Ansible Automation Platform 360 Degrees View

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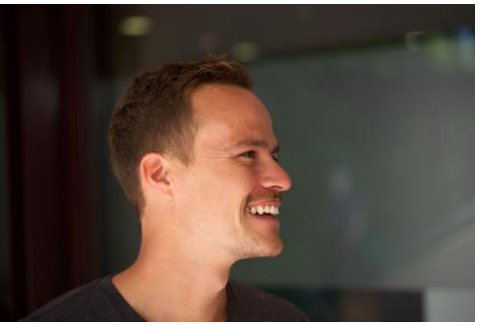
11:15-12:00

Ansible Automates

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
```

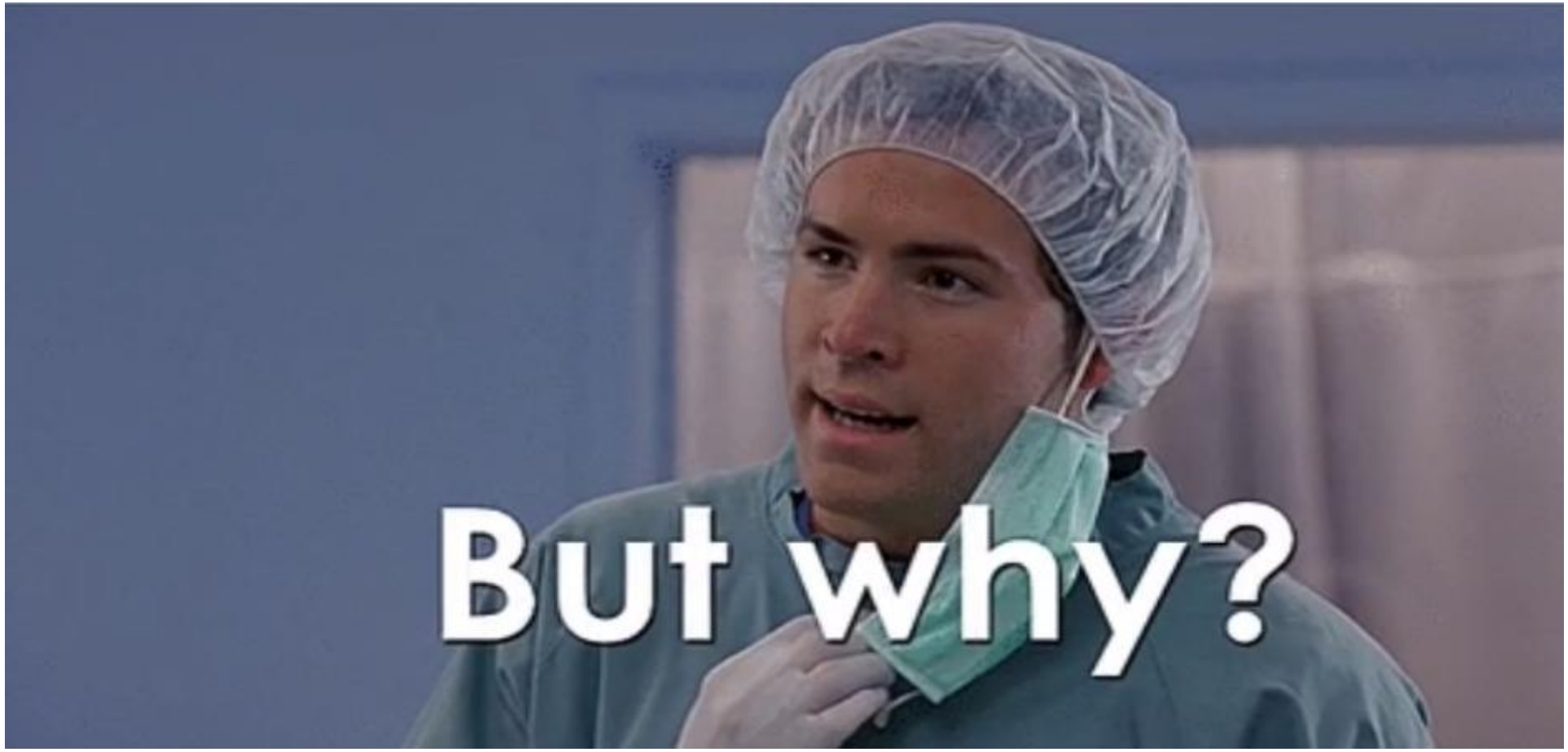
What we will discuss today:

Automation:

- The WHY
- The HOW
- The WHAT

About the WHY

...we automate, sure!


But why?


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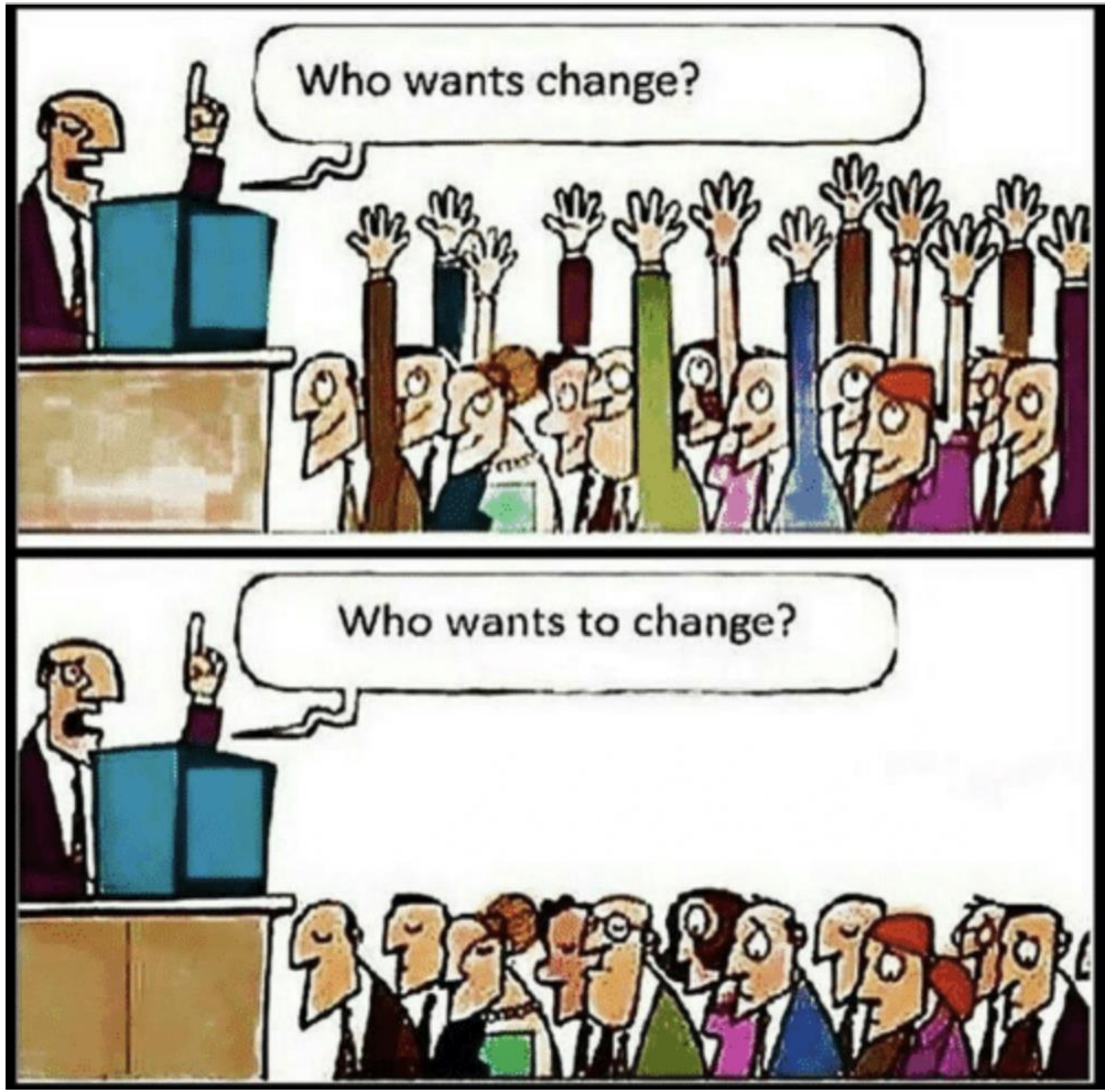
- Efficiency - a boring, but absolutely relevant goal
- Infrastructure as Code
- **Validation of Running Configurations**
- **Services of Teams provided for self-service consumption**
- **Cross-Team Workflows**
- Collaboration
- Reduce Human Errors, Increase Reliability and Reproducibility
- Automatic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

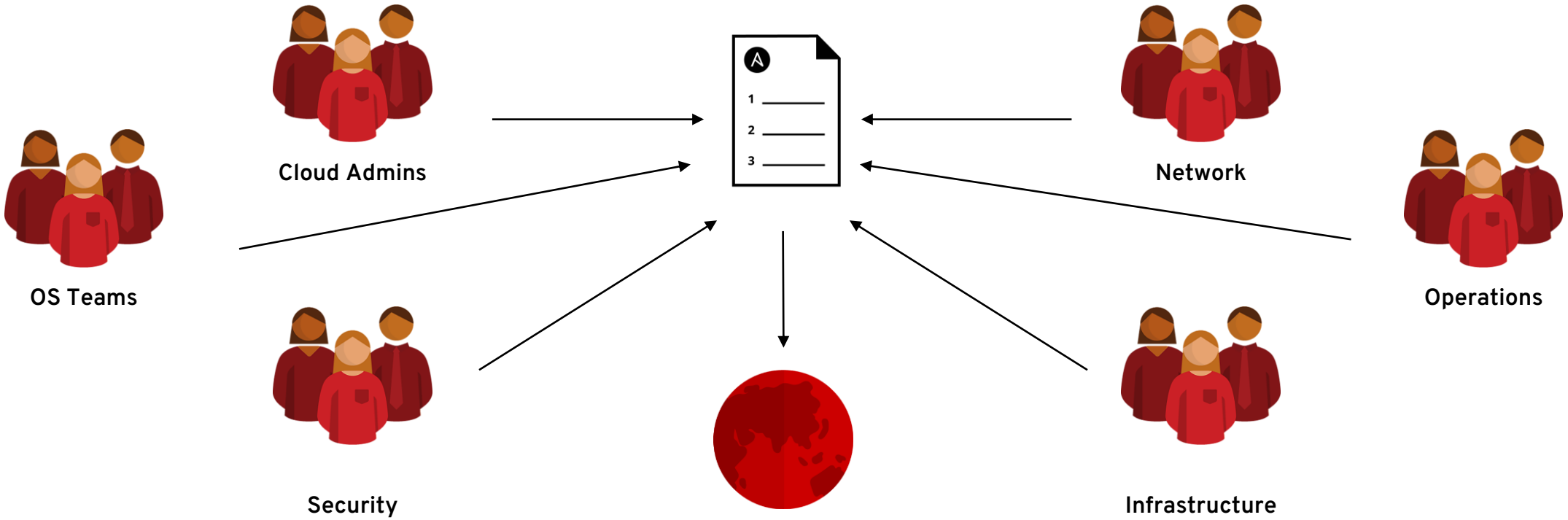
About the HOW

Automation is a CHANGE


Who wants change?


Who wants change?
Who wants to change?

When automation crosses teams, you need an automation platform



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So, HOW shall we automate?

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

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So, HOW shall we automate?

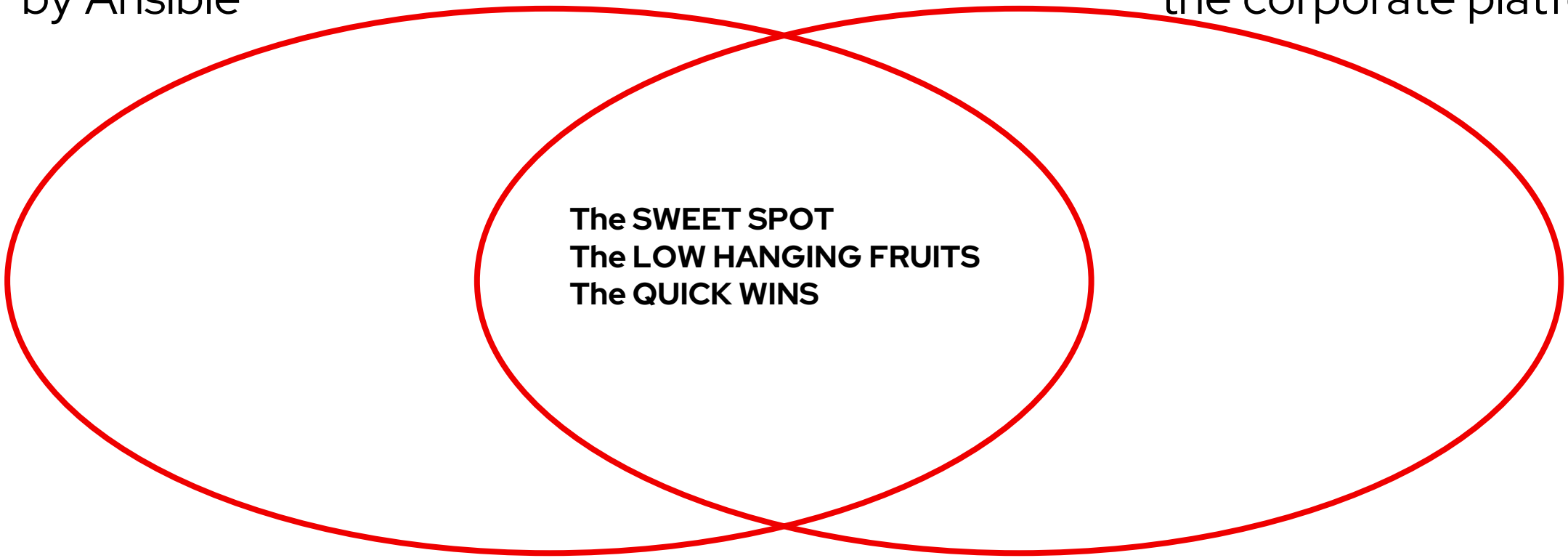
- As a **standard approach** for every IT Task
- Across Teams
- With everyone **involved**
- With **clear goals** to pursue

About the WHAT

WHAT are the right Use Cases to start with?

Technologies well supported by Ansible

Technologies implemented in the corporate platform



Ansible Automates

Supported and certified content you can trust.

130+

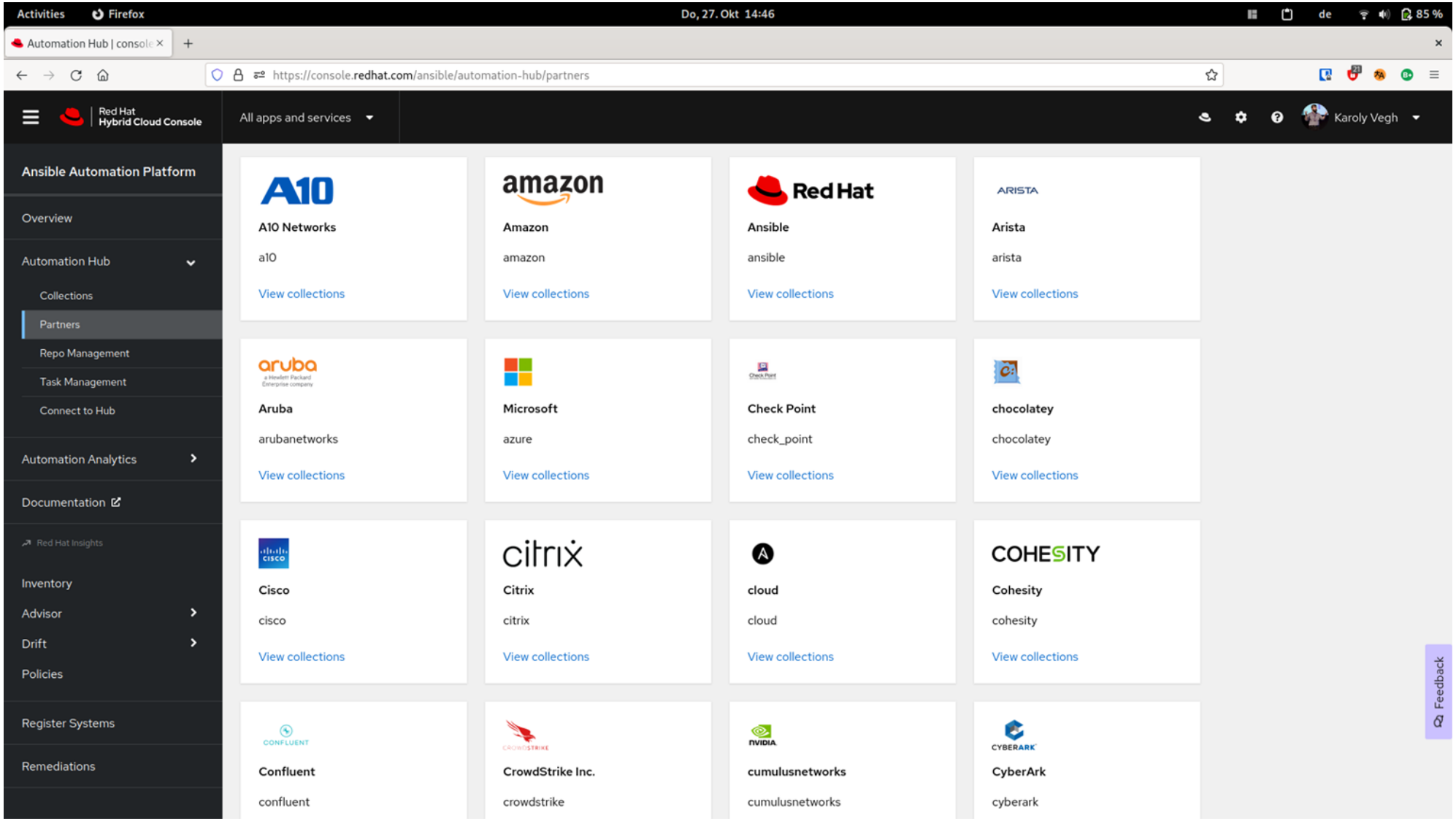
Certified Content Collections

55+

Certified technology partners

Infrastructure | Cloud | Network | Security | Edge

Ansible Automates



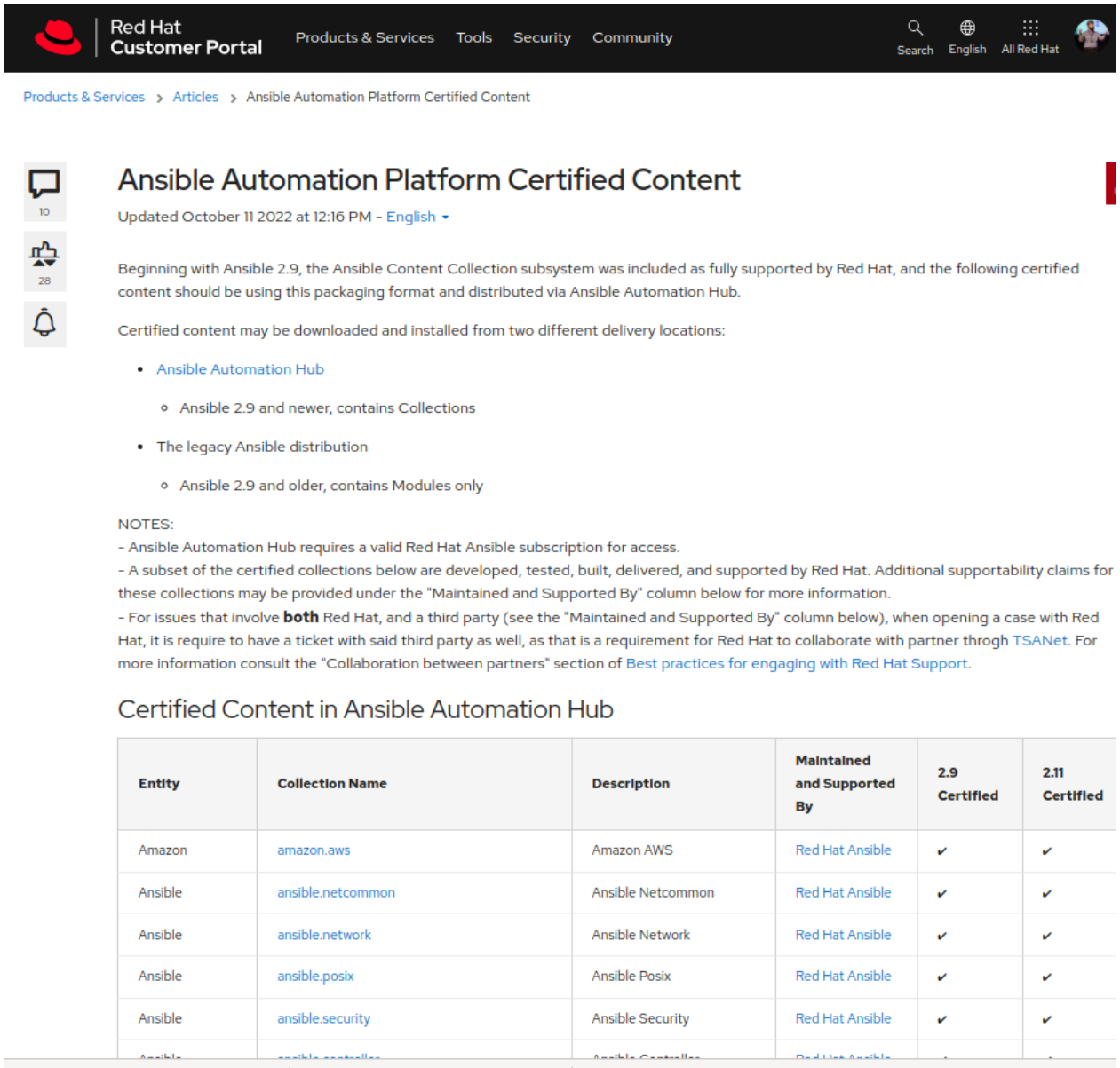
Ansible Automates

Supported and certified

content you can trust.

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

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



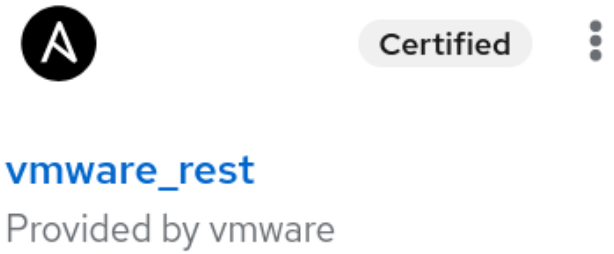
Ansible Automates

Couple of examples.

Example I:

Use Case: Virtualization with VMWare
Goal: Consumable VM Deployment Service

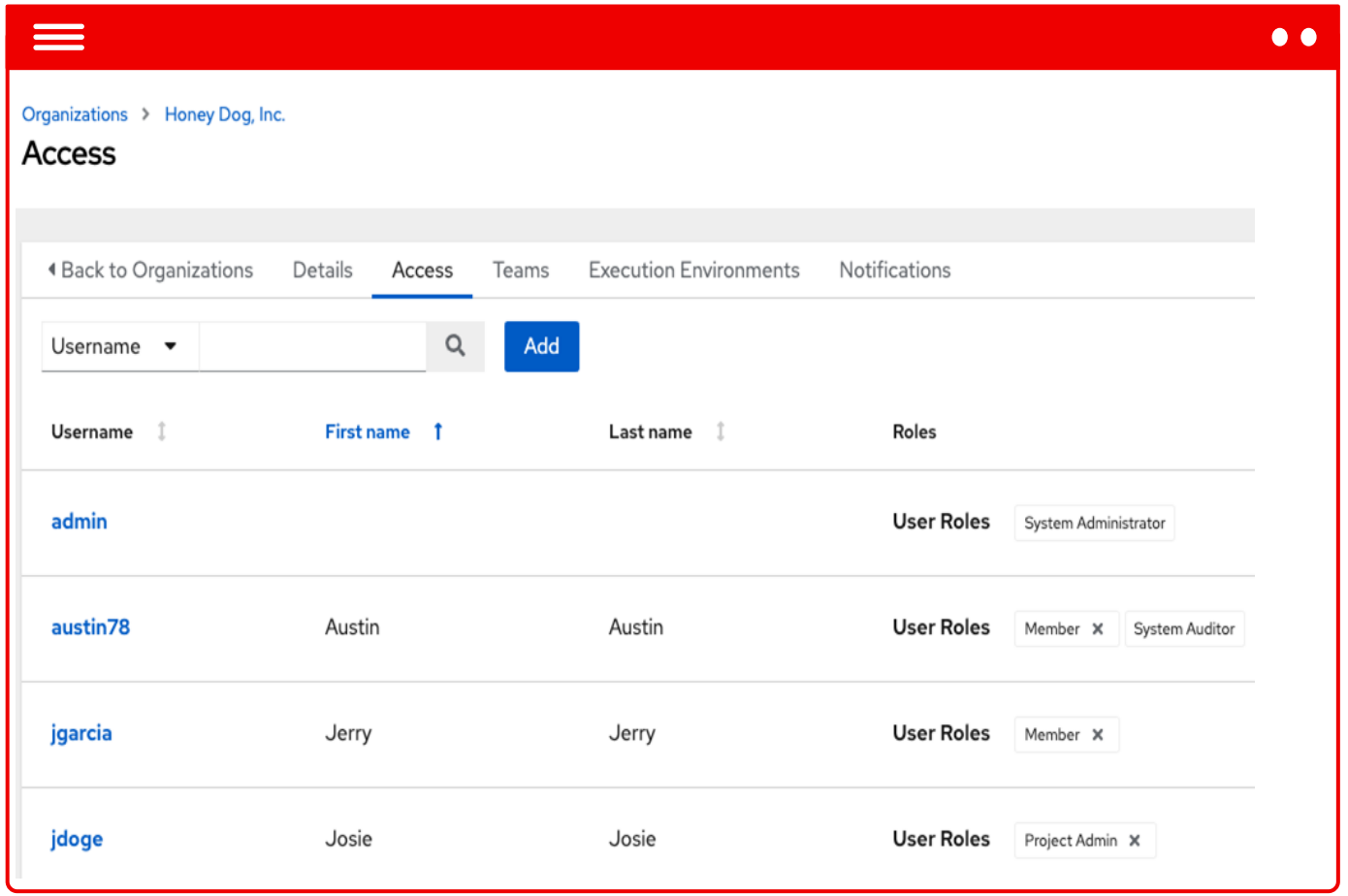
Step 1: Find the certified VMWare Ansible Collection on the Automation Hub:



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

Step 2:

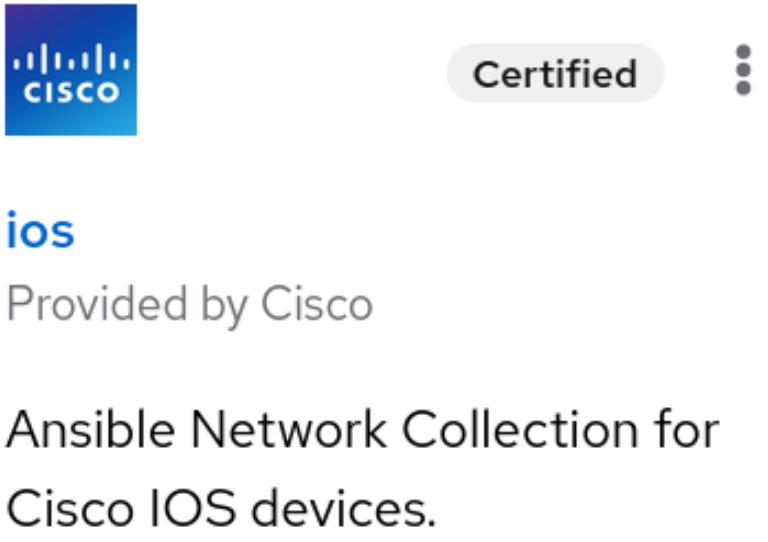
- Automate the VM provisioning job
- Use the Automation Controller's **RBAC** to provide access to it for other teams

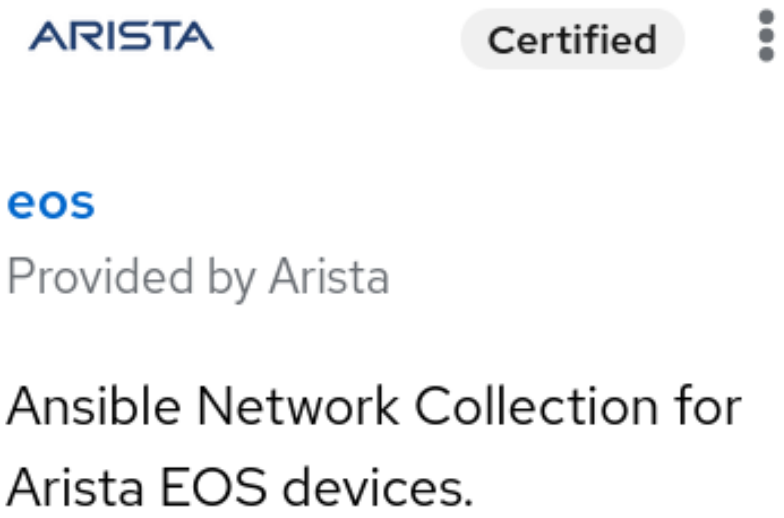


Example II:

Use Case: Network: Cisco/Juniper/Arista config
Goal: Configuration Validation

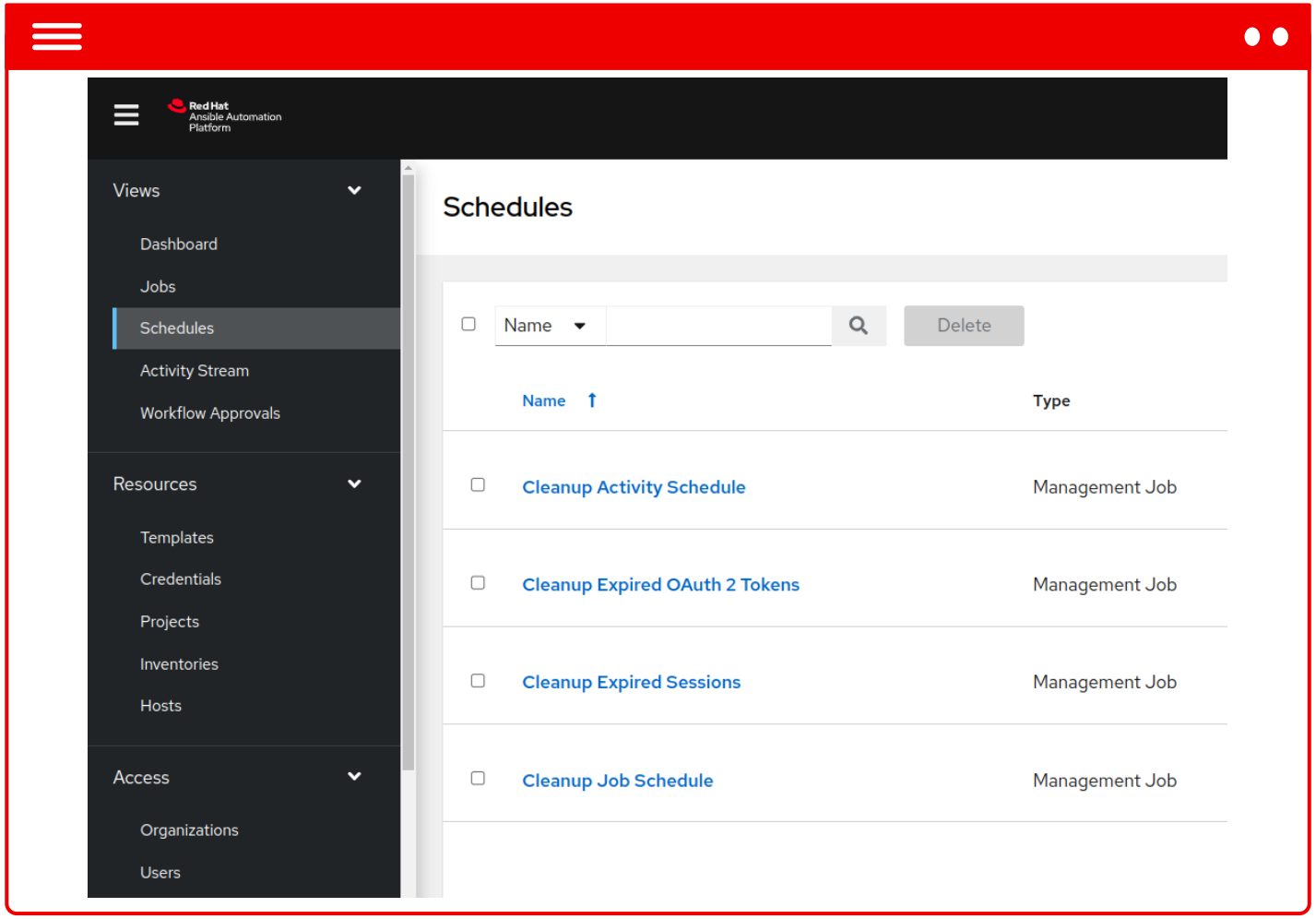
Step 1: Find the certified **Cisco**/**Juniper**/**Arista** Ansible Collection on the Automation Hub:





Step 2:

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



Ansible Automates

Example III:

Use Case: Azure: AD User management
Goal: ITSM Integration

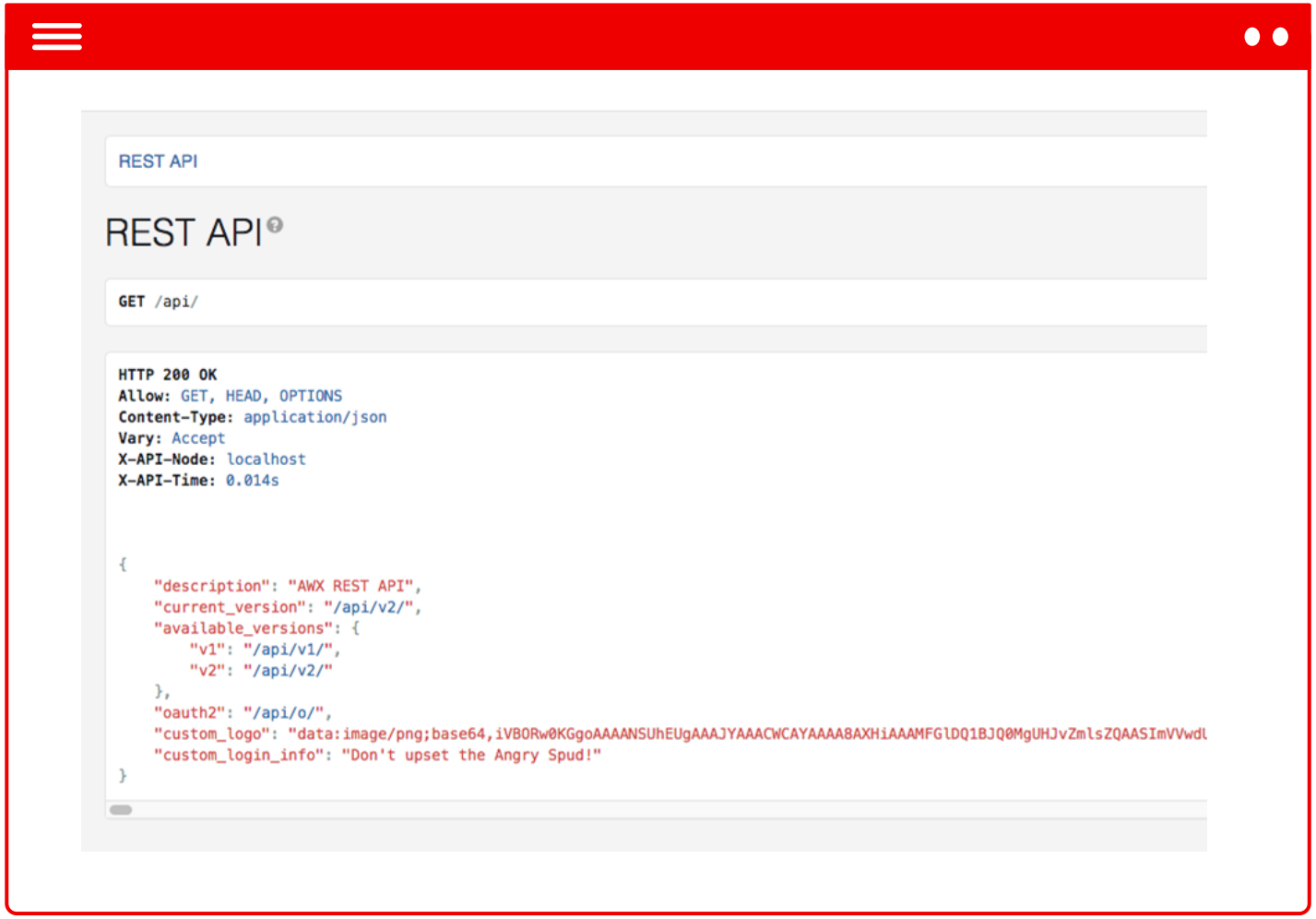
Step 1:

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

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

Step 2:

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



Example IV:

Use Case: Security, Compliance & Audit = Toil
Goal: Governance As A Service

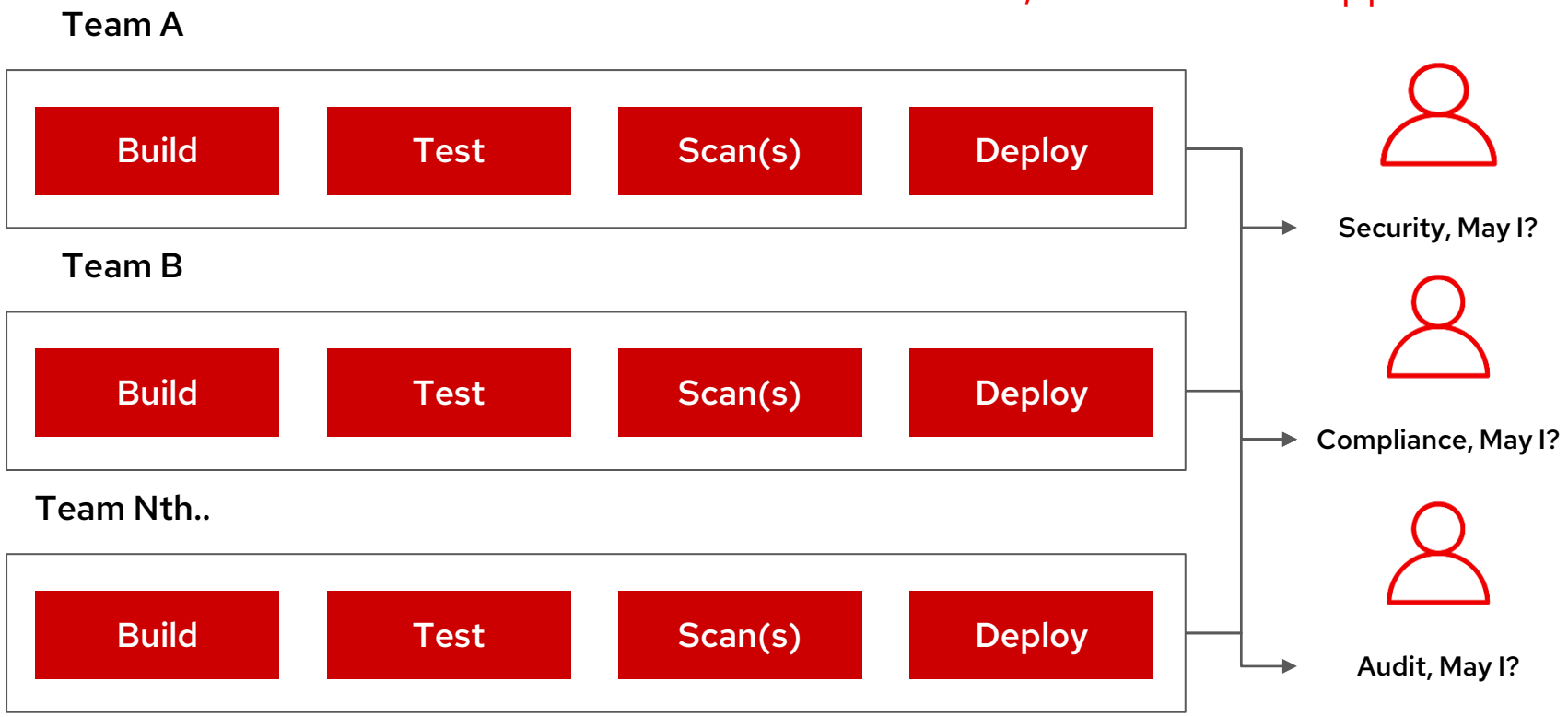
"Toil is the kind of work tied to running a production service that tends to be manual, repetitive, automatable, tactical, devoid of enduring value, and that scales linearly as a service grows."

Vivek Rau
Site Reliability Engineer, Google

Source: https://sre.google/sre-book/eliminating-toil/

Current State

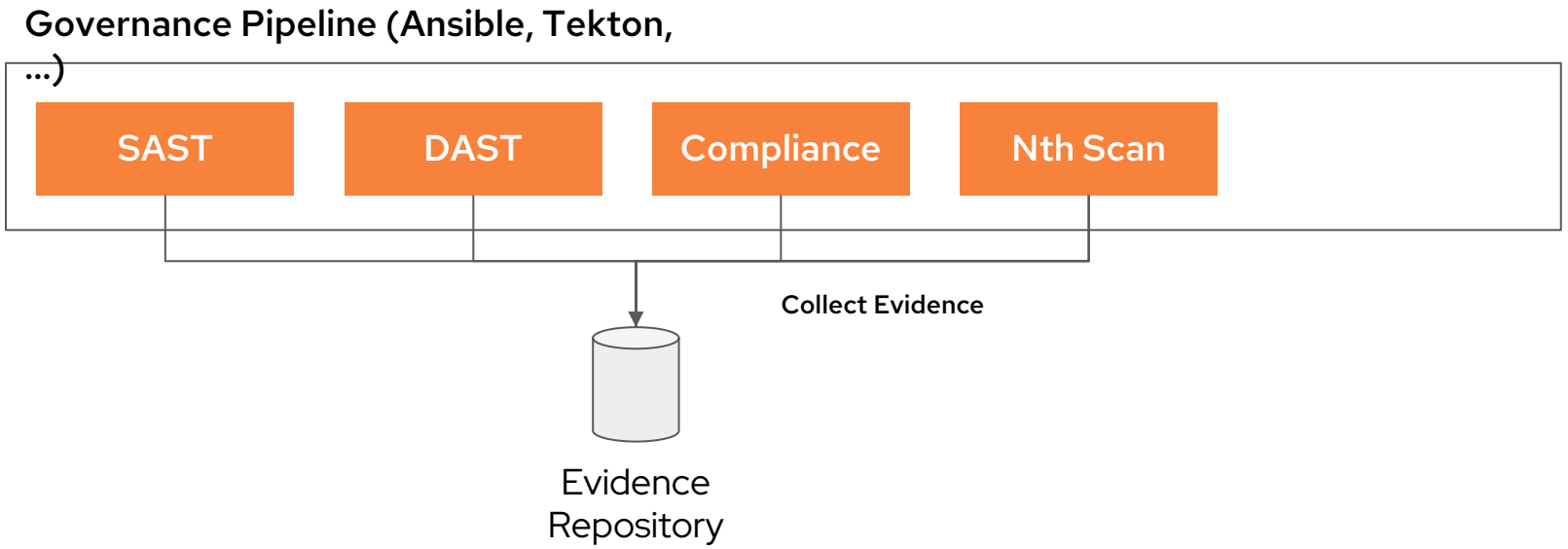
The “Free For All, File A Ticket” Approach



The Mythical Production Environment

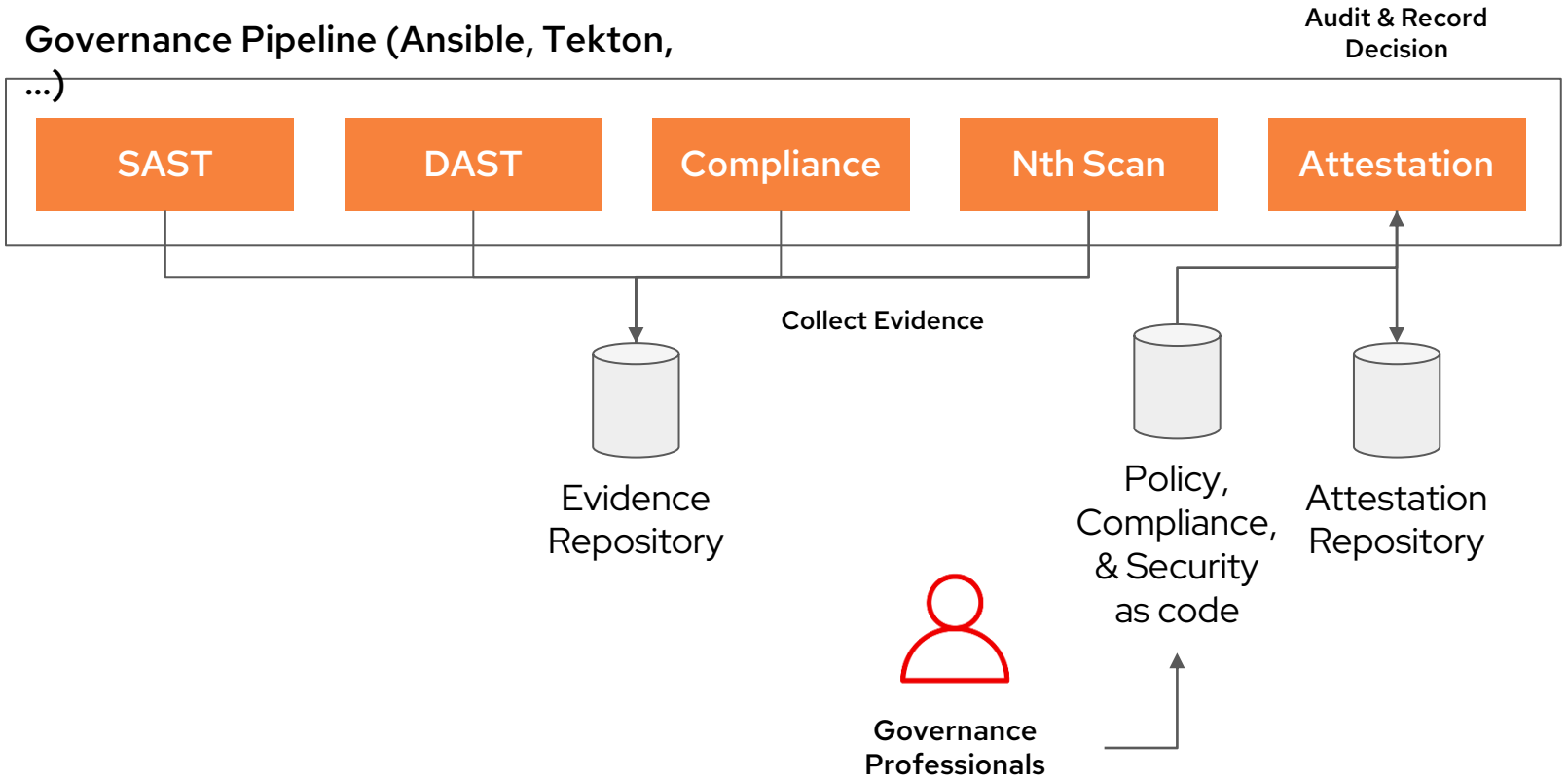
Governance As A Service - With Red Hat

The Automated Approach



Governance As A Service - With Red Hat

The Automated Approach



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Governance As A Service - With Red Hat

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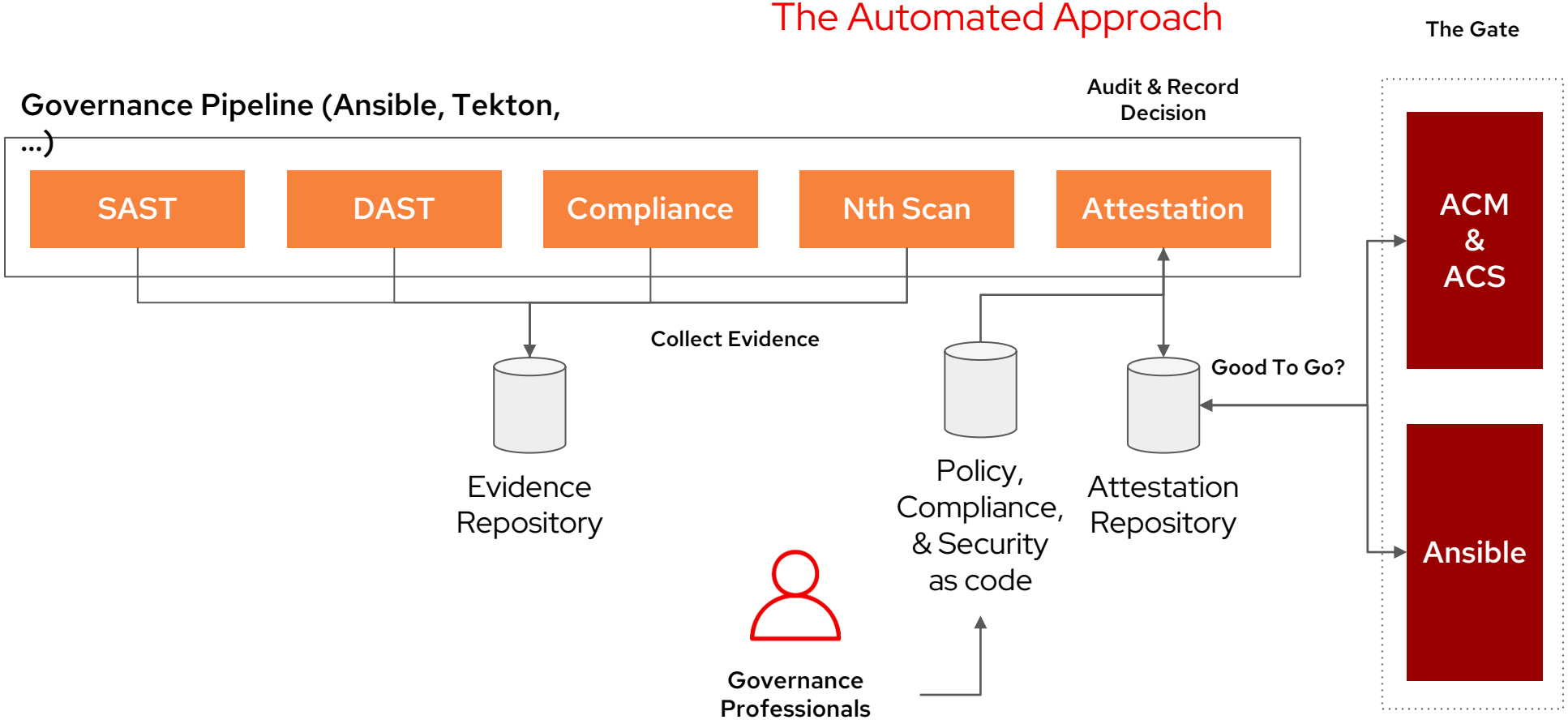
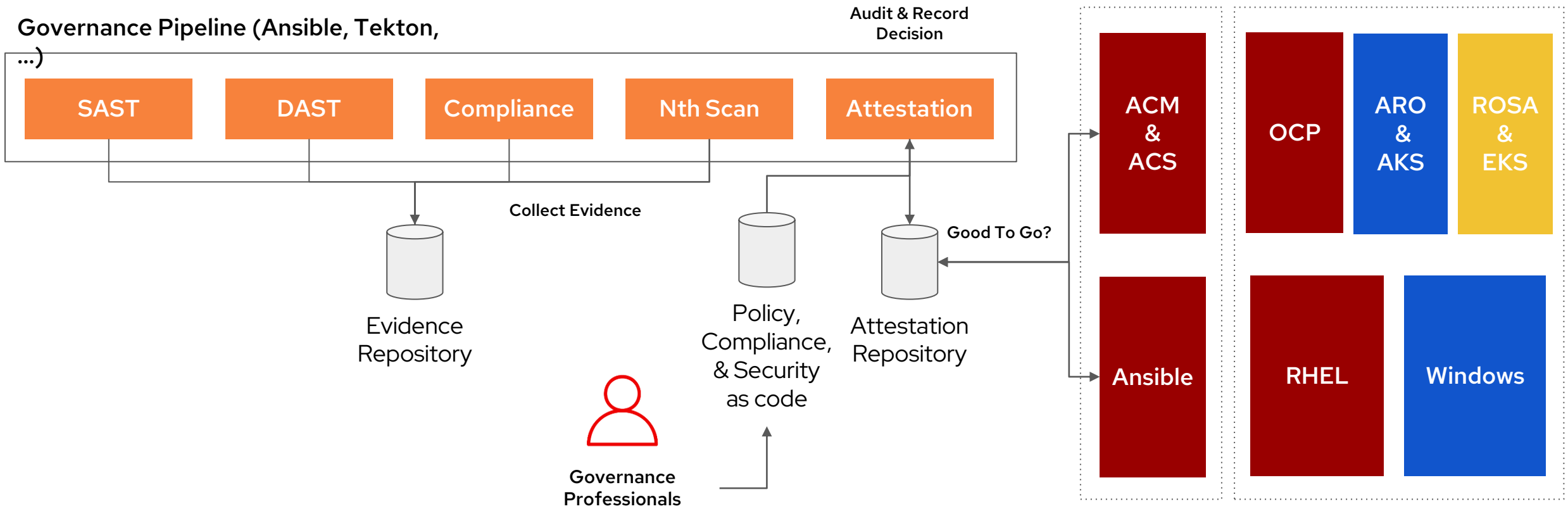


Governance As A Service - With Red Hat

The Automated Approach



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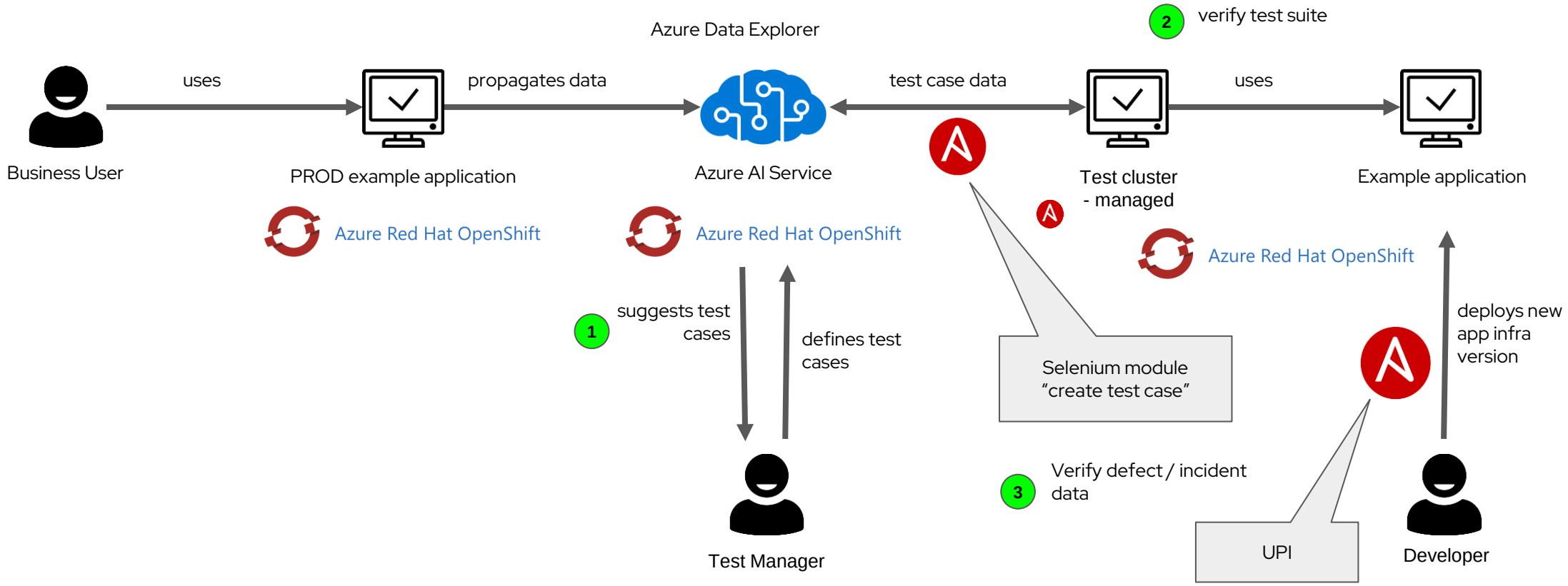
Example V:

Use Case: AI driven testing
Goal: Suggest test case optimization to test manager

AI driven testing



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Example VI:

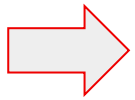
Use Case: End-to-End Windows Server SW+Updates
Goal: Cross-Team Collaboration

Step 1:

- Define the process, use relevant Ansible collections

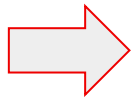
Disable Alerting:

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



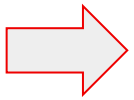
Configure LoadBalancing:

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



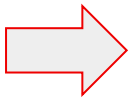
Snapshot VMs:

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



Deploy Updates:

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

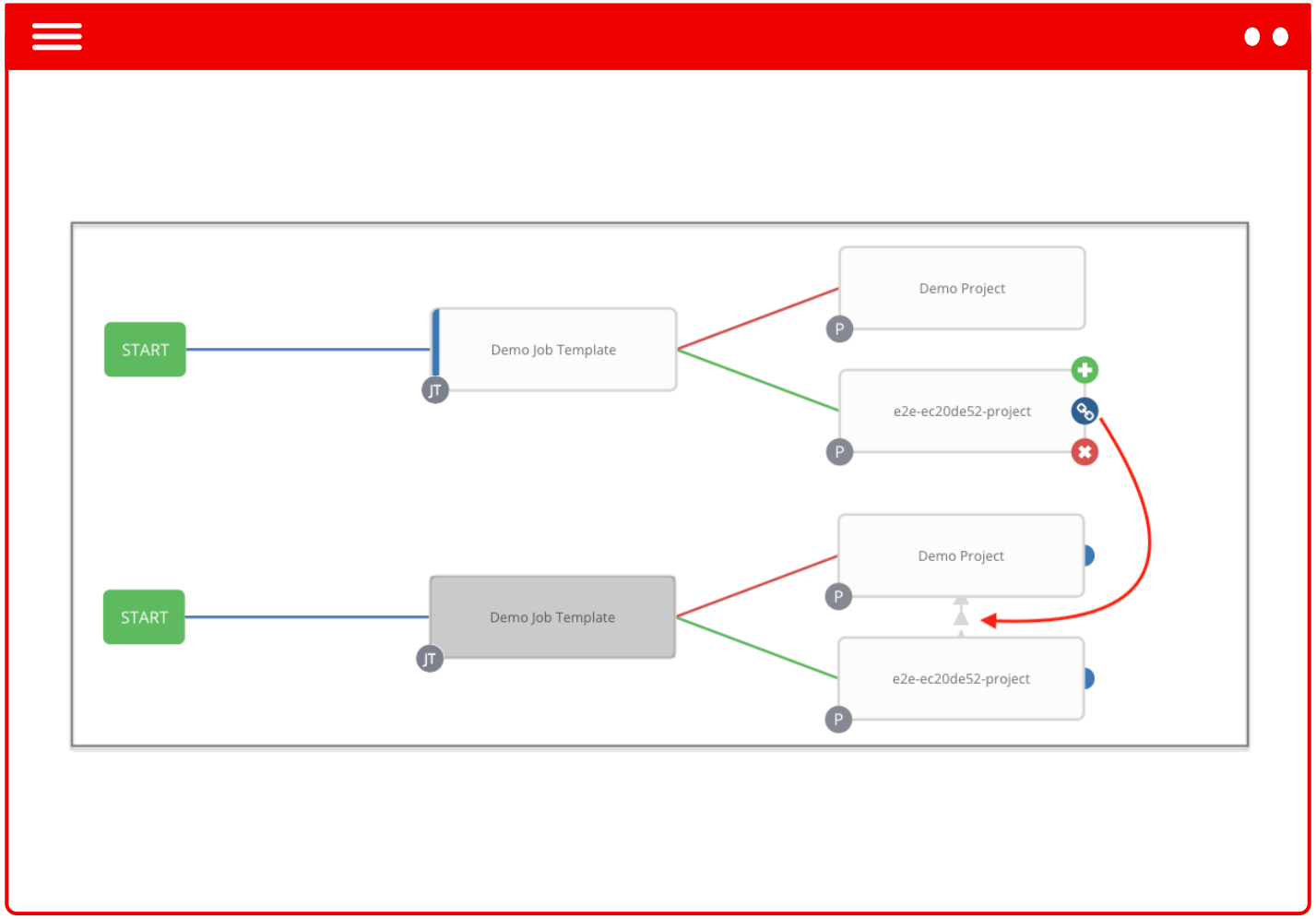


Rollback if necessary

- 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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