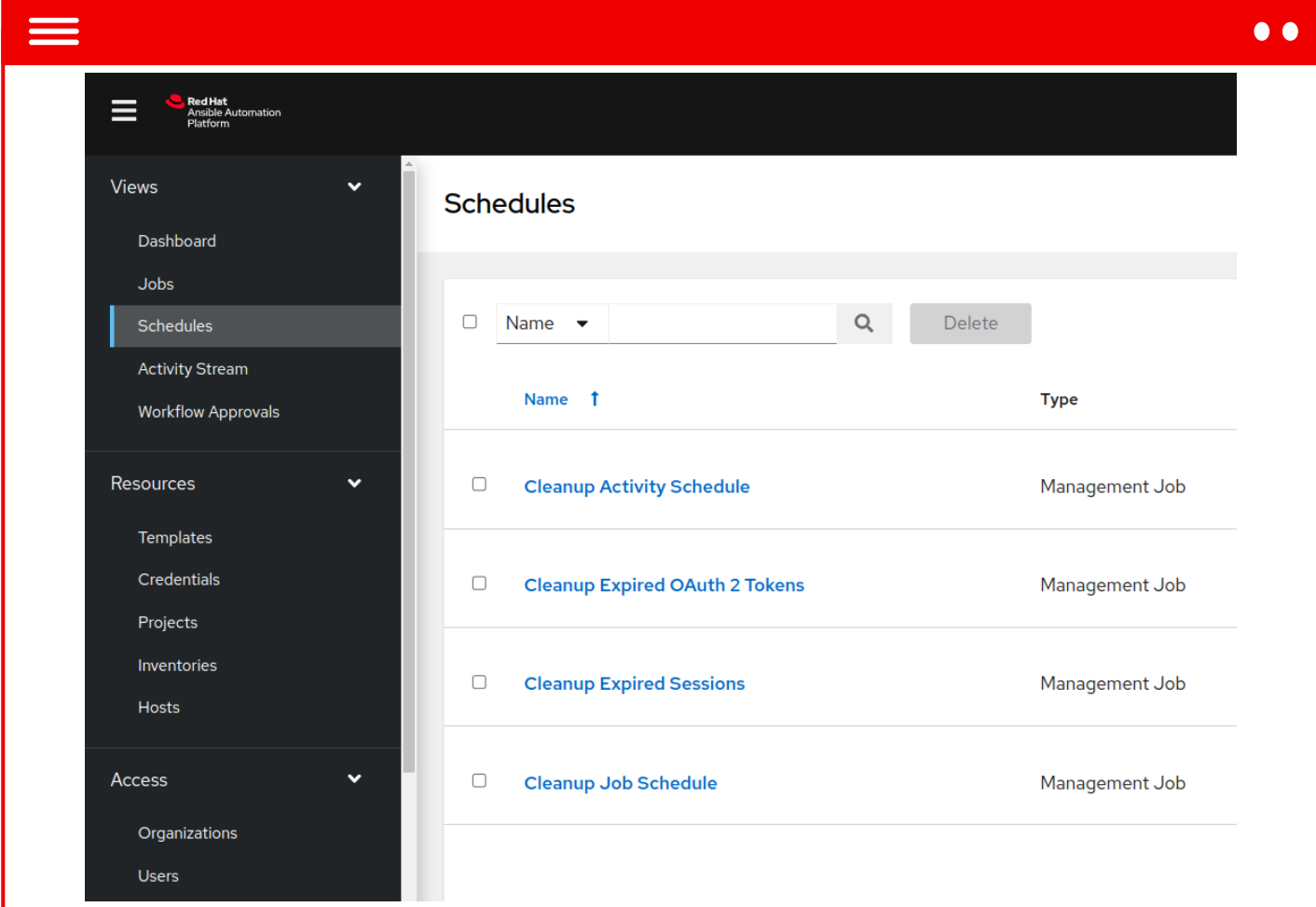
**eos**

Provided by Arista

Ansible Network Collection for Arista EOS devices.

## Step 2:

- Automate the network configuration job
- Use the Automation Controller's **Scheduler** and **Check Mode** to do dry-run checks



The screenshot shows the Red Hat Ansible Automation Platform interface. The left sidebar is dark with a menu structure. The main content area is titled "Schedules" and displays a table of scheduled jobs. The table has columns for "Name" and "Type". There are four rows of scheduled jobs, each with a checkbox on the left and a "Delete" button on the right. The jobs listed are:

Name	Type
<input type="checkbox"/> Cleanup Activity Schedule	Management Job
<input type="checkbox"/> Cleanup Expired OAuth 2 Tokens	Management Job
<input type="checkbox"/> Cleanup Expired Sessions	Management Job
<input type="checkbox"/> Cleanup Job Schedule	Management Job

# Example III:

**Use Case:** Azure: AD User management

**Goal:** ITSM Integration

## Step 1:

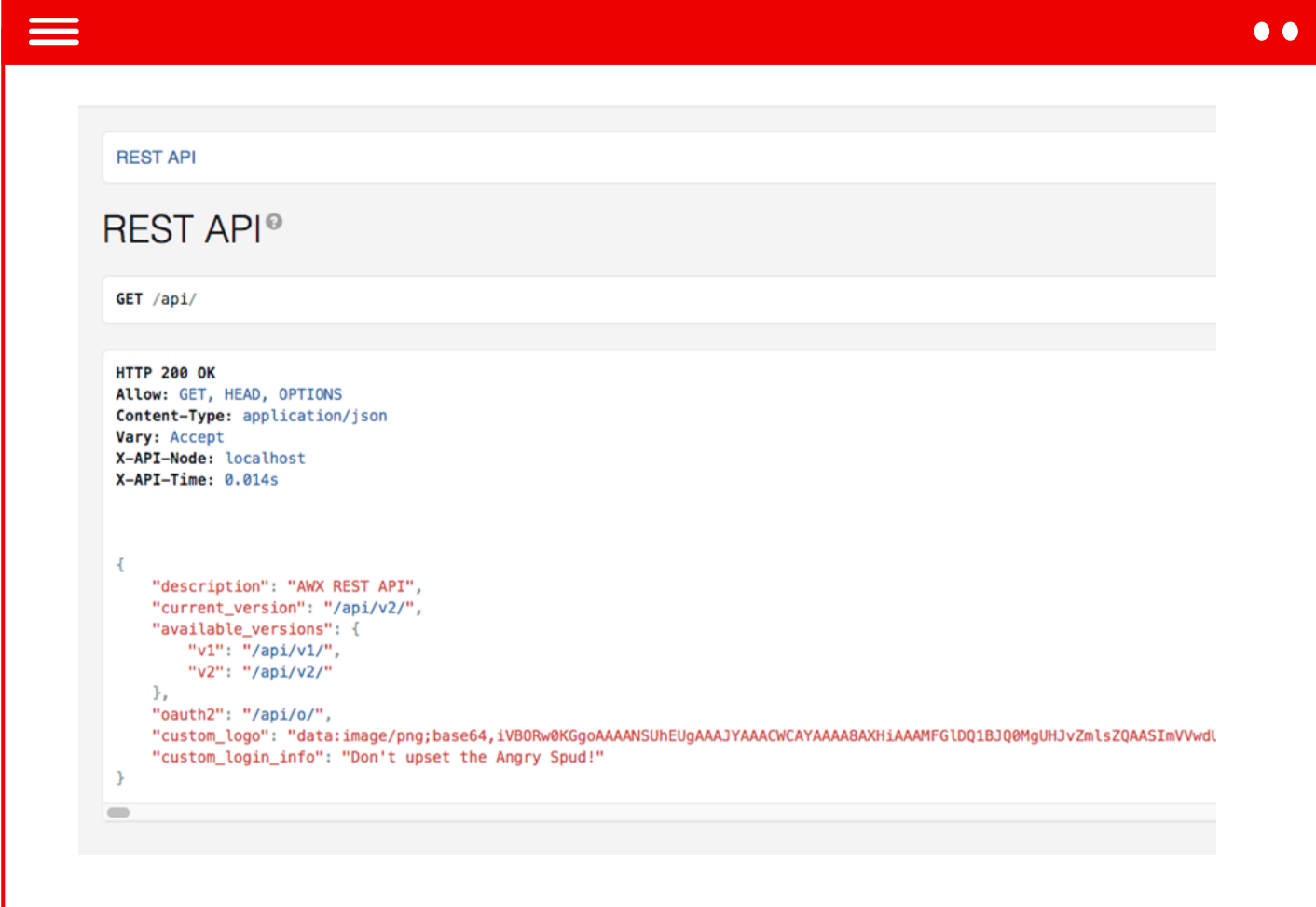
- Use the certified Azure Ansible collection from the Automation HUB to Automate the Azure AD User creation job

<a href="#">azure_rm_sqlserver</a>	module	Manage SQL Server instance
<a href="#">azure_rm_virtualhub</a>	module	Manage Azure VirtualHub instance
<a href="#">azure_rm_galleryimage_info</a>	module	Get Azure SIG Image info
<a href="#">azure_rm_trafficmanagerprofile</a>	module	Manage Azure Traffic Manager profile
<a href="#">azure_rm_devtestlabpolicy_info</a>	module	Get Azure DTL Policy facts
<a href="#">azure_rm_cognitivesearch_info</a>	module	Get Azure Cognitive Search service info
<a href="#">azure_rm_notificationhub</a>	module	Manage Notification Hub
<a href="#">azure_rm_manageddisk_info</a>	module	Get managed disk facts
<a href="#">azure_rm_ddosprotectionplan</a>	module	Manage DDoS protection plan
<a href="#">azure_rm_devtestlabenvironment</a>	module	Manage Azure DevTest Lab Environment instance
<a href="#">azure_rm_devtestlabartifactsource</a>	module	Manage Azure DevTest Labs Artifacts Source instance
<a href="#">azure_rm_webappvnetconnection</a>	module	Manage web app virtual network connection
<a href="#">azure_rm_subnet_info</a>	module	Get Azure Subnet facts



## Step 2:

- Use the Automation Controller's **API** to provide the ITSM tool with access to trigger that job



The screenshot shows a REST API client interface with a red header bar. The main content area displays the following information:

```
REST API

REST API ⓘ

GET /api/

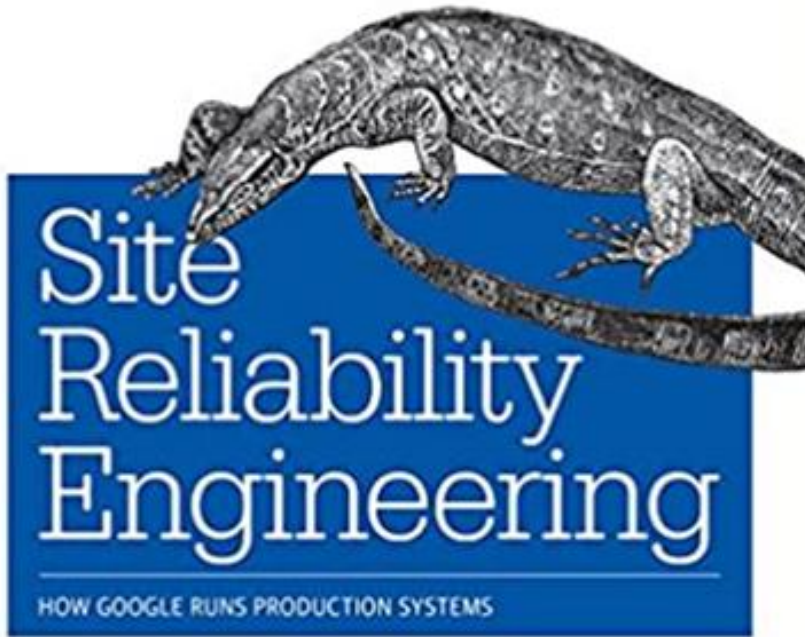
HTTP 200 OK
Allow: GET, HEAD, OPTIONS
Content-Type: application/json
Vary: Accept
X-API-Node: localhost
X-API-Time: 0.014s

{
  "description": "AWX REST API",
  "current_version": "/api/v2/",
  "available_versions": {
    "v1": "/api/v1/",
    "v2": "/api/v2/"
  },
  "oauth2": "/api/o/",
  "custom_logo": "data:image/png;base64,iVBORw0KGgoAAAANSUHEUgAAAJYAAACWCAYAAAA8AXHiAAAMFGLDQ1BJQ0MgUHJvZmlsZQAASImVVwdl
  "custom_login_info": "Don't upset the Angry Spud!"
}
```

# Example IV:

**Use Case:** Security, Compliance & Audit = Toil

**Goal:** Governance As A Service



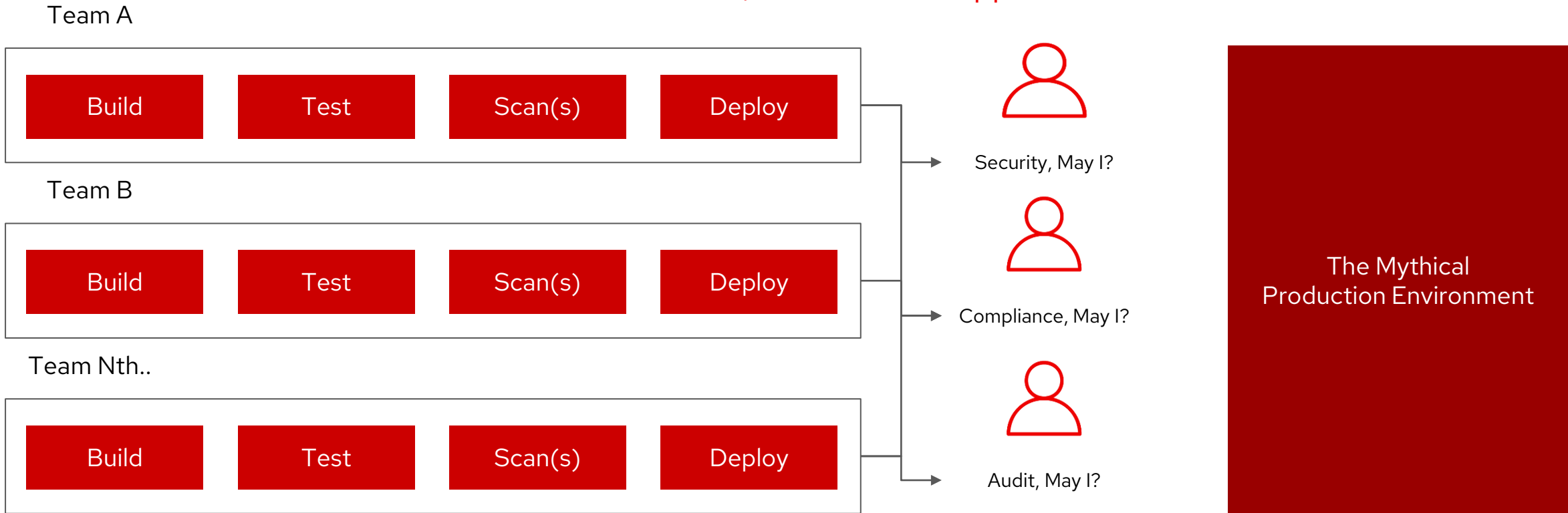
“Toil is the kind of work tied to running a production service that tends to be manual, repetitive, automatable, tactical, devoid of enduring value, and that scales linearly as a service grows.”

---

Vivek Rau  
Site Reliability Engineer, Google

# Current State

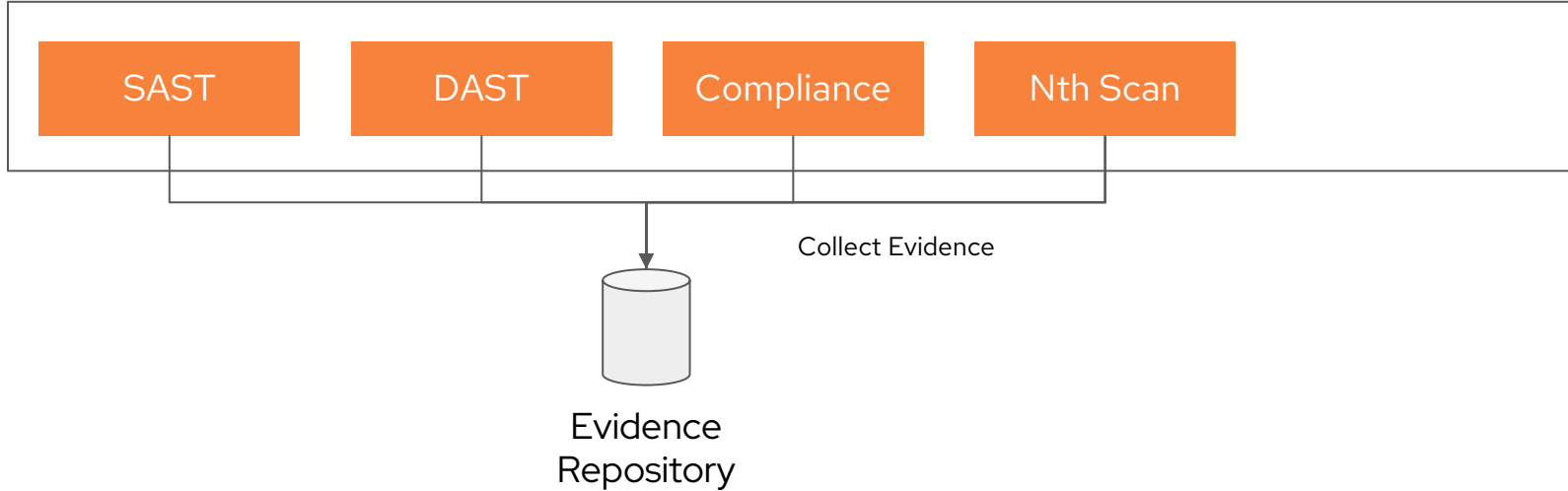
## The "Free For All, File A Ticket" Approach



# Governance As A Service - With Red Hat

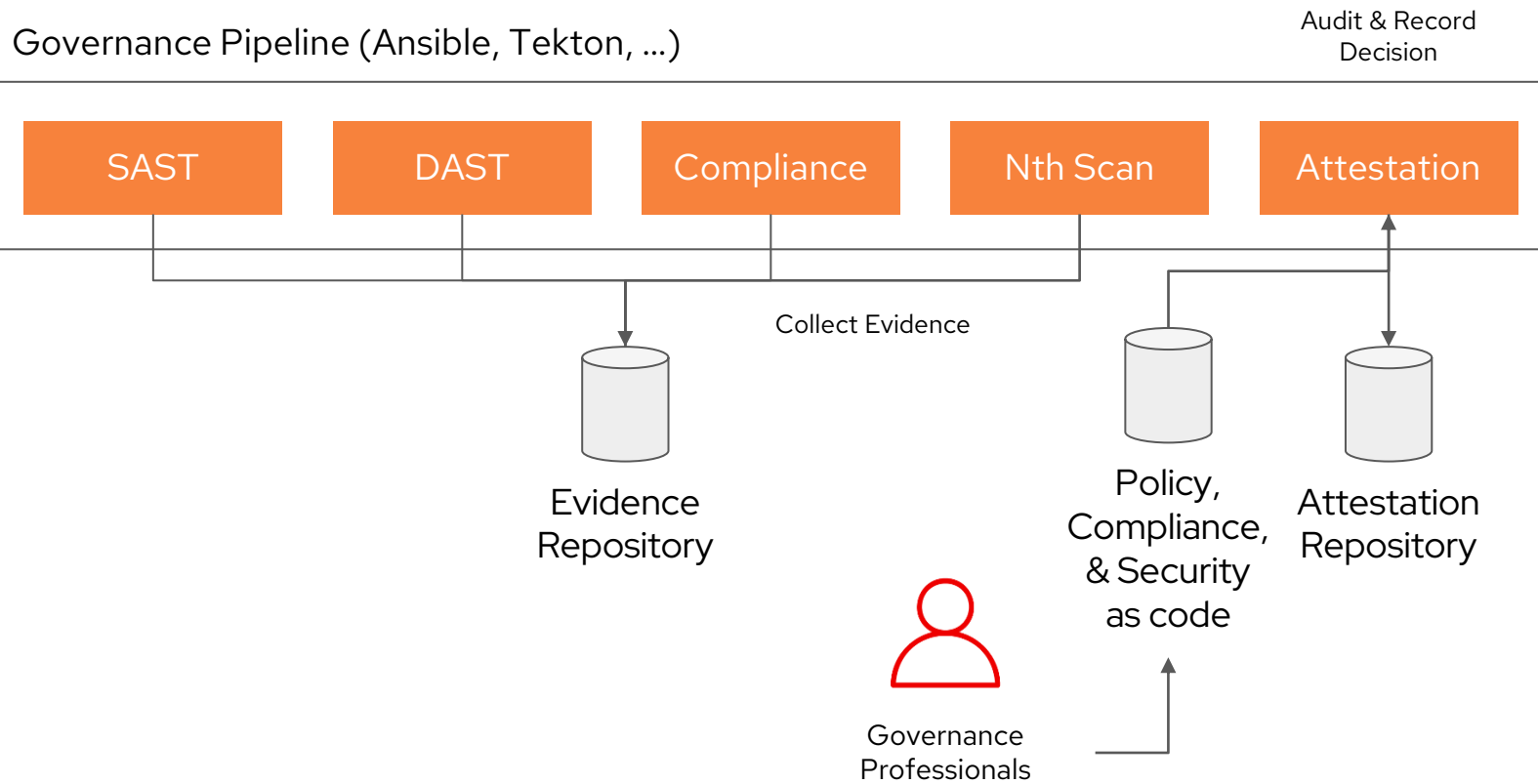
## The Automated Approach

Governance Pipeline (Ansible, Tekton, ...)



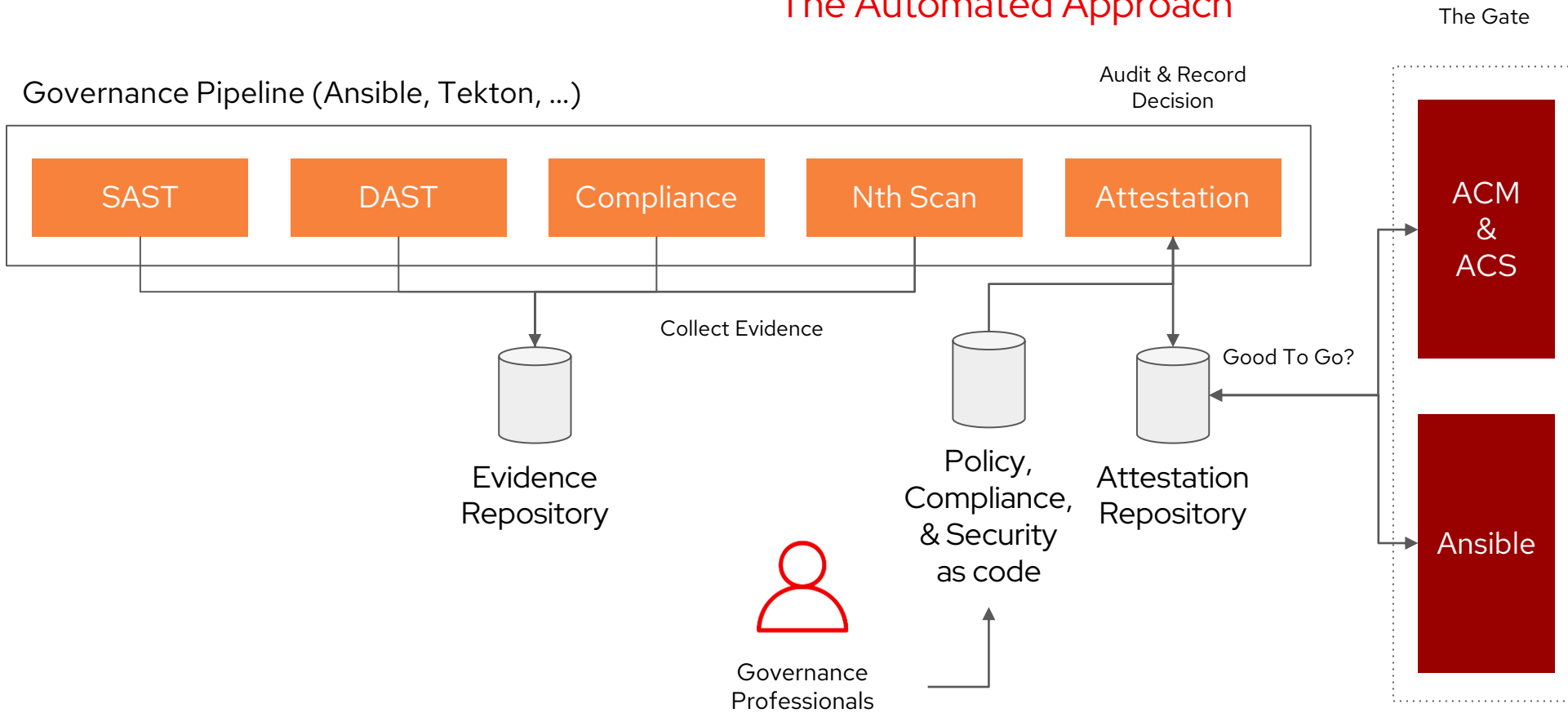
# Governance As A Service - With Red Hat

## The Automated Approach



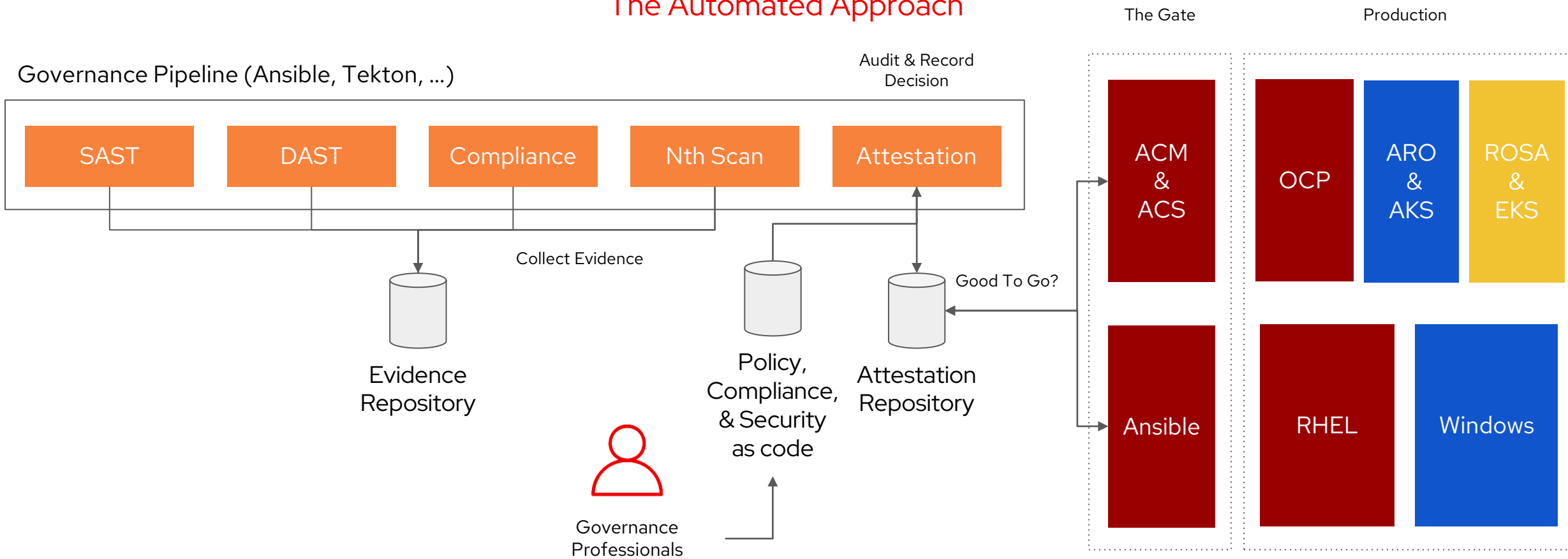
# Governance As A Service - With Red Hat

## The Automated Approach



# Governance As A Service - With Red Hat

## The Automated Approach



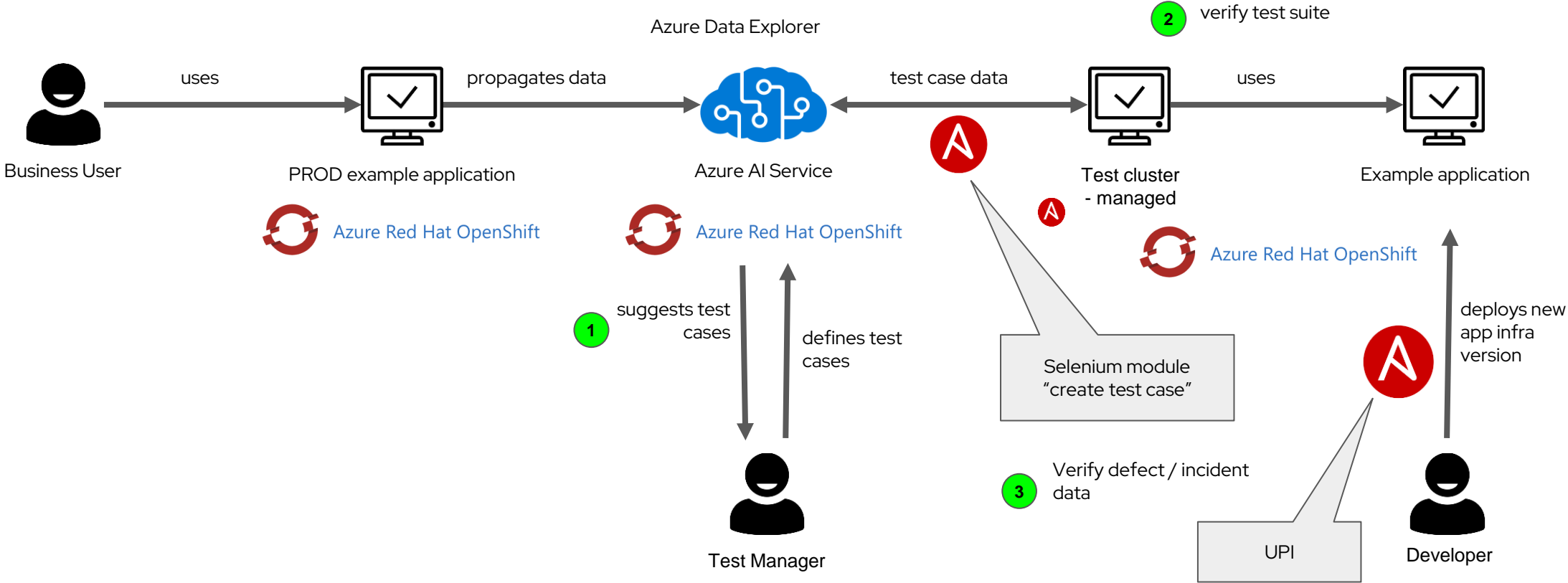


# Example V:

**Use Case:** AI driven testing

**Goal:** Suggest test case optimization to test manager

# AI driven testing



## Example VI:

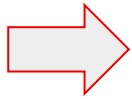
**Use Case:** End-to-End Windows Server SW+Updates

**Goal:** Cross-Team Collaboration

## Step 1:

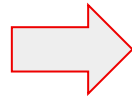
- Define the process, use relevant Ansible collections

### Disable Alerting:



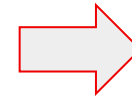
- Zabbix
- Nagios
- Icinga
- Datadog
- Grafana
- Splunk
- ...

### Configure LoadBalancing:



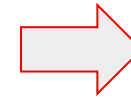
- F5
- Netscaler
- HAProxy
- AWS ELB
- ...

### Snapshot VMs:



- VCenter
- NetApp
- Purestorage
- Specttrum Virtualize
- Dell Powerstore
- ...

### Deploy Updates:



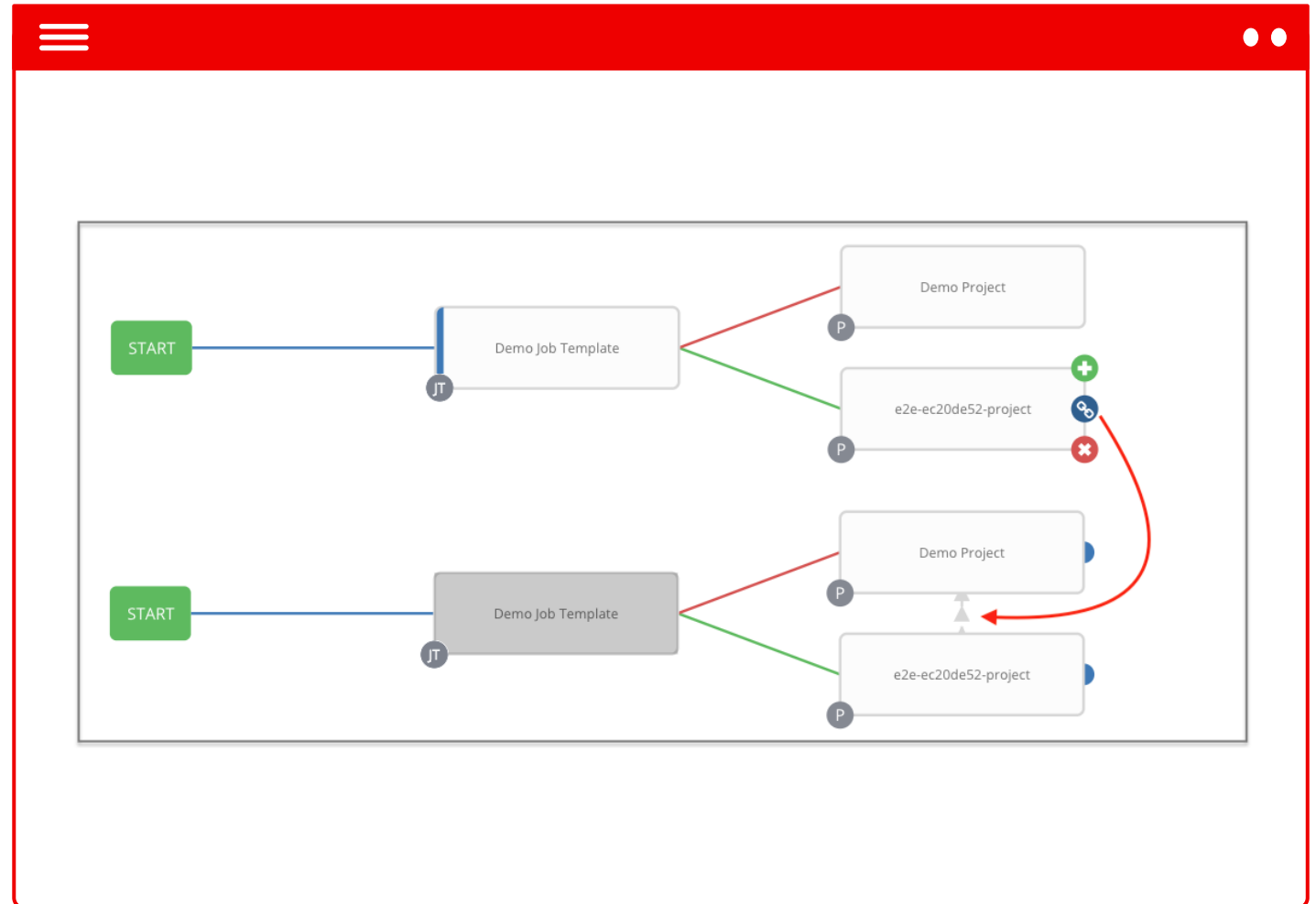
- WSUS
- Chocolatey
- Ansible Windows Collection
- ...

### Rollback if necessary

- Ansible Workflows
- ...

## Step 2:

- Use the automated **process blocks** provided by the different teams, and **build** the automated **Workflow** on top of them:



# What we discussed today:

## **Automation:**

- ▶ The WHY
- ▶ The HOW
- ▶ The WHAT

# The key takeaways:

- ▶ Get all the IT Teams involved
- ▶ Clarify and communicate the common goals
- ▶ Find the quick win Use Cases to start with



# Thank you

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