Red Hat
Ansible Automation
Platform

Ansible Automation Platform + HashiCorp Terraform

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Infrastructure lifecycle management has never been easy

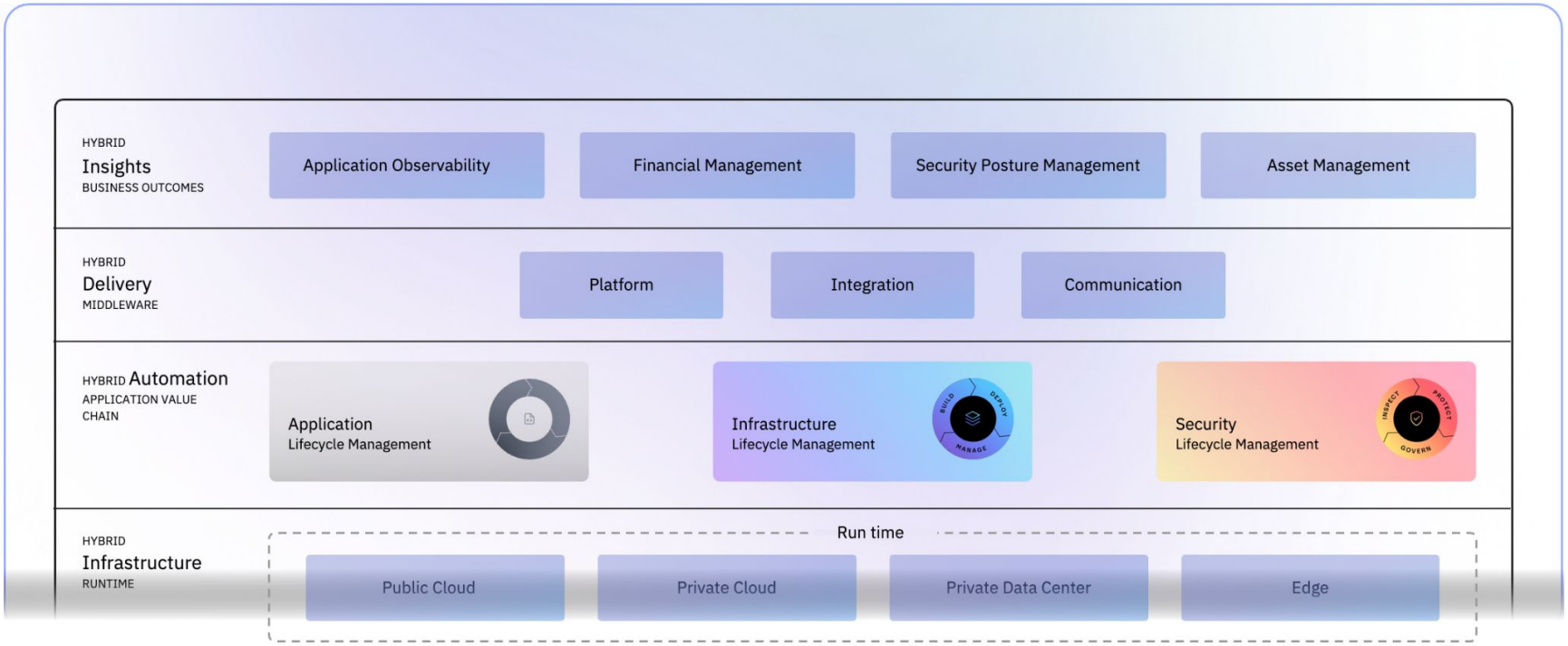
Infrastructure lifecycle management challenges are exacerbated by the increasing number of workloads. BILLIONs of cloud applications are predicted to be created by 2028

The effort to build and maintain these will push far beyond the capacity of humans to support, magnifying organizational risk and complexity

30+	tools used across 10 vendors
75%	enterprises fail to generate consistent ROI from hybrid cloud investment
35%	average waste on cloud spend

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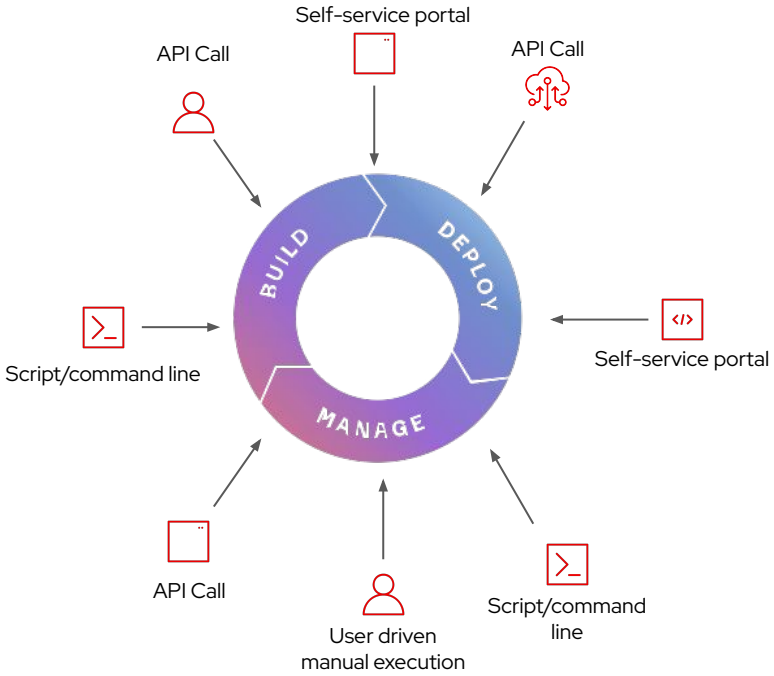
Hybrid cloud for AI-powered business



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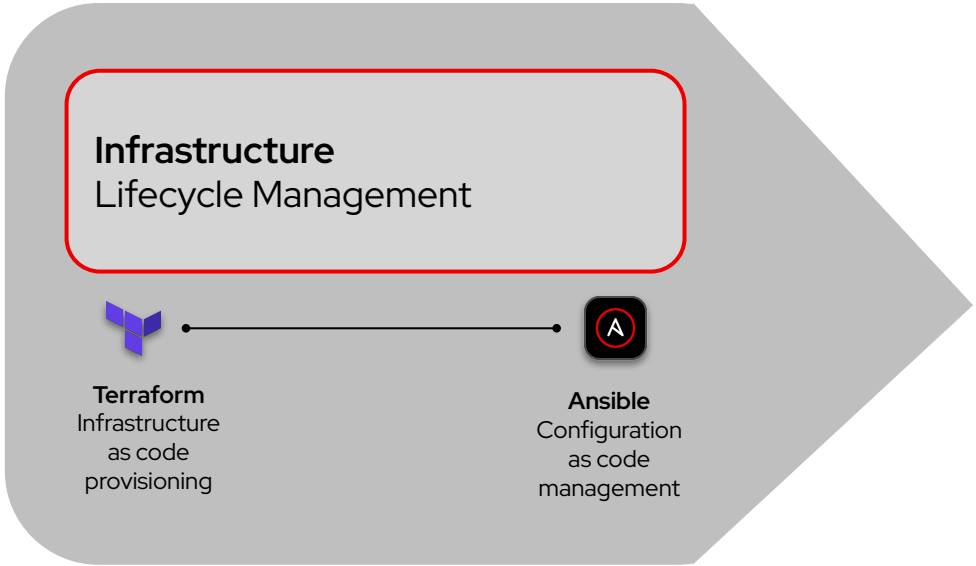
Challenges in infrastructure lifecycle management with multiple tools and touch points

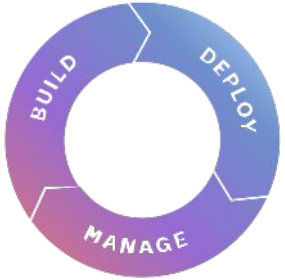
- ✖ Proliferation of tools, increased pressure on budgets
- ✖ Technical debt, increased maintenance costs
- ✖ Lack of skilled resources
- ✖ Security and compliance challenges
- ✖ Manual toil, human driven processes, prone to error and inconsistent application of security
- ✖ Multiple points of consumption and bottlenecks resulting from dependency on external siloed teams



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Infrastructure lifecycle management



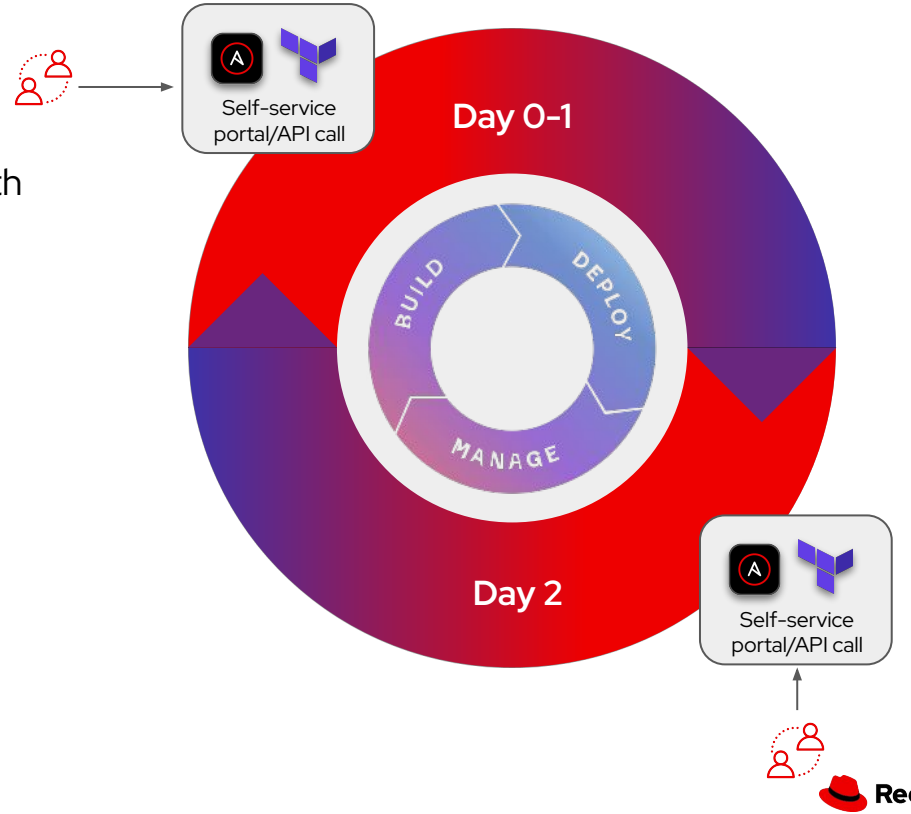


Infrastructure as code with configuration as code to build, deploy, and manage the lifecycle of applications and infrastructure

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Infrastructure lifecycle management with a unified tool set

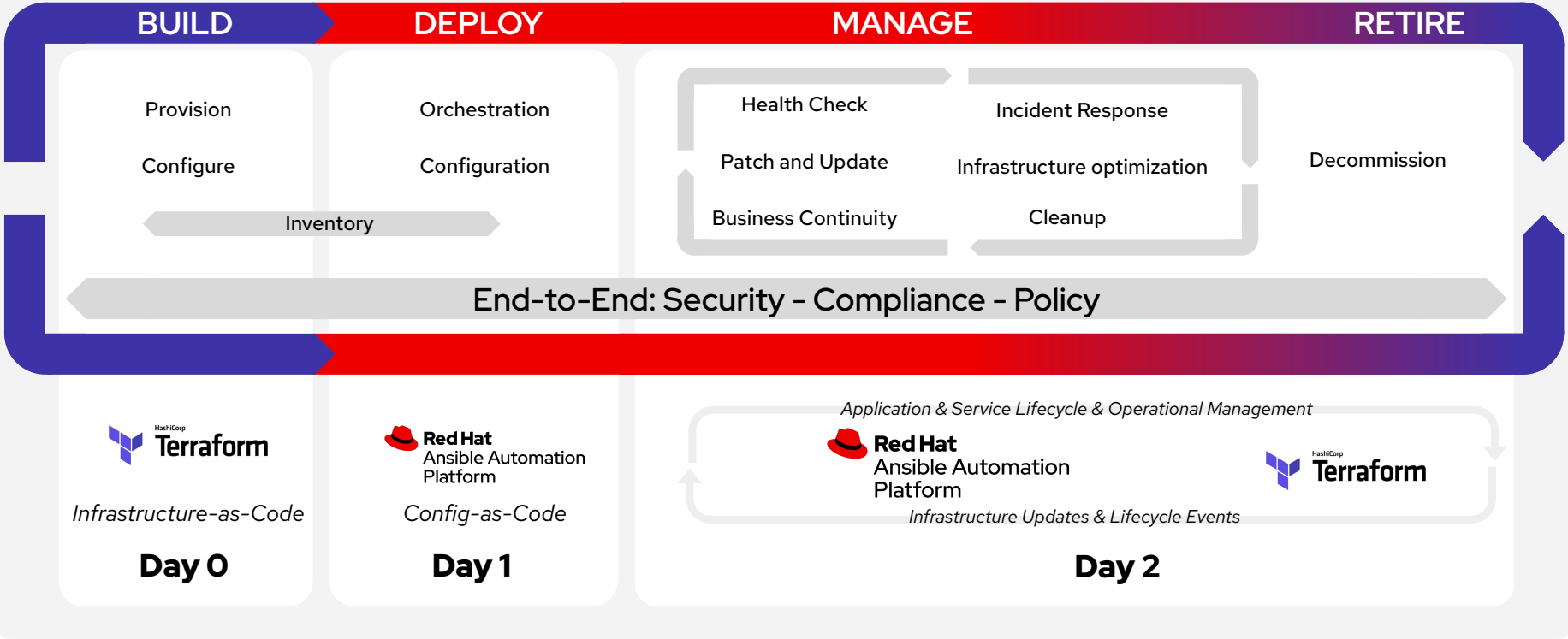
- ✓ Orchestrated, standardized lifecycle with Terraform + Ansible accelerates time-to-value
- ✓ End to end automated workflows
- ✓ Operational consistency for cloud infrastructure
- ✓ Seamless infrastructure + application performance
- ✓ Eliminate developer bottlenecks from operational silos with self-service



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Ansible Automation Platform + Terraform Enterprise

Holistic orchestration across the infrastructure lifecycle



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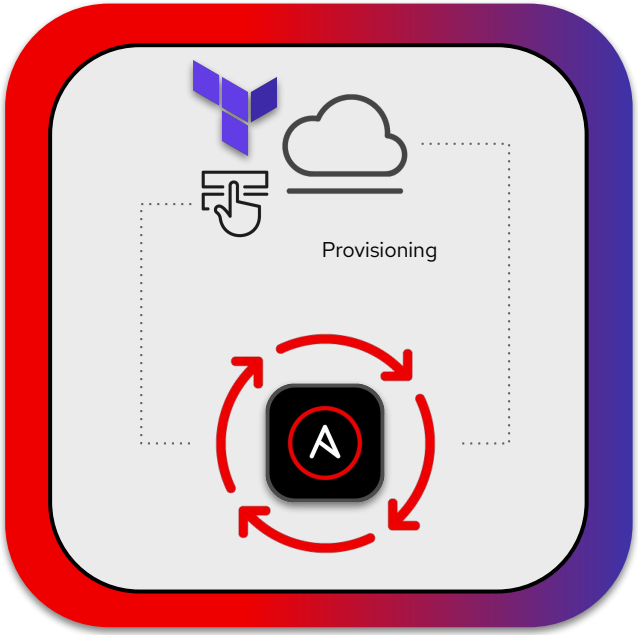
Deliver enterprise-ready, simplified IaC

Starting point for Ansible users

Red Hat Ansible Automation Platform automates configuration management and orchestrates IT operations across existing infrastructure

HCP Terraform extends control by declaratively provisioning and managing infrastructure across hybrid clouds, integrating seamlessly with Ansible workflows

Full hybrid cloud lifecycle management achieved by delivering end-to-end automation



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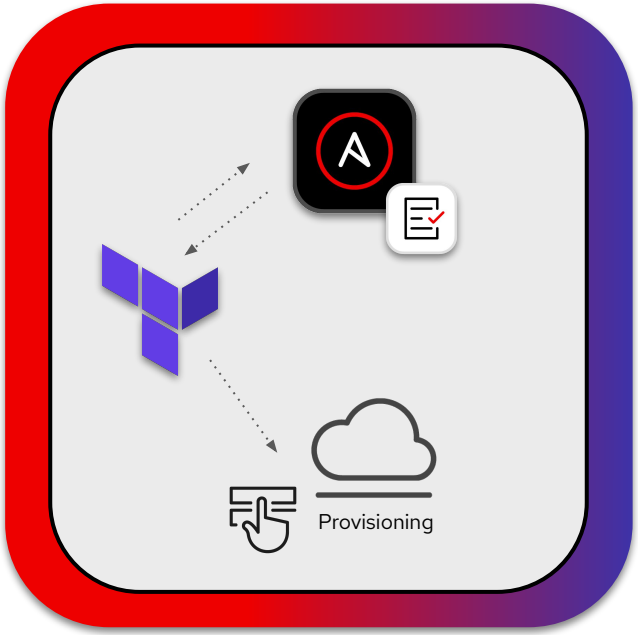
Deliver enterprise-ready, simplified IaC

Starting point for Terraform users

HCP Terraform declaratively provisions and manages infrastructure across hybrid clouds

Red Hat Ansible Automation Platform extends coverage by providing seamless management, automates configuration management and orchestrates Day 2 operations

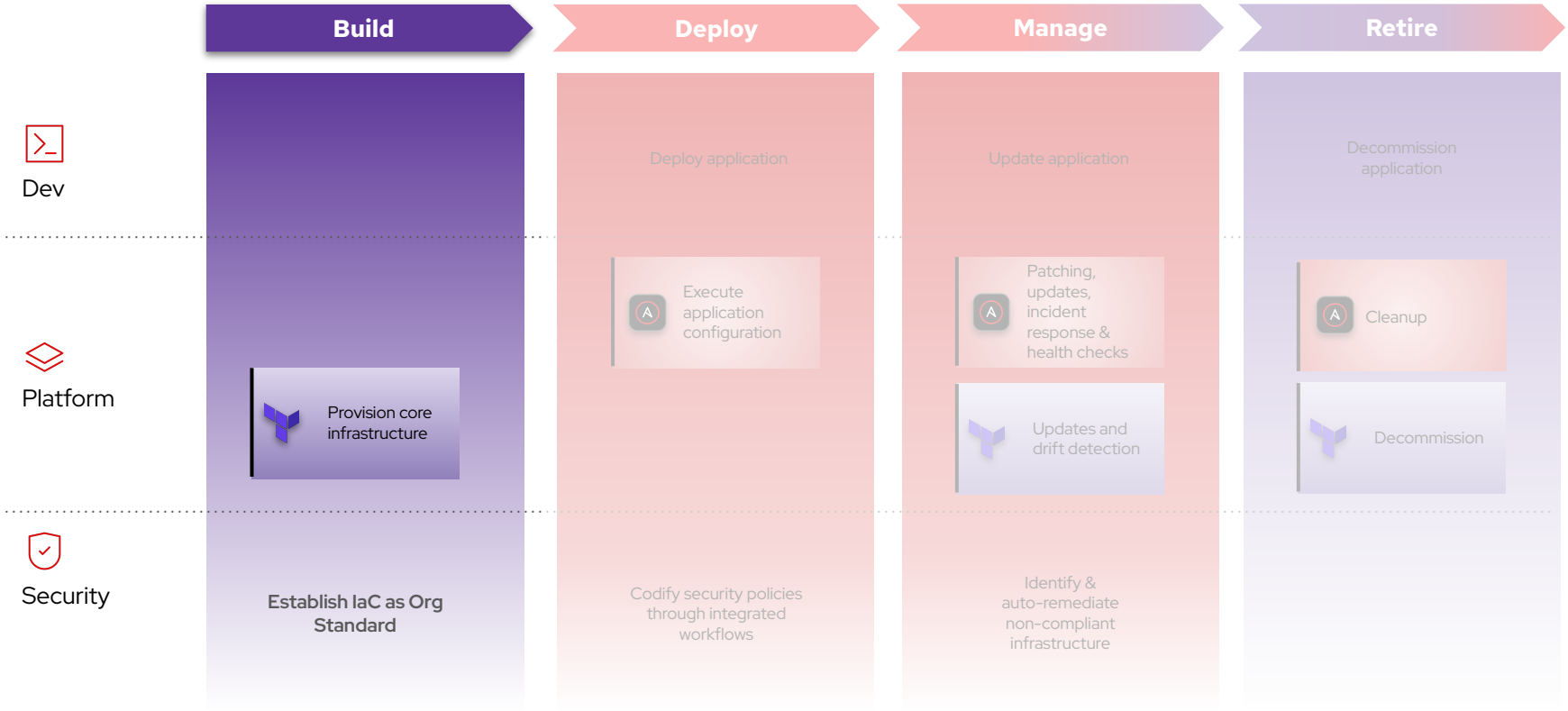
Full hybrid cloud lifecycle management achieved by delivering end-to-end automation



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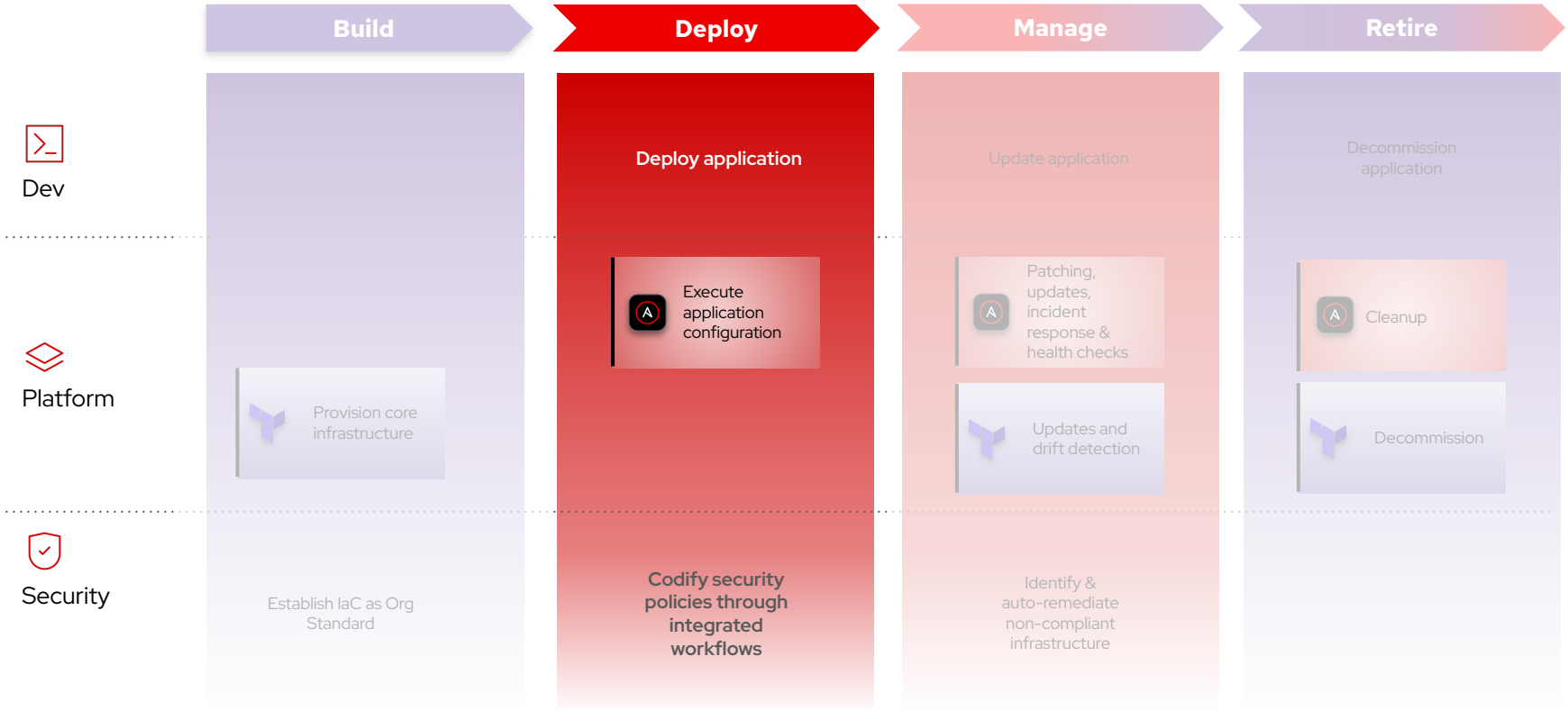
Infrastructure lifecycle management - Build - Day 0

Terraform with Infrastructure as code, secures and optimizes infrastructure



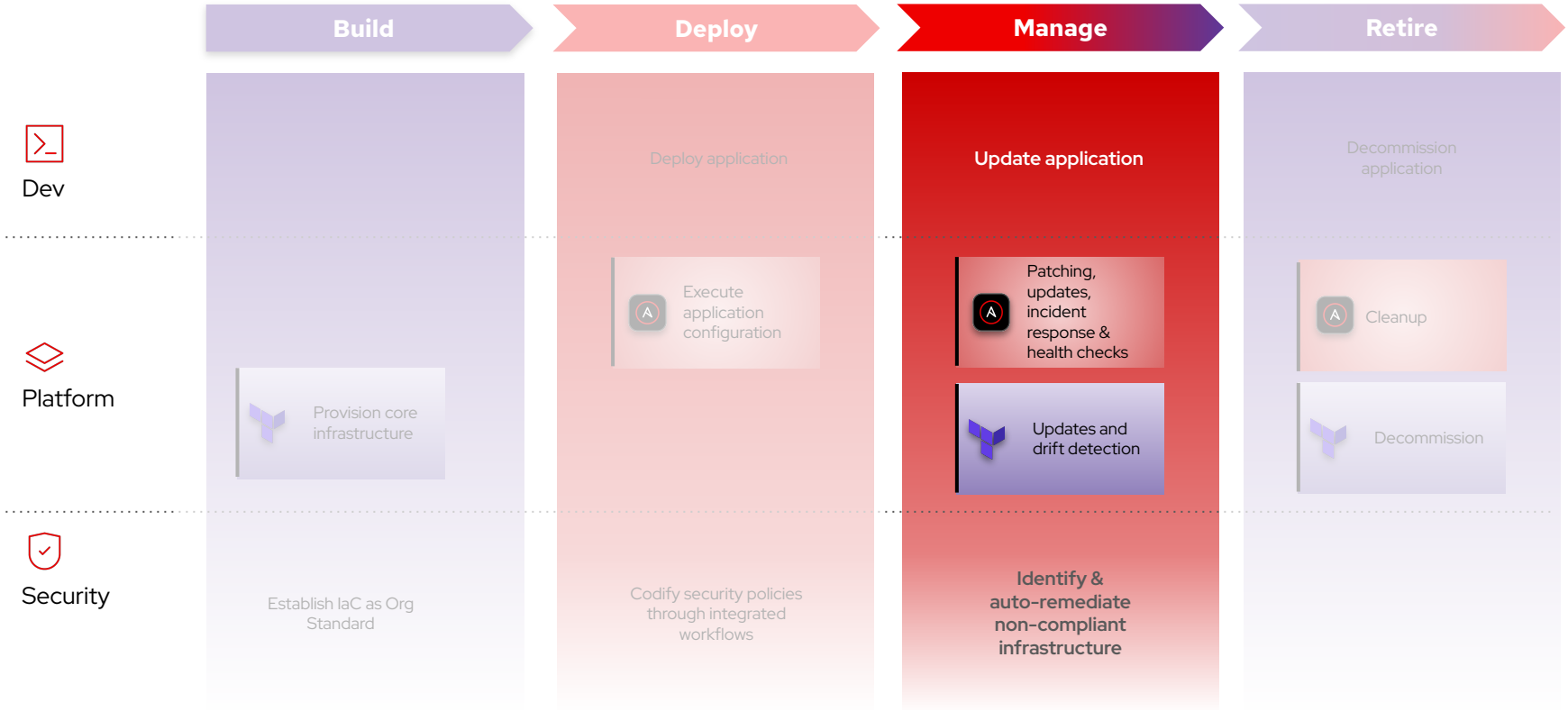
Infrastructure lifecycle management - Deploy - Day 1

Ansible ensures that applications are deployed in a consistent, reliable, and scalable way



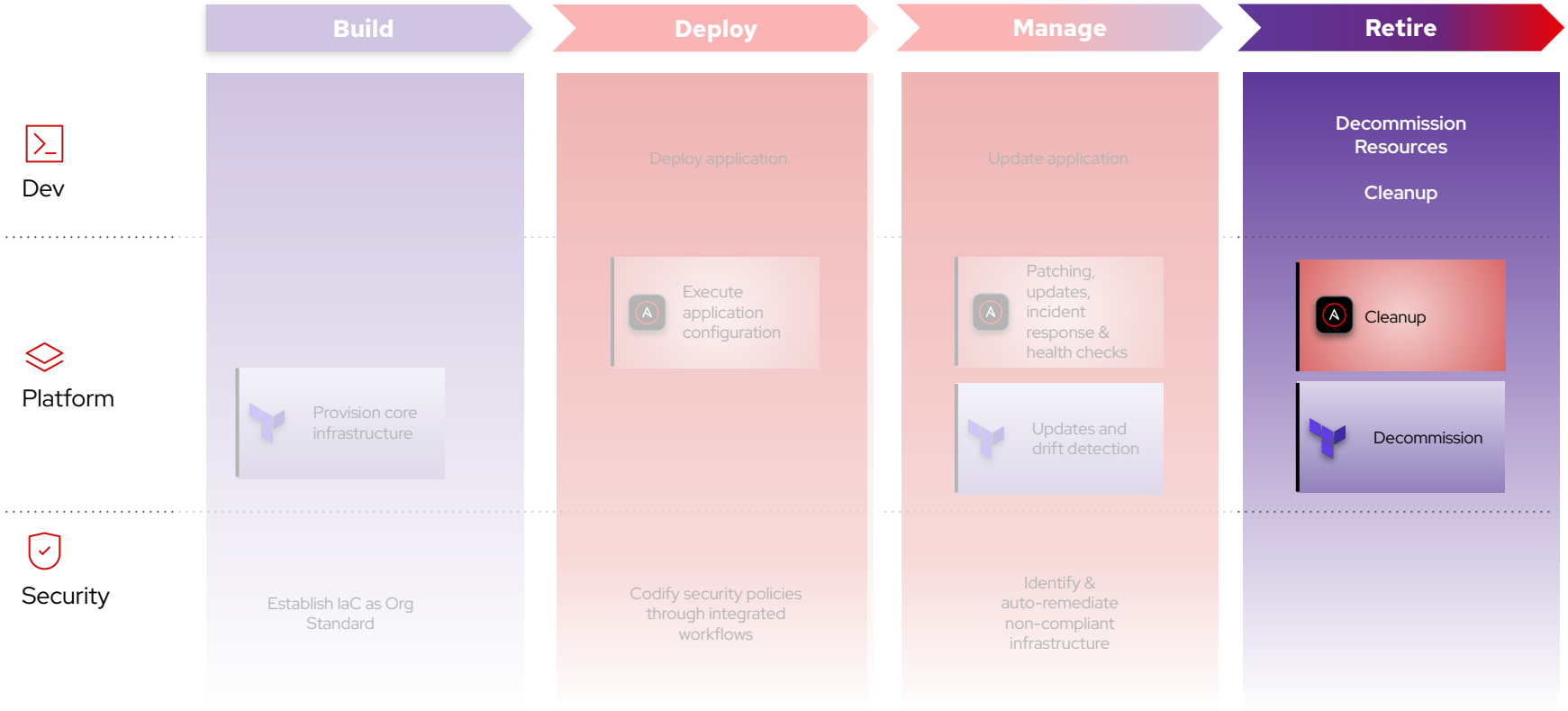
Infrastructure lifecycle management - Manage - Day 2

Ansible and Terraform together enforcing compliance and governance



Infrastructure lifecycle management - Retire

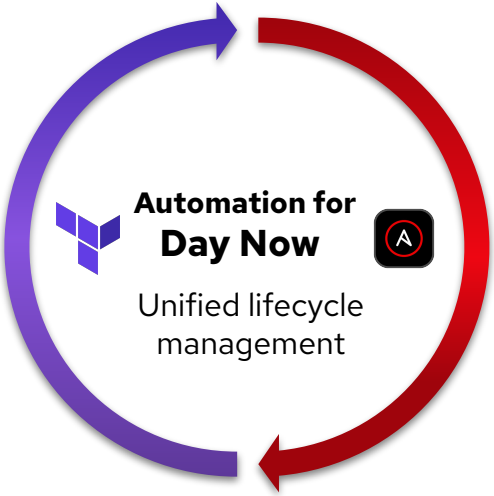
Ansible and Terraform together ensuring complete decommission and cleanup



Better together: enhancing value across the lifecycle

Three ways Ansible + Terraform deliver more value together

Optimize cost Reduce cloud waste, manual processes, tool sprawl	**668%** three-year return on investment (ROI)[1]	**25%** reduction in infrastructure costs [2]
Reduce risk Lower the risk of breach and enforce policy	**61%** reduction in unplanned downtime[1]	**96%** Faster provisioning without security or compliance issues with modules [2]
Unlock time to value Boost developer productivity	**68%** faster to deploy new compute resources[1]	**5x** faster to GTM [2]



1. The Business Value of Red Hat Ansible Automation Platform, IDC, March 2024 | 2. HashiCorp customer references

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Benefits of Ansible for Terraform Customers

Unified provisioning, automation, and orchestration at scale

Simplify complex environments

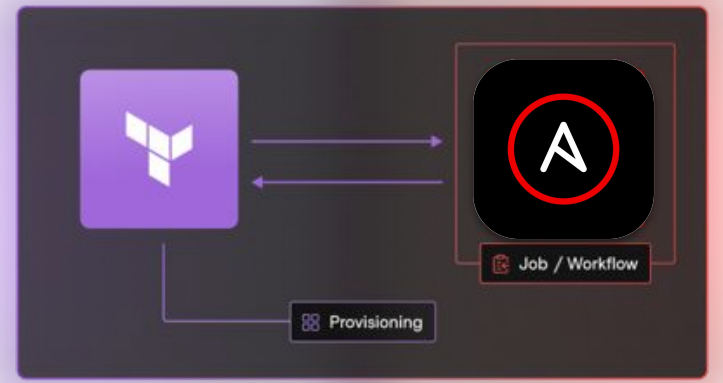
Securely automate IT ops workflows among and between IT domains to simplify management of complex environments.

Minimize risk in deployment

Apply golden configurations against new or existing environments, create workflows for infrastructure or application deployment minimizing risk due to inconsistent configuration.

Enhance resilience in Day 2 operations

Visibility into infrastructure configuration and management in day 2 operations enabling compliance checks and automated remediation enhancing resilience.



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Benefits of Terraform for Ansible Customers

Unified provisioning, automation, and orchestration at scale

Speed and agility

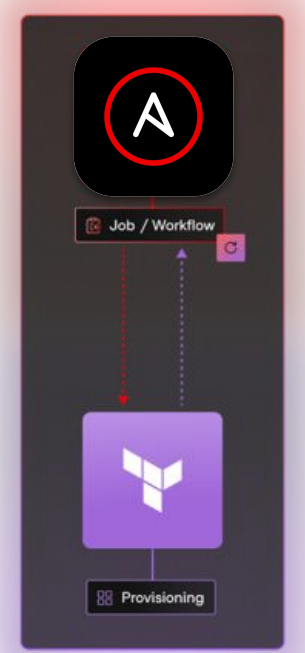
Rapidly provision foundational infrastructure resources (such as VMs, networks, and storage) to accelerate the delivery of your workloads and applications.

Infrastructure consistency

Use a declarative Infrastructure as Code (IaC) approach to define the desired state of your environment, ensuring deployments are repeatable, predictable, and error-free.

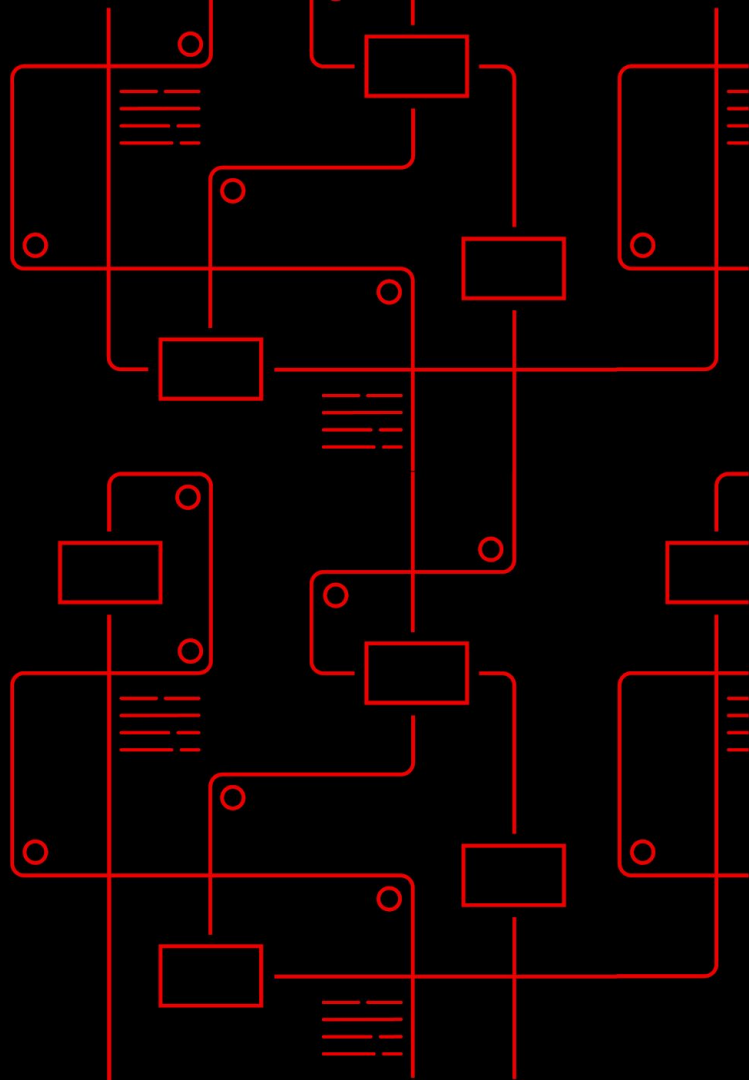
Enhanced Security & Governance

Manage the full infrastructure lifecycle to prevent configuration drift, track resource state, and automatically enforce security and compliance policies.



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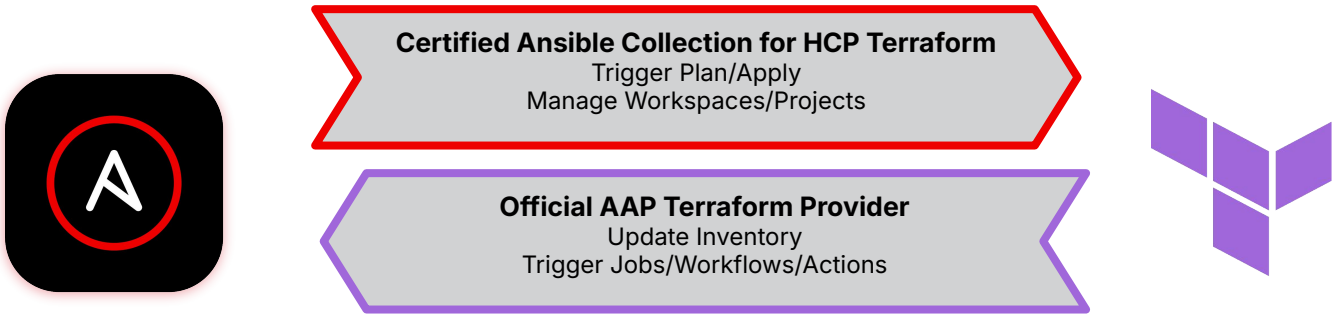
Terraform Actions and Ansible Automation Platform



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Better together with Terraform Actions

- **Tighter Cross Product Integration:** Terraform Actions is another integration point between Ansible Automation Platform and HCP Terraform/Terraform Enterprise providing an integrated end-to-end automation solution for managing cloud infrastructure efficiently, securely, and at scale.



What are Terraform Actions?

Terraform Actions bring operations—like restarting services or clearing a cache—directly into the Terraform workflow using Ansible Automation Platform.

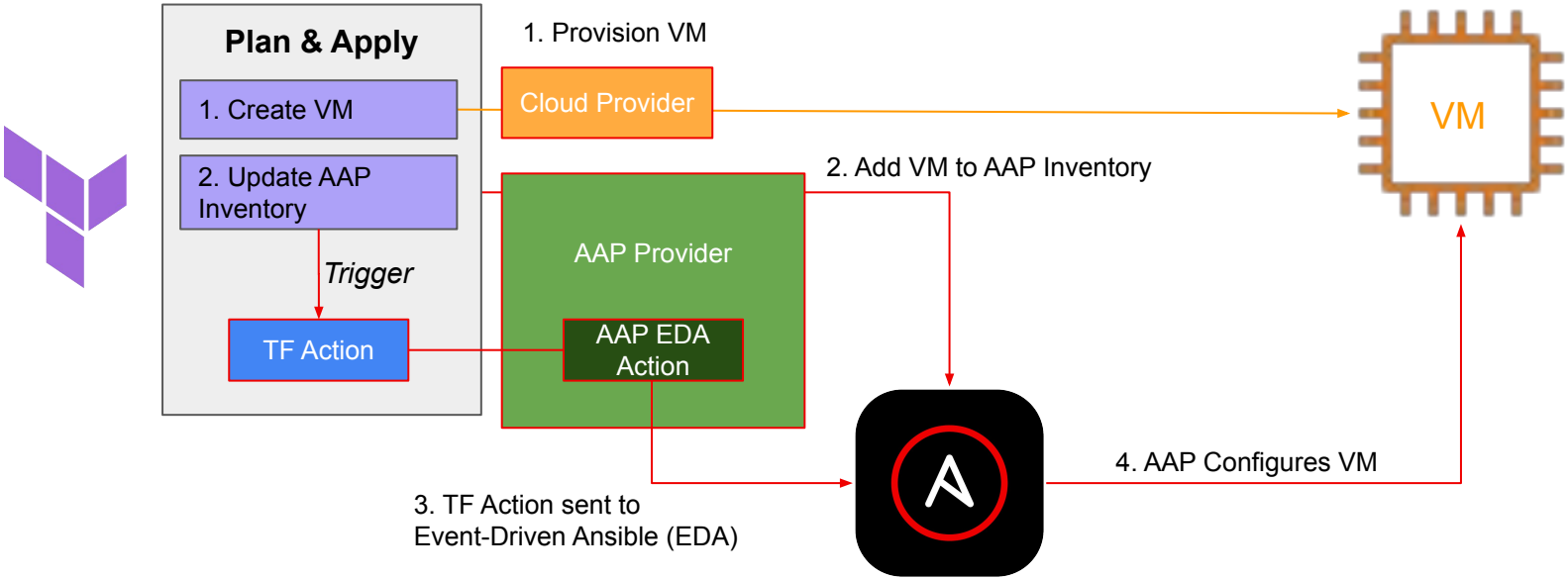
- **Before: A Disconnected Process**
  - Ansible automation could only run after all Terraform provisioning was complete.
  - Configuration and operational tasks were separate, one-time events.

- **Now: Integrated & Event-Driven with Terraform Actions**
  - **Trigger Provisioning & Operational Tasks:**
    - Actions send events to Ansible Automation Platform (AAP) instantly upon resource creation or resource update to trigger operational workflows.
  - **Unified Interface:**
    - Initiate both provisioning and post-provisioning automation directly from Terraform.
  - **Lifecycle Flexibility:**
    - Execute Ansible Automation Platform workflows at any point—before, after, or on-demand during the resource lifecycle.

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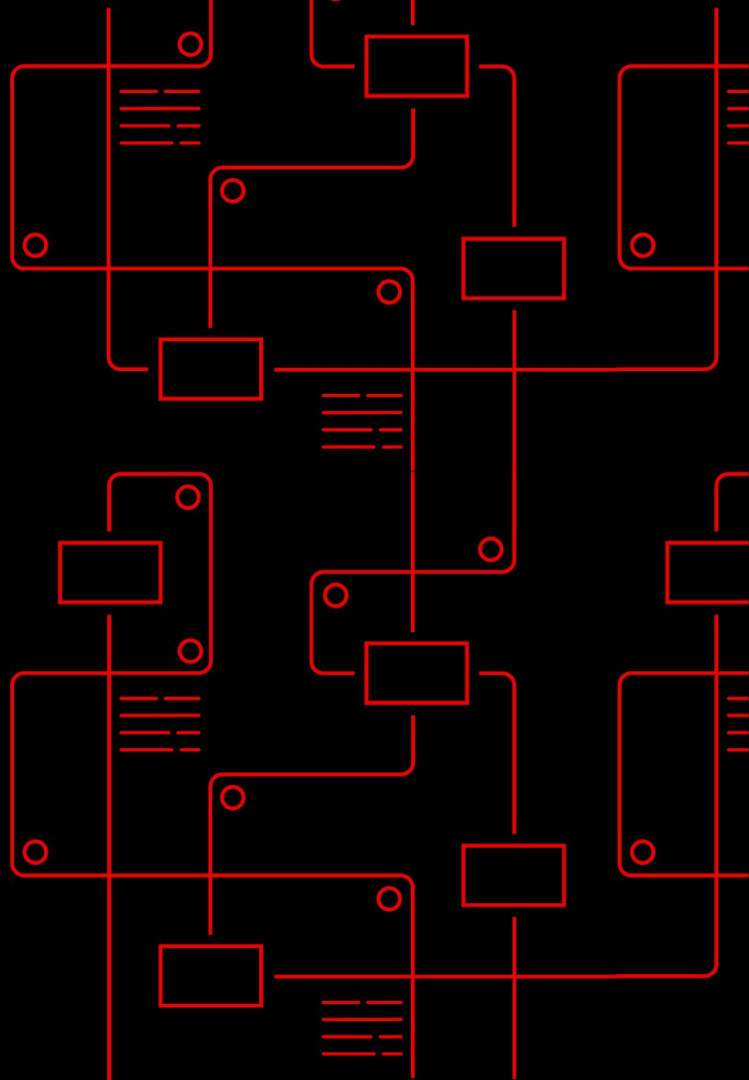
Terraform Actions and Ansible Automation Platform Example

Scaling deployments with resource linked events



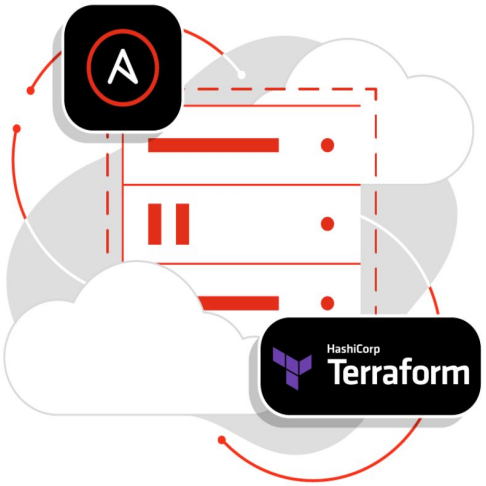
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Getting more from Terraform *today* with Red Hat Ansible



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Currently Red Hat offers a Certified Collection for Terraform out of the box

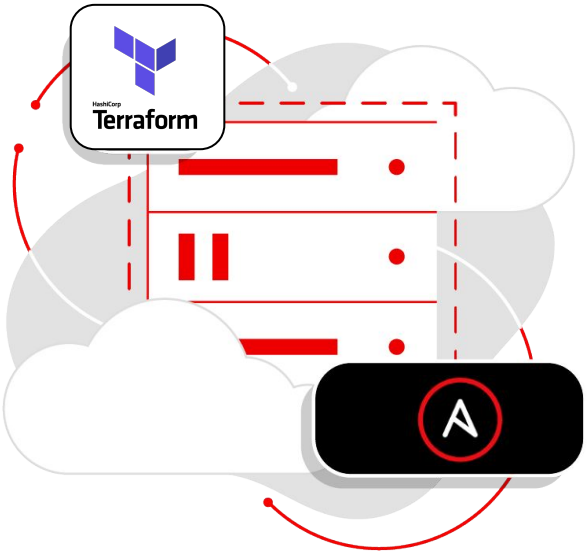


Available now:

- Enables an Ansible automation playbook to initiate a Terraform automation workflow (plan) allowing AAP users to create combined workflows
- Automates the management and provisioning of infrastructure as code using Terraform with AAP as the primary automation platform, to automate configuration and life cycle management of cloud infrastructure
- Review Terraform plan output before applying it in a workflow for approval before infrastructure is deployed by Terraform and configured by AAP

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Terraform Certified Provider for Ansible Automation Platform



Available now:

- AAP can perform automation on Terraform resources
- Terraform can initiate AAP workflows, improving scalability
- Uses the AAP API to launch and monitor automation jobs
- Fully supported by Red Hat
- Supports Terraform Enterprise/Cloud

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Roadmap: the future of Ansible + Terraform synergy

The “first horizon” of this new partnership is improving product to product integration



Product teams on both sides will be focused on **improving native integration between Red Hat Ansible and Terraform Enterprise**, with a particular focus on developing more jointly supported Collections and Providers to help customers accelerate adoption with a larger library of curated, opinionated content out of the box.



Automation workflows initiated in Ansible Automation Platform

- Documented and tested migration path from Terraform Community edition to TFE
- Co-developed and co-supported Terraform Enterprise Collection



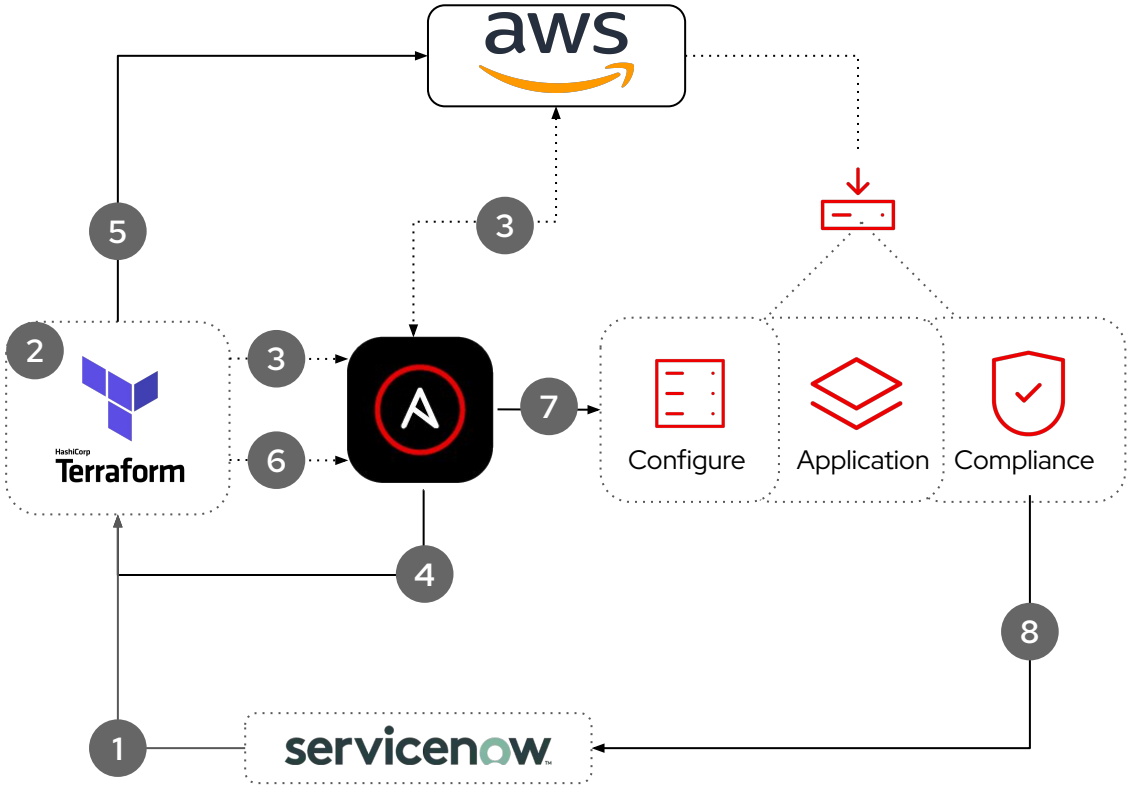
Automation workflows initiated in Terraform Enterprise

- Co-developed and co-supported enhancements to existing AAP provider
- Enhanced integration leveraging Terraform

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Demo

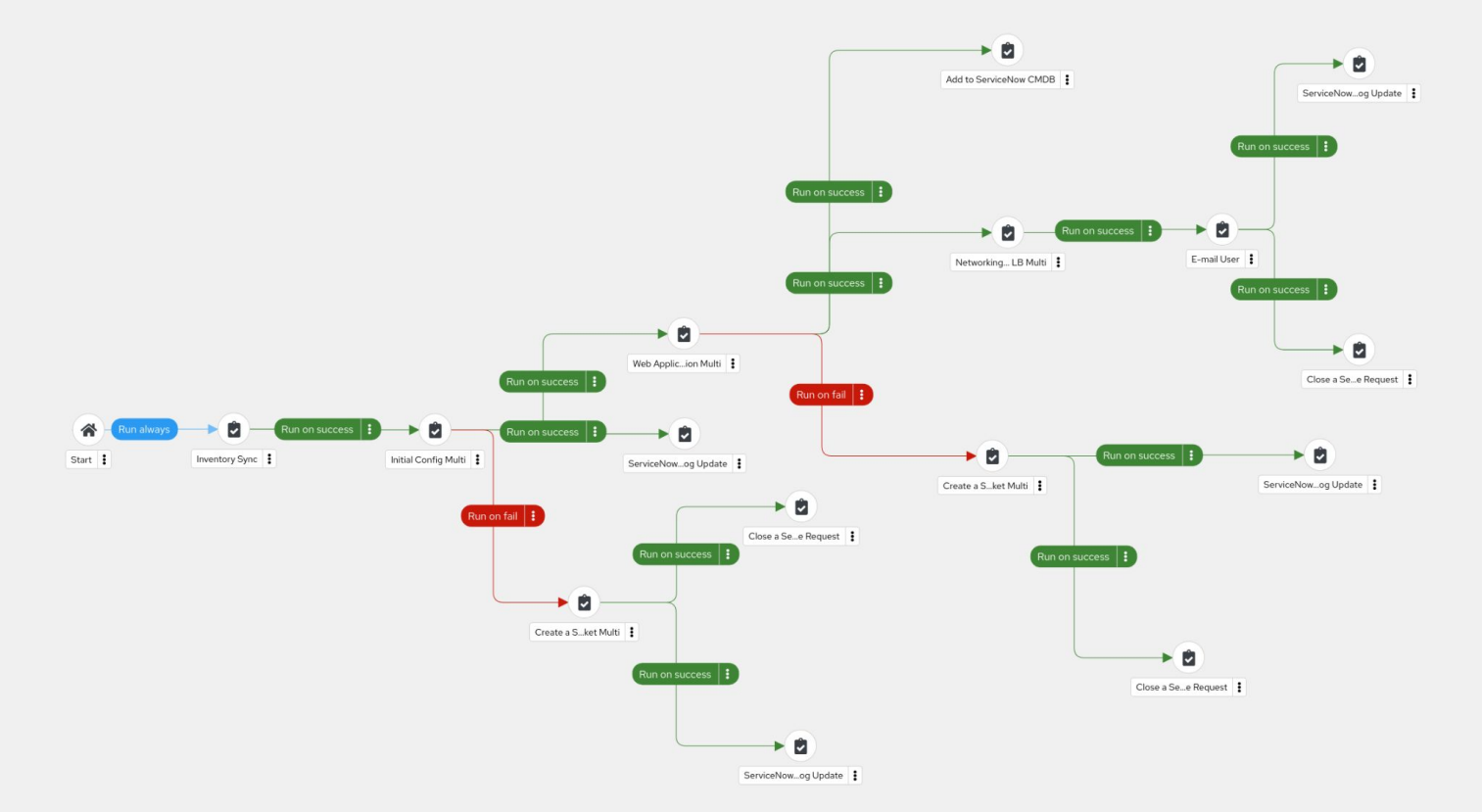
Provisioning and Configuring a Web Application in AWS



1. **End-User completes Servicenow Request** which calls the Terraform API
2. **Terraform** plan is processed and waits for review/approval
3. Once approved, **Terraform** pre-apply sends event to **Event Driven Ansible**
4. Pre-apply job template runs in **Ansible Automation Controller**
5. **Terraform** apply builds infrastructure
6. **Terraform** post-apply sends event to **Event Driven Ansible**
7. Post-apply job template runs in **Ansible Automation Controller**
8. **Servicenow** is updated and request closed with details

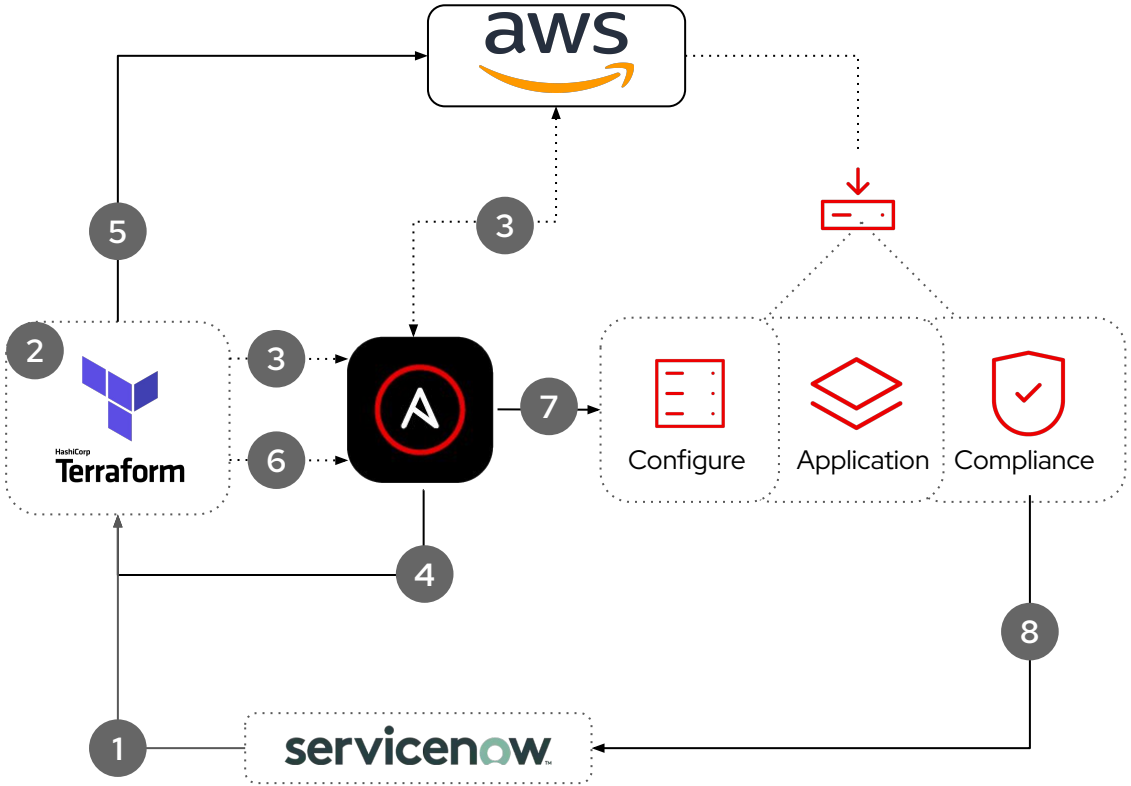
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Day 1 - The Post-Apply Configuration Workflow



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Day Last - Deprovisioning



1. **End-User completes Servicenow Request** which calls the Terraform API
2. **Terraform** plan is processed and waits for review/approval
3. Once approved, **Terraform** pre-apply sends event to **Event Driven Ansible**
4. Pre-apply job template runs in **Ansible Automation Controller**
5. **Terraform** apply destroys infrastructure
6. **Terraform** post-apply sends event to **Event Driven Ansible**
7. Post-apply job template runs in **Ansible Automation Controller**
8. **Servicenow** is updated and request closed with details

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Resources + next steps



- AAP homepage ▸
- YouTube Playlist ▸
- The AAP blog channel ▸
- Datasheet ▸
- Self-paced interactive labs ▸

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