Ansible Automation Platform: Quo Vadis?

Götz Rieger
Principal Solution Architect

Ansible Automation Platform: Quo Vadis? Roadmap

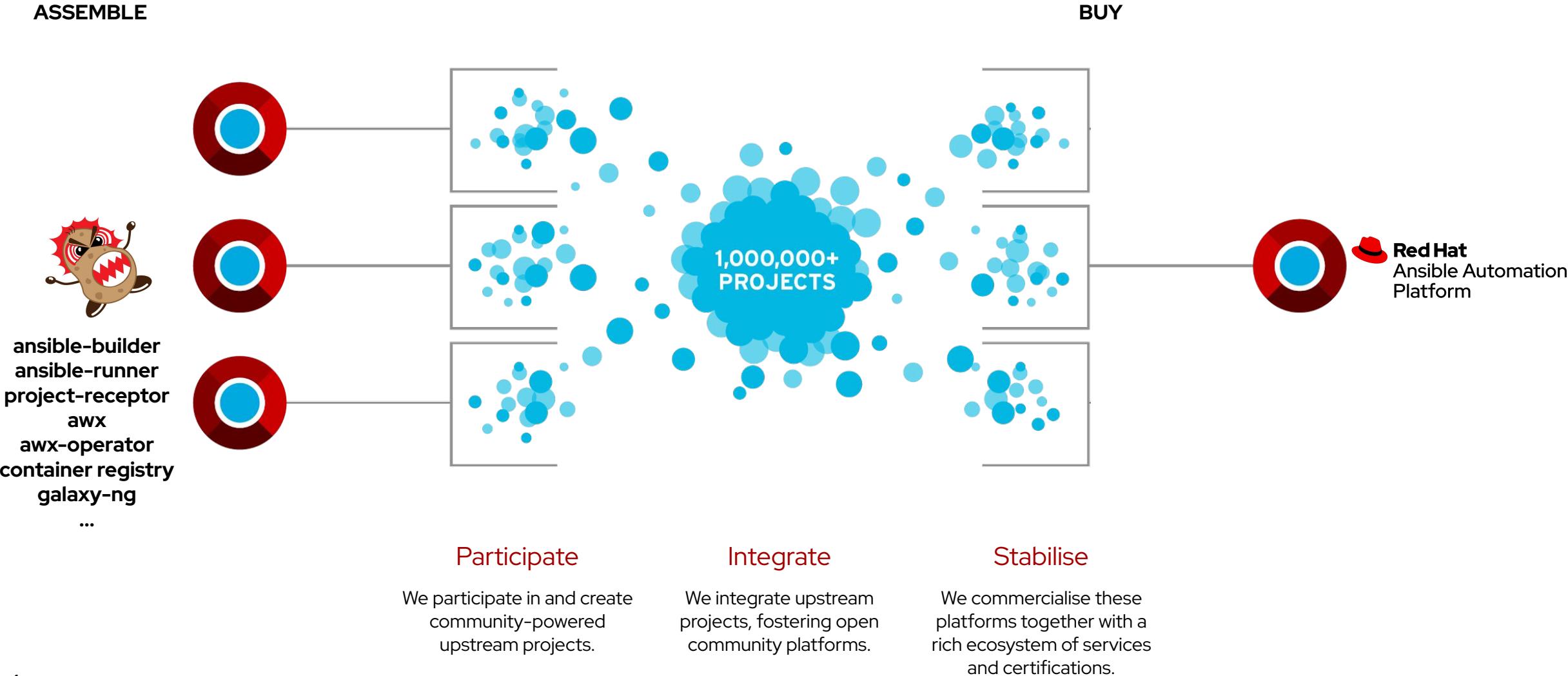## Goetz Rieger
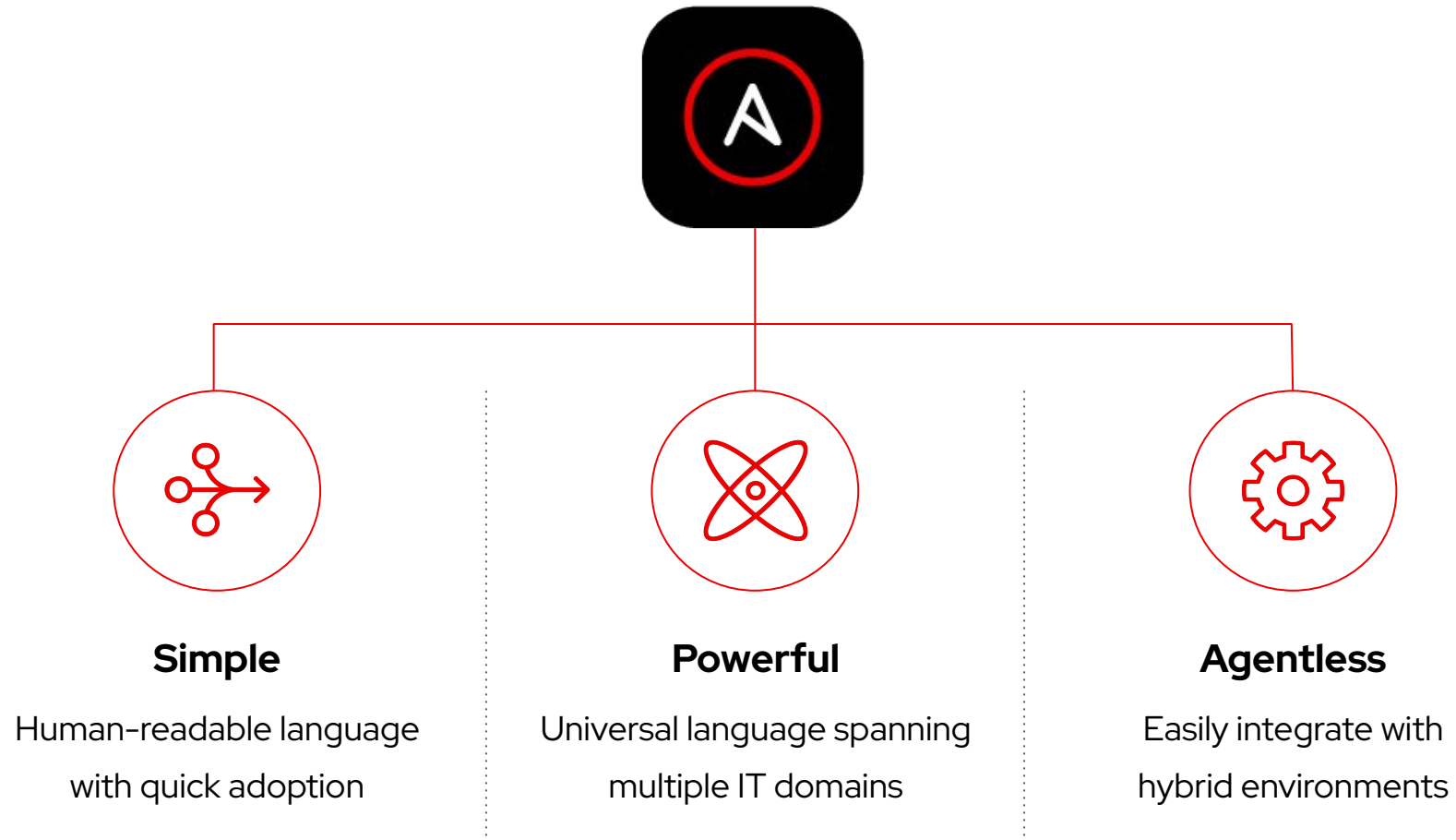
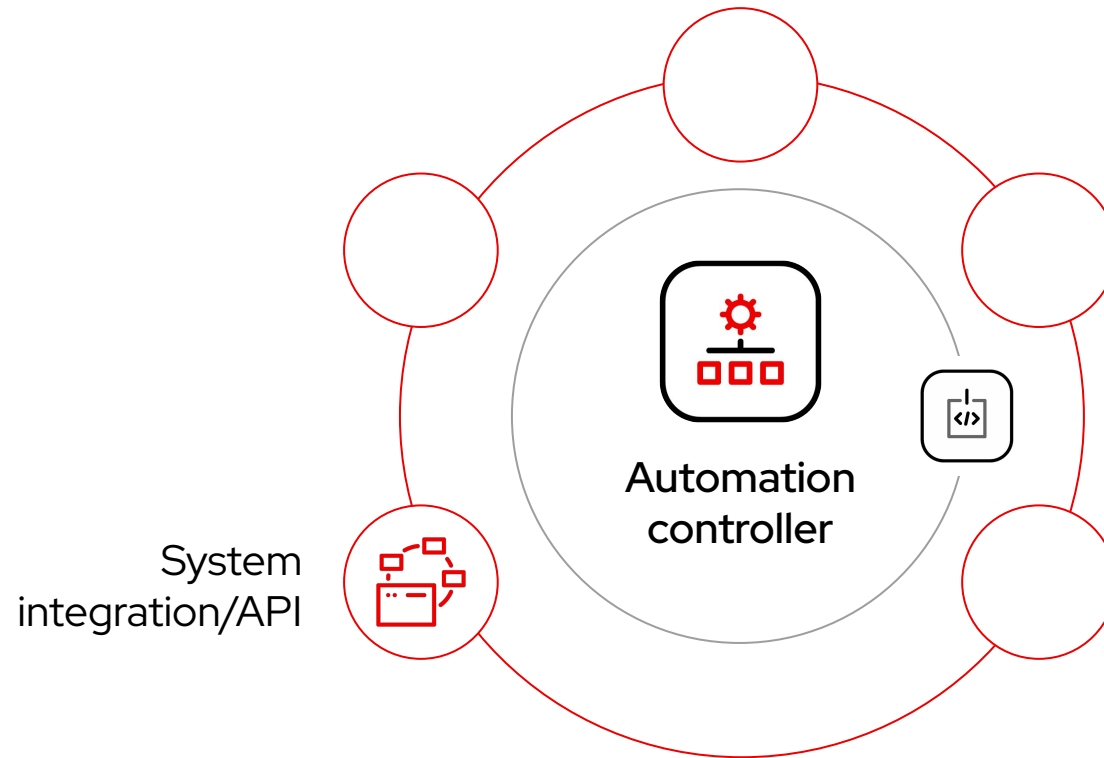Principal Solution Architect | Red Hat

Ansible Automates

Where do we come from?

Where are we?

Where are we going?

Ansible Automates

ASSEMBLE

BUY

ansible-builder
ansible-runner
project-receptor
awx
awx-operator
container registry
galaxy-ng
...

1,000,000+ PROJECTS

Red Hat
Ansible Automation
Platform

Participate

We participate in and create community-powered upstream projects.

Integrate

We integrate upstream projects, fostering open community platforms.

Stabilise

We commercialise these platforms together with a rich ecosystem of services and certifications.

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

Strategic automation needs more

Automation
controller

System
integration/API

Ansible Automates

Strategic automation needs more

User
management

System
integration/API

Automation
controller

Ansible Automates

Strategic automation needs more

Credential management

User management

System integration/API

Automation controller

Ansible Automates

Strategic automation needs more

Credential management

User management

Automation workflows

Automation controller

System integration/API

Ansible Automates

Strategic automation needs more

Credential management

User management

Automation workflows

Automation controller

System integration/API

Centralized logging and audit trail

Ansible Automates

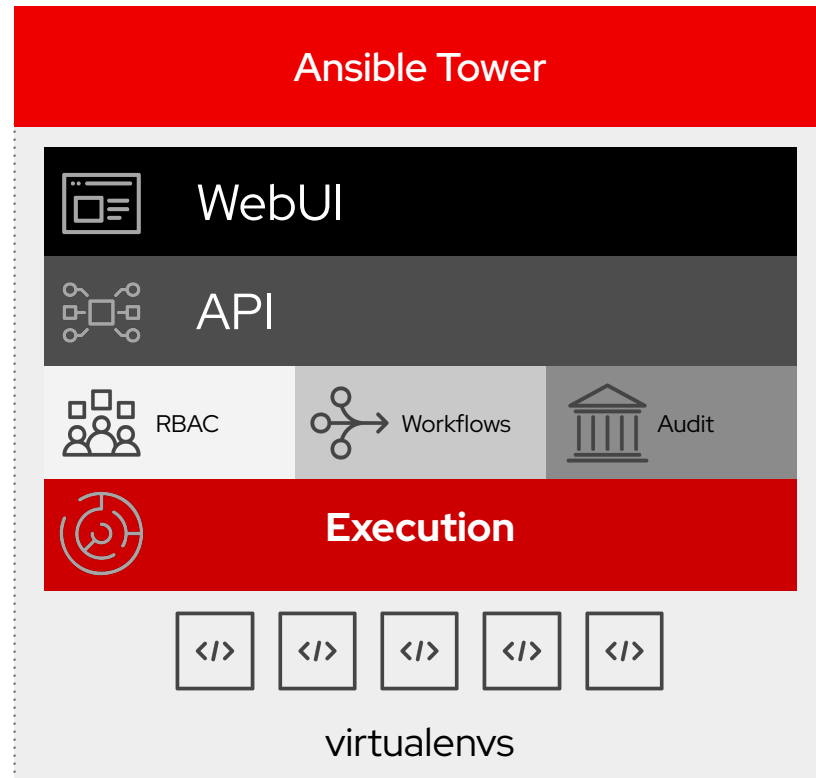# Where do we come from?

Ansible Automates

In the beginning, there where
Ansible Tower and **Ansible Engine.**

(Spoiler: They are **no more**)

The product that we sell, distribute, and support is
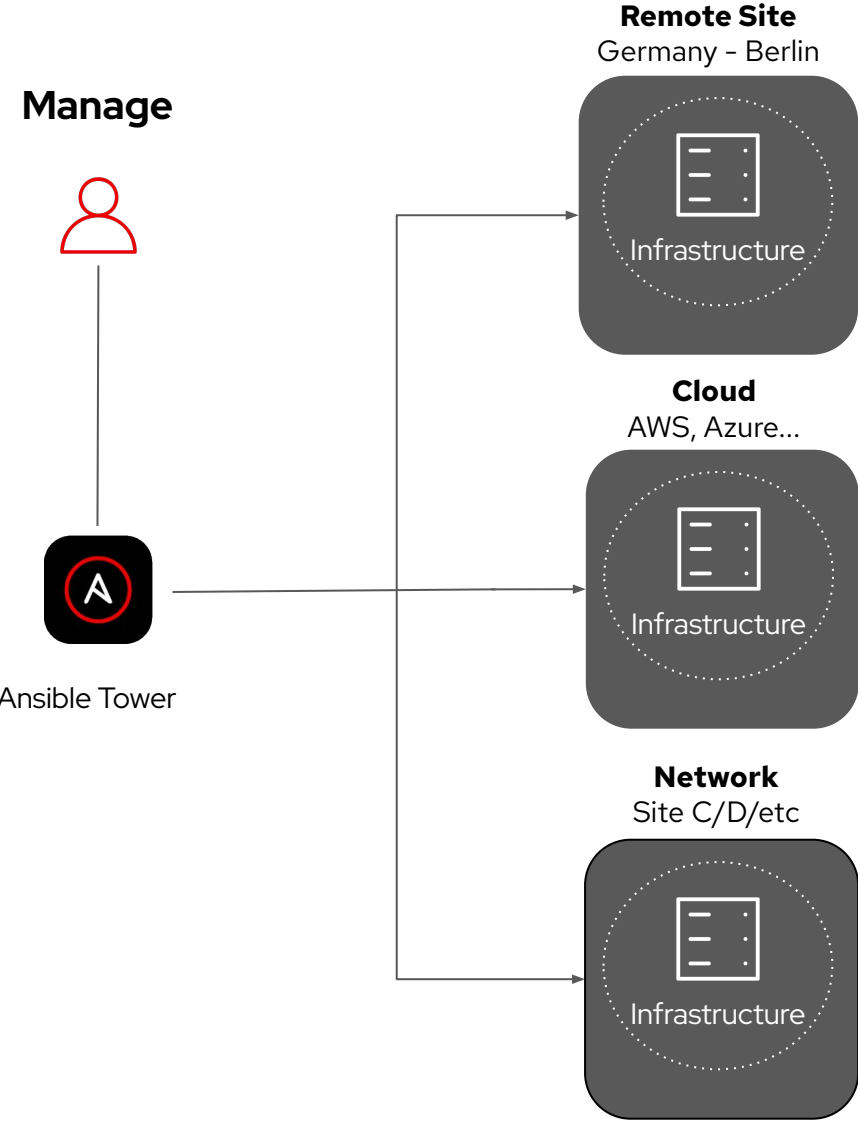**Red Hat Ansible Automation Platform**.
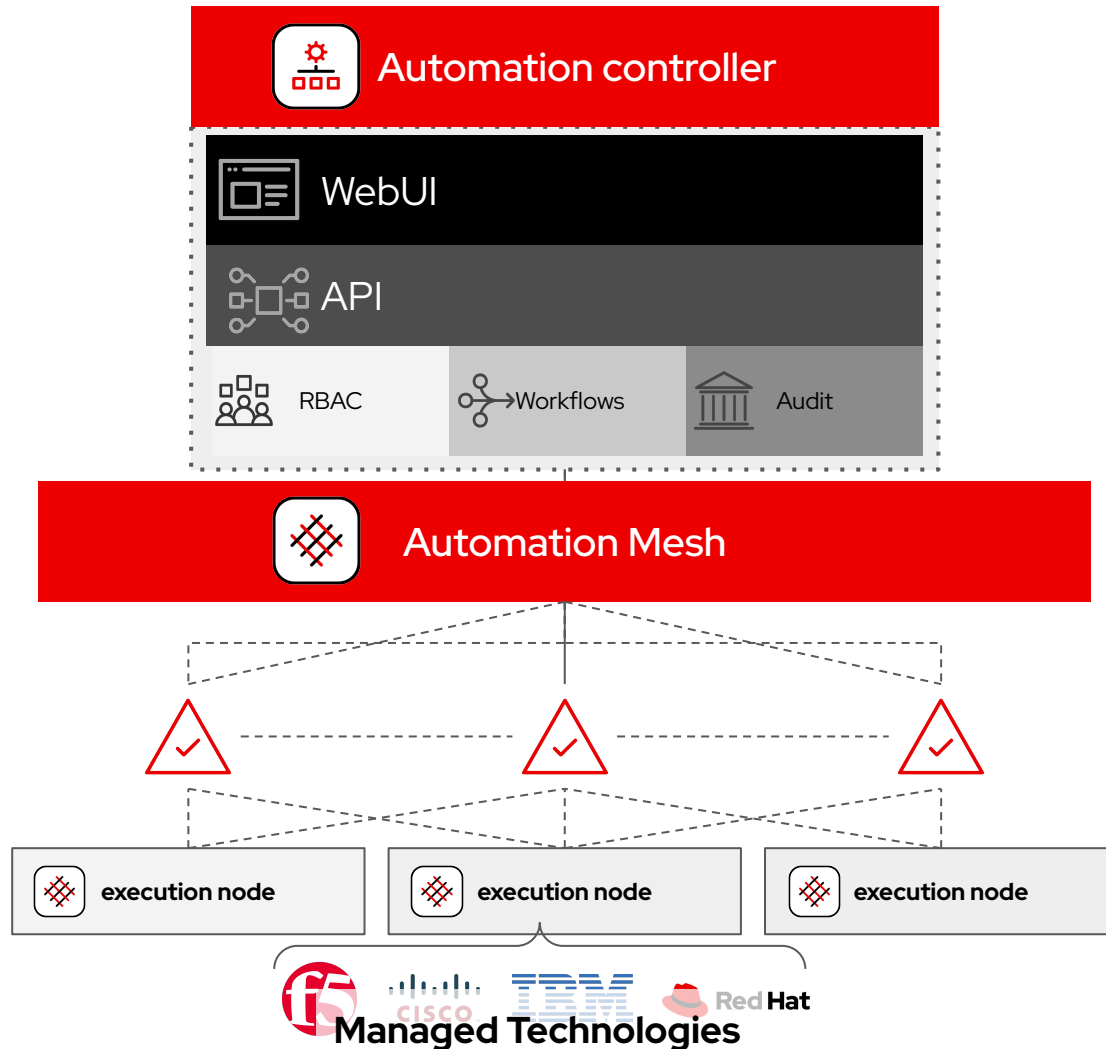
Ansible Automation Platform 1 Architecture

Ansible Tower

WebUI

API

RBAC   Workflows   Audit

Execution

</> </> </> </> </>

virtualenvs

CISCO IBM Red Hat
Managed Technologies

▸ Centralized, monolithic application

▸ Control and execution capacity shared

▸ Limited scalability

▸ Less flexible architecture

13

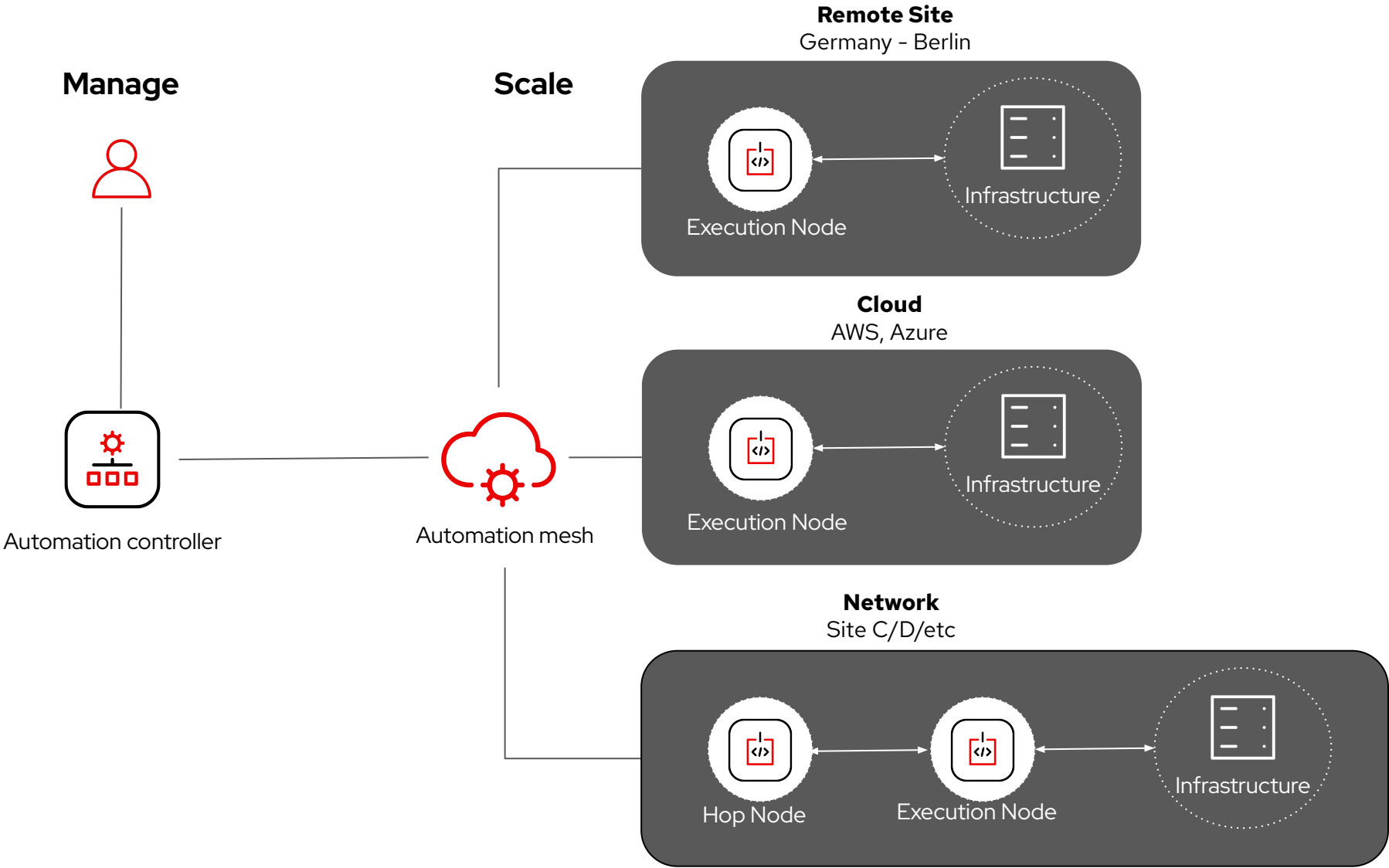**Ansible** Automates

Manage

Ansible Tower

Remote Site
Germany - Berlin

Infrastructure

Cloud
AWS, Azure...

Infrastructure

Network
Site C/D/etc

Infrastructure

Ansible Automates

Where are we?

Ansible Automates

Ansible Automation Platform 2

Automation controller

WebUI

API

RBAC   Workflows   Audit

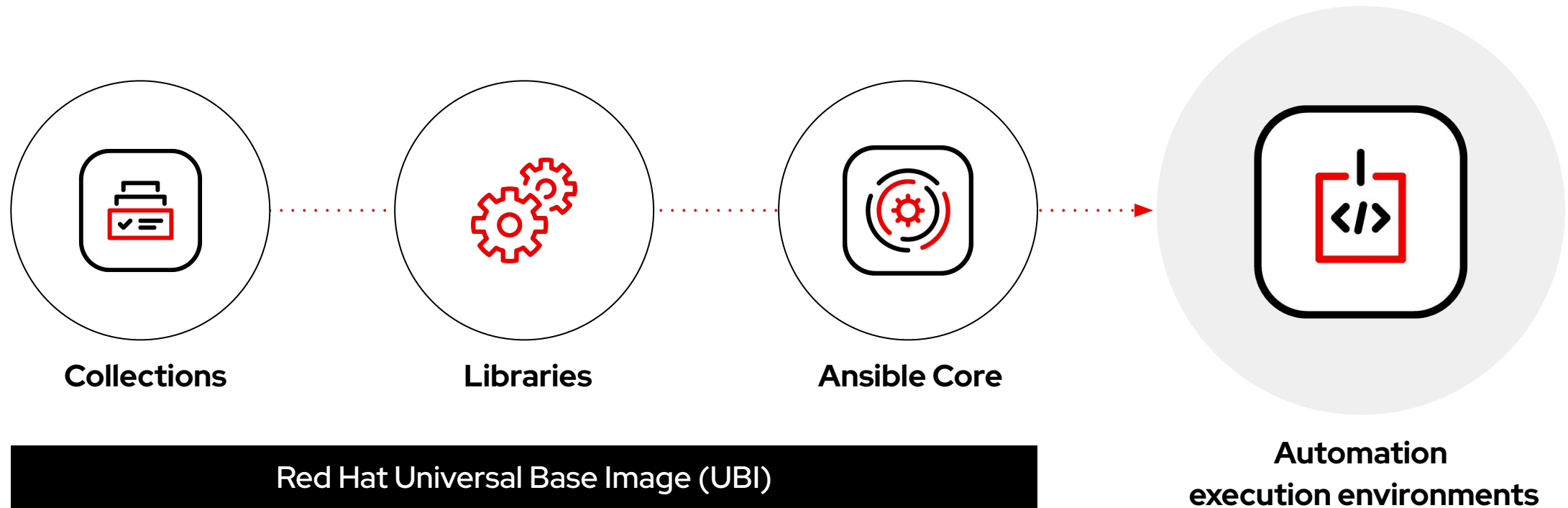**Automation Mesh**

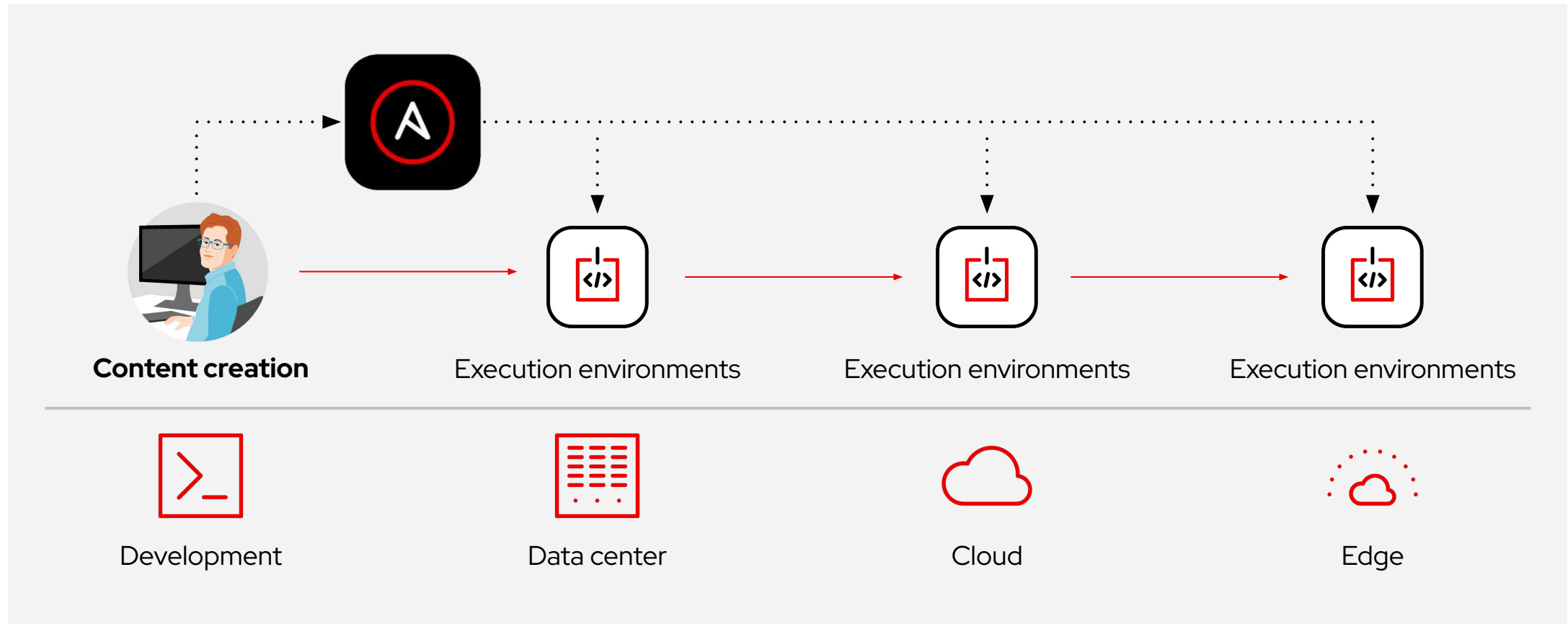execution node   execution node   execution node

Managed Technologies

- ▶ Dynamic cluster capacity
- ▶ **Decoupled execution and control plane**
- ▶ **Execution plane resilient to latency/interruptions**
- ▶ Natively build redundant mesh topologies
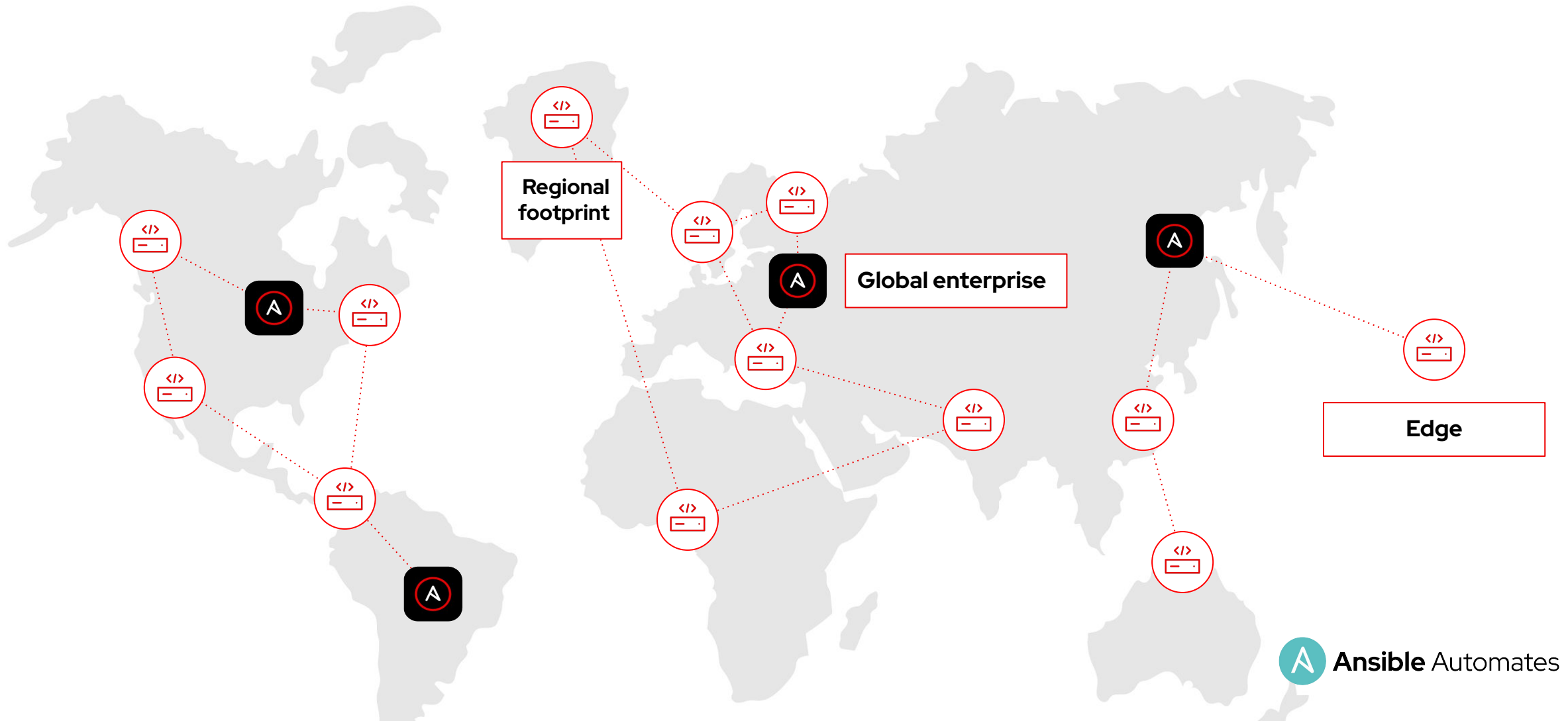- ▶ Centralized management with automation controller

Ansible Automates

Remote Site
Germany - Berlin

Manage

Scale

Execution Node

Infrastructure

Cloud
AWS, Azure

Execution Node

Infrastructure

Automation controller

Automation mesh

Network
Site C/D/etc

Hop Node

Execution Node

Infrastructure

Ansible Automates

Automation execution environments. Reuse and scale.

Collections

Libraries

Ansible Core

Red Hat Universal Base Image (UBI)

**Automation
execution environments**

Ansible Automates

Execution Environments. Portability is reliability.

Content creation

Execution environments

Execution environments

Execution environments

Development

Data center

Cloud

Edge

Ansible Automates

The flexibility to scale, wherever that may be.

Regional footprint

Global enterprise

Edge

Ansible Automates

The flexibility to scale, wherever that may be.

Regional footprint

Global enterprise

Edge

Ansible Automates

The flexibility to scale, wherever that may be.

Regional footprint

Global enterprise

Edge
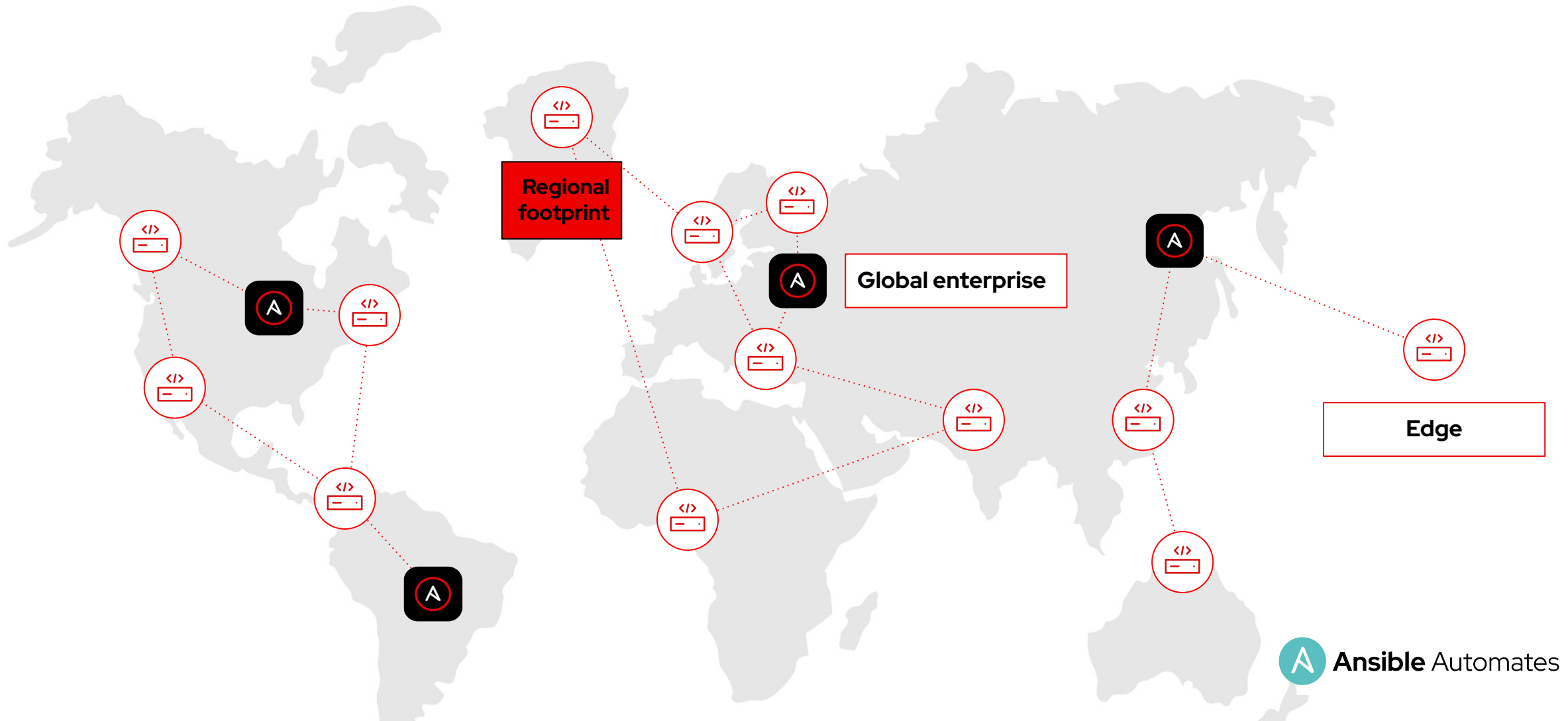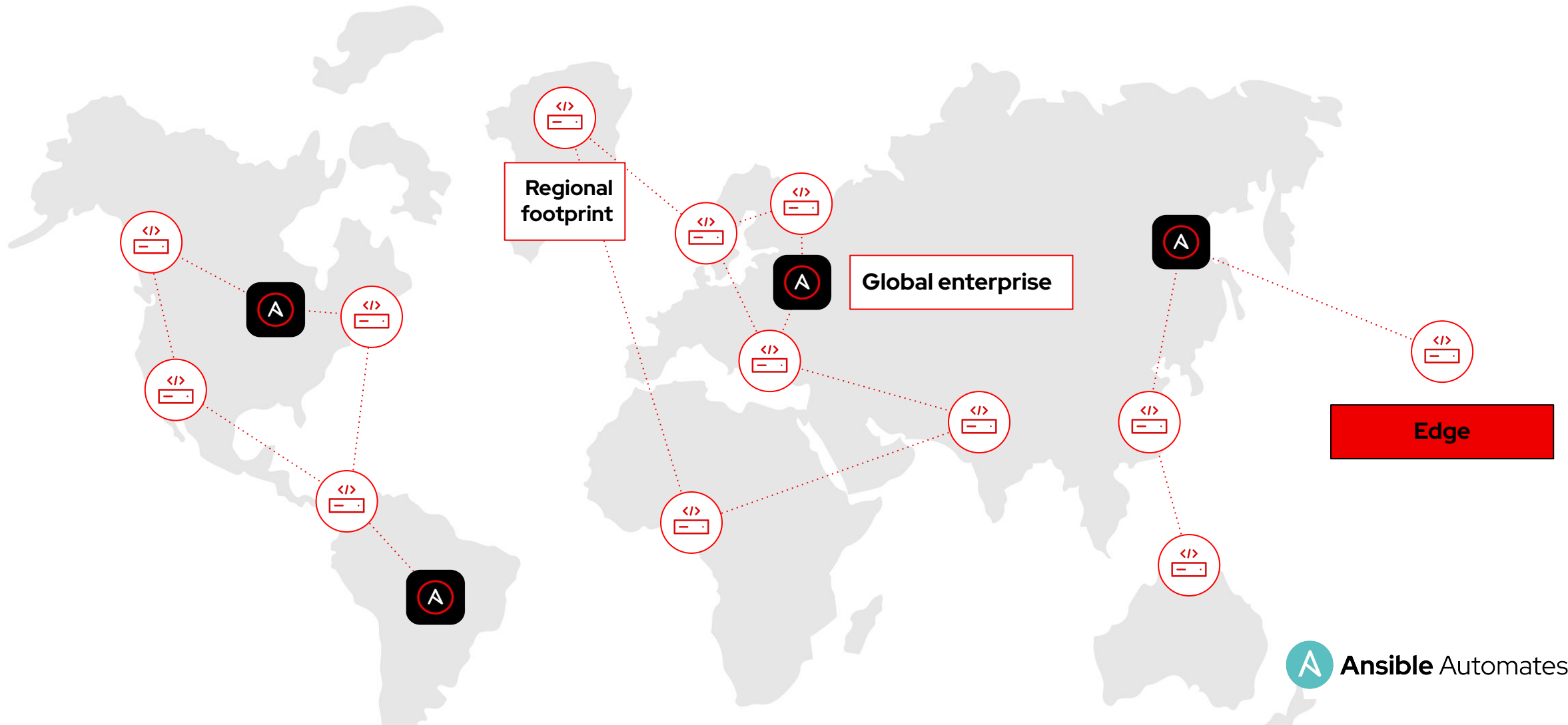
Ansible Automates

Ansible Automation Platform Big Picture: Operate.

Operations

Control plane

Execution plane

Automation Hub

Private Automation Hub

Automation controller

Integrated systems

Automation mesh

Data center

Cloud

Edge

Execution Nodes

Define, operate, and delegate
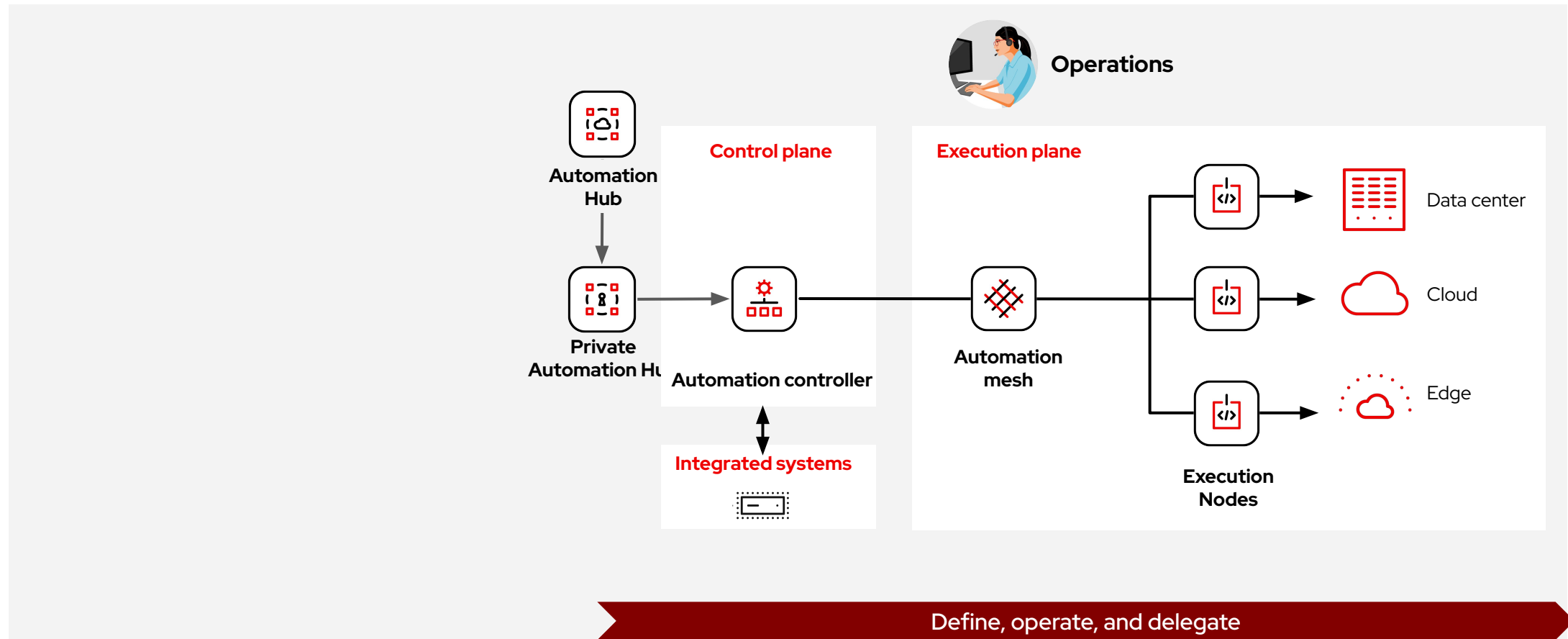
Red Hat

Red Hat Automation Hub. Supported and certified content

Infrastructure **Cloud** **Network** **Security** **Edge**

130+
Certified Content Collections

55+
Certified technology partners

aws · Hewlett Packard Enterprise · Infoblox NEXT LEVEL NETWORKING · JUNIPER NETWORKS · Check Point SOFTWARE TECHNOLOGIES LTD · DELL EMC

ARISTA · Open Switch · NVIDIA · SAP · splunk> · vmware

NUTANIX · N · IBM · f5 · wti · T/RASA. {open source excellence} · CROWDSTRIKE

Sensu · New Relic · PURESTORAGE · VyOS · dynatrace · FRRouting

CYBERARK · Microsoft · Google · rubrik · Chocolatey · aruba NETWORKS

COHESITY · CISCO · A10 · NetApp · FORTINET
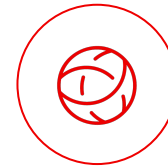
Ansible Automates

Private automation hub. Collaborate, sign, and publish.

Developer IDE
Custom enterprise content
Automation Hub *console.redhat.com*
Ansible Galaxy

Private Automation Hub

Build ▸ Collaborate, sign, and publish ▸ Trust
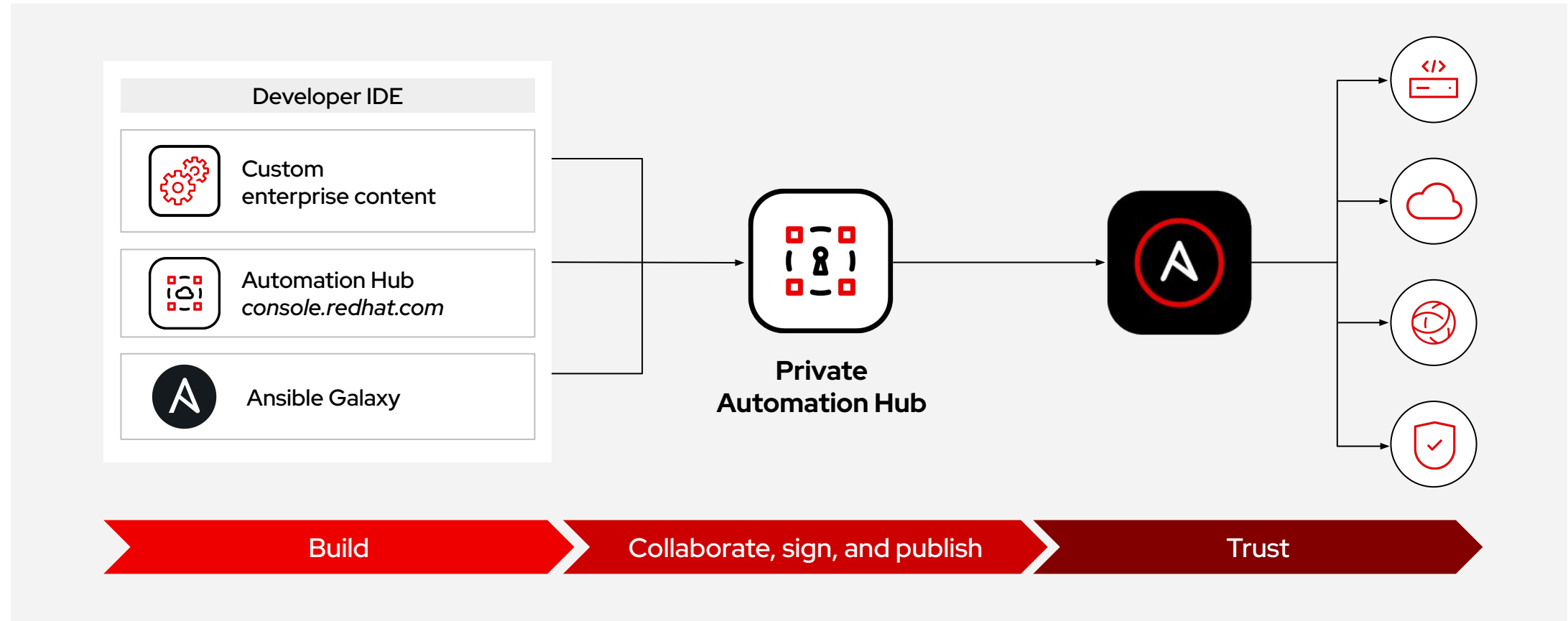
Ansible Automates

Develop, test and run containerized Ansible content.

Content creation

`ansible-navigator`

Playbook

Execution environments

Scalable and supported
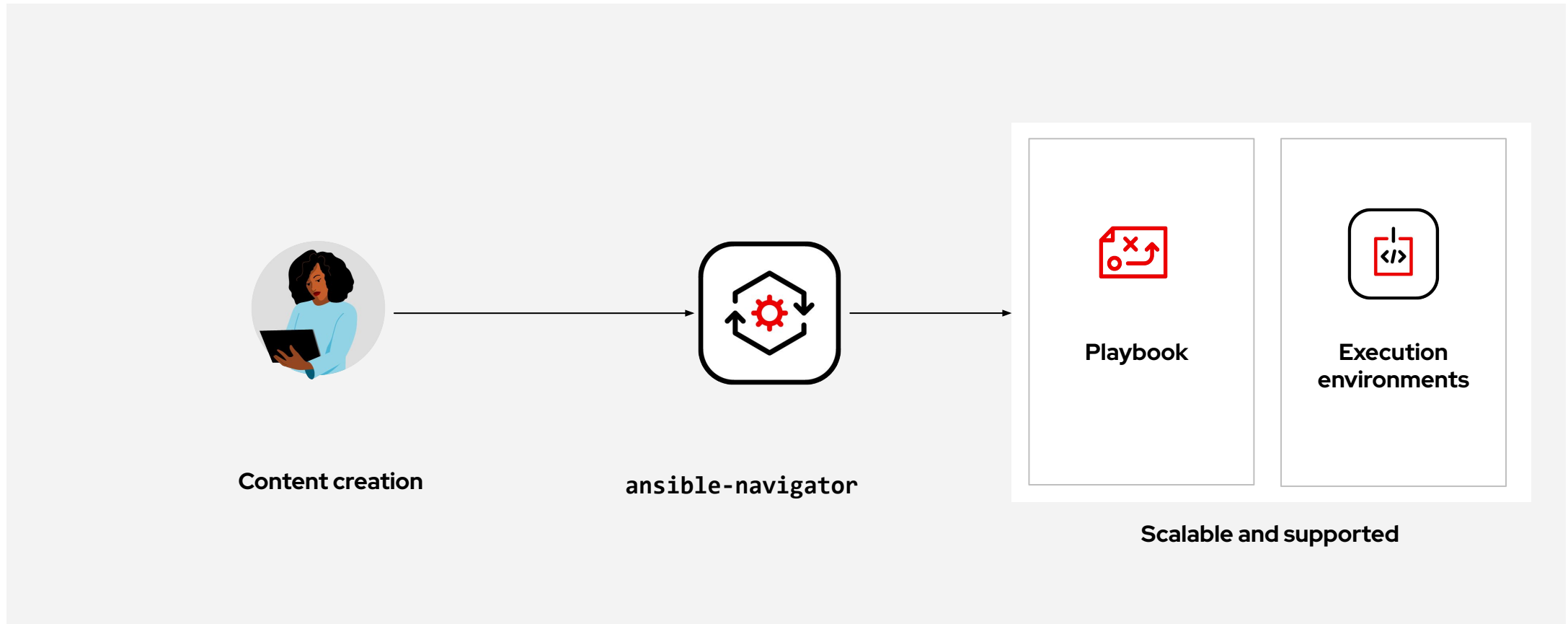
Ansible Automates

Execution environment development: Build, sign, publish.

Content creation

`ansible-builder`

Execution environment

Collections

Base Image

Dependencies

Ansible Core

Private automation hub

Content collections

Execution environments
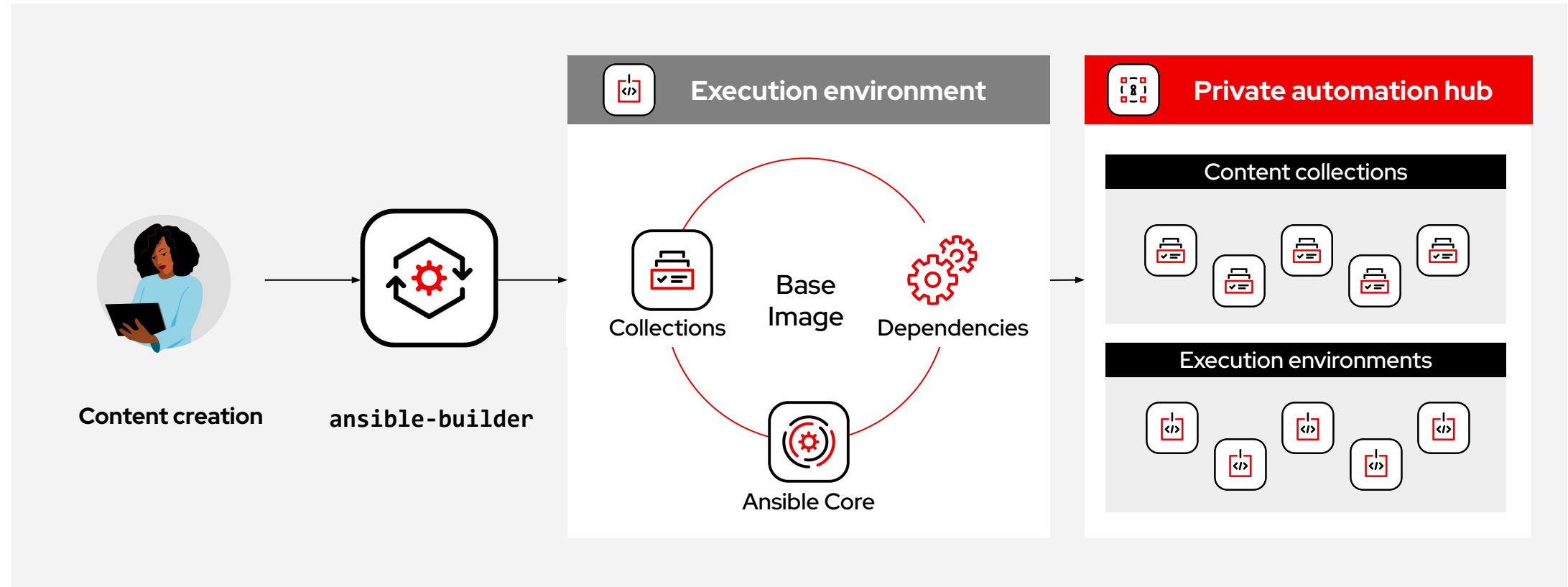
Ansible Automates

Ansible Automation Platform Big Picture: Create.

Content Creation

Operations

Ansible content tools

Playbooks etc

Content Collections

Execution environments

Automation Hub

Private Automation Hub

Control plane

Automation controller

Integrated systems

Execution plane

Automation mesh

Execution Nodes

Data center

Cloud

Edge

Develop, run, and publish

Define, operate, and delegate

28
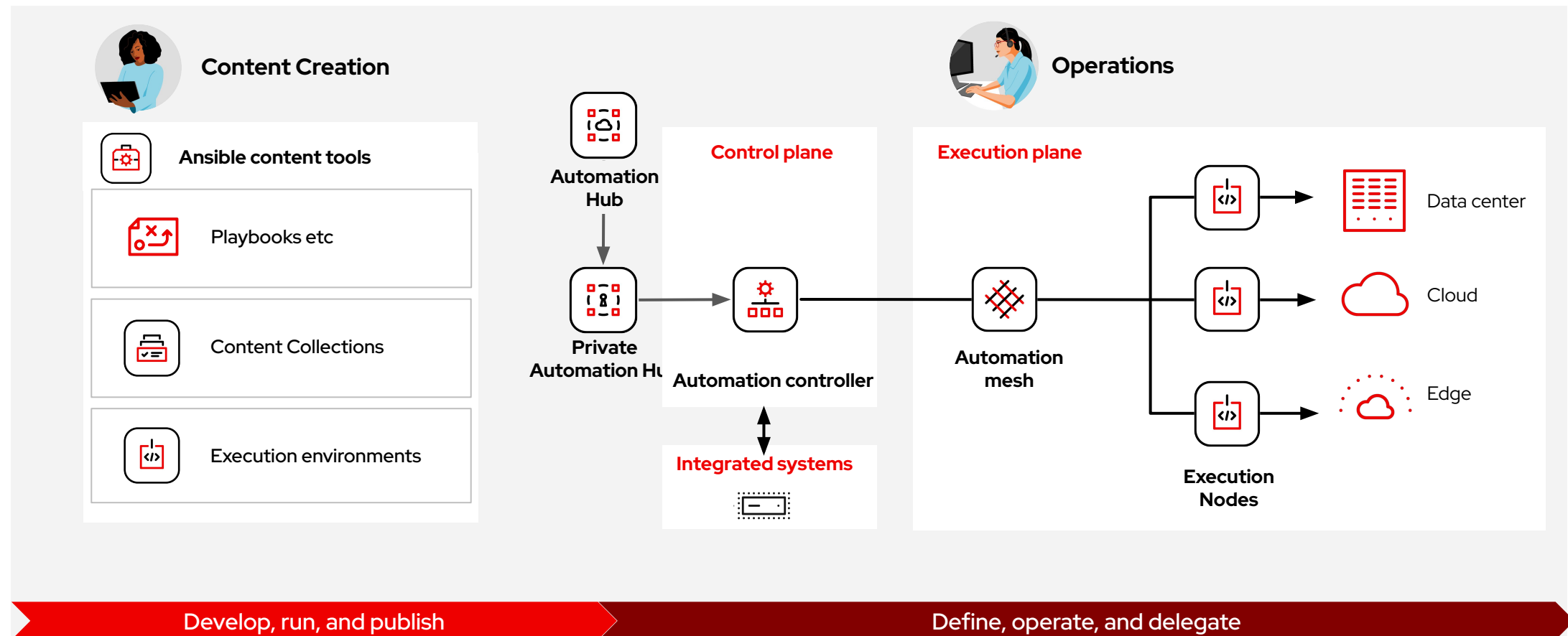
Red Hat

Okay, here we are.

Where do we go?

Ansible Automates

Ansible Automation Platform on Azure

Ansible Automates

Red Hat Ansible Automation Platform on Microsoft Azure

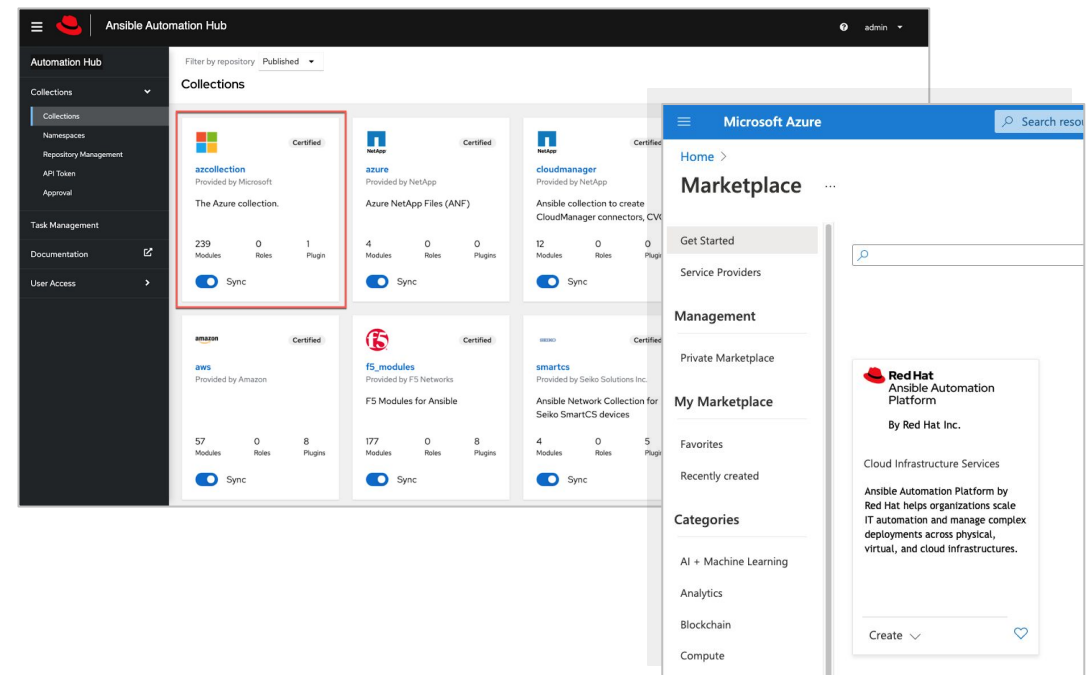## The power of Red Hat Ansible Automation Platform in your Azure cloud
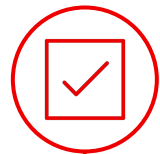
Quick and easy to get started

Optimized deployment with seamless integration to Azure services

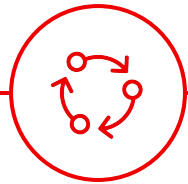**On Azure Marketplace in** North America, Europe, Singapore and Australia.

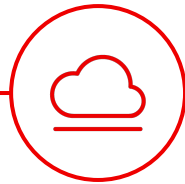# Ansible Automation Platform on AWS

Ansible Automates

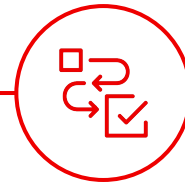# Red Hat Ansible Automation Platform
via AWS Marketplace
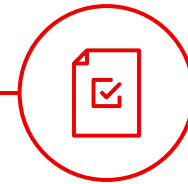
**Runs in
your AWS cloud**

**Fully installed
and integrated**

**Supported
by Red Hat**
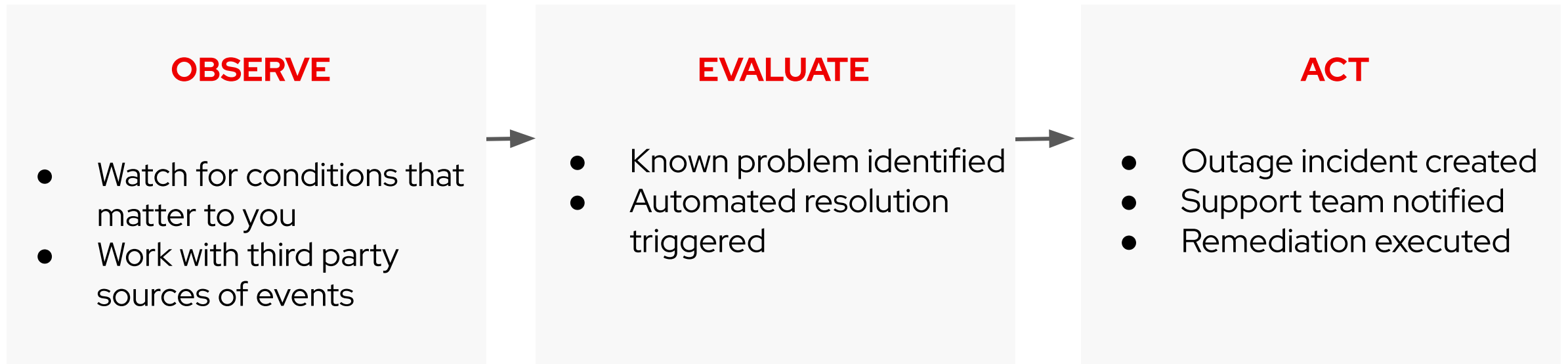
**Integrated to
AWS billing**

**Counts toward
spend agreements**

Transactable on the marketplace as of Nov. 3, 2022

Ansible Automation Platform
Event-Driven Automation

Ansible Automates

Typical event driven automation process

OBSERVE

- Watch for conditions that matter to you
- Work with third party sources of events

EVALUATE

- Known problem identified
- Automated resolution triggered

ACT

- Outage incident created
- Support team notified
- Remediation executed

Ansible Automates

Key building blocks in Event Driven Ansible

Sources

- ▸ Define where events come from, consume events and pass to the rules engine.
- ▸ Source support includes Prometheus, Sensu, Red Hat, as well as webhooks and Kafka.
- ▸ "Custom source" plugin support.

Ansible Automates

Key building blocks in Event Driven Ansible

Sources
- ▸ Define where events come from, consume events and pass to the rules engine.
- ▸ Source support includes Prometheus, Sensu, Red Hat, as well as webhooks and Kafka.
- ▸ "Custom source" plugin support.

Rules
- ▸ Describing when actions should occur, based on information matching source file data.
- ▸ Ansible Rulebooks "if then" formats; can contain playbooks or direct execution modules

Ansible Automates
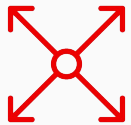
Key building blocks in Event Driven Ansible

Sources
- ▸ Define where events come from, consume events and pass to the rules engine.
- ▸ Source support includes Prometheus, Sensu, Red Hat, as well as webhooks and Kafka.
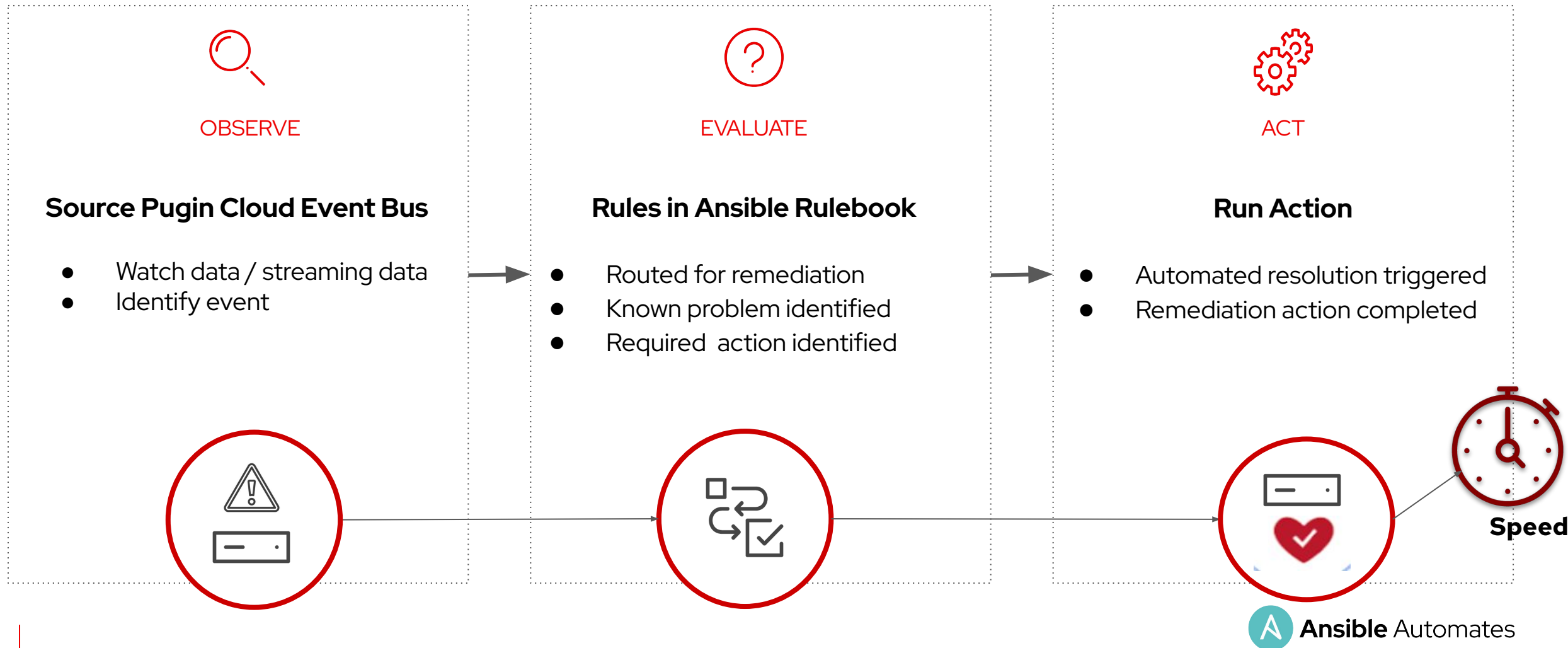- ▸ "Custom source" plugin support.

Rules
- ▸ Describing when actions should occur, based on information matching source file data.
- ▸ Ansible Rulebooks "if then" formats; can contain playbooks or direct execution modules

Actions
- ▸ Familiar Ansible actions such as playbooks, and "ad-hoc" tasks
- ▸ Automate any IT use case

Ansible Automates

Example event-driven workflow: Speed and shorter MTTR

OBSERVE

Source Pugin Cloud Event Bus

- Watch data / streaming data
- Identify event

EVALUATE

Rules in Ansible Rulebook

- Routed for remediation
- Known problem identified
- Required action identified

ACT

Run Action

- Automated resolution triggered
- Remediation action completed

Speed

Ansible Automates

Ansible Automation Platform Validated Content

Ansible Automates
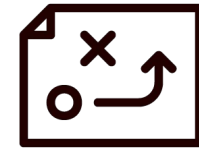
What is content?

Assets needed to run Ansible Automation

MODULES
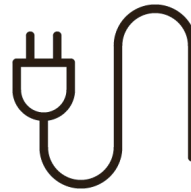
PLUGINS

ROLES & PLAYBOOKS

TESTS

DOCUMENTATION

ANSIBLE CONTENT COLLECTIONS

Ansible Automates

Red Hat Ansible Certified Content

What do I want to automate?

Establishes **integration** with Red Hat and 3rd-party platforms

From Red Hat and trusted industry partners

Tested and supported for security, quality, and reliability

Available through **console.redhat.com**

Ansible Validated Content

New!

How should I automate my systems?

Provides an **expert-led path for performing operations** in Red Hat and 3rd-party platforms

From Red Hat and trusted industry partners

Because it is customizable, it is not supported

Curated and tested for security, quality, and reliability

Will be preloaded in **private automation hub**

42

Ansible Automates

Ansible Automation Platform Project Wisdom

Ansible Automates

Strategic Partnership: Project Wisdom

IBM **Research**

We train and fine-tune the large language models used by Project Wisdom on the IBM Research Cognitive Computing Cluster (CCC).

Some of the top experts in AI and languages at the Thomas J Watson Research Center in NY are dedicated to this project.

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.

Red Hat

facebook.com/ansibleautomation

twitter.com/ansible

linkedin.com/company/ansible/

youtube.com/user/RedHatVideos

Ansible Automates