Ansible Automation Platform 360 Degrees View

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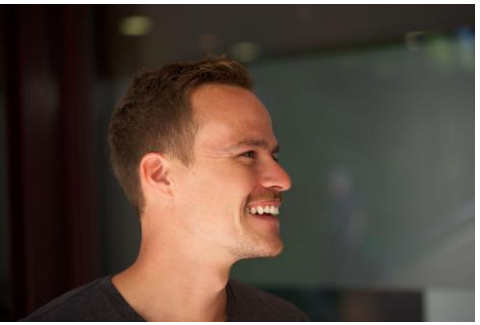
11:15-12:00

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
```

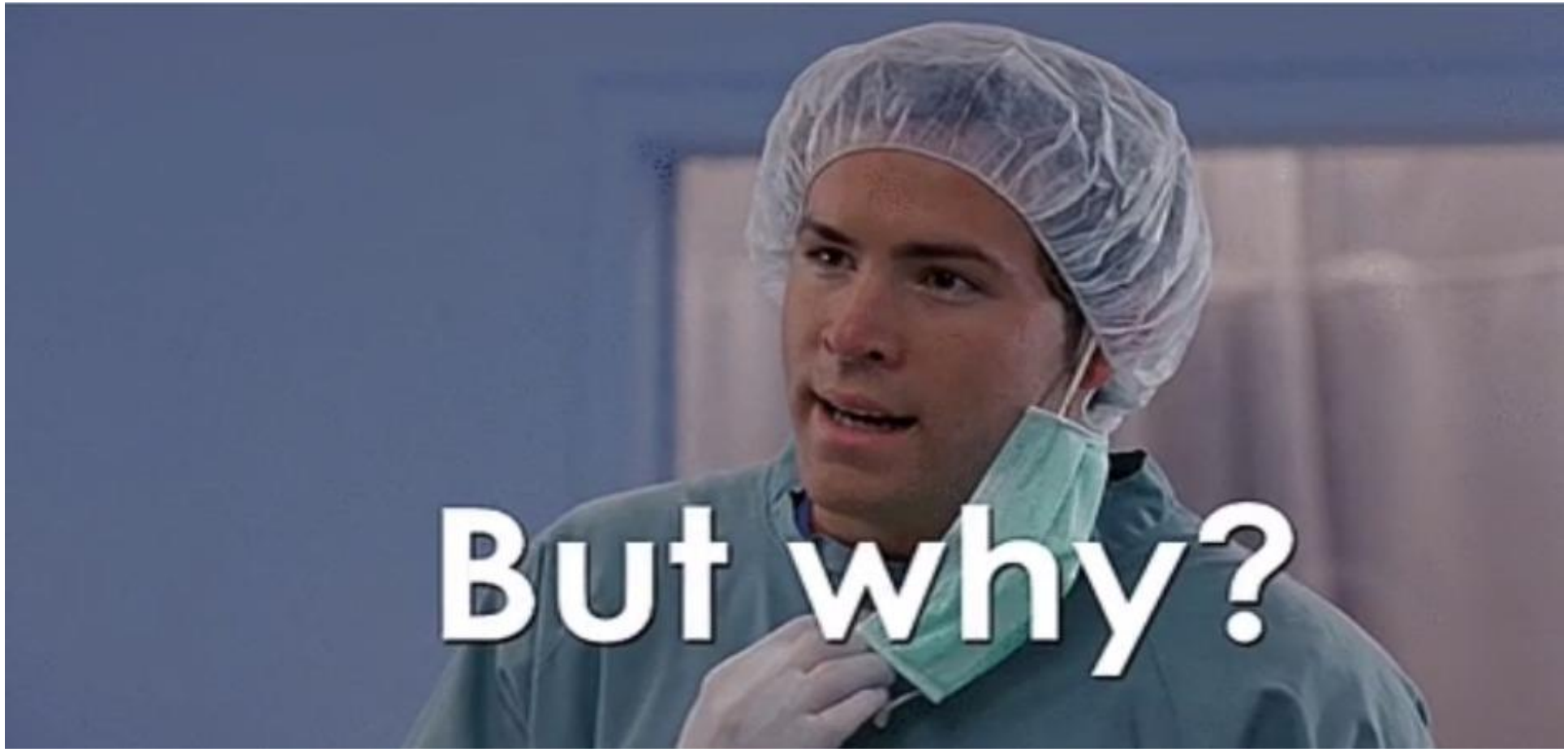
What we will discuss today:

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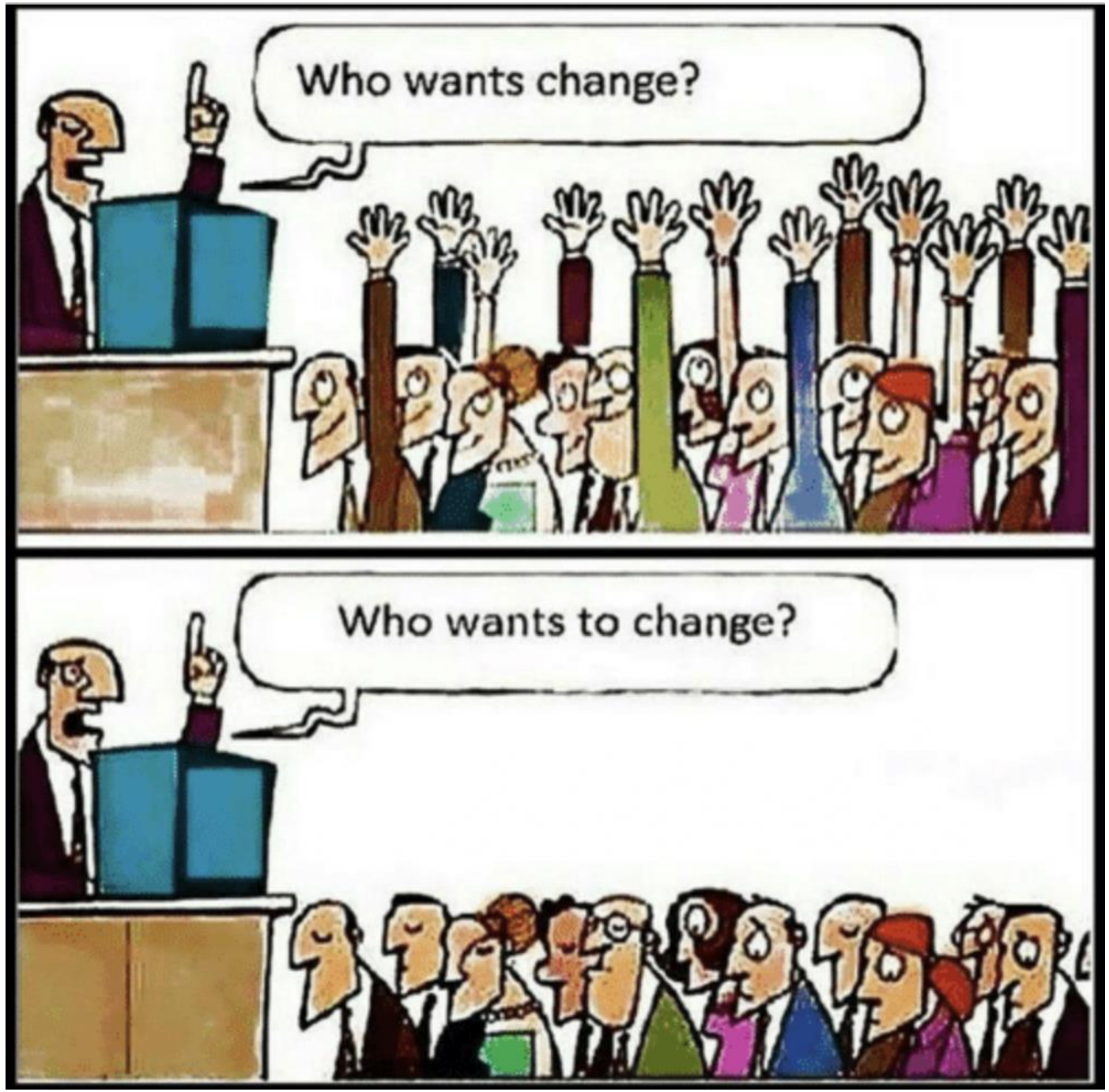
- Efficiency - a boring, but absolutely relevant goal
- Infrastructure as Code
- **Validation of Running Configurations**
- **Services of Teams provided for self-service consumption**
- **Cross-Team Workflows**
- Collaboration
- Reduce Human Errors, Increase Reliability and Reproducibility
- Automatic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

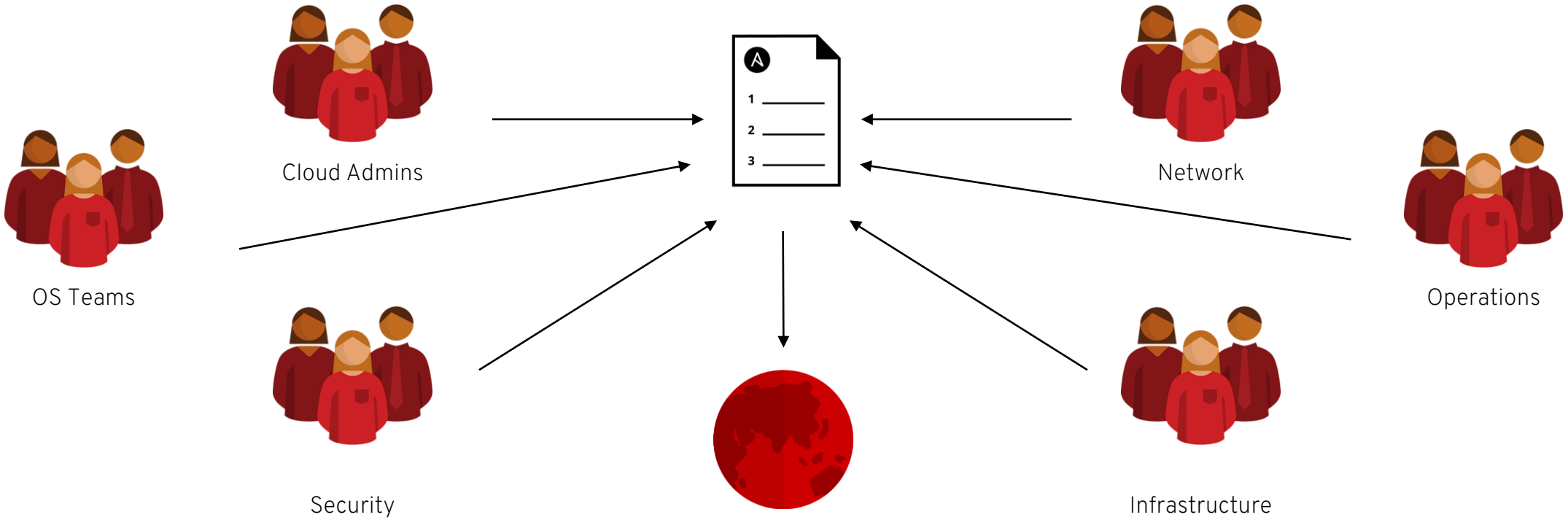
About the HOW

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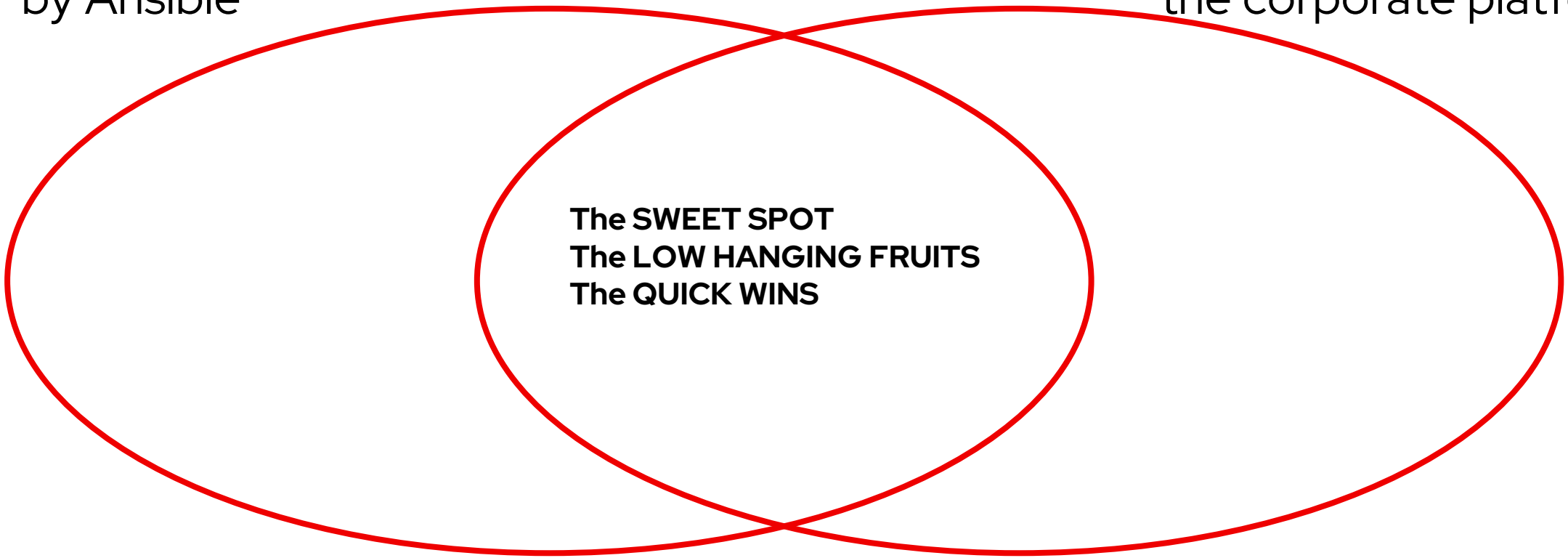
- As a **standard approach** for every IT Task
- Across Teams
- With everyone **involved**
- With **clear goals** to pursue

About the WHAT

WHAT are the right Use Cases to start with?

Technologies well supported by Ansible

Technologies implemented in the corporate platform



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Supported and certified content you can trust.

130+

Certified Content Collections

55+

Certified technology partners

Infrastructure | Cloud | Network | Security | Edge

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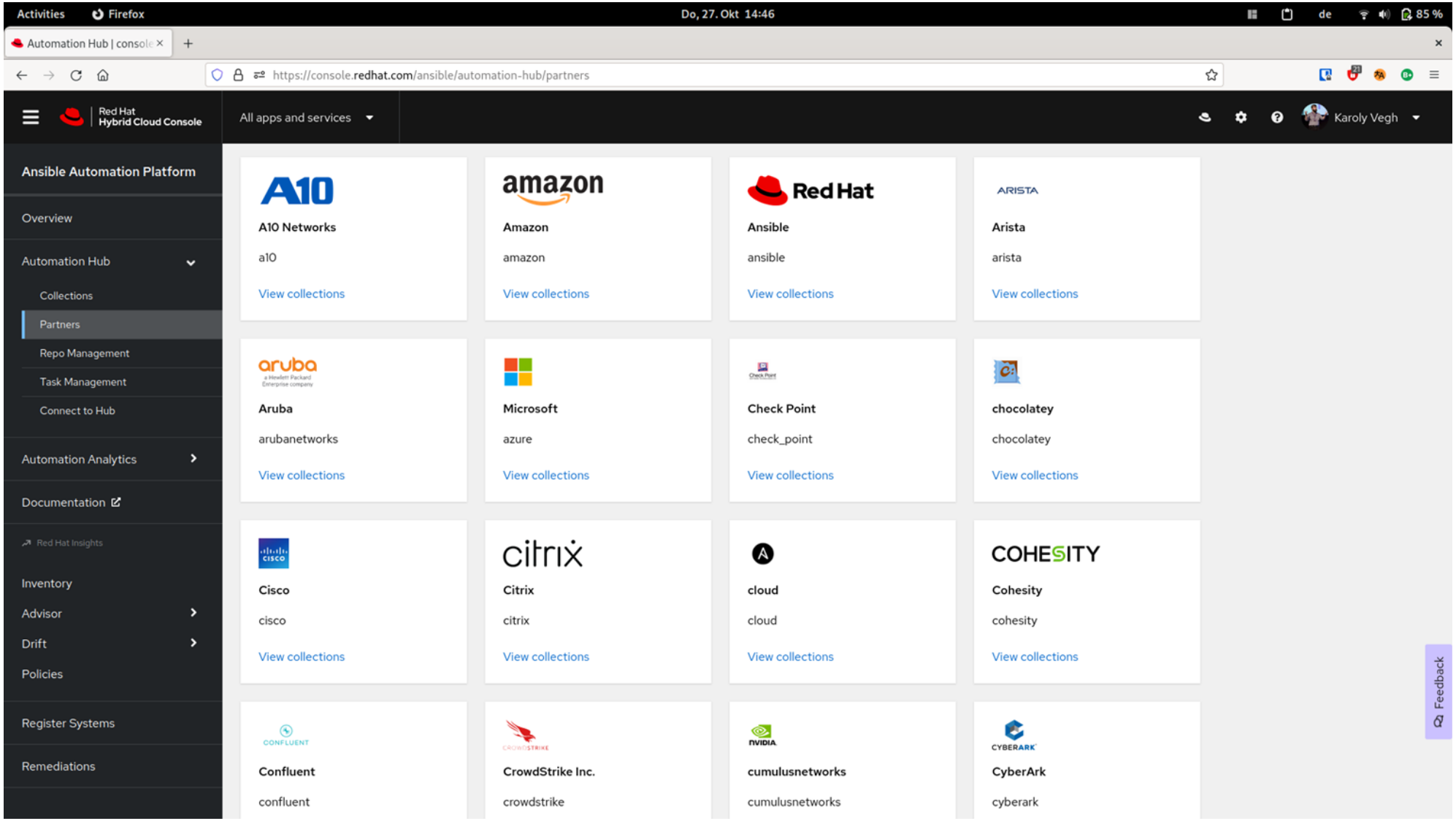
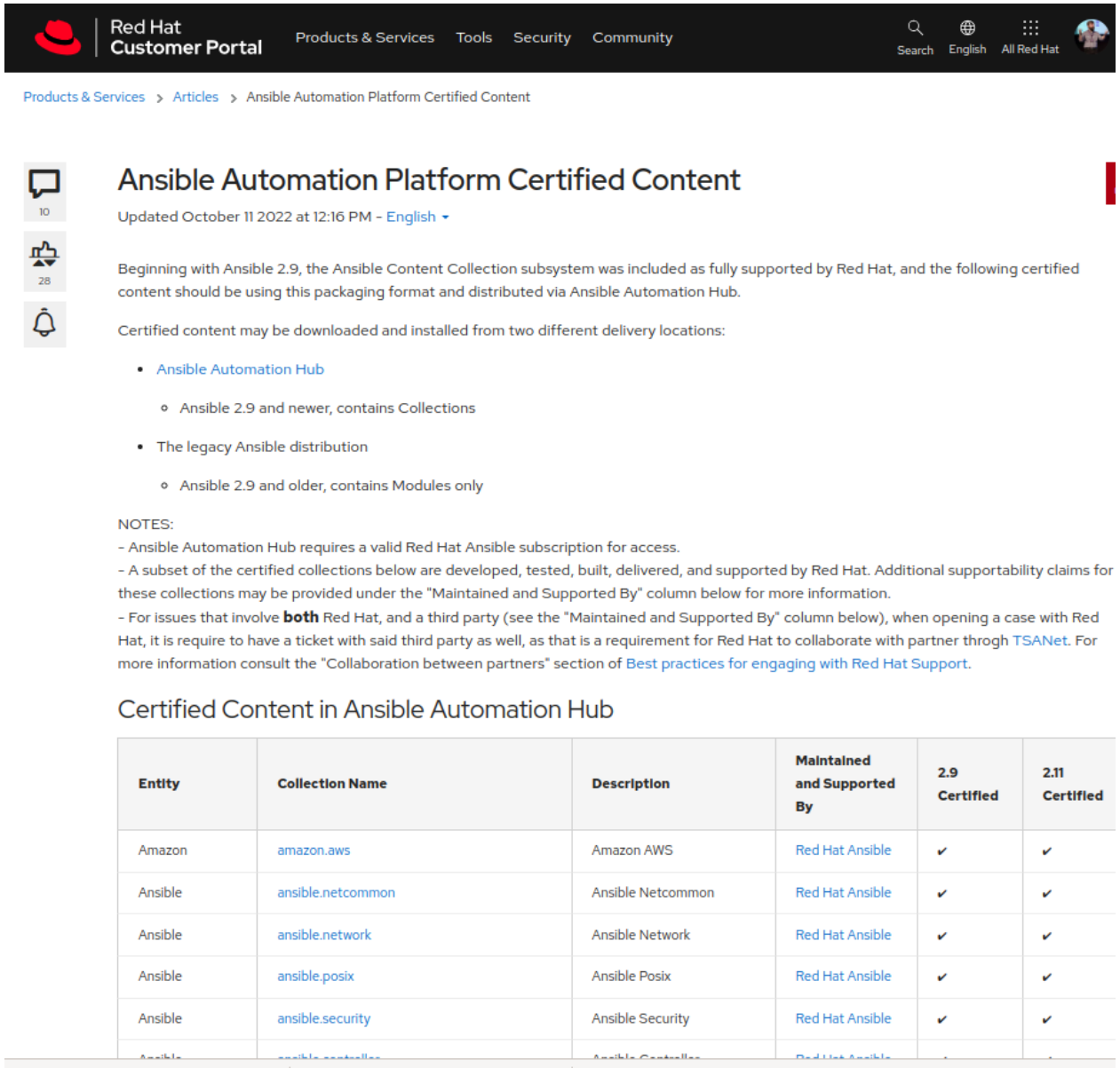


Supported and certified

content you can trust.

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

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



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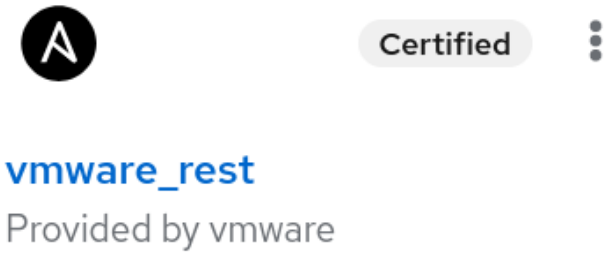
Couple of examples.

Example I:

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

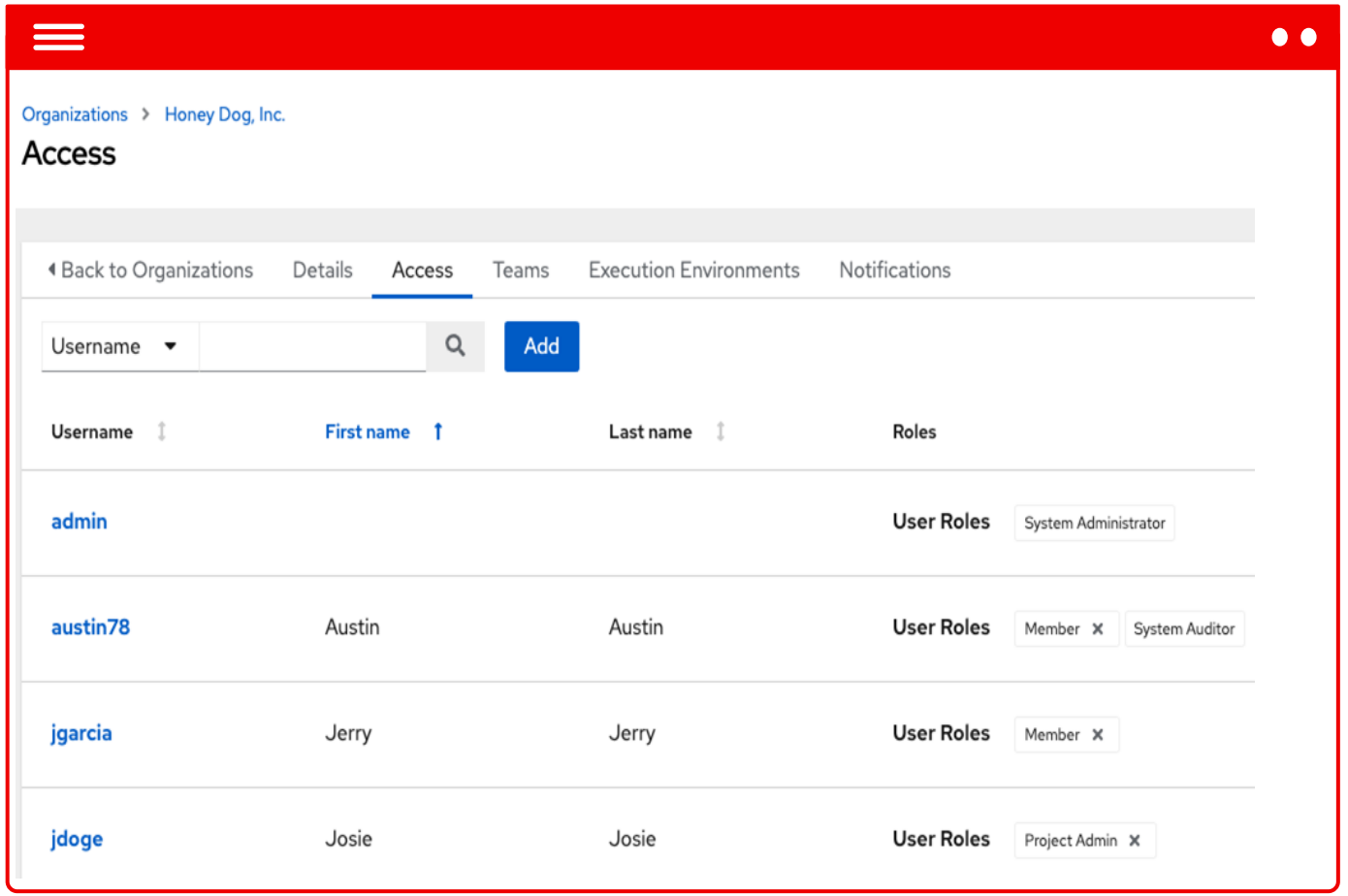
Step 1: Find the certified VMWare Ansible Collection on the Automation Hub:



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:

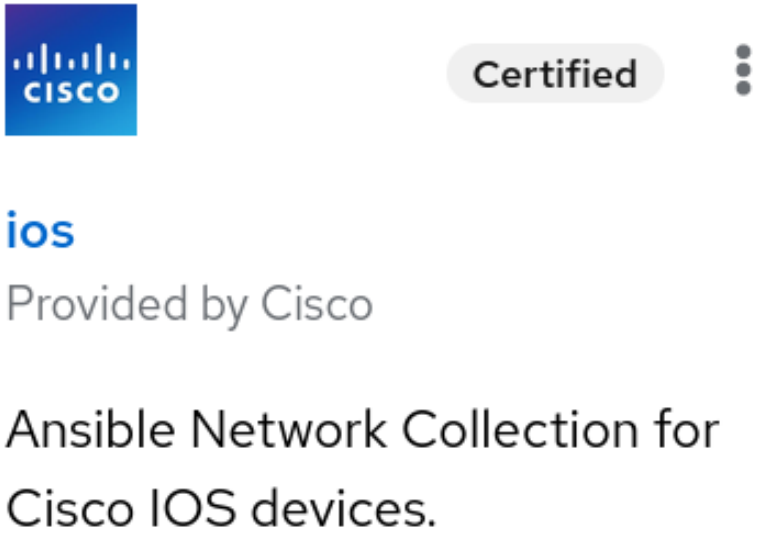
- Automate the VM provisioning job
- Use the Automation Controller's **RBAC** to provide access to it for other teams

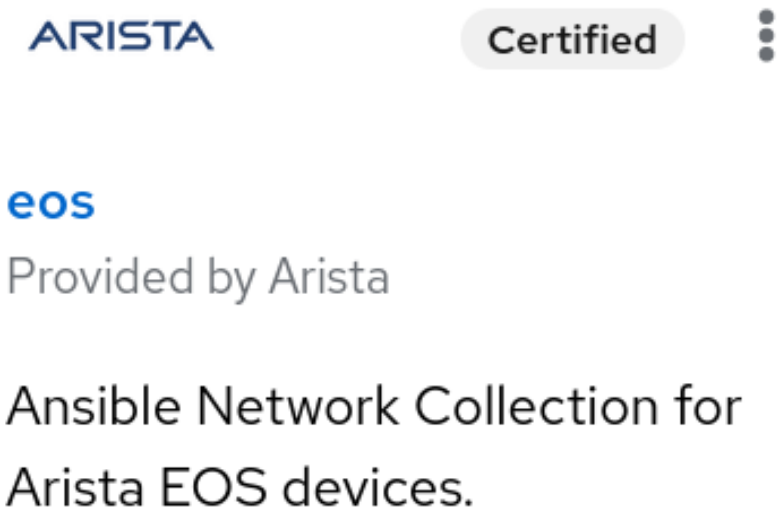


Example II:

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

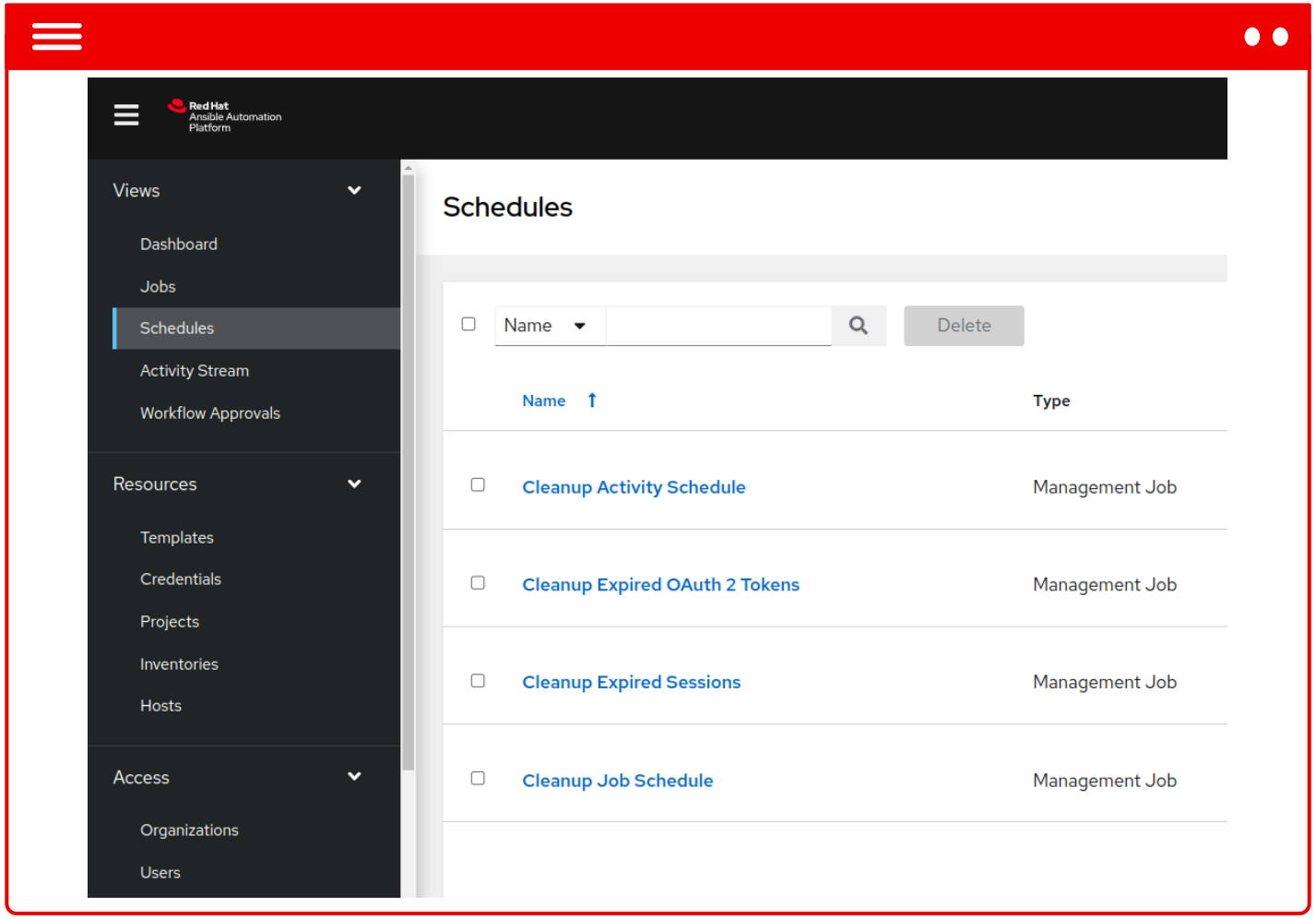
Step 1: Find the certified **Cisco**/**Juniper**/**Arista** Ansible Collection on the Automation Hub:





Step 2:

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



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Example III:

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

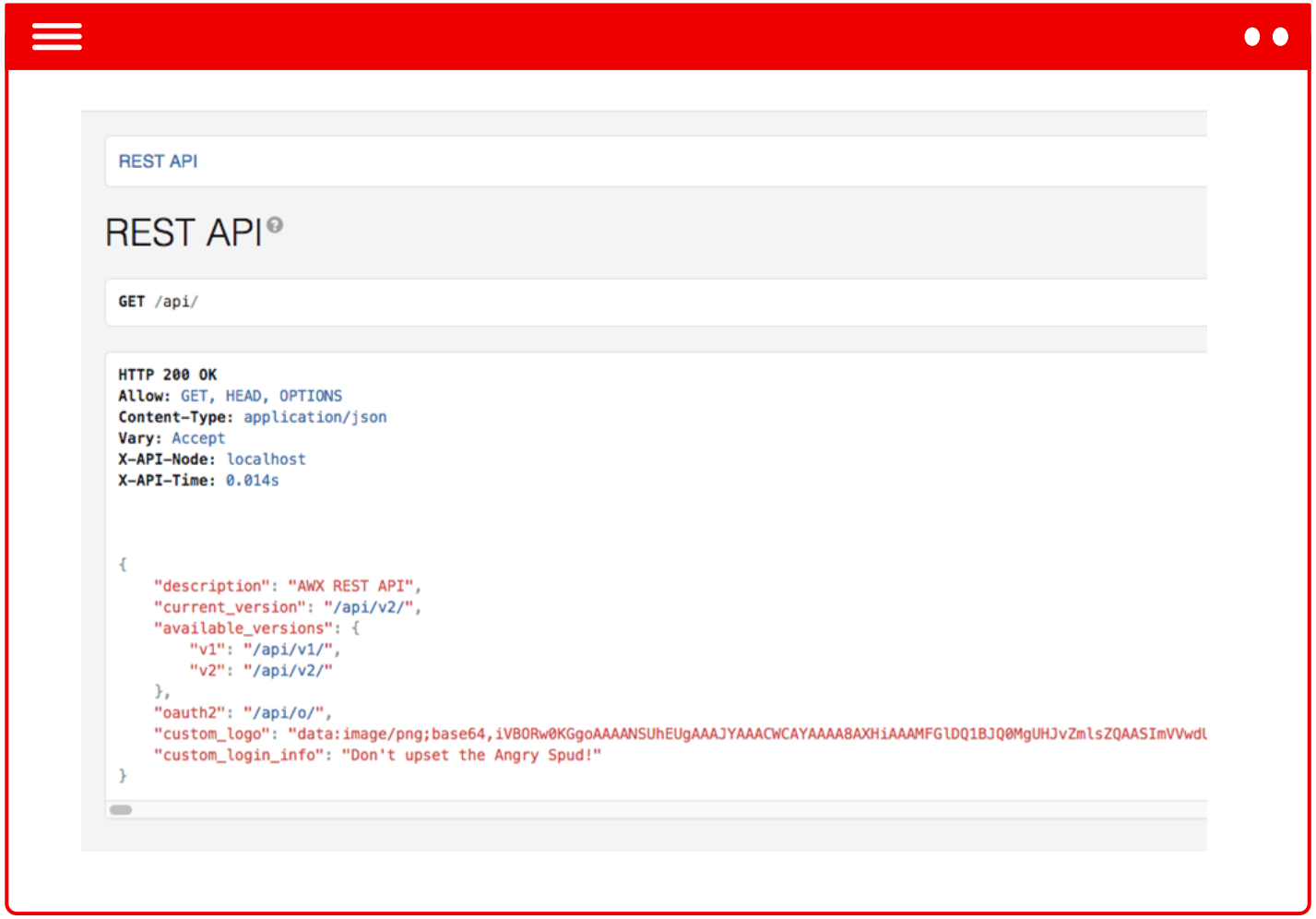
Step 1:

- 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



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Example IV:

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

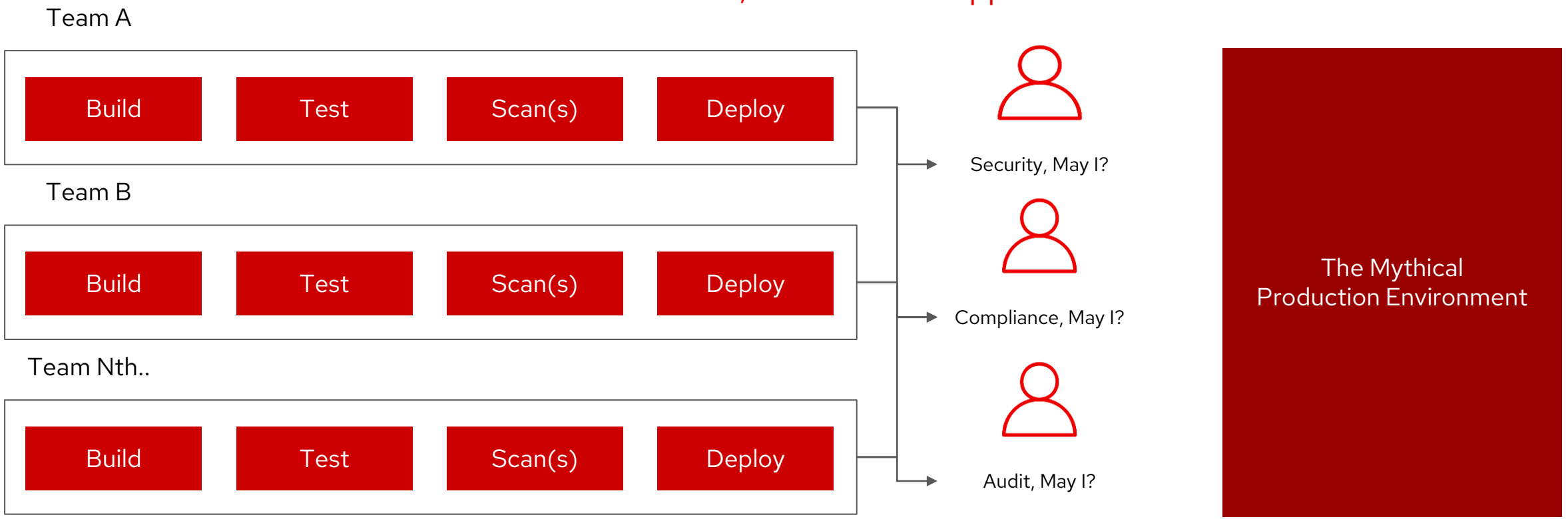
"Toil is the kind of work tied to running a production service that tends to be manual, repetitive, automatable, tactical, devoid of enduring value, and that scales linearly as a service grows."

Vivek Rau
Site Reliability Engineer, Google

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

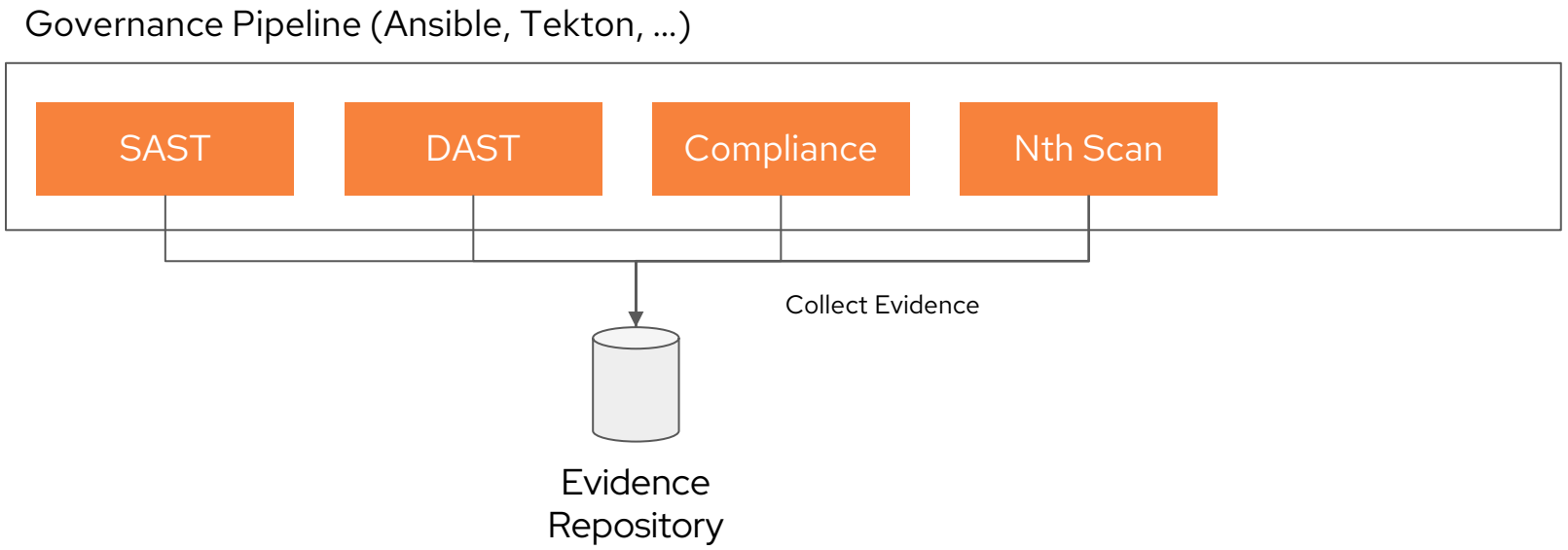
Current State

The “Free For All, File A Ticket” Approach



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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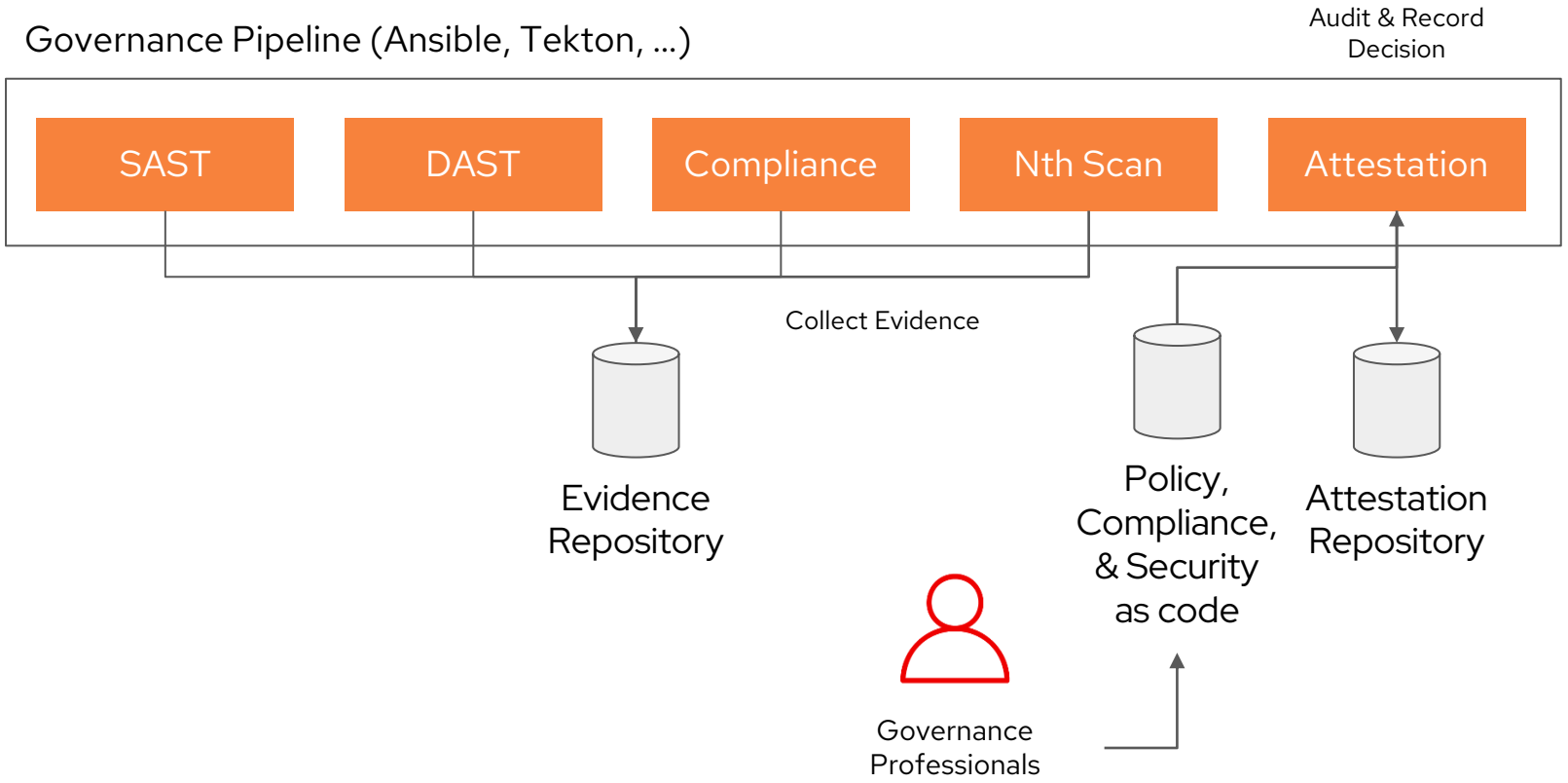

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Governance As A Service - With Red Hat

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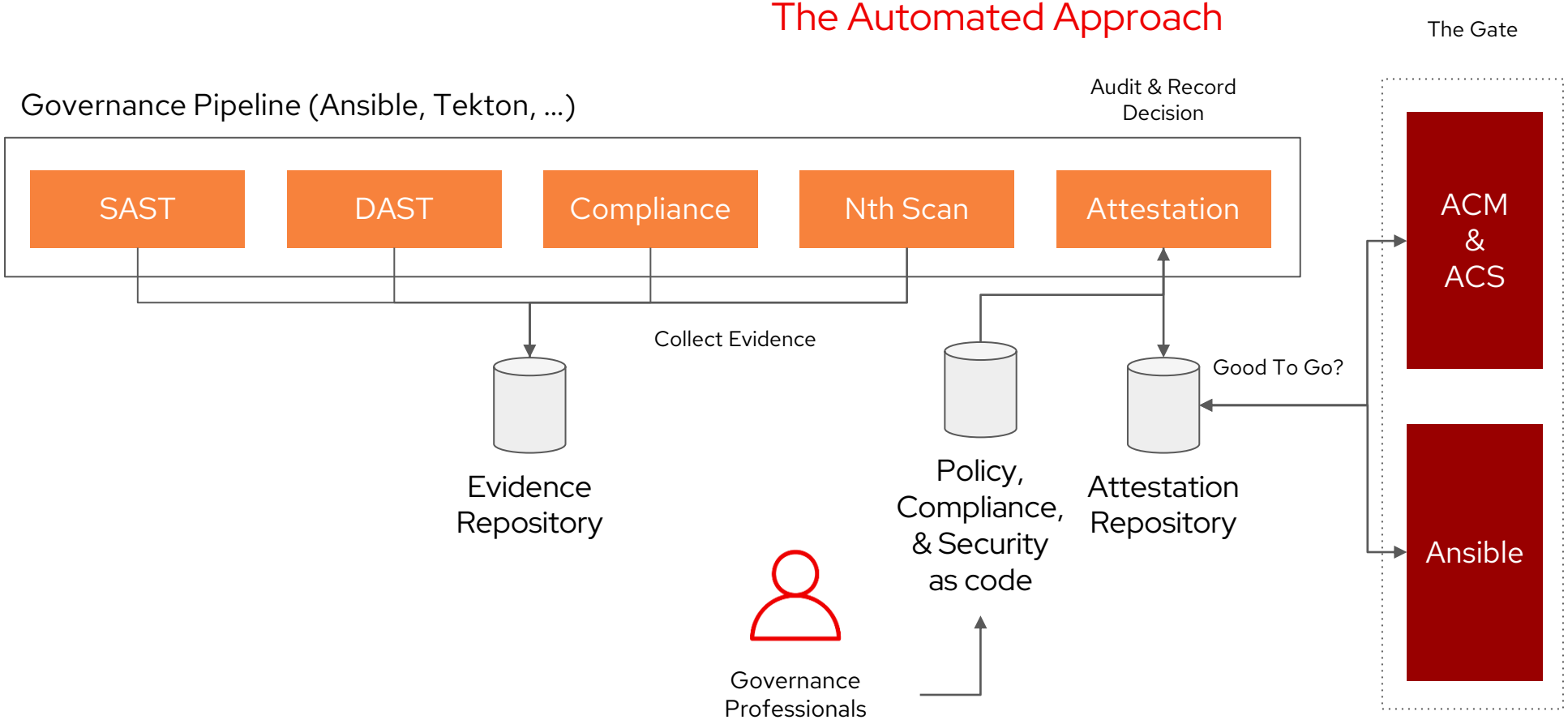
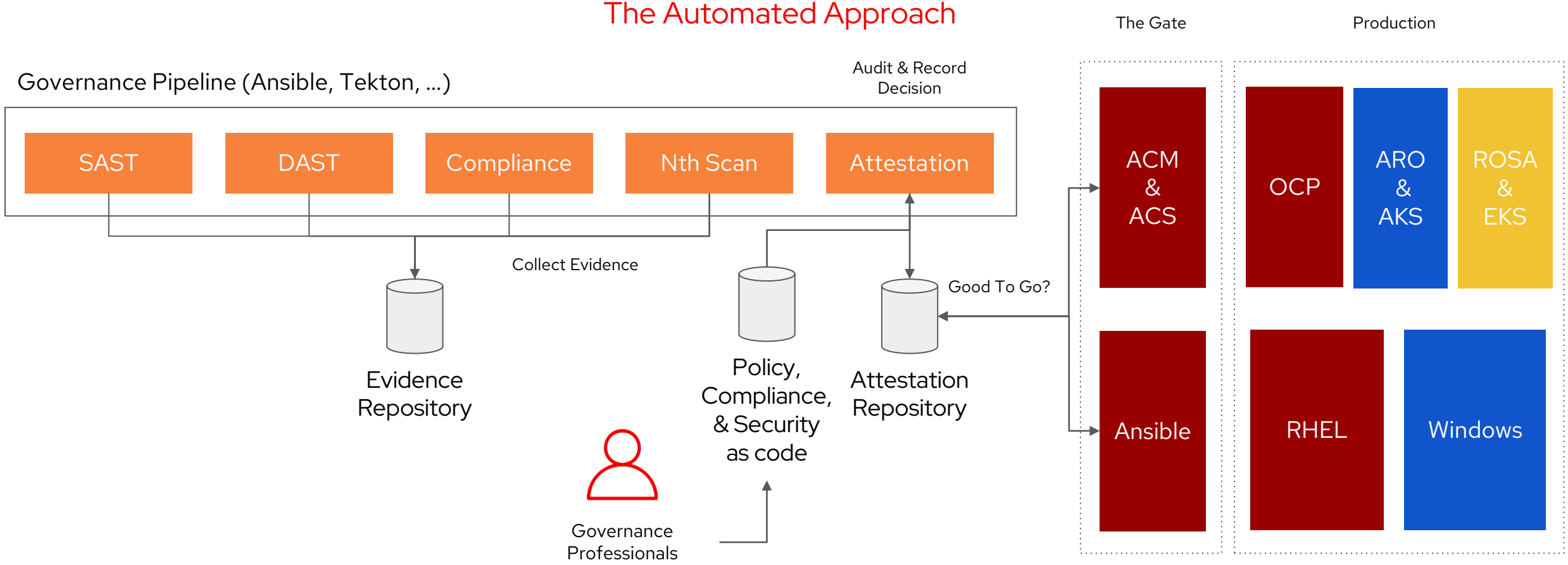


Governance As A Service - With Red Hat

The Automated Approach



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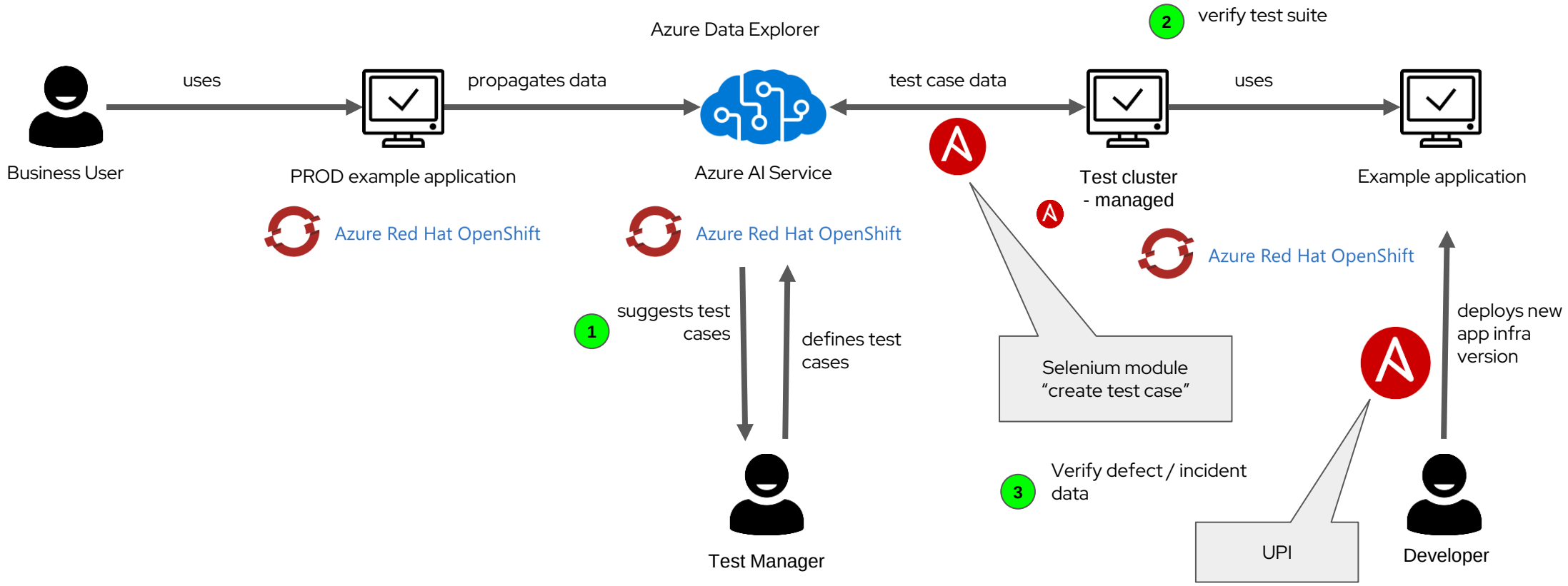
Example V:

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

AI driven testing



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Example VI:

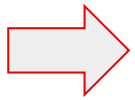
Use Case: End-to-End Windows Server SW+Updates
Goal: Cross-Team Collaboration

Step 1:

- Define the process, use relevant Ansible collections

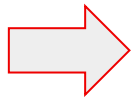
Disable Alerting:

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



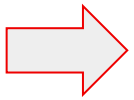
Configure LoadBalancing:

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



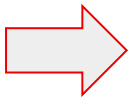
Snapshot VMs:

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



Deploy Updates:

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

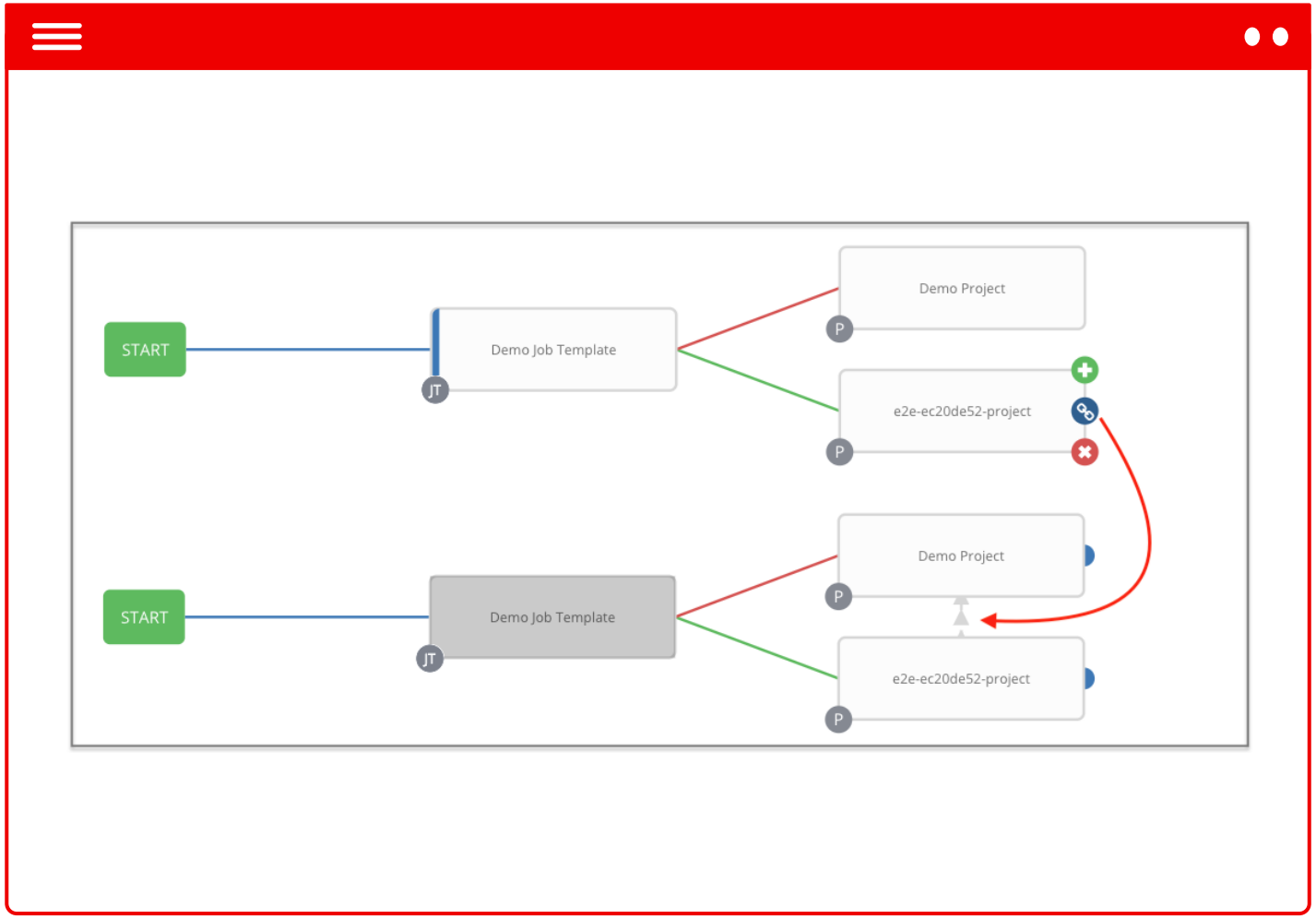


Rollback if necessary

- 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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