Ansible Automates Frankfurt

24. November 2022

Ansible Automation Platform 360 Degrees View

Marc Schwering

Senior Automation Strategist | Red Hat

Matthias Pfützner

Senior Solution Architect, Automation | Red Hat

10:30-11:15

Ansible Automates

About


```
apiVersion: redhat.io/v45
kind: Automation Strategist
metadata:
    name: marc-schwering
    namespace: germany
    annotations:
        specialized: sales, automation
    labels:
        freetime: sailing, pen-n-paper
spec:
    replicas: 2 + a
    containers:
        - pending...
```



```
apiVersion: redhat.io/v58
kind: SolutionArchitect
metadata:
    name: matthias-pfützner
    namespace: germany
    annotations:
        specialized: ansible, rhacm
    labels:
        freetime: opera, reading
spec:
    replicas: 0
    containers:
        - blog: blogs.pfuetzner.de/matthias
```

Ansible Automates

Red Hat Ansible Automation Platform

50.000+
Stars on GitHub

5.900+
Ansible modules

2.000.000+
Downloads a month

Ansible Automates

Automate everything.

Develop, operate and consume automation at scale

Automate everywhere.

Flexible, portable automation for the hybrid cloud.

Automate for everyone.

Deliver expansive automation drives results

Ansible Automates

Ansible automates **everything**

Cloud

AWS
Azure
Digital Ocean
Google
OpenStack
Rackspace
+more

Red Hat Products

RHEL
Satellite
Insights
+more

Virt & Container

Docker
Kubernetes
OpenStack
OpenShift
VMware
+more

Storage

Hitachi
Netapp
Pure Storage
+more

Windows

ACLs
Files
Packages
IIS
Registry
Shares
Services
Configs
Users
Domains
Updates
+more

Network

Arista
Aruba
Bigswitch
Cisco
Ericsson
F5
Fortinet
Infoblox
Juniper
Meraki
OpenvSwitch
Ruckus
VyOS
+more

Security

Checkpoint
Cisco
CyberArk
F5
Fortinet
Juniper
IBM
Palo Alto
Snort
+more

Monitoring

Dynatrace
Datadog
LogicMonitor
New Relic
Sensu
+more

Devops

Jira
GitHub
Vagrant
Jenkins
Slack
+more

Ansible Automates

What can I do using Ansible?

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...**

Ansible Automates

Many organizations share the same challenge
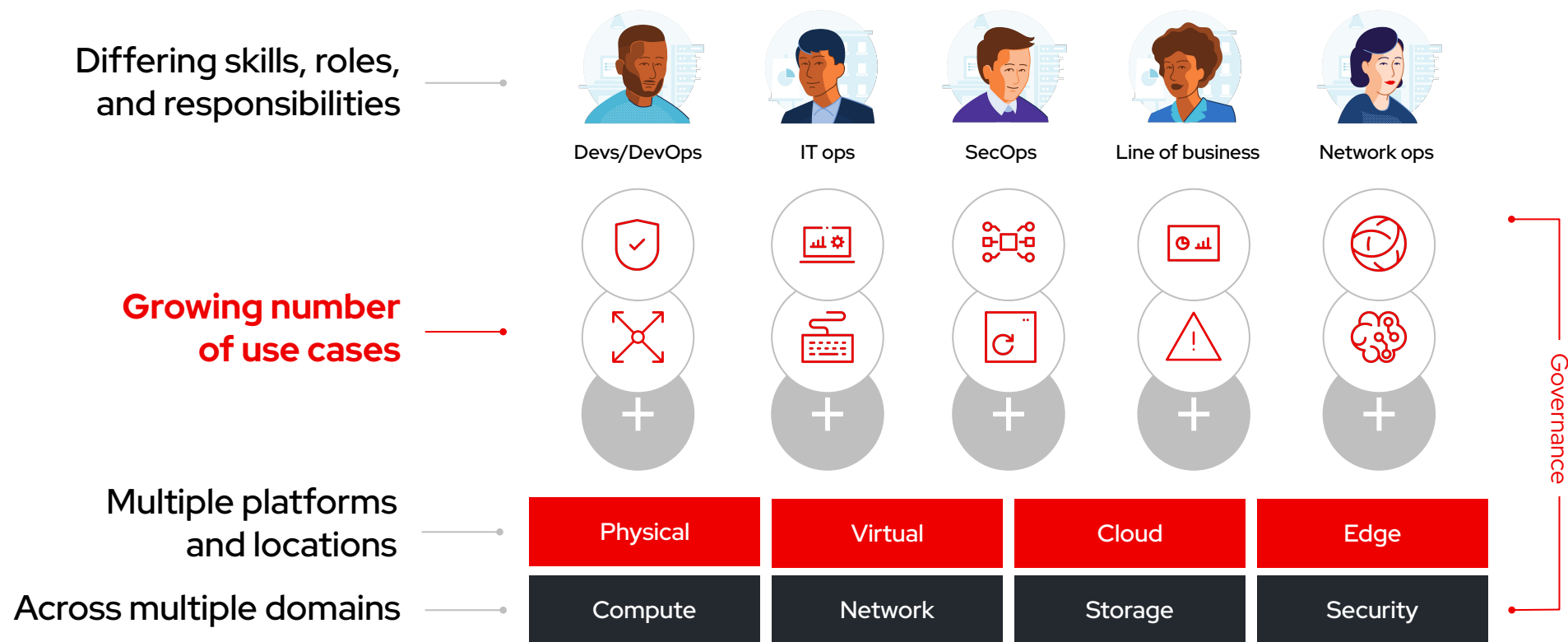
Differing skills, roles, and responsibilities

Devs/DevOps	IT ops	SecOps	Line of business	Network ops

Growing number of use cases

Multiple platforms and locations

Physical	Virtual	Cloud	Edge

Across multiple domains

Compute	Network	Storage	Security

Governance

Ansible Automates
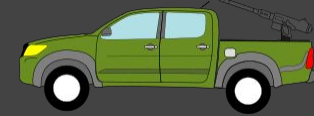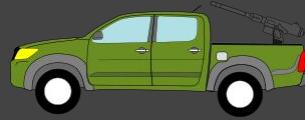
Growing your Business with Automation

Optimize MTTR

Operational efficiency

Grow Margin

Cost Reduction

Accelerate TTM

Faster Innovation

Increase CSAT

Enhance Customer Journey

Mitigate Risks

Increase Consistency

Ansible Automates

Growing your Business with Automation

It is about the people!

Optimize MTTR

Operational efficiency

Grow Margin

Cost Reduction

Accelerate

Faster Innovation

Increase CSAT

Enhance Customer Journey

Mitigate Risks

Increase Consistency

Ansible Automates

Improve IT with Automation

Disposable Infrastructure

CI/CD

DevSecOps

Continuous Improvement

Reduce Cost

Accelerate operations

Faster Deployments

Security from inception

Boost efficiency

Increased reliability

Ansible Automates

Cultural change with Automation

Culture of Collaboration

Learn from Mistakes

Bridge Silos
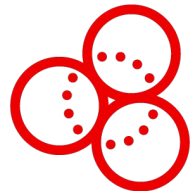
Cross Organization

Common Language

Common Tools

Time to Innovate
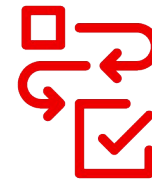
Unblock Resources

Ongoing Journey
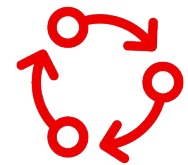
Automation is never "done"

Ansible Automates

Where are we going?

Firewalls · Network · Systems · Applications · Clouds · Storage · Servers

AIOps

Effort per change

% of automated enterprise IT workloads

6: Autonomous

DevOps

5: Optimized

4: Institutionalized

How do we orchestrate
our processes?

Scripted

3: Proactive

How do we centralise
our processes?

2: Standardized

How can we
simplify our job?

1: Aware

"Administrative Efficiency" to "Organisational Effectiveness"

Red Hat

Who wants change?

Who wants change?

Who wants TO change?
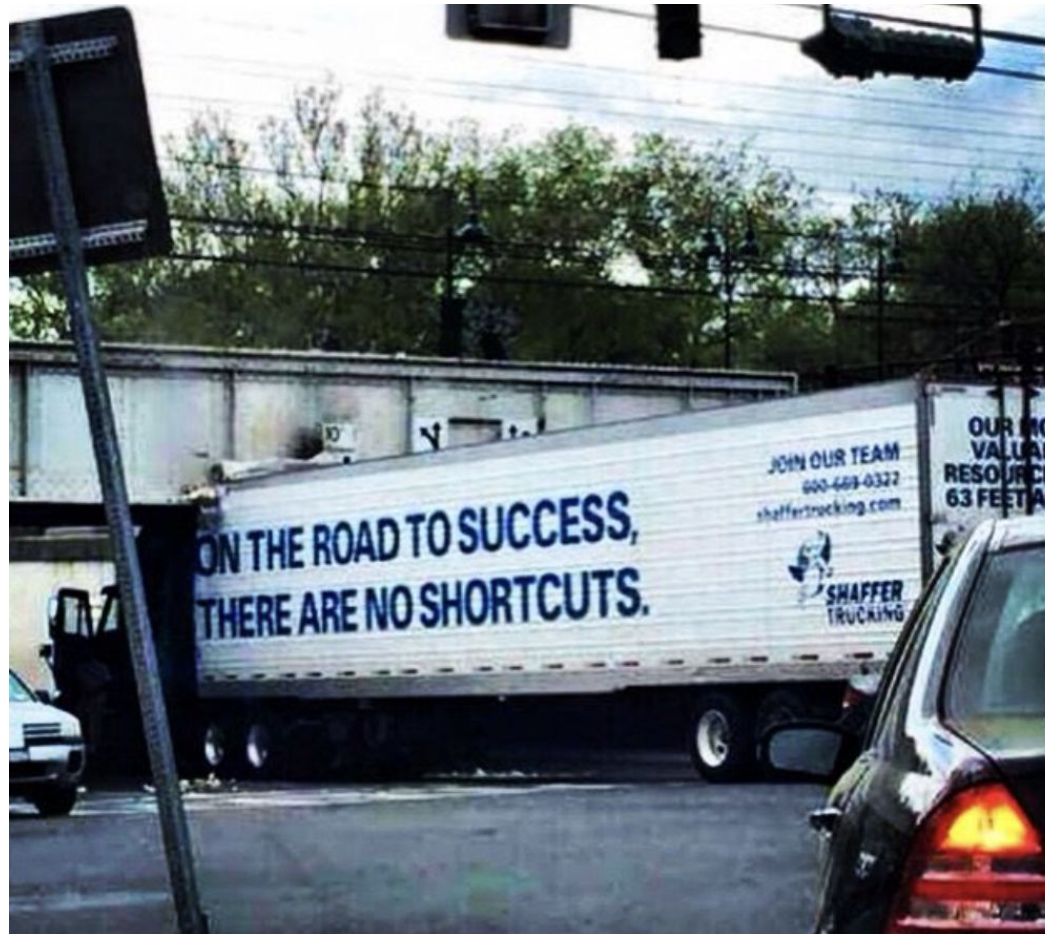
Ansible Automates

A common language…
Automation for Everyone

Photo: Unsplash

Ansible Automates

Microsoft

"Adopting Red Hat Ansible Automation has not only changed how our networks are managed, but also sparked a cultural transformation within our organization."

Bart Dworak
Software Engineering Manager,
Infrastructure and Operations, Network

Source: *"Red Hat Ansible Automation Accelerates Past Major Adoption Milestone, Now Manages More Than Four Million Customer Systems Worldwide."* 11 Sep. 2019.

Ansible Automates

Ansible is the de facto automation language.
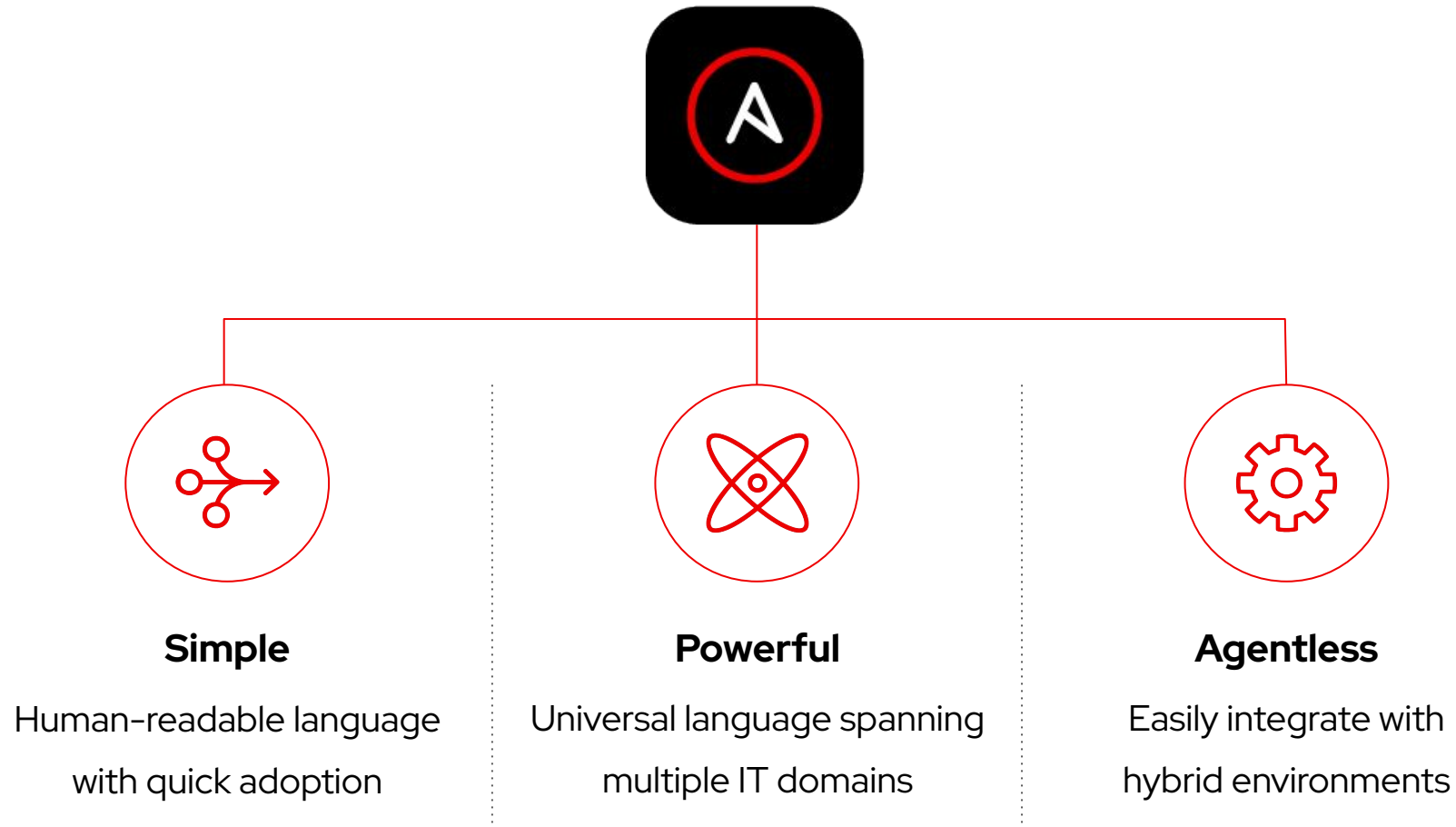
Simple

Human-readable language with quick adoption

Powerful

Universal language spanning multiple IT domains

Agentless

Easily integrate with hybrid environments

Ansible Automates

Supported and certified content you can trust.

130+

Certified Content Collections

55+

Certified technology partners
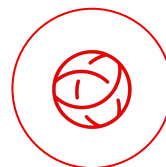
Infrastructure Cloud Network Security Edge

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One subscription. One platform.

Red Hat Ansible Automation Platform

Network | Lines of business | Security | Operations | Infrastructure | Developers

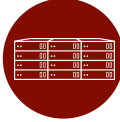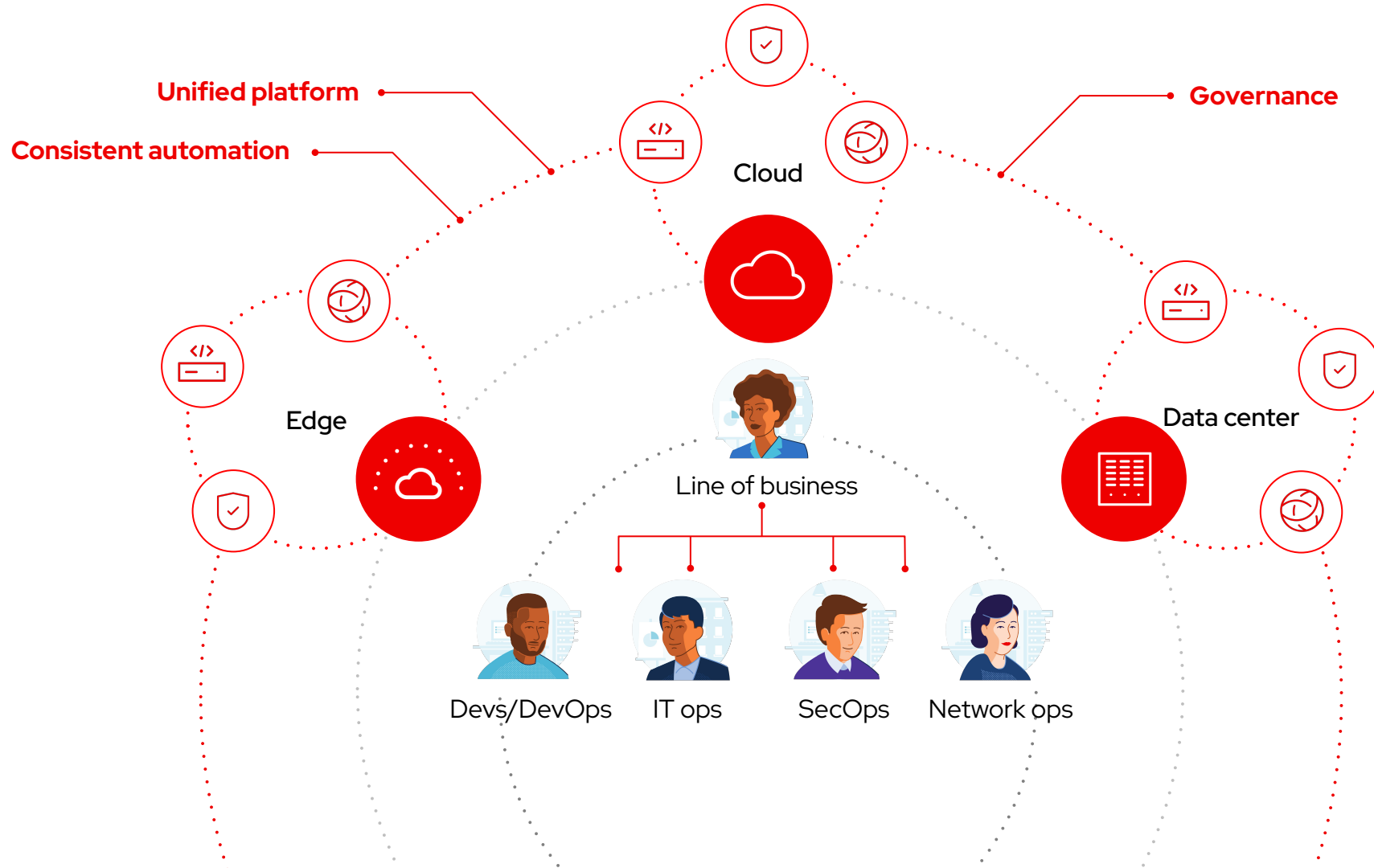| **Accelerate** | **Collaborate** | **Governance** | **Trust** | **Inform** |
| Ansible Content Collections | Automation Hub | Automation services catalog | Certified content | Automation Analytics |
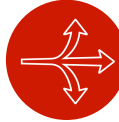
Automation Controller: Operate and control at scale.

Execution Environments: Universal language of automation

Fueled by an open source community

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

Ansible Automates

The Value of a Red Hat Subscription

Ongoing Delivery
- Updates
- Upgrades
- Stability
- Patches

Technical Support
- Multi channel support
- 24/7 Support
- Unlimited Incidents
- Multi vendor Ownership

Customer Expertise
- Knowledge Base
- Access Labs
- Training curriculum
- Customer portal

Commitment
- Hardware Certification
- Software Certification
- Cloud provider Certification
- Software assurance

Ansible Automates

The solution? Break down the silos.

Unified platform

Consistent automation

Governance

Cloud

Edge

Data center

Line of business

Devs/DevOps

IT ops

SecOps

Network ops

Ansible Automates

AAP @Cloud

Ansible Automates
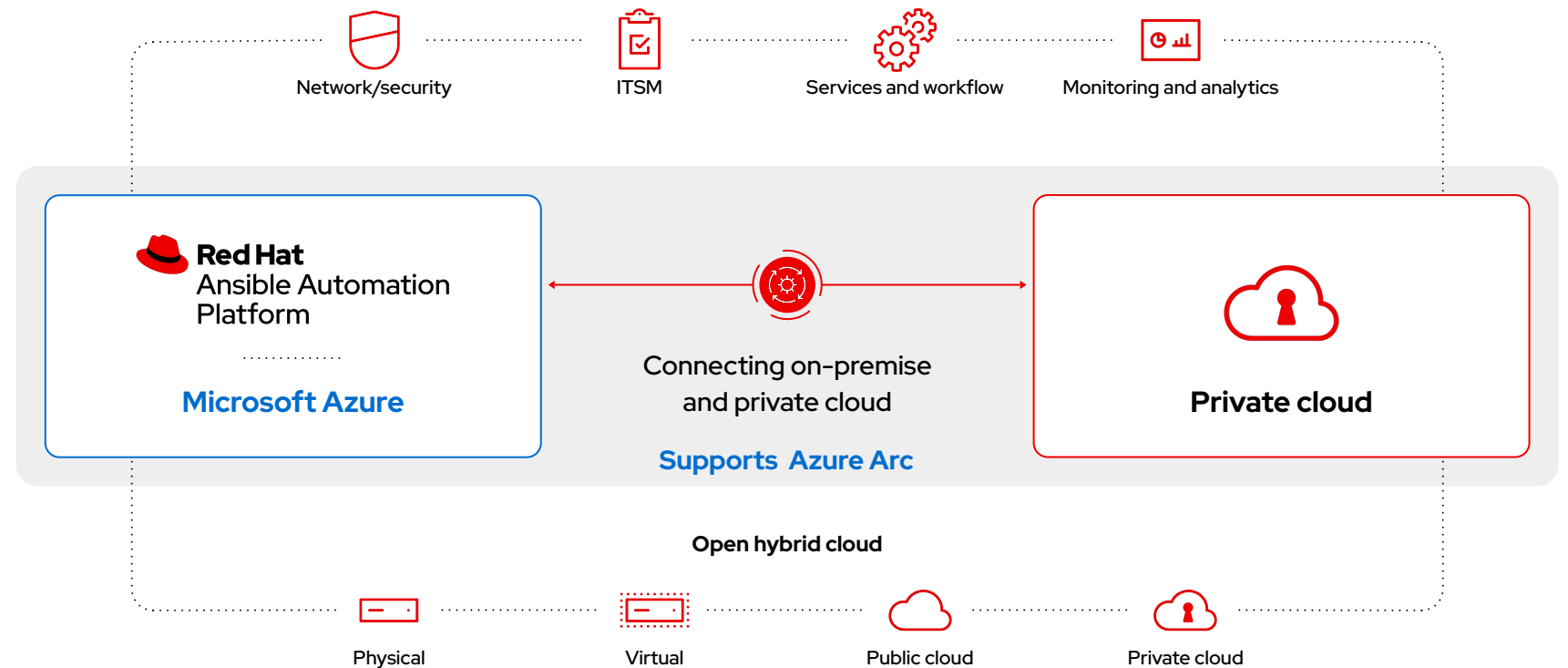
Red Hat Ansible Automation Platform on Azure Marketplace

Automation from your Azure cloud to on-premises, edge, and IT resources

Runs in your Azure cloud

Fully installed and integrated

Fully supported by Red Hat

Integrated to Microsoft Azure billing

Counts toward spend agreements

Network/security

ITSM

Services and workflow

Monitoring and analytics

Red Hat Ansible Automation Platform

Microsoft Azure

Connecting on-premise and private cloud

Supports Azure Arc

Private cloud

Open hybrid cloud

Physical

Virtual

Public cloud

Private cloud

Red Hat | Microsoft Azure

Red Hat Ansible Automation Platform via AWS Marketplace

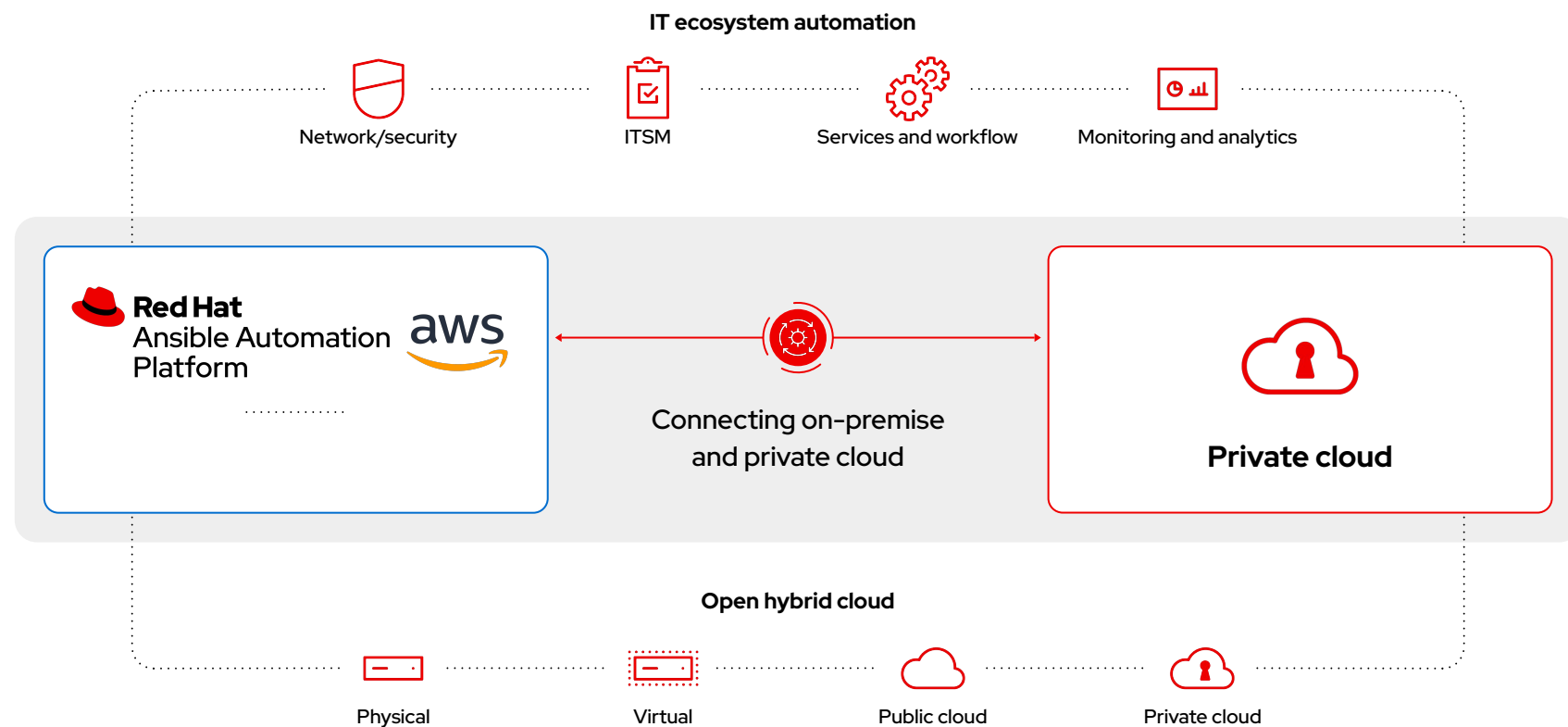## Automation from your AWS cloud to on-premises, edge, and IT resources

Runs in your AWS cloud

Fully installed and integrated

Supported by Red Hat

Integrated to AWS billing

Counts toward spend agreements

IT ecosystem automation

Network/security

ITSM

Services and workflow

Monitoring and analytics

Red Hat Ansible Automation Platform

aws

Connecting on-premise and private cloud

Private cloud

Open hybrid cloud

Physical

Virtual

Public cloud

Private cloud

Ansible Automates

In the second half we will discuss:

Automation:

- ▶ The WHY
- ▶ The WHAT

Ansible Automates

About the WHY

Ansible Automates

What's
the
Goal?

The goals we can aim for

What are we trying to achieve?

- Efficiency – a boring, but absolutely relevant goal

The goals we can aim for

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

Red Hat

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Red Hat

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- **Cross-Team Workflows**

Red Hat

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- **Integration with ITSM**

Red Hat

The goals we can aim for

What are we trying to achieve?

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- **Validation of Running Configurations**
- **Services of Teams provided for self-service consumption**
- **Cross-Team Workflows**
- **Integration with ITSM**
- Collaboration
- Reduce Human Errors, Increase Reliability and Reproducibility
- Automatic documentation of the infrastructure
- Security Compliance automation
- AIOps
- Auto remediation

Red Hat

About the WHAT

Ansible Automates

WHAT are the right Use Cases to start with?

Ansible Automates

Technologies well supported
by Ansible

Technologies implemented in
the corporate platform

The SWEET SPOT
The LOW HANGING FRUITS
The QUICK WINS

Ansible Automates

Supported and certified content you can trust.

130+

Certified Content
Collections

55+

Certified technology
partners

Infrastructure Cloud Network Security Edge

Supported and certified content you can trust.

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

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

Couple of examples.

Ansible Automates

Example I:

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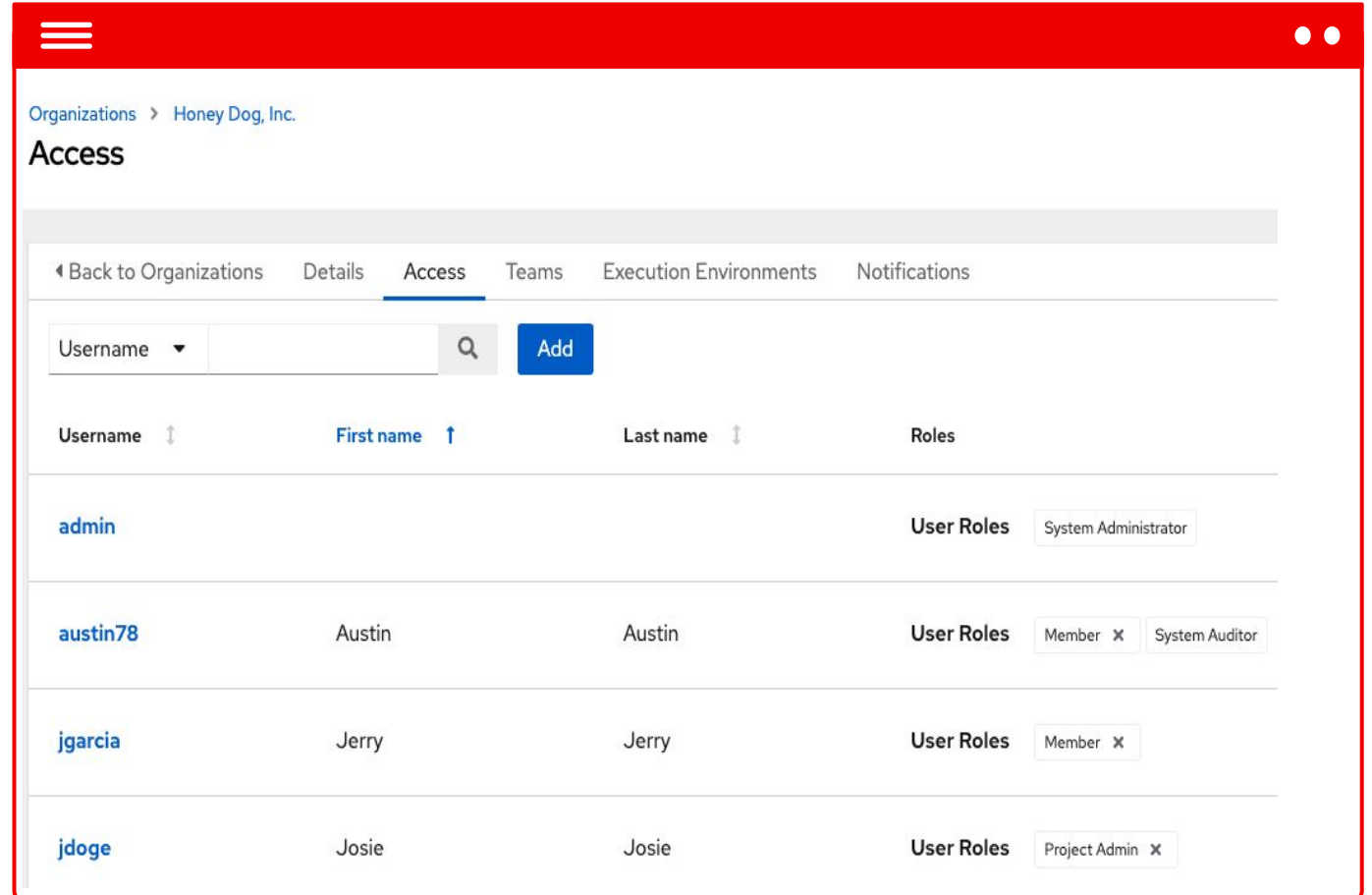
Ansible Automates

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

vmware_rest
Provided by vmware
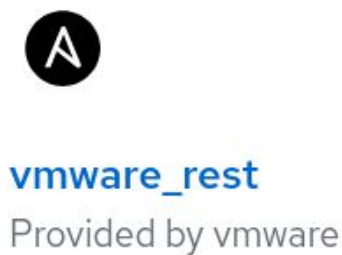
vcenter_vm	module	Creates a virtual machine.
vcenter_vm_guest_customization	module	Applies a customization specification on the virtual machine
vcenter_vm_guest_filesystem_directories	module	Creates a directory in the guest operating system
vcenter_vm_guest_identity_info	module	Return information about 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.

Ansible Automates

Step 2:

- Automate the VM provisioning job

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

Ansible Automates

SCHWARZ

"Staying competitive means we need to offer new, digital features and stable, timely services to all of our stores. The only way to achieve this goal is with a centralized automation platform like Red Hat Ansible Automation Platform."

Felix Kuehner
Compute & Runtime Services – Linux, Schwarz IT

Challenge

To balance consistent store management with the flexibility to adapt to local demands and the agility to open new stores quickly, particularly in new markets, the group sought to adopt an open source automation solution to replace Puppet for use by its in-house teams.

Solution

The company decided to switch to a supported, enterprise solution: Red Hat Ansible Tower (now part of Red Hat Ansible Automation Platform).

Why Red Hat

Red Hat Ansible Automation Platform is a simple, agentless automation platform that lets Schwarz centralize and control its IT infrastructure at scale using reusable, playbook-based, self-service capabilities.

Results

- Improved delivery time for new, innovative applications and digital services
- Gained expertise to operate Ansible Automation Platform inhouse, backed by enterprise support
- Enhanced risk management with role-based system access

Products and services

Red Hat® Ansible® Automation Platform (formerly Red Hat Ansible Tower)

Source: Red Hat case study. "The Schwarz Group enhances Linux server management with Red Hat Ansible Automation Platform" Feb 2021.

Example II:

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

Ansible Automates

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

CISCO   Certified

ios
Provided by Cisco

Ansible Network Collection for Cisco IOS devices.

JUNIPEr NETWORKS   Certified

junos
Provided by junipernetworks

Ansible Network Collection for Junipernetworks Junos

ARISTA   Certified

eos
Provided by Arista

Ansible Network Collection for Arista EOS devices.

Ansible Automates

Step 2:

- Automate the network configuration job

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

Ansible Automates
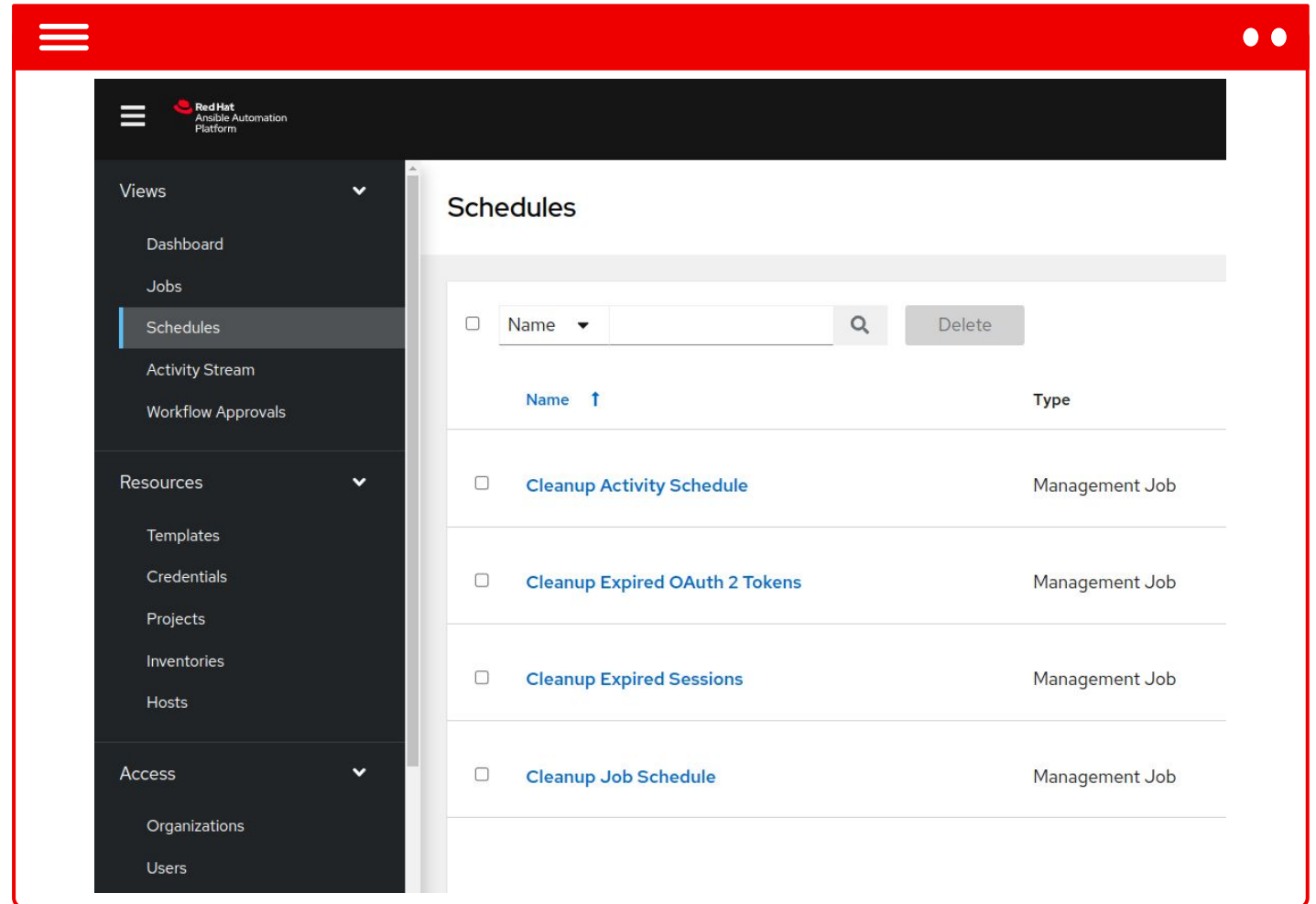
swisscom

[With Red Hat Ansible], we can save many operation hours and invest the time of our engineers in more valuable ~~tasks~~.

Bojan Nikolic
Head of IT Service Delivery, Swisscom

Challenge
Successfully operate in the highly competitive network infrastructure market.

Solution
Swisscom deployed Red Hat® Ansible® for automation and orchestration across multiple environments with different network configurations. Five teams of 80 users will use Ansible to automate management of about 15,000 components.

Why Red Hat
"We chose Ansible partly because it's easy to use and learn," said Bojan Nikolic, Head of IT Service Delivery at Swisscom. "You can make very fast progress compared to other configuration management tools."

Results
- Anticipated savings of 3,000 hours annually in manual operating system tasks
- Established self-service IT capabilities to simplify and accelerate common tasks
- Improved collaboration with standardized playbooks

Products and services
Red Hat Ansible

Source: Red Hat press release. "Swisscom Selects Red Hat Ansible Tower to Improve Efficiency and Reduce Deployment Time," 11 Sept. 2018.

Example III:

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

Ansible Automates

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

Ansible Automates

Step 2:

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

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,iVBORw0KGgoAAAANSUhEUgAAAJYAAACWCAYAAAA8AXHiAAAMFGlDQ1BJQ0MgUHJvZmlsZQAASImVVwdU
    "custom_login_info": "Don't upset the Angry Spud!"
}
```

Ansible Automates

Lufthansa

"If we had infrastructure that was set up manually and wanted to change something, we had to wait for the person who implemented it. Instead, we have infrastructure as code, reproducible at any time. Infrastructure teams can just launch Ansible Playbooks for configuration and focus on work that's really important or interesting. Ansible automates everything from setting up Azure VMs and services to installing OpenShift clusters, Gluster storage, or third-party services."

—

Thorsten Pohl
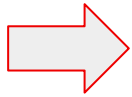Architect and Product Owner for AVIATAR
Lufthansa

Red Hat

Example IV:

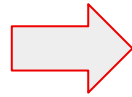**Use Case:** End-to-End Windows Server SW+Updates
Goal: Cross-Team Collaboration

Ansible Automates

Step 1:

- Define the process, use relevant Ansible collections

Disable Alerting: ➡️ **Configure LoadBalancing:** ➡️ **Snapshot VMs:** ➡️ **Deploy Updates:** ➡️ **Rollback if necessary**
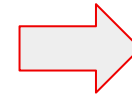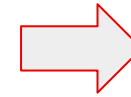
Disable Alerting:	Configure LoadBalancing:	Snapshot VMs:	Deploy Updates:	Rollback if necessary
• Zabbix	• F5	• VCenter	• WSUS	• Ansible Workflows
• Nagios	• Netscaler	• NetApp	• Chocolatey	• ...
• Icinga	• HAProxy	• Purestorage	• Ansible Windows Collection	
• Datadog	• AWS ELB	• Specttrum Virtualize	• ...	
• Grafana	• ...	• Dell Powerstore		
• Splunk		• ...		
• ...				

Ansible Automates

Step 2:

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

Ansible Automates

SIEMENS
Ingenuity for life
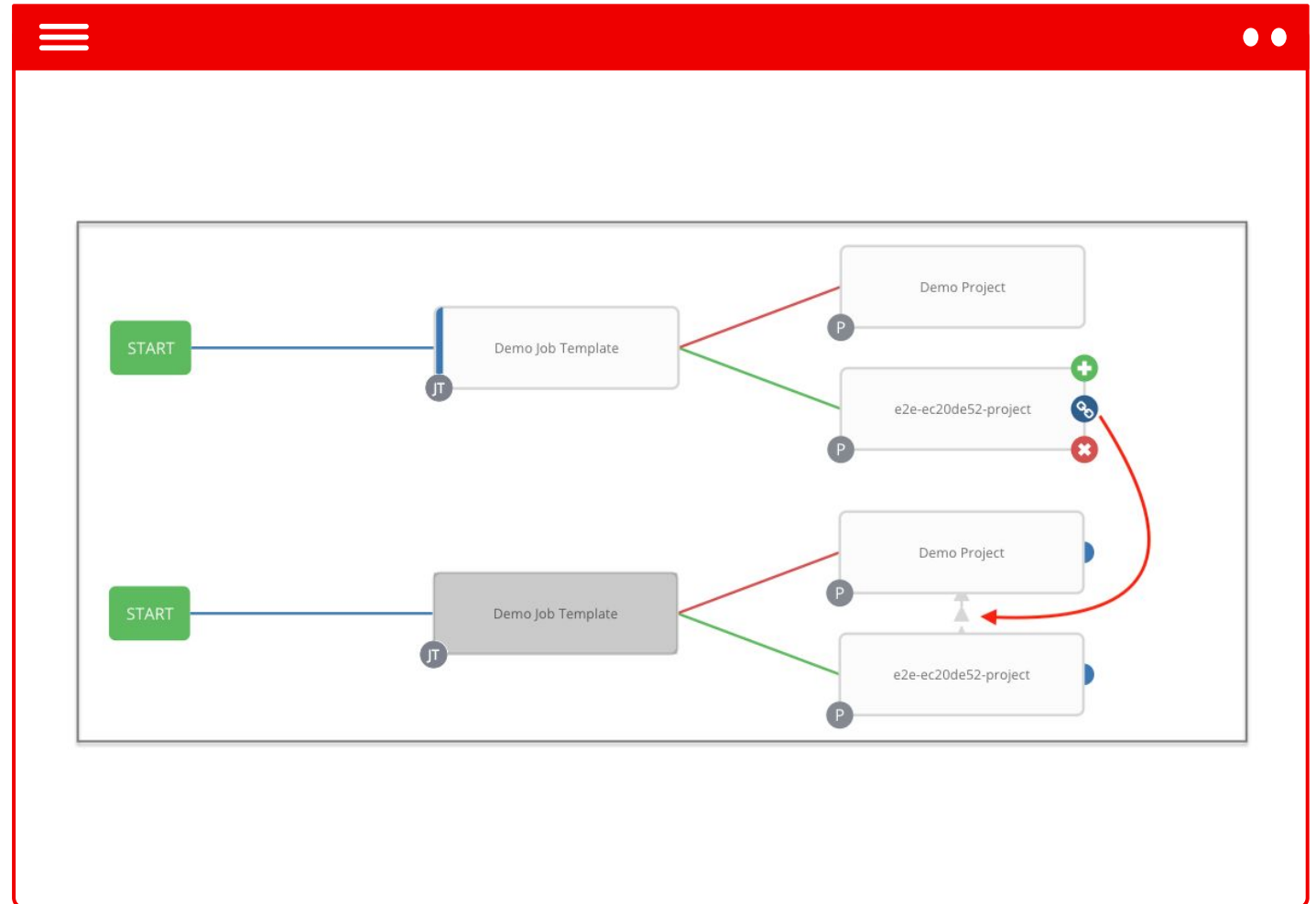
> We needed more automation, and for this Red Hat Ansible Automation was the perfect choice.

—

Rufus Buschart
Head of PKI,
Siemens

Challenge
Simplify and better automate its public key infrastructure (PKI) environment to help secure communications internally and with third-party partners and Internet of Things (IoT) solutions

Solution
Siemens chose to replace its legacy automation solution for its PKI environment with Red Hat® Ansible® Automation.

Why Red Hat
Siemens worked with Red Hat because of its simple, agentless IT automation solution that supports configuration management and other IT functions and automates repetitive tasks for complex deployments.

Results
- Improved IT efficiency by automating management tasks
- Enhanced in-house Ansible expertise with dedicated, expert consulting and training
- Optimized Ansible for Windows-based security environment

Products and services
Red Hat Ansible Automation

Red Hat Consulting

Source: Red Hat Siemens case study, September 2019.

Red Hat

What we discussed today:

Automation:

▶ The HOW

▶ The WHY

▶ The WHAT

Ansible Automates
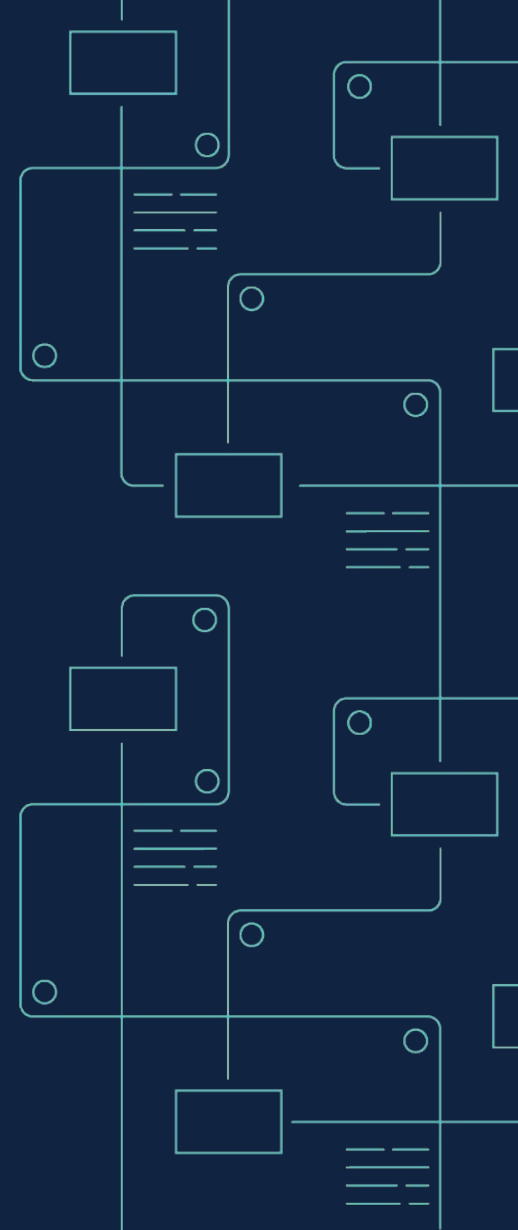
The key takeaways:

- ▶ Think outside the box
- ▶ Get all the IT Teams involved
- ▶ Start small & scale
- ▶ Clarify and communicate the common goals
- ▶ Find the quick win Use Cases to start with

Ansible Automates

Thank you for joining us at Ansible Automates!

Thank you

Red Hat is the world's leading provider of enterprise open source software solutions. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500.

facebook.com/ansibleautomation

twitter.com/ansible

linkedin.com/company/ansible/

youtube.com/user/RedHatVideos

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