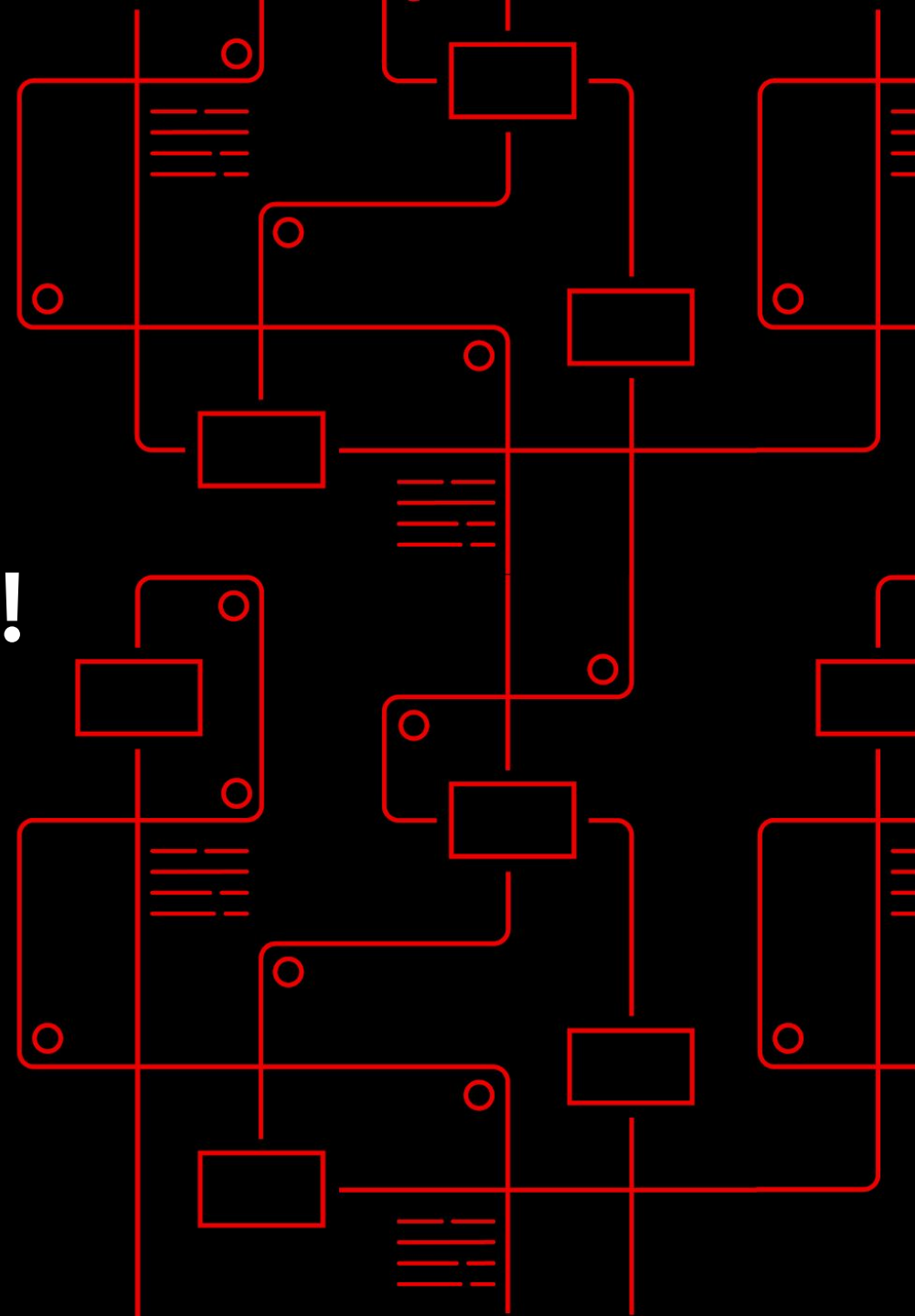
Red Hat
Ansible Automation
Platform

Red Hat Ansible Automation Platform

Thanks to our sponsor Intel!



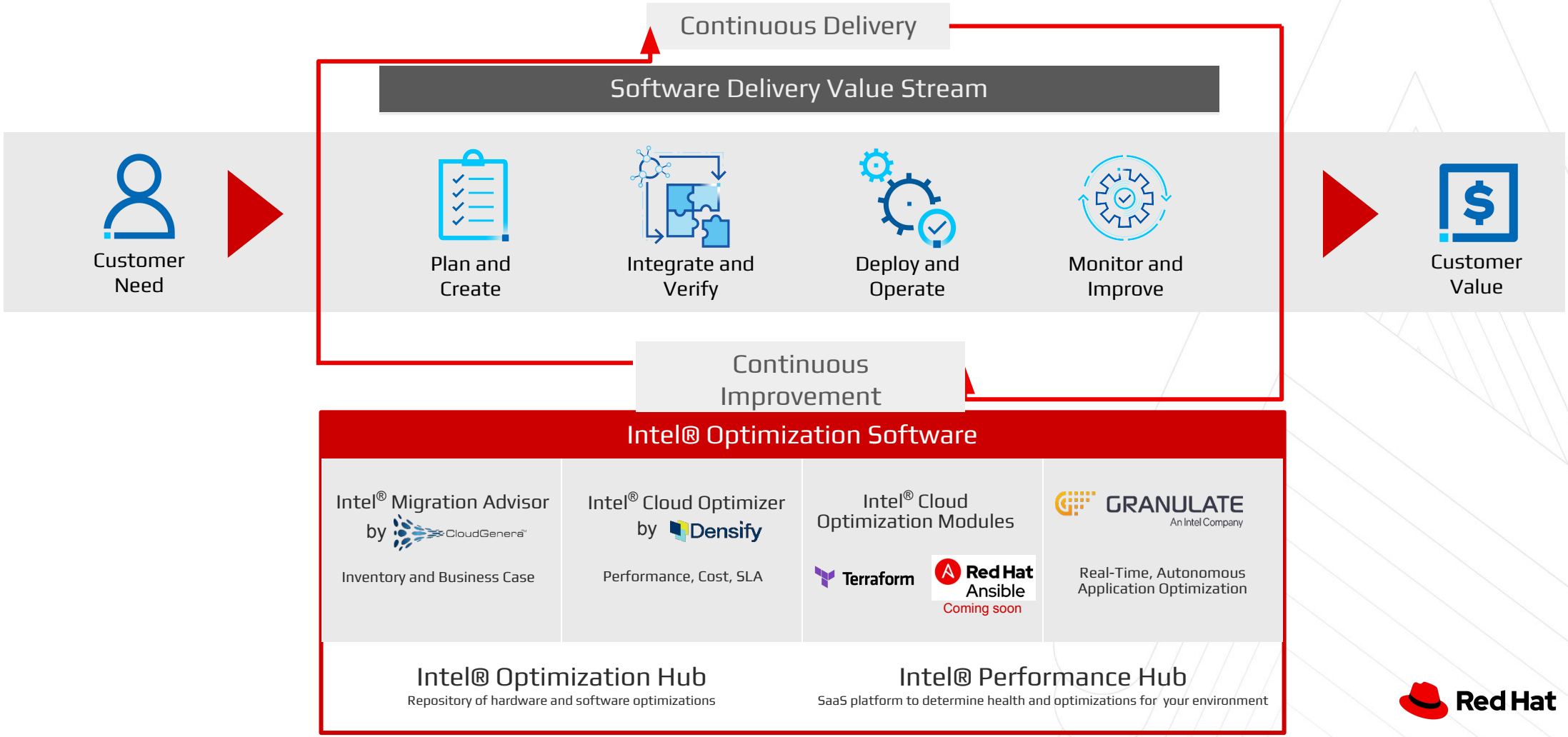
Over **25** Years of Relationship

Fun fact:

Intel is #1

Linux Kernel
Corporate Contributor
since 2007[1]

Intel® Optimization Software

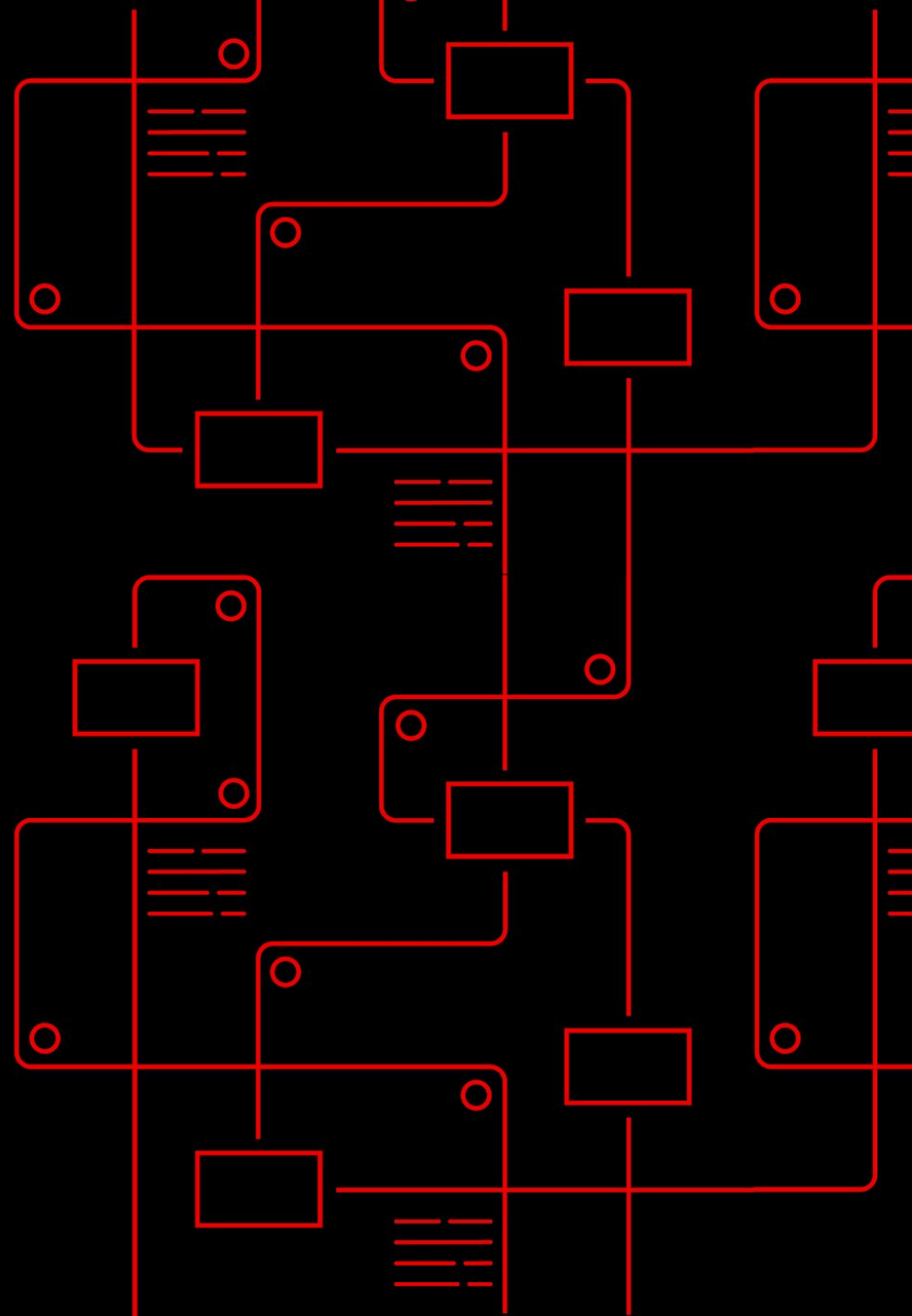


Red Hat | intel.

You are probably here

```
random-dude@laptop $ ansible-playbook \
     -i 192.168.1.100, test.yaml
```

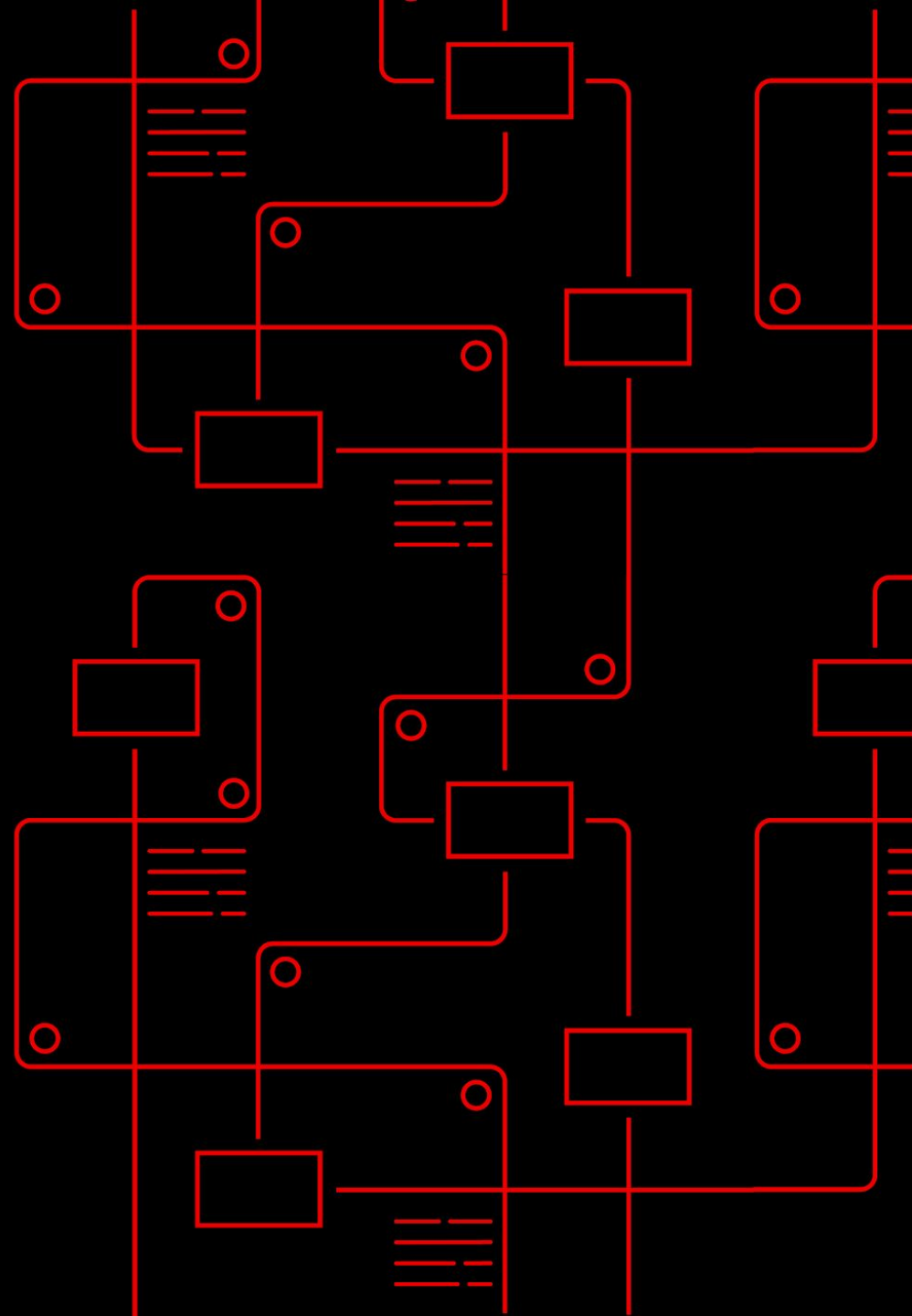
Why Red Hat® Ansible® Automation Platform?



What do you actually want?

- Control who is allowed to do what
- Standardize way of working
- Share automation within an organization
- Reuse existing automation
- Audit Trail
- Self-service
- Integrate with other systems

What is Red Hat® Ansible® Automation Platform?



Red Hat
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Platform

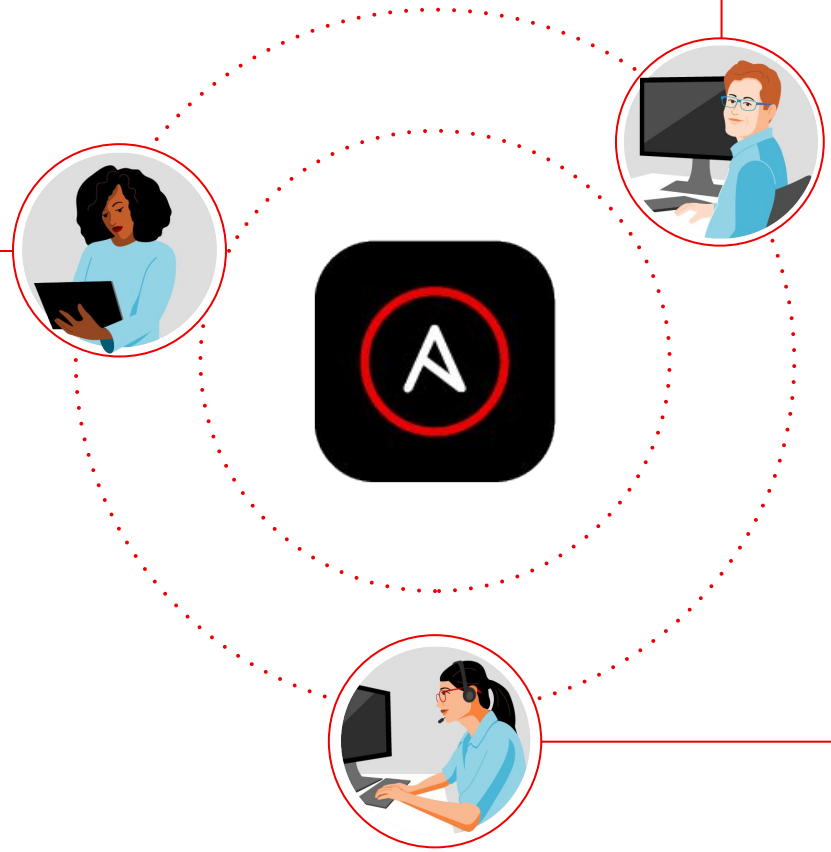
A platform for the entire automation team.

Architecture

Flexible container-native architecture

Real-time analytics and reporting

Scale globally with distributed execution across regions



Content creation

Content creation tooling

Portable distribution and reliable execution

Large ecosystem of certified automation

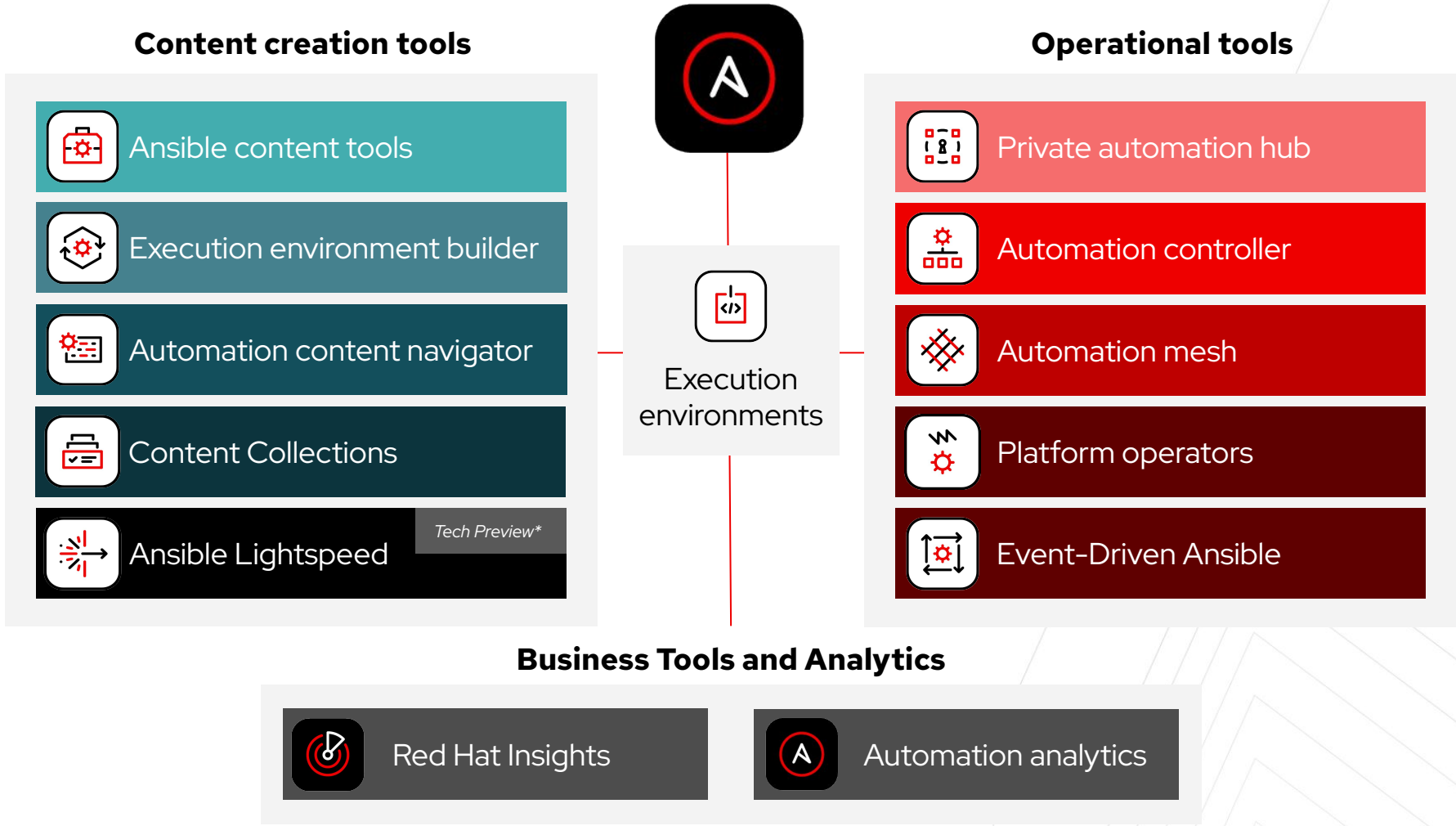
Operations

Enterprise features: WebUI, API, role-based access control (RBAC), auditing and workflows for managing at scale

Hosted and private content management solutions

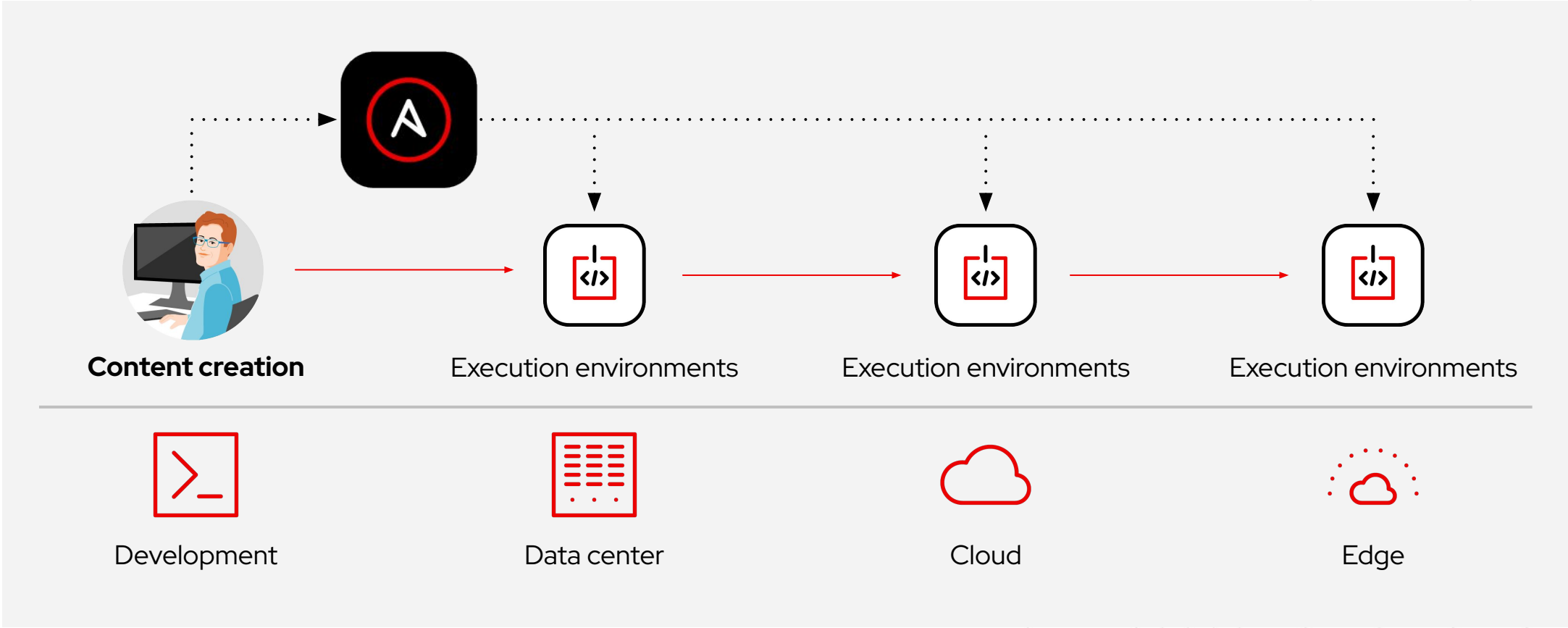
Integrates with your environment

An integrated solution for the enterprise.

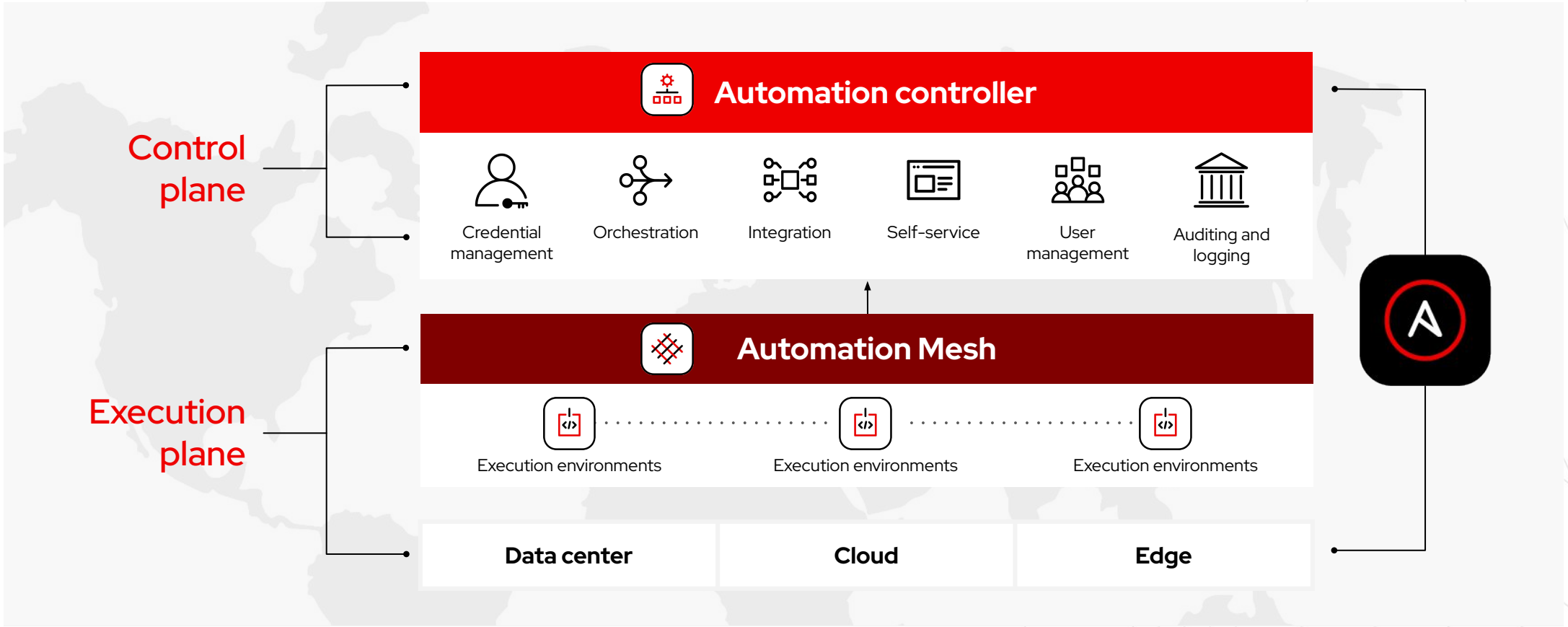


** Ansible Lightspeed with IBM watsonx Code Assistant is available as non-supported technical preview.*
https://access.redhat.com/articles/7016058

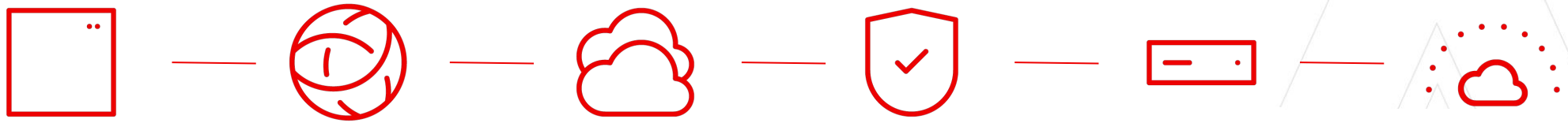
Built for consistency. Portability is reliability.



A distributed architecture built for scale.



The capabilities you need across your IT footprint.



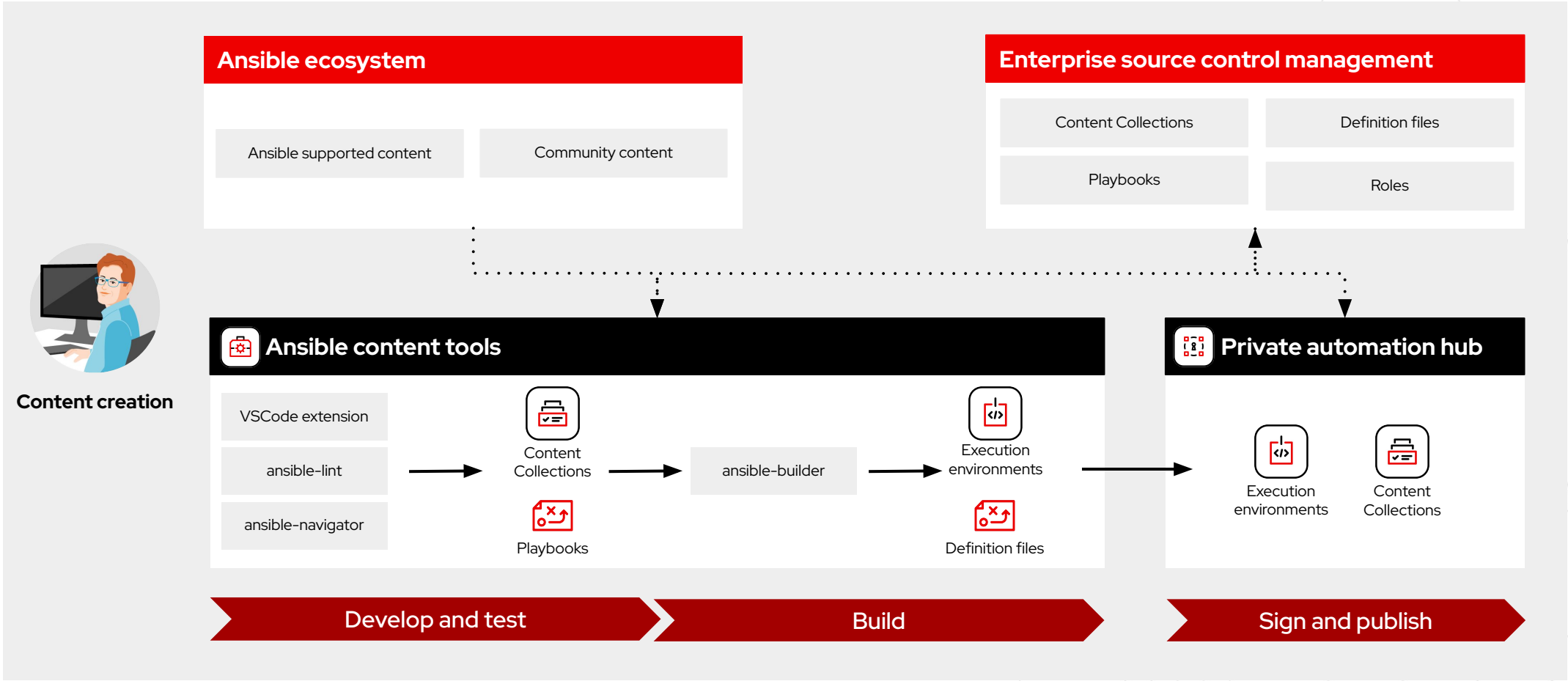
Applications	Network	Cloud	Security	Infrastructure	Edge
DevOps	Configuration management	Orchestration	Investigation enrichment	Deployment	Extend security
CI/CD	Infrastructure awareness	Operationalisation	Threat hunting	Provisioning	Scalability
GitOps	Network validation	Governance	Incident response	Management	Interoperability

Enabling your automation team to consistently...

Create Manage Scale

Create

The automation content life cycle. Create.



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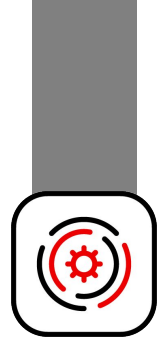
Ansible Core (ansible-core)

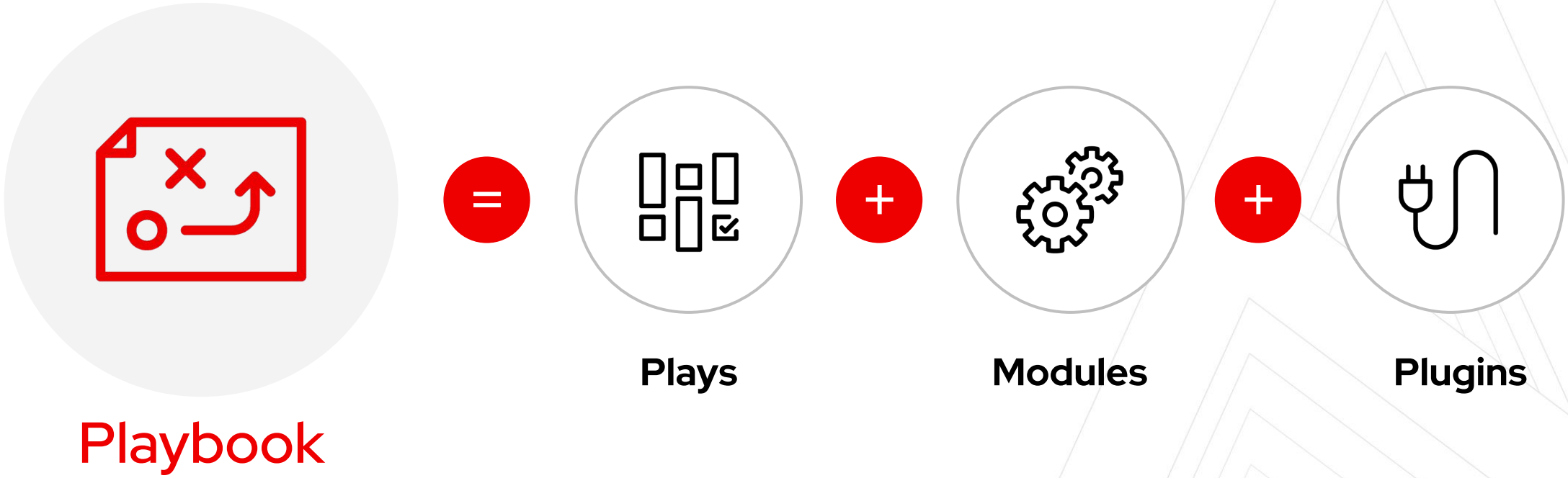


What is it?

- The main building block for Ansible
- Simple YAML syntax to develop Ansible Playbooks
- Provides CLI tools to develop, test and run playbooks
- Pluggable architecture that allows extensions through Content Collections

```
---
- name: Shutdown VM guest
  hosts: localhost
  gather_facts: false
  tasks:
    - name: Turn off specified VM guest
      vmware.vmware_rest.vcenter_vm_guest_power:
        state: shutdown
        vm: 1021343
        vcenter_hostname: vcenter.demoredhat.com
        vcenter_username: admin
        vcenter_password: tedlasso
```

What makes up an Ansible playbook?



Ansible playbooks

```
---
- name: Install and start apache
  hosts: web
  become: true

  tasks:
    - name: Ensure the httpd package is installed
       ansible.builtin.package:
         name: httpd
         state: present

    - name: Create the index.html file
      ansible.builtin.template:
        src: files/index.html
        dest: /var/www/html/

    - name: Start the httpd service if needed
      ansible.builtin.service:
        name: httpd
        state: started
```

Ansible Roles. Reusable automation actions.

What are they?

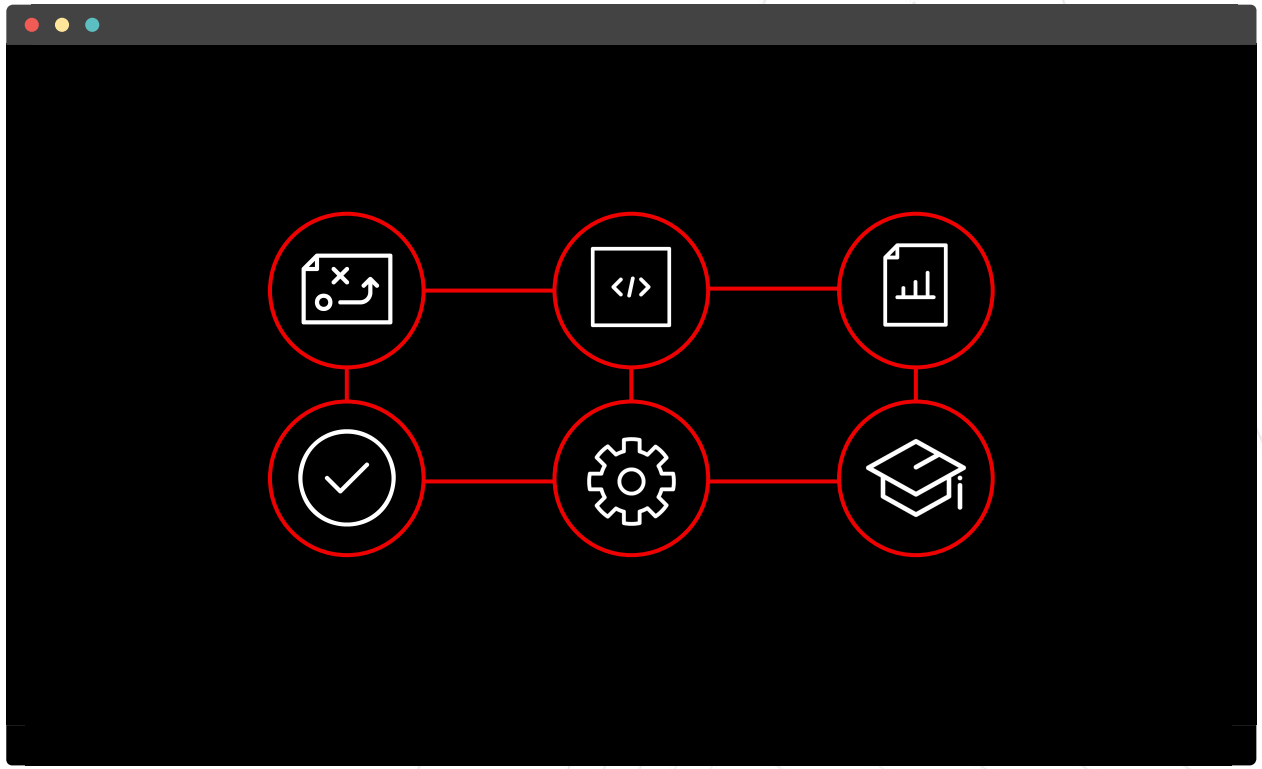
- Group tasks and variables of your automation in a reusable structure
- Write roles once, and share them with others who have similar challenges in front of them

```
---
- name: Install and start apache
  hosts: web
  ansible.builtin.roles:
    - common
    - webservers
```

Content Collections.
Simplified, consistent content delivery.

What are they?

- Contains automation content, including modules, multiple roles ,and playbooks
- Portable, reusable, and versioned enabling better collaboration

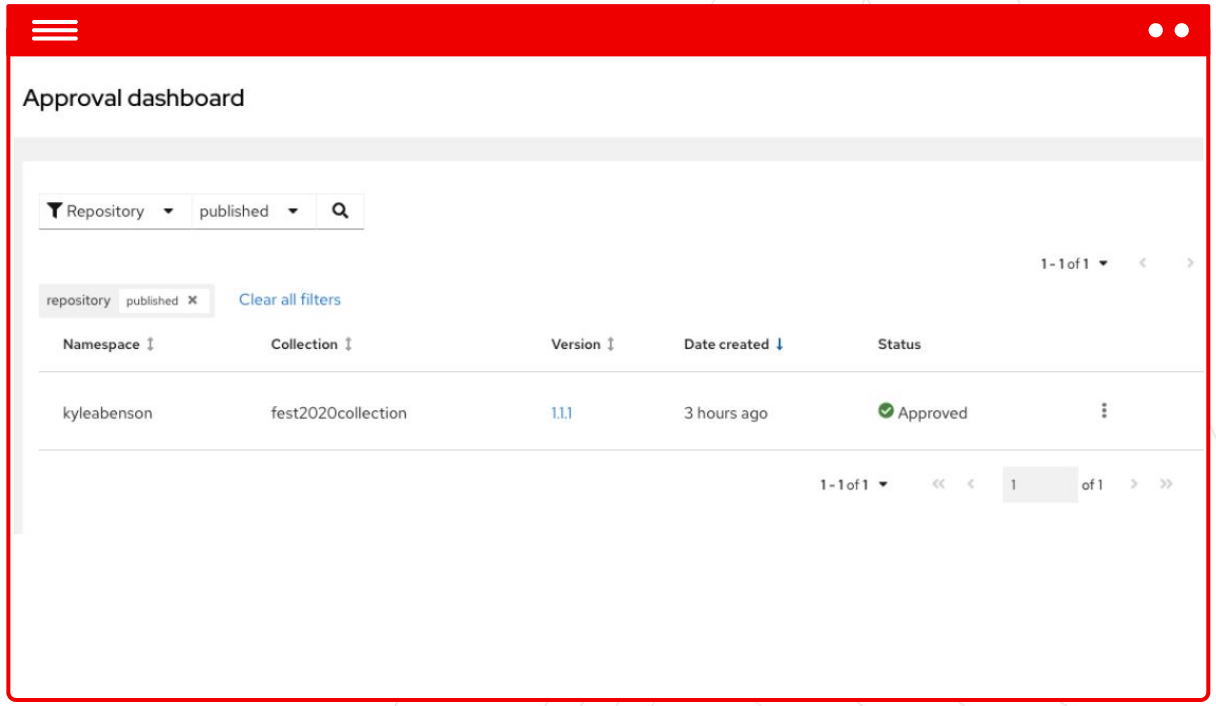


Automation hub. Trusted automation content.

console.redhat.com

What is it?

- Hosted source of trusted Red Hat and Certified Partner Content Collections
- Integrated documentation and examples
- Configurable as primary content collection source for your automation environment
- Access to hosted automation hub and content Included in subscription



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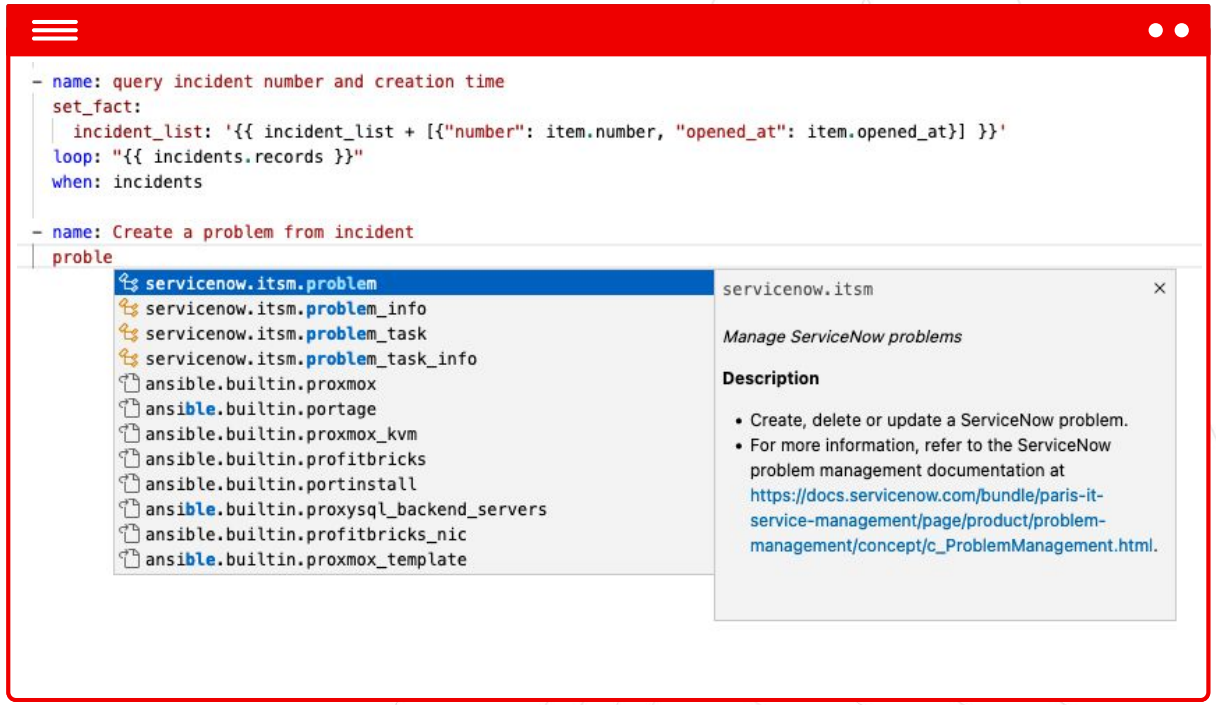
Ansible VS Code extension. Simplifying content creation

What is it?

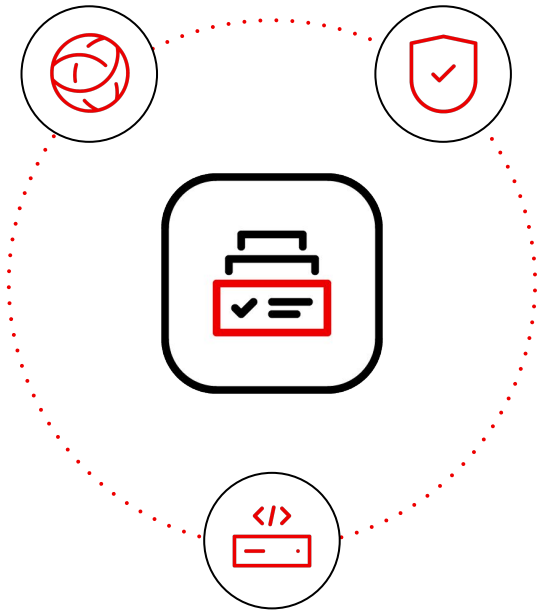
- Syntax highlighting of keywords such as module names
- Live validation of your code while you type
- Integration with ansible-lint*
- Autocompletion on play, block or task contents etc
- Documentation references as you code



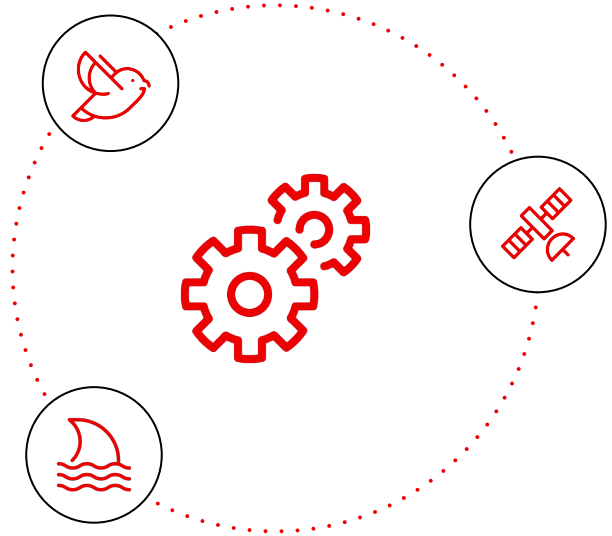
Red Hat Ansible Automation Platform

** ansible-lint is fully supported in Ansible Automation Platform version 2.3*

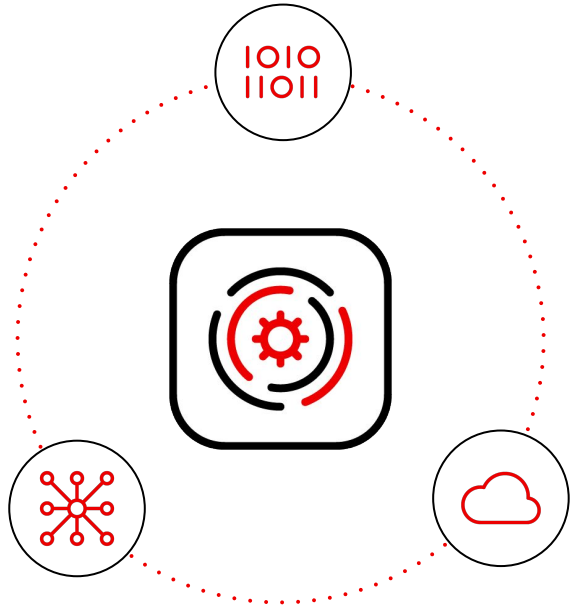
Many technologies, different life cycles.
How do I keep it all aligned?



Collections

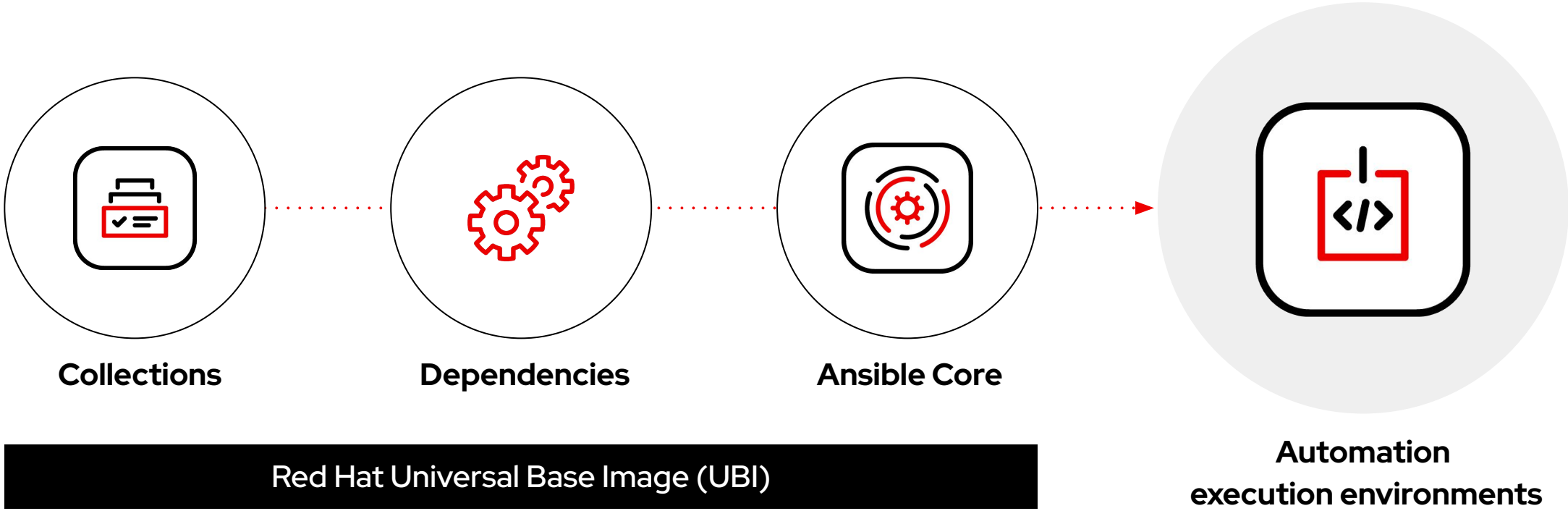


Dependencies

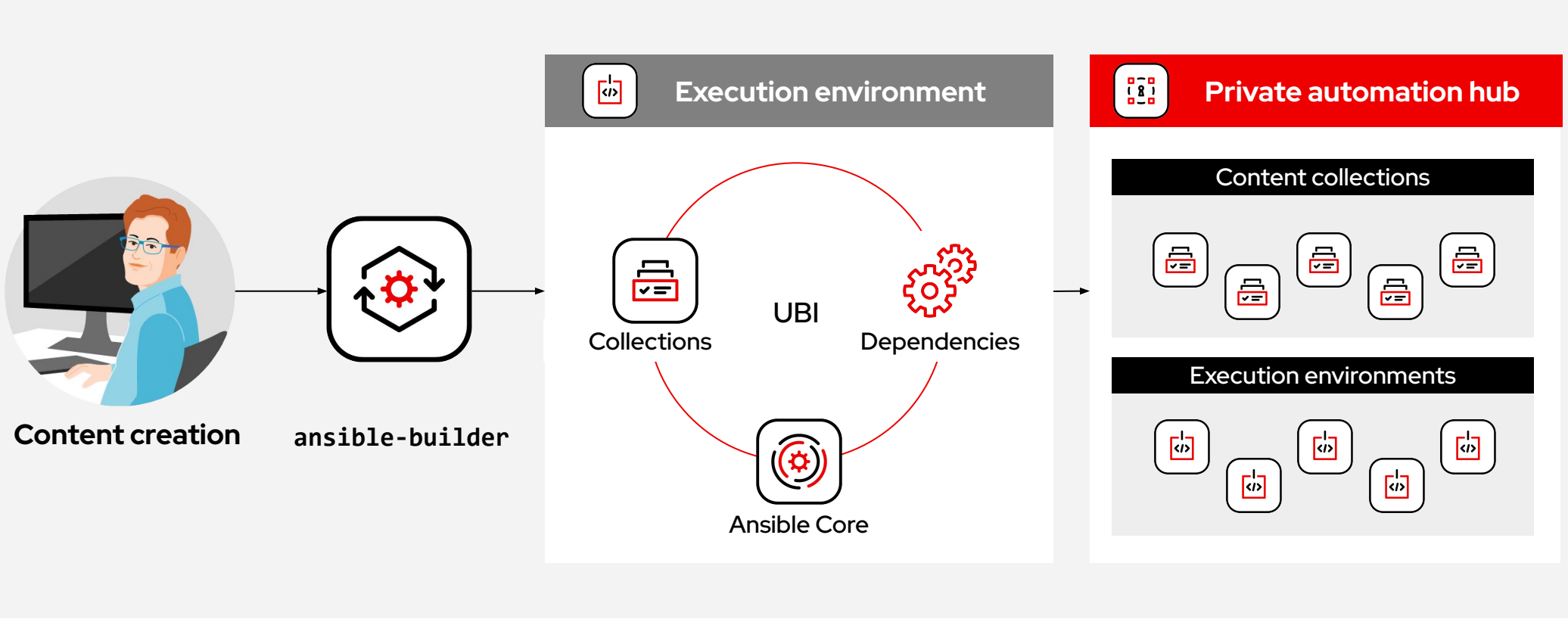


Runtime

Automation execution environments.
Reuse and scale automation content.



Execution environment development.
Build, collaborate, sign, publish.



Execution environment builder. Build.

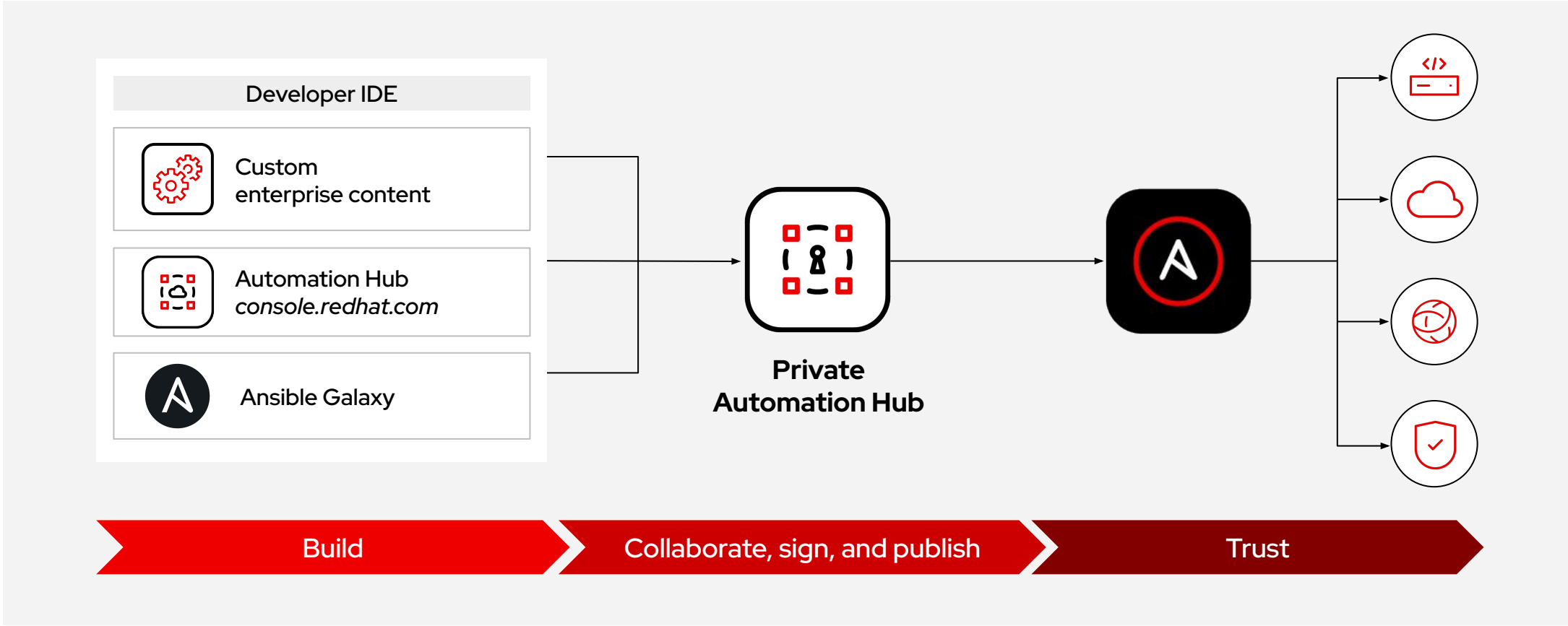
ansible-builder

What is it?

- Easily build custom execution environments with the exact Ansible content needed
- Manage, track and version execution environments
- Share execution environment build artifacts with other teams

```
$ ansible-builder build --tag repo/custom_ee:latest
```

Private automation hub. Collaborate, sign, and publish.



Develop, test and run containerized Ansible content.

Content creation

ansible-navigator

Playbook

Execution environments

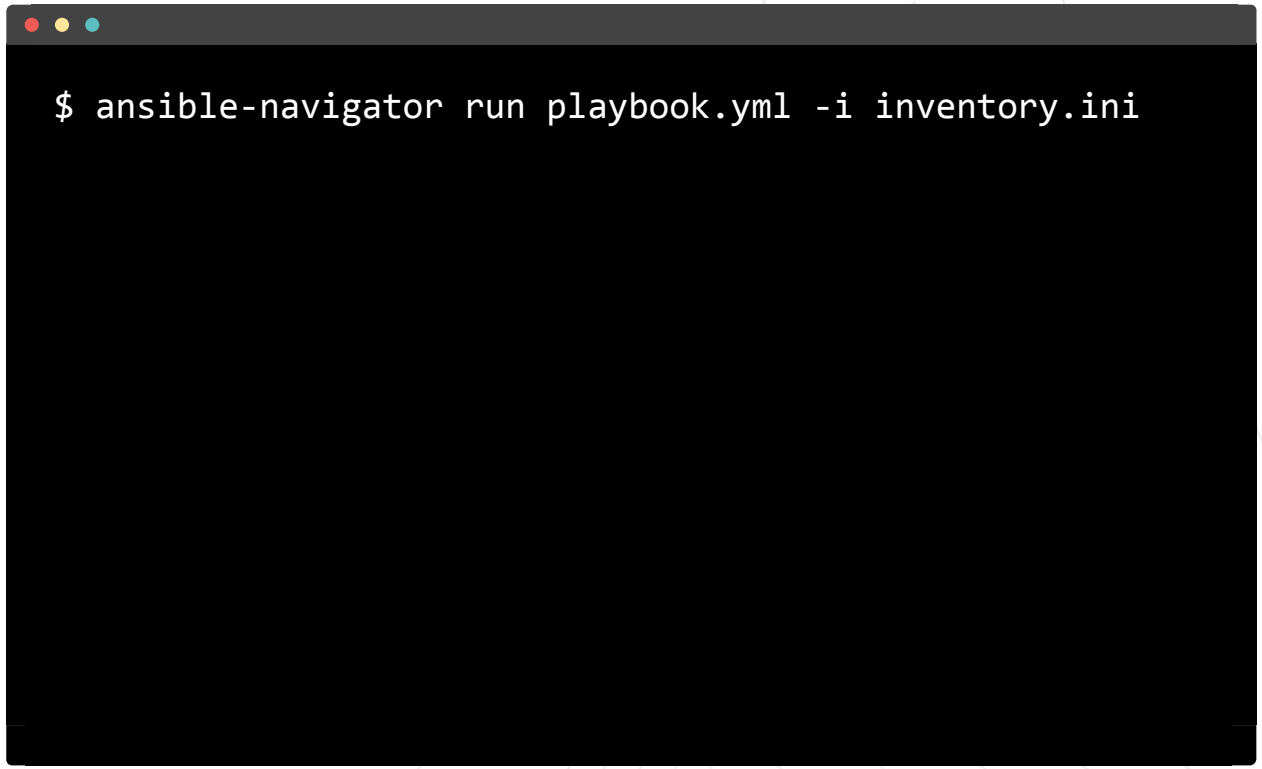
Scalable and supported

Ansible content navigator (ansible-navigator).

What is it?

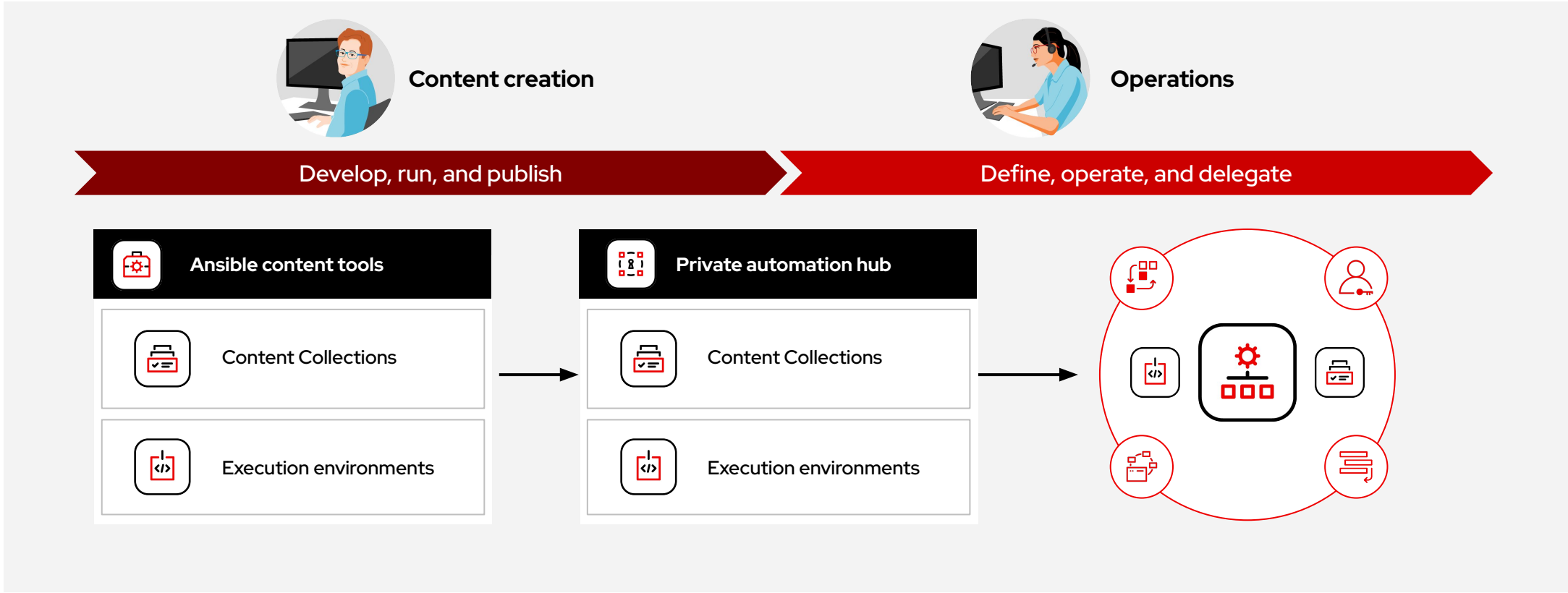
It is a command line utility and text-based user interface (TUI) for running, testing and developing Ansible automation content

- Review EEs
- Develop collections
- Develop playbooks
- Troubleshoot problems

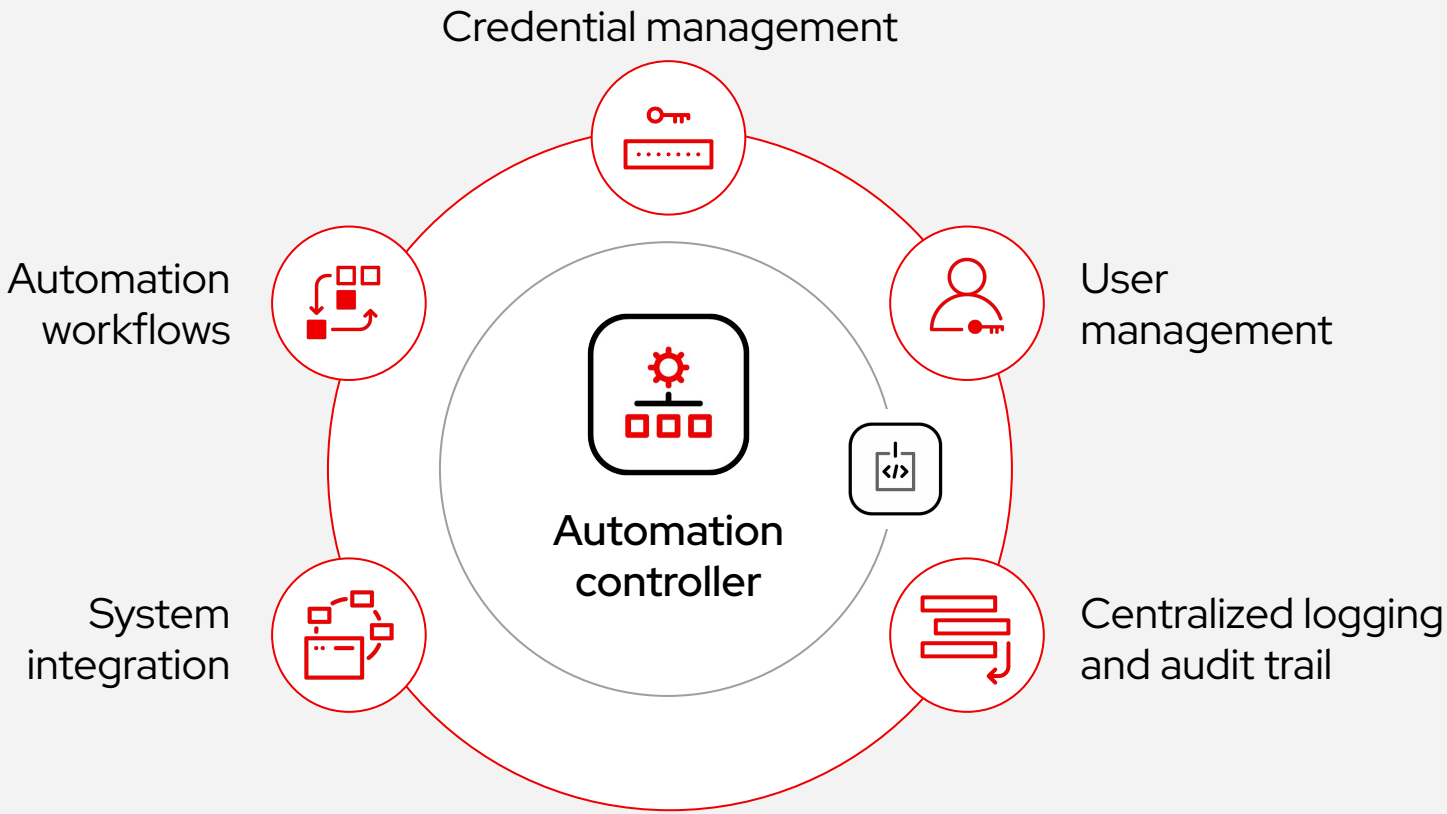


Manage

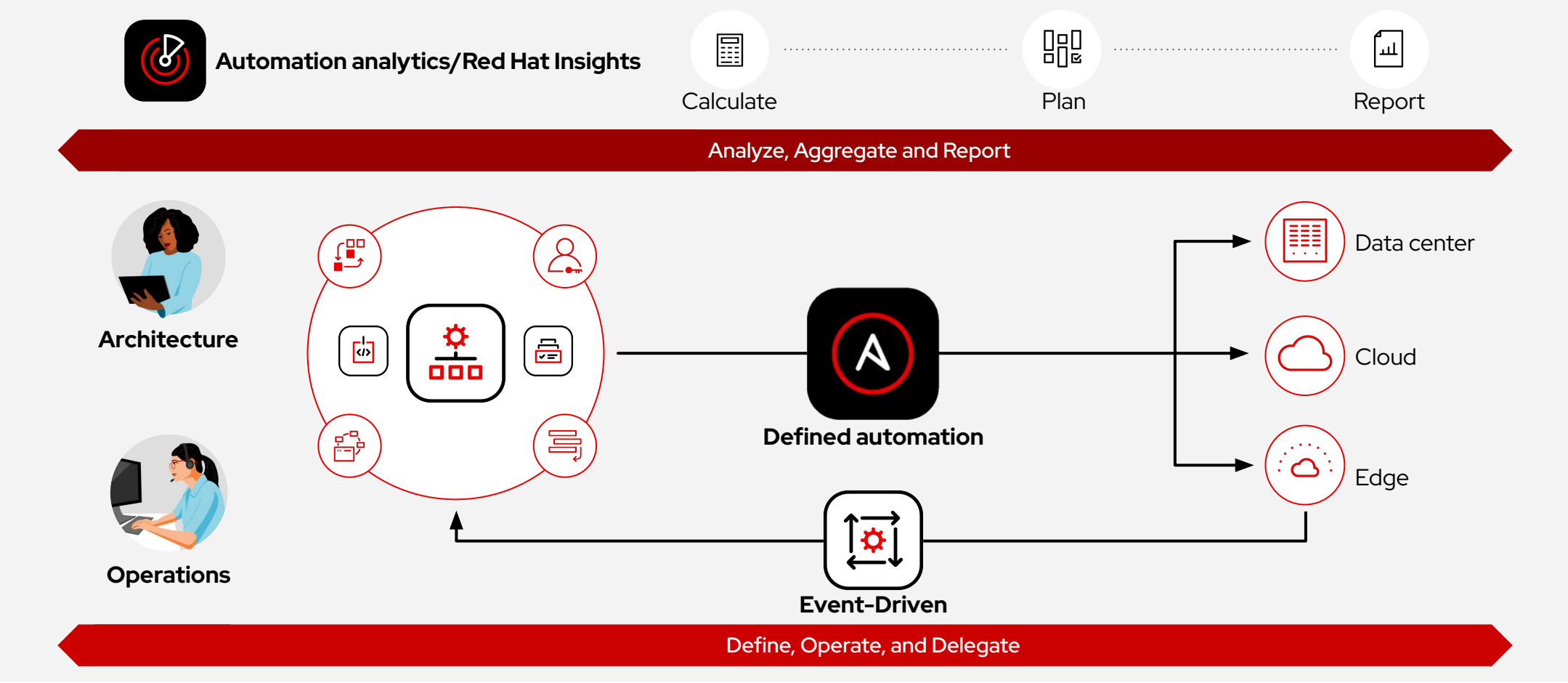
Creation to operations handover. Consistent and portable.



Enterprises need more for their automation.



The automation life cycle. Manage.



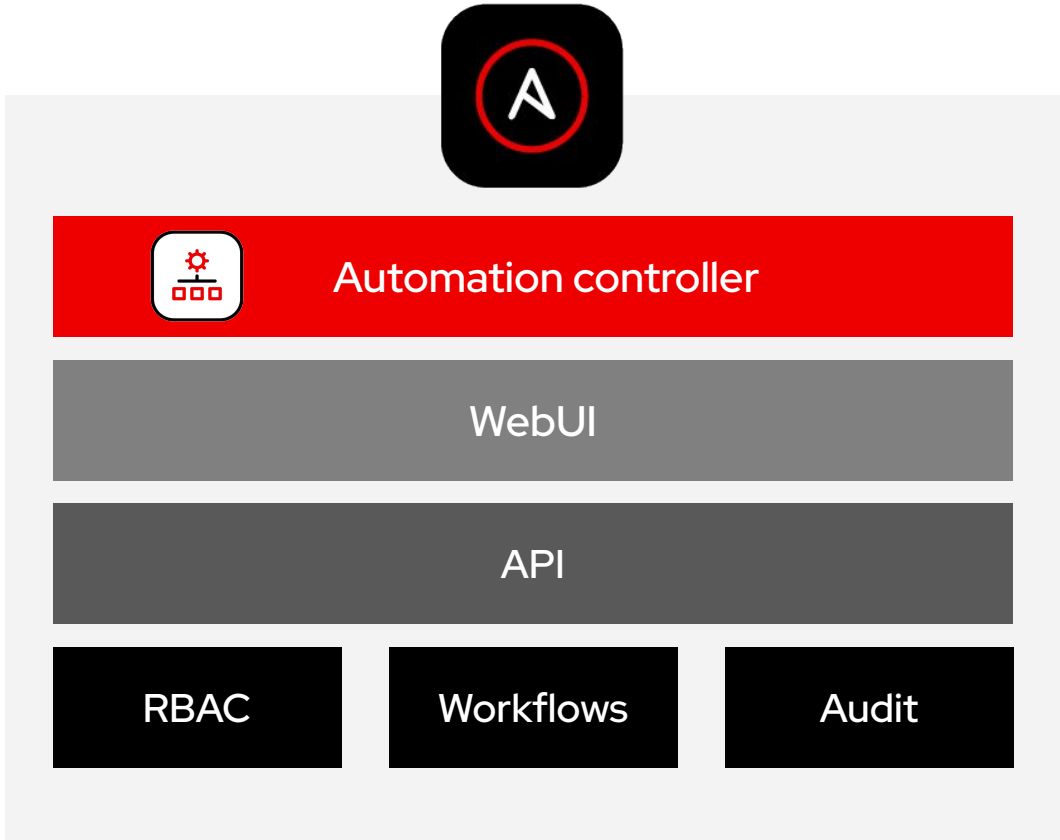
Automation controller. Define, operate, and delegate.

What is it?

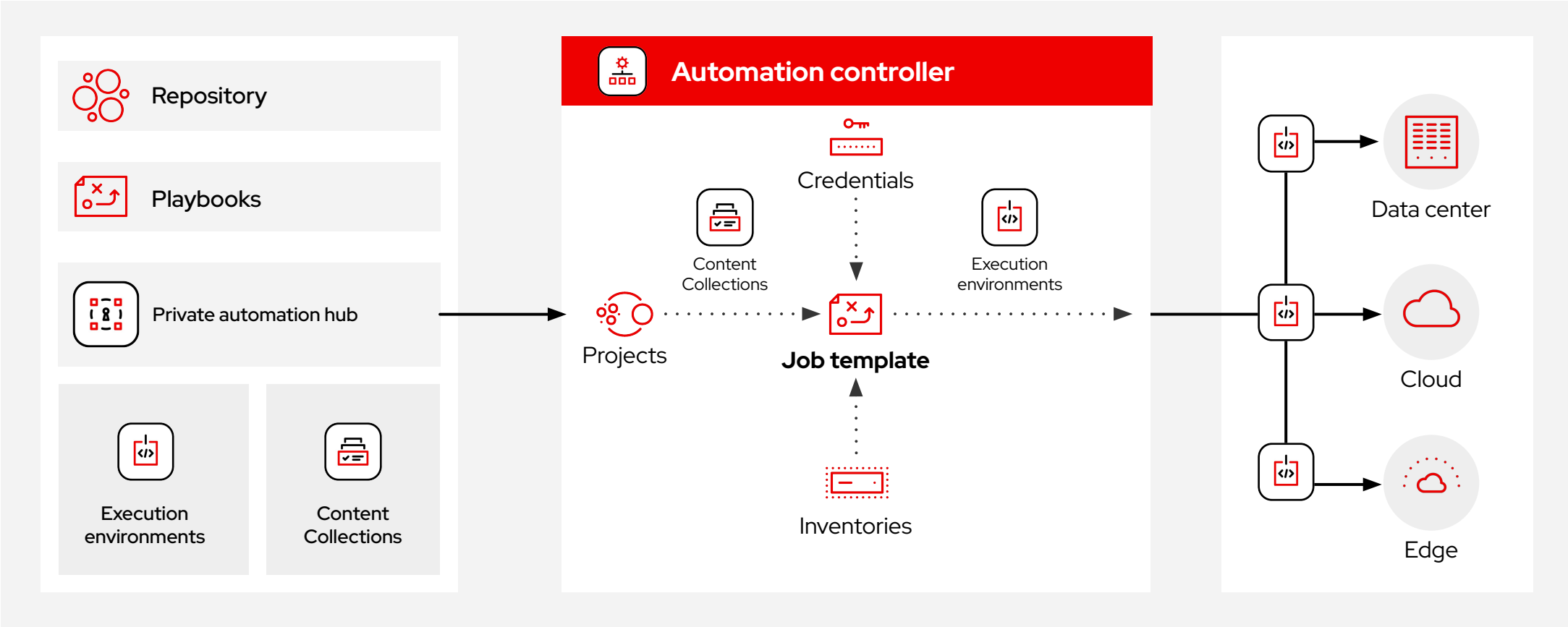
Automation controller is the Ansible Automation Platform control plane which enables users to define, operate, and delegate automation across their enterprise

Automation controller provides:

- WebUI and API
- Role-based access control
- Powerful workflows
- Centralized logging
- Credential management
- Push-button automation



Defining how your content runs in automation controller.



Using execution environments in automation controller.

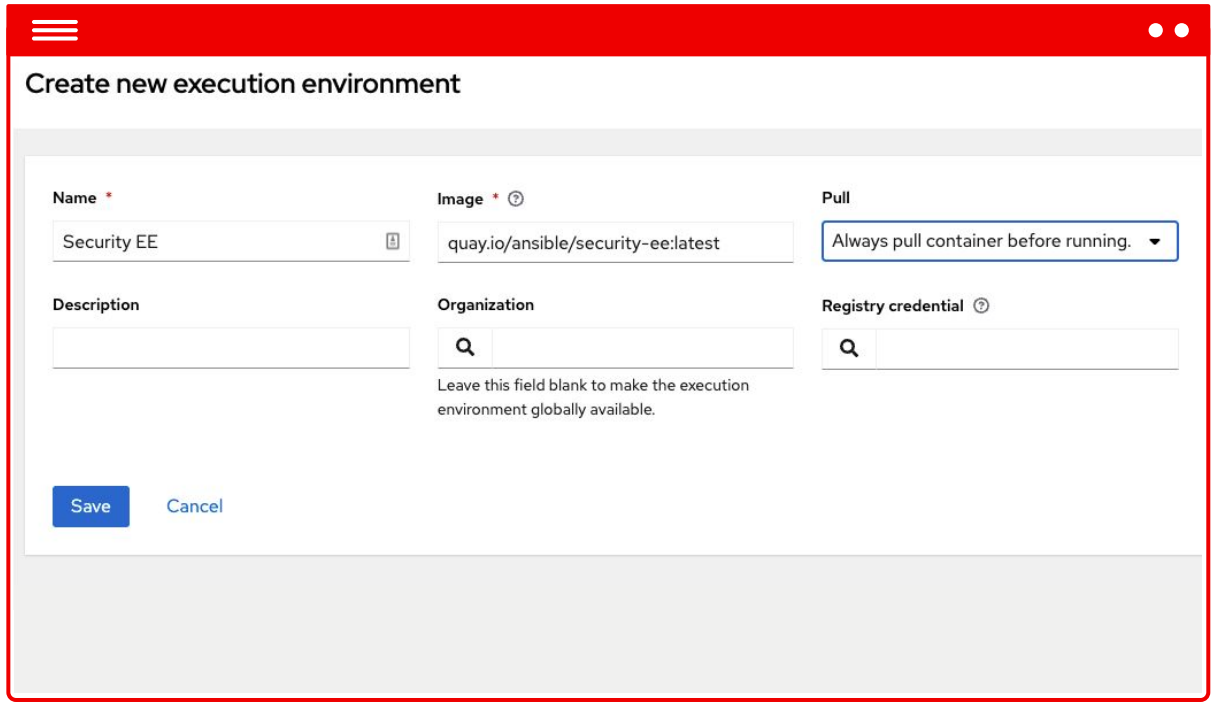
How do I add execution environments (EE)?

EEs can be added via the controller WebUI, API or command line

- Specify the EE image source
- Pull policy determines when and how EEs are downloaded when running automation
- Assign registry credentials to pull the EEs

How do I use execution environments?

- Select the EE you want to use in your automation job
- The default EE is used if none is specified

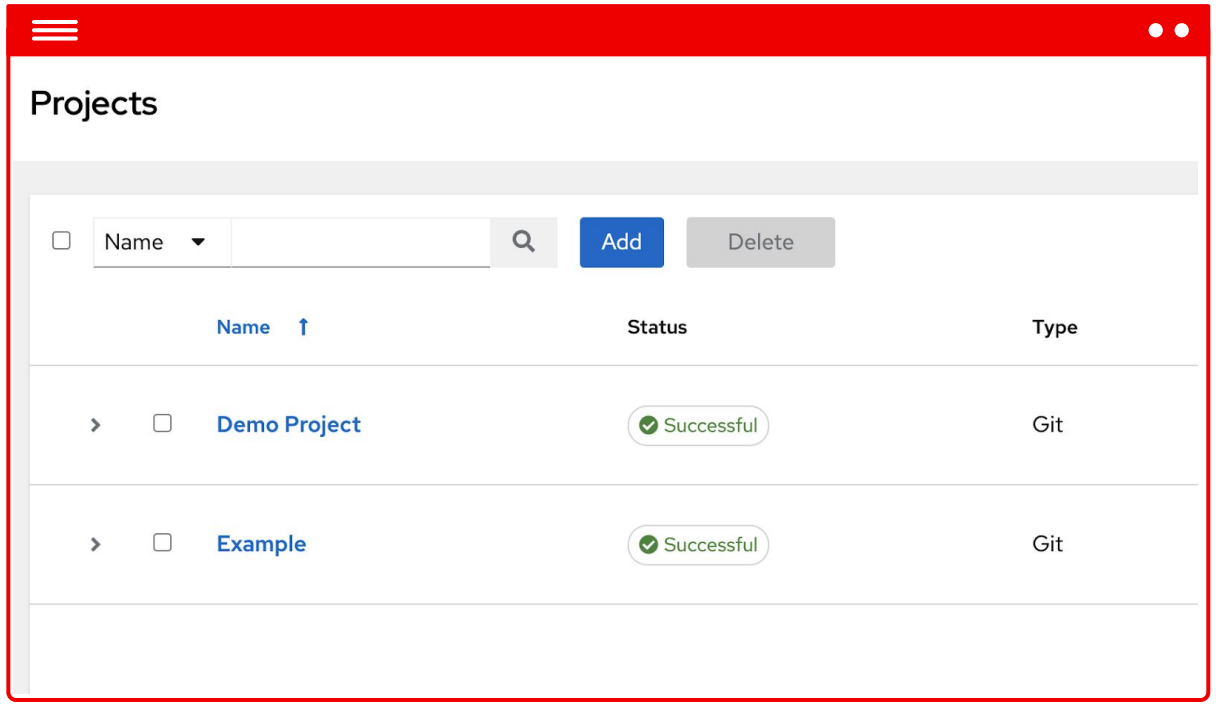


Projects. Adding your automation content to controller.

What is it?

Logical collection of your playbooks:

- Multiple source types supported
- Source Control Management (SCM) integration and update strategies
- Red Hat Insights integration
- Role-based access control (RBAC) and schedules

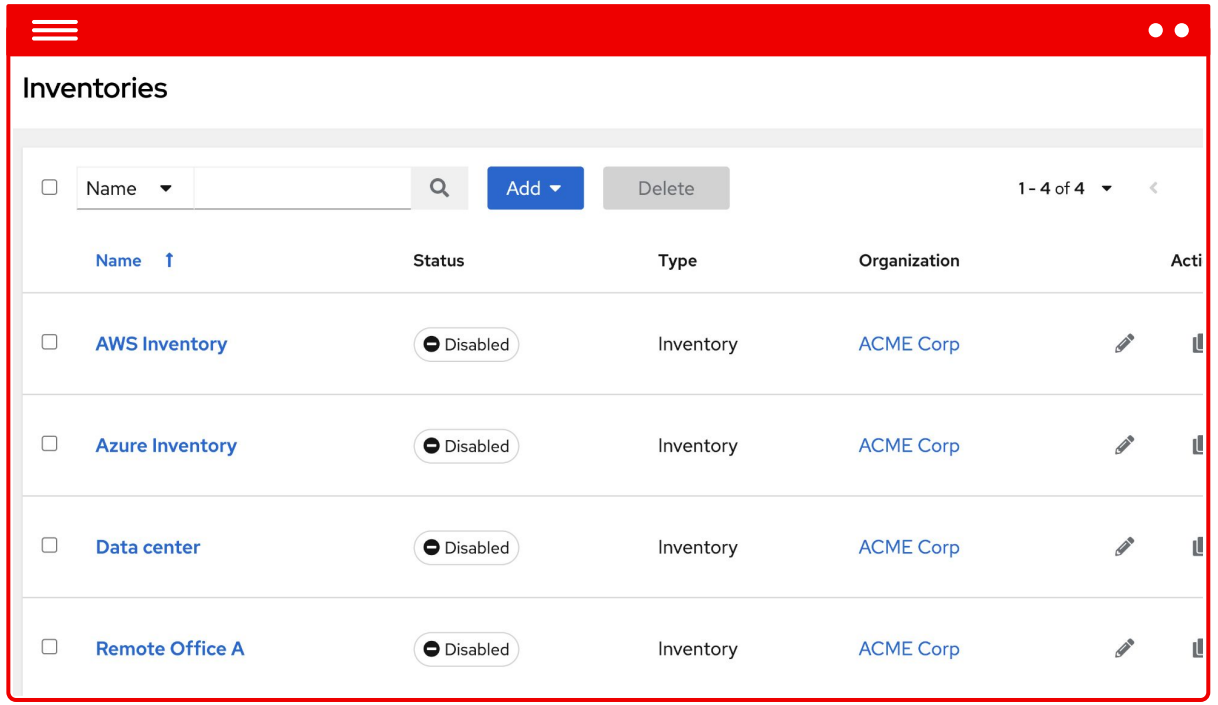


Inventories. What do I want to run my automation on?

What is it?

Collection of endpoints against which jobs may be launched

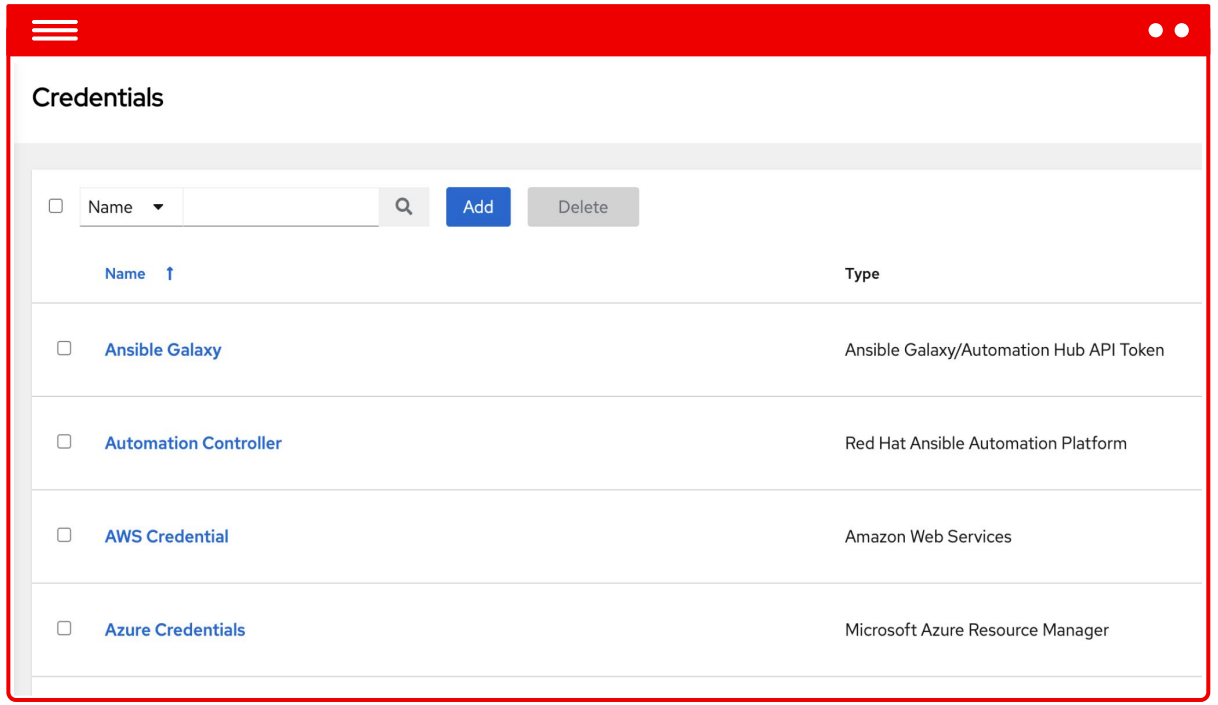
- Multiple inventory sources supported
- Dynamic endpoint discovery
- Logically group endpoints by metadata or user-defined filters
- Granular RBAC permissions



Credentials. Securing resource and endpoint access.

What is it?

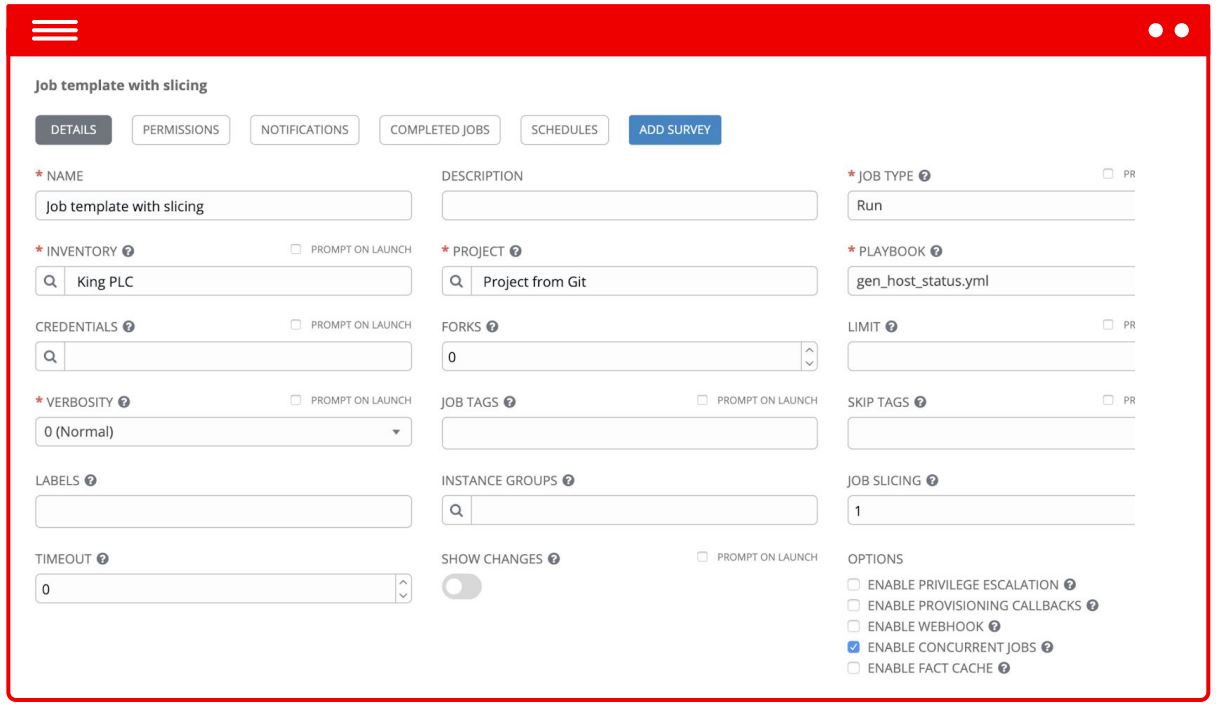
- Securely manage credentials needed for automation resources
- Multiple credential types supported
- Integrate external secret management systems
- Create custom credential types and plugins
- Use RBAC to govern access
- Actual credential never exposed



Job Templates. Bringing it all together.

What is it?

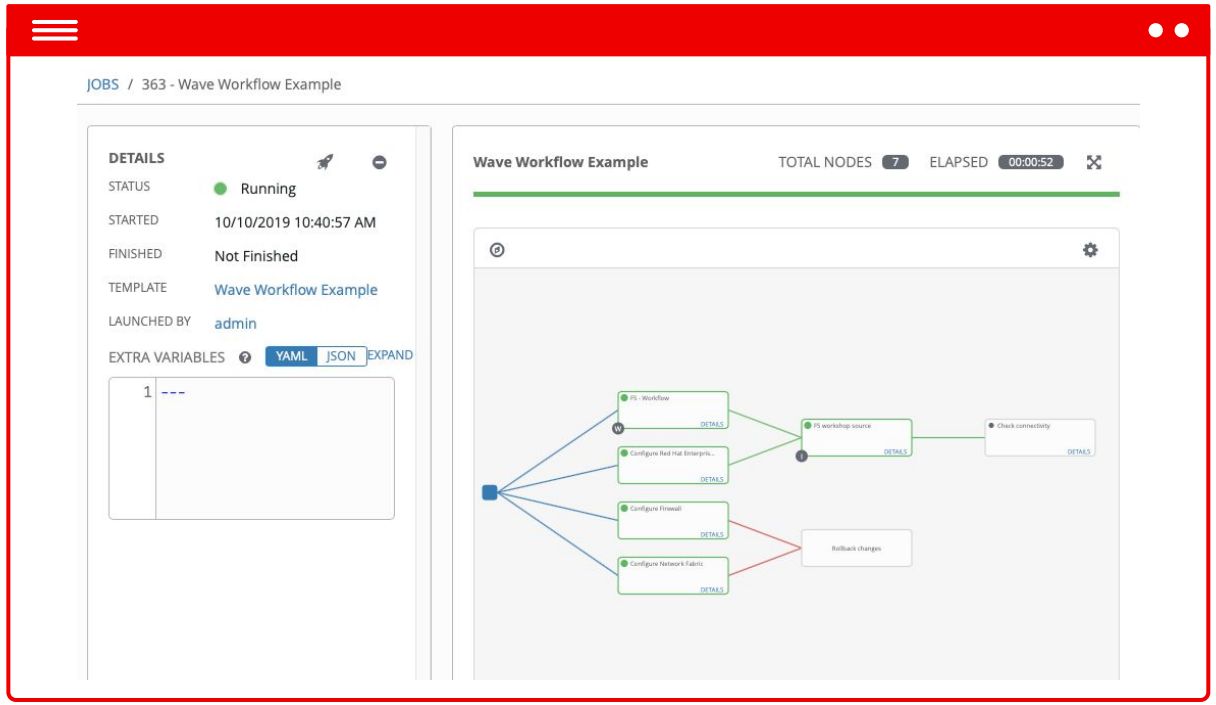
- Define and standardize running automation
- Reusable and shareable
- Leverage agile practices, such as GitOps and event-driven automation



Workflows. Solve complex problems.

What is it?

- Workflows enable the creation of powerful holistic automation, chaining together multiple pieces of automation and events
- Simple logic inside these workflows can trigger automation depending on the success or failure of previous steps
- Add approvals to your workflows to enhance governance
- Integrate other systems, such as ITSM to fit with your existing controls and processes



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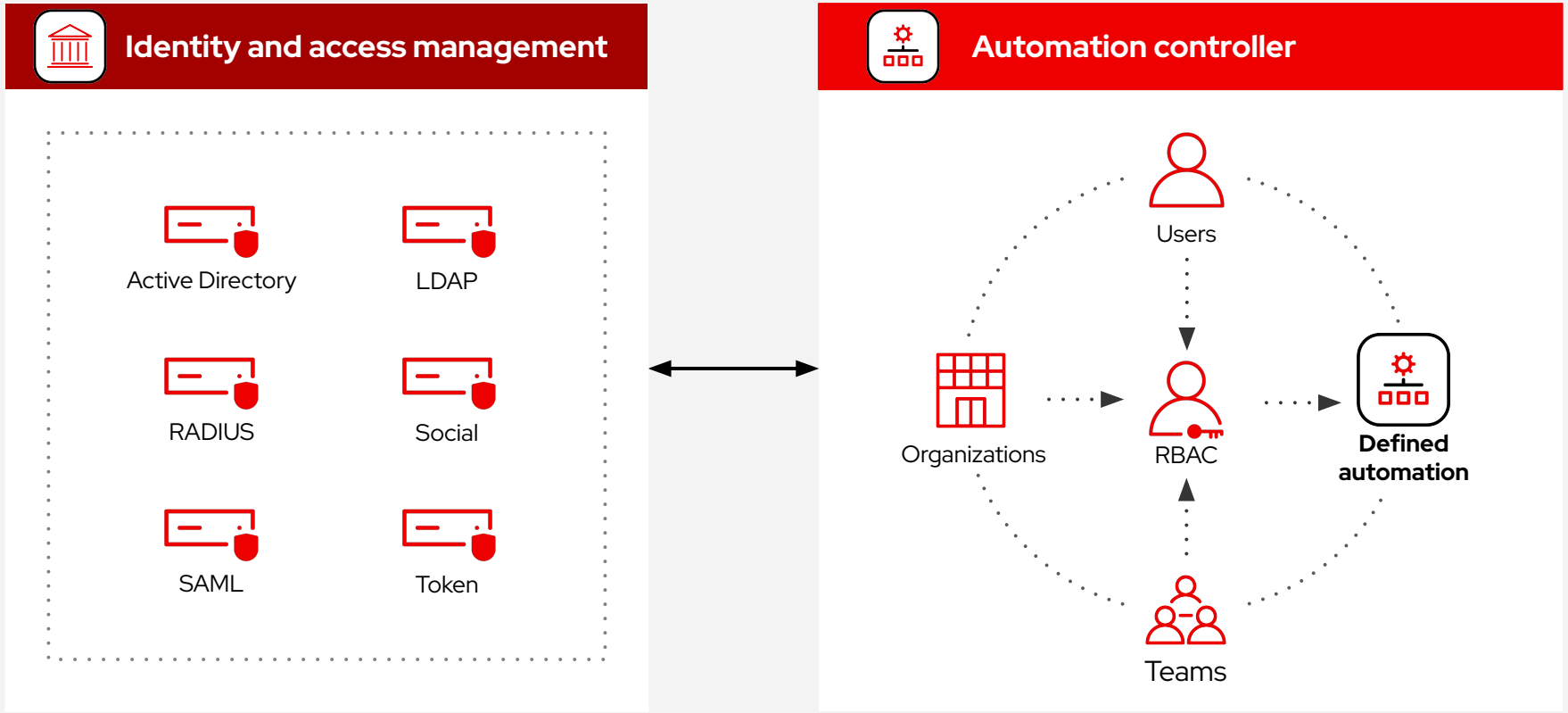
Securing your content in automation controller. Delegate.

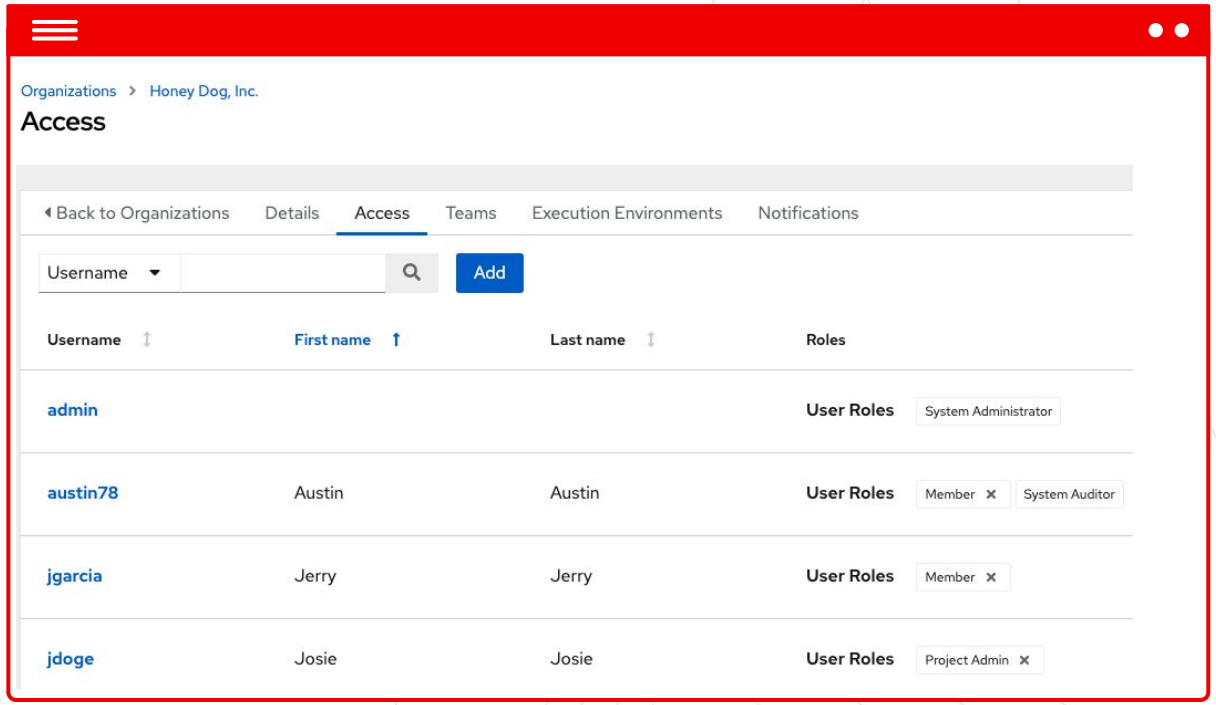


Role-Based Access Control. Who can use my automation?

What is it?

Securely govern access to your automation

- Logically group controller objects and grant users and teams read, execute, edit permissions
- Use predefined roles to grant access
- Integrates with your existing enterprise authentication systems



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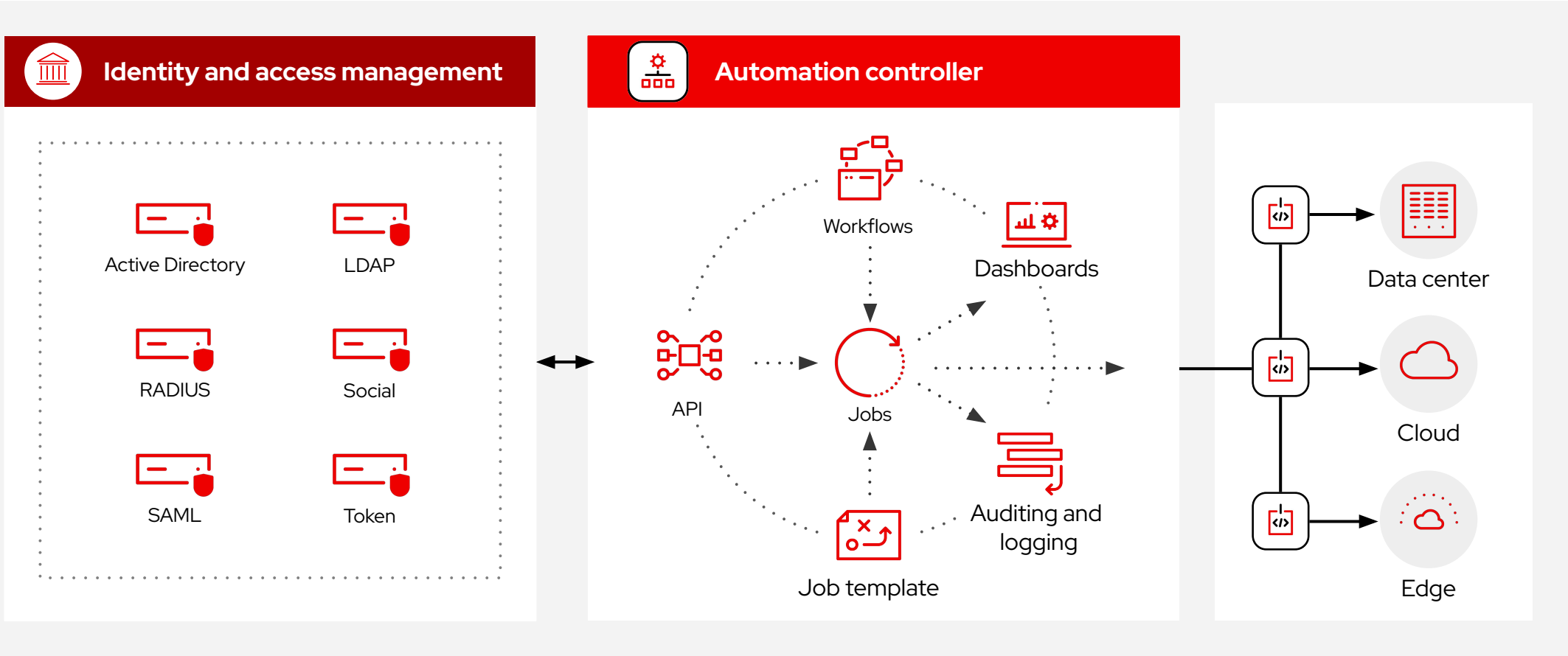
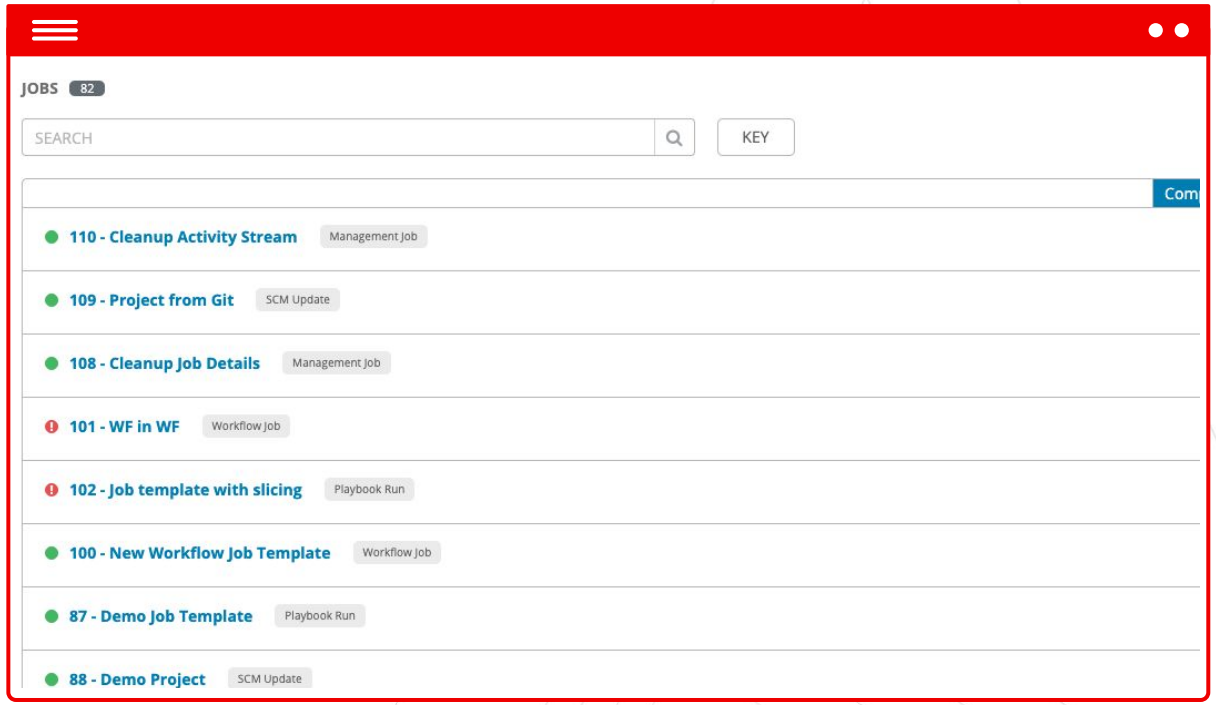
Launching your content from automation controller.



Automation jobs. Executing your defined automation.

What is it?

- Controller launching an instance of defined automation
- Relaunch automation jobs
- Use Job Details to view job outputs
- Troubleshoot automation execution using filtered views



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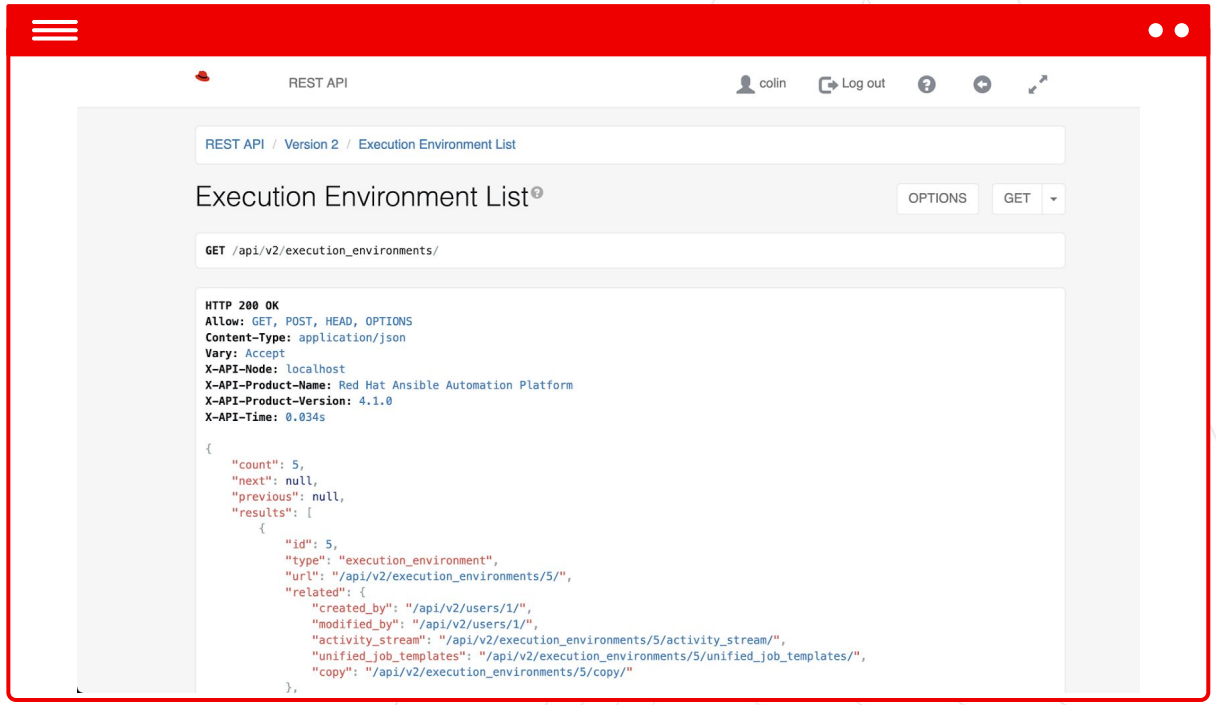
Automation controller API.
Integrate and elevate your automation.

What is it?

- The API provides programmatic access to the automation via a defined interface
- Underneath it is still powered by the same bits and pieces which are at the core: workflows, inventories, etc
- It offers simple integration into other tools like ITSM, SOAR, etc



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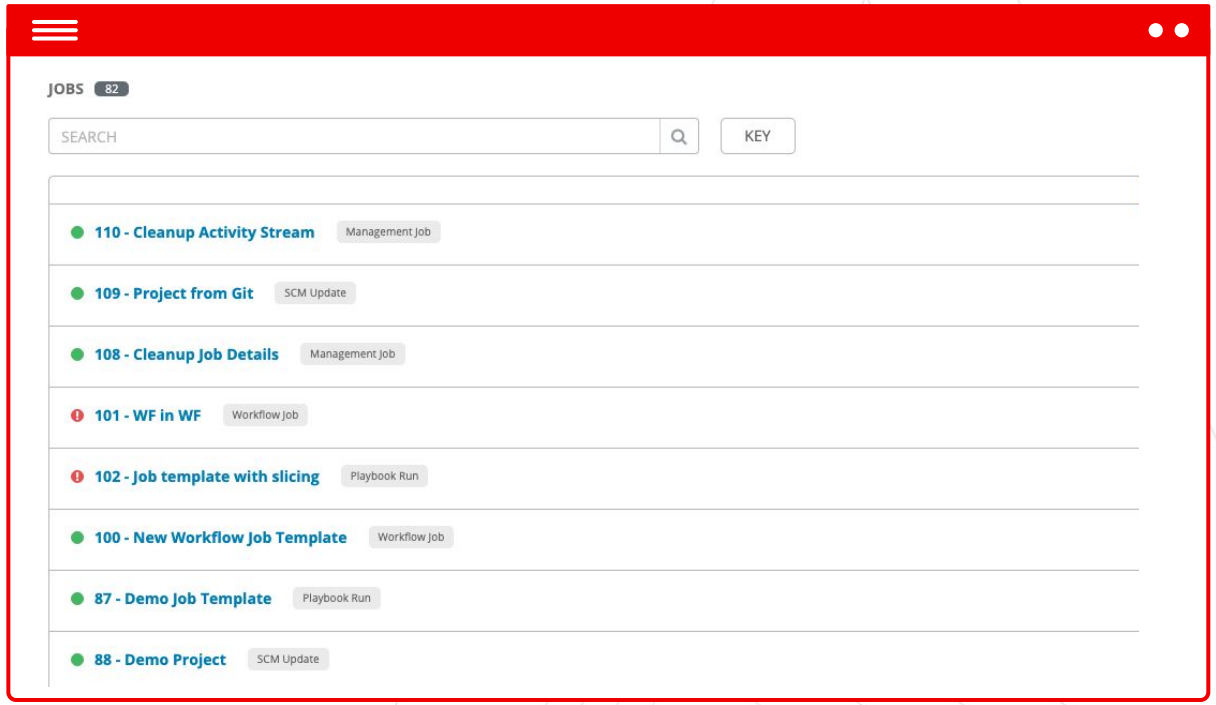
Automation controller logging aggregation.

What is it?

- Provides the capability to send detailed logs to several kinds of 3rd party external log aggregation services
- Use Red Hat Enterprise Linux rsyslog to aggregate and redirect logs
- Native integration exists for multiple 3rd party logging systems
- Multiple detailed logs are gathered for job events, system facts, users, activity streams, and controller features



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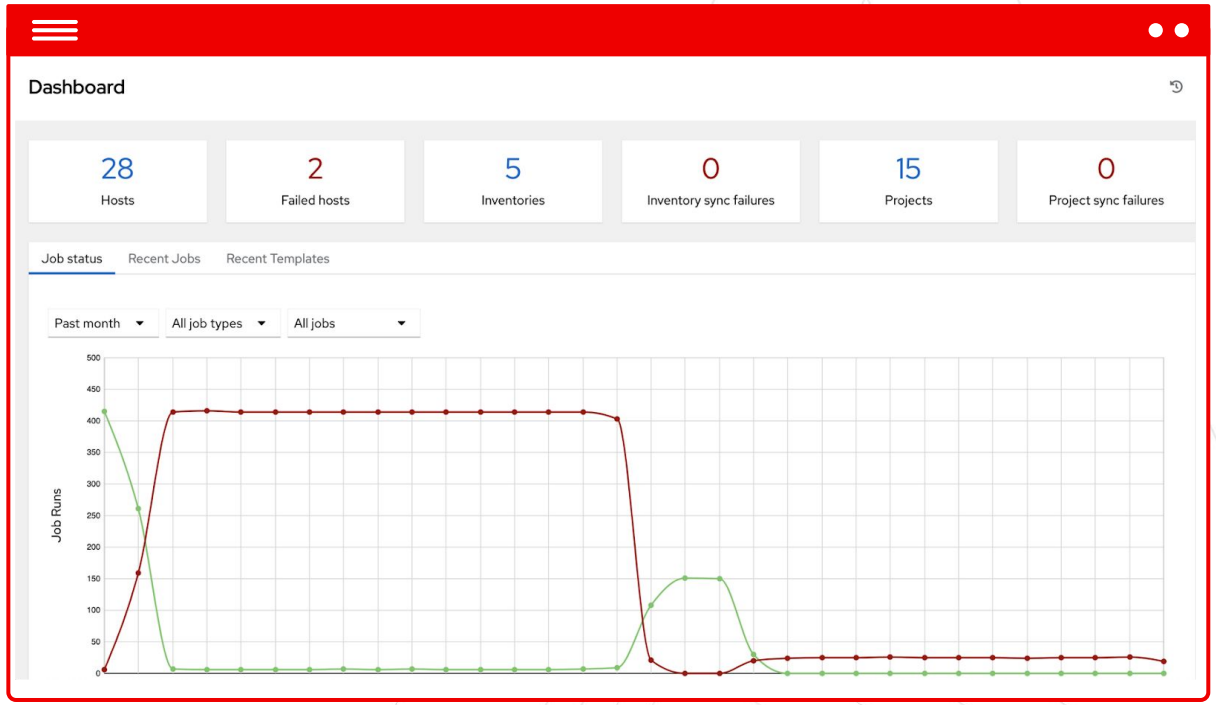
Automation controller dashboard.
View your automation status.

What is it?

- Overview of automation controller, the jobs happening, the nodes connected and what worked and failed
- Provides the ability to quickly spot irregularities and drill into more details



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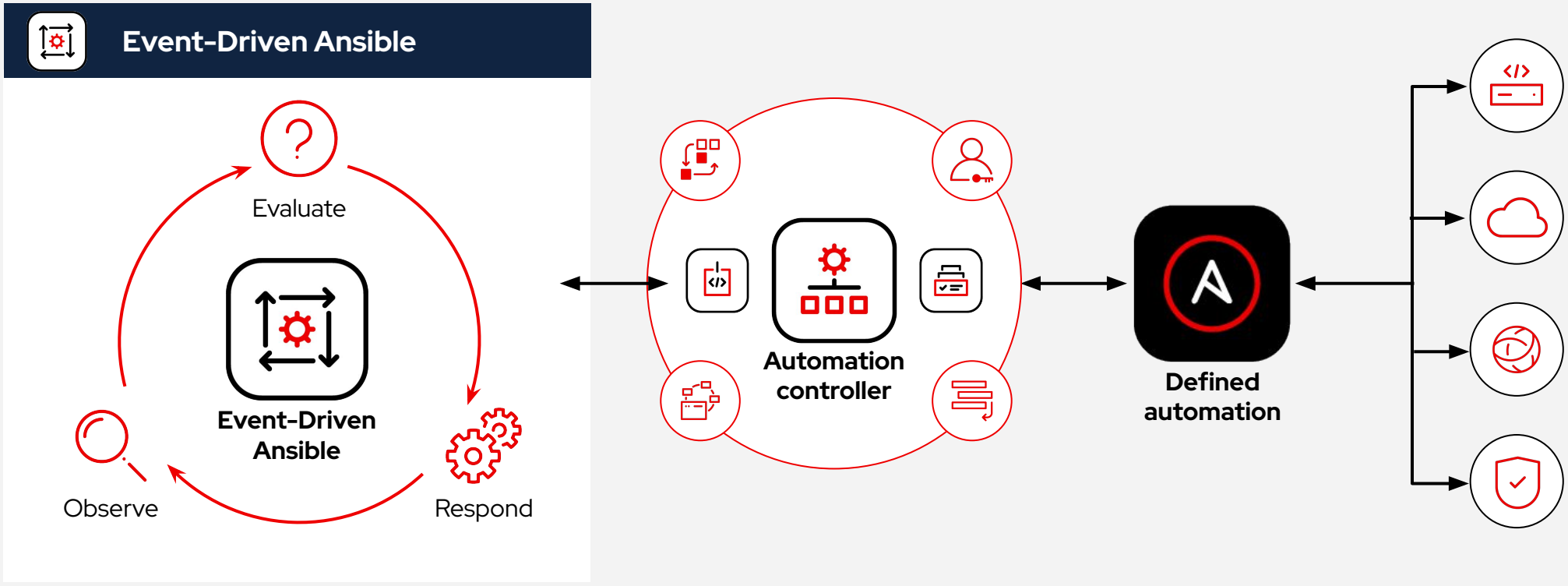
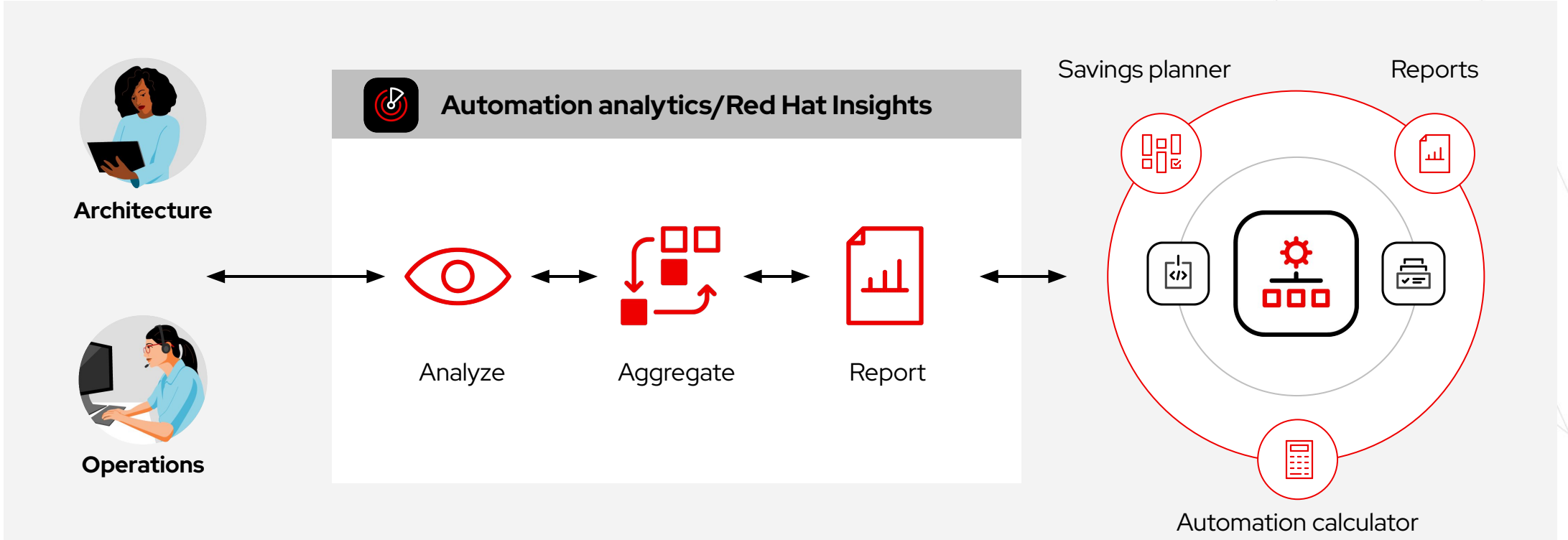
Event-Driven Ansible. Observe, evaluate, respond.



Red Hat Insights for Ansible Automation Platform.

Analyze, aggregate and report.

console.redhat.com



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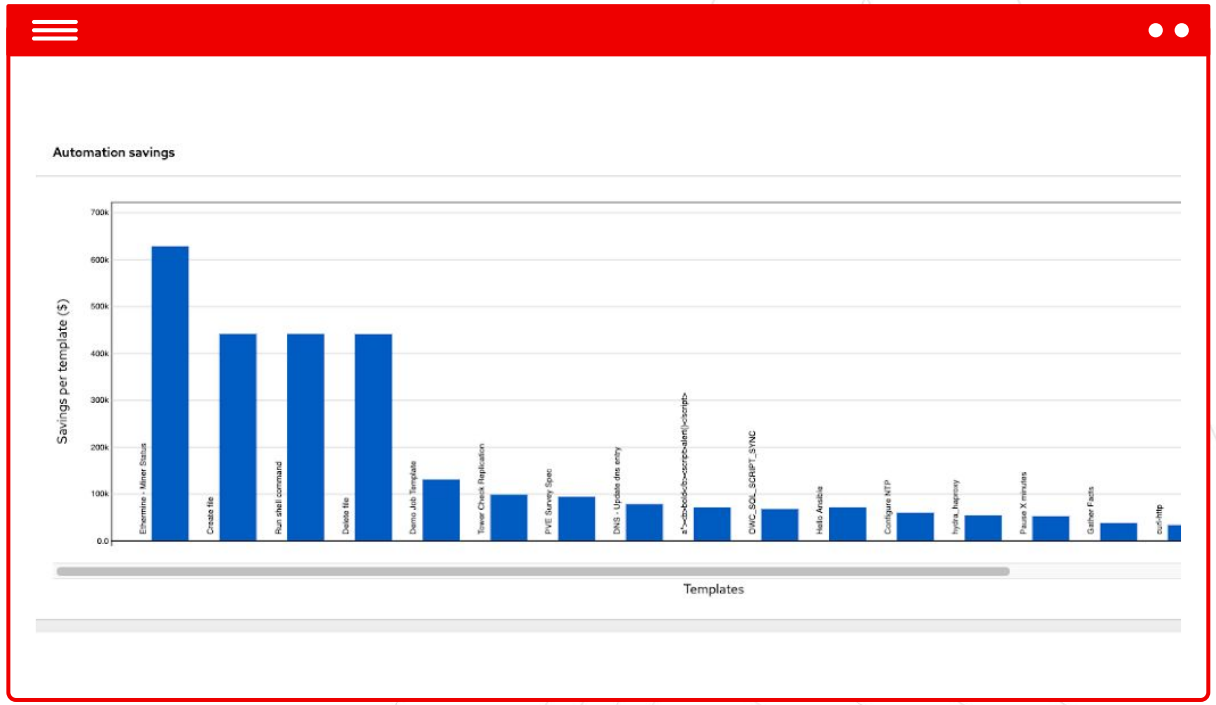
Automation calculator. Analyze and aggregate.

What is it?

Track and measure the total value of automation efforts by time and cost savings

- Automation calculator looks at at the total ROI of your automation
- Calculations are based on automation data across your organization
- Job template savings are compared to costs of performing the tasks manually
- Measure the ROI of your automation investment and identify automation that contributes the most savings



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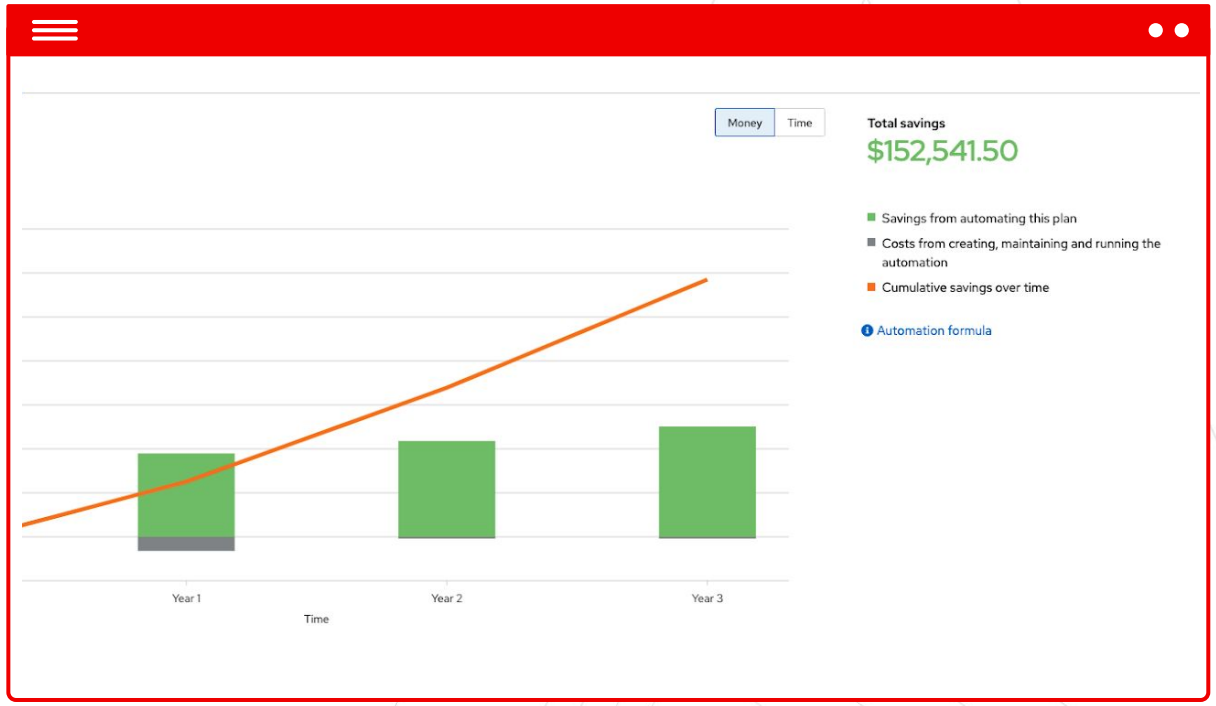
Automation Savings Planner. Analyze and aggregate.

What is it?

Prioritize automation by projecting the 1- to 3-year savings by time and money for each automation task

- Predict ROI and time savings based on a given automation task
- Use your automation data from your organization to prioritize tasks and projects based on business value



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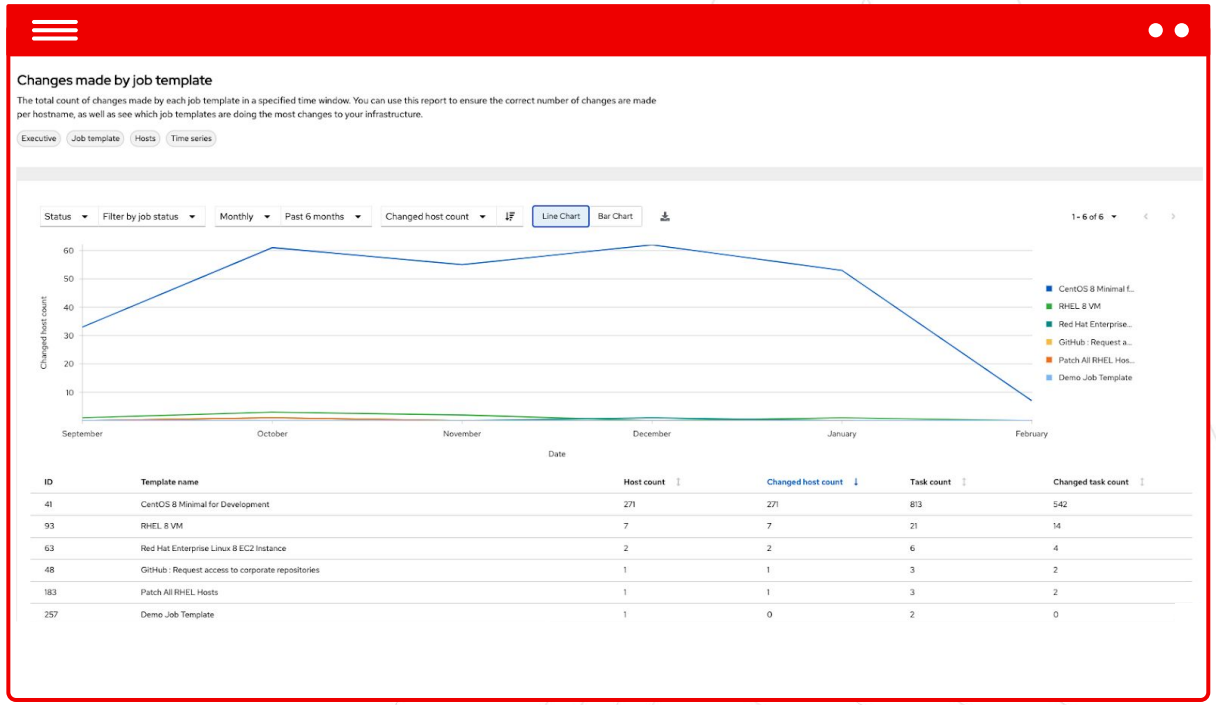
Reports. The holistic view of your automation platform.

What is it?

Unified, visual dashboards of Ansible Automation Platform key metrics across clusters

- Reveal most used Ansible Playbooks, modules, and deployment pass/fail rates
- Filter information based on automation controller clusters in real-time
- Use historical data to predict and improve the automation practice
- Measure the value of your Ansible Automation Platform subscription
- Export reports and share with your organization



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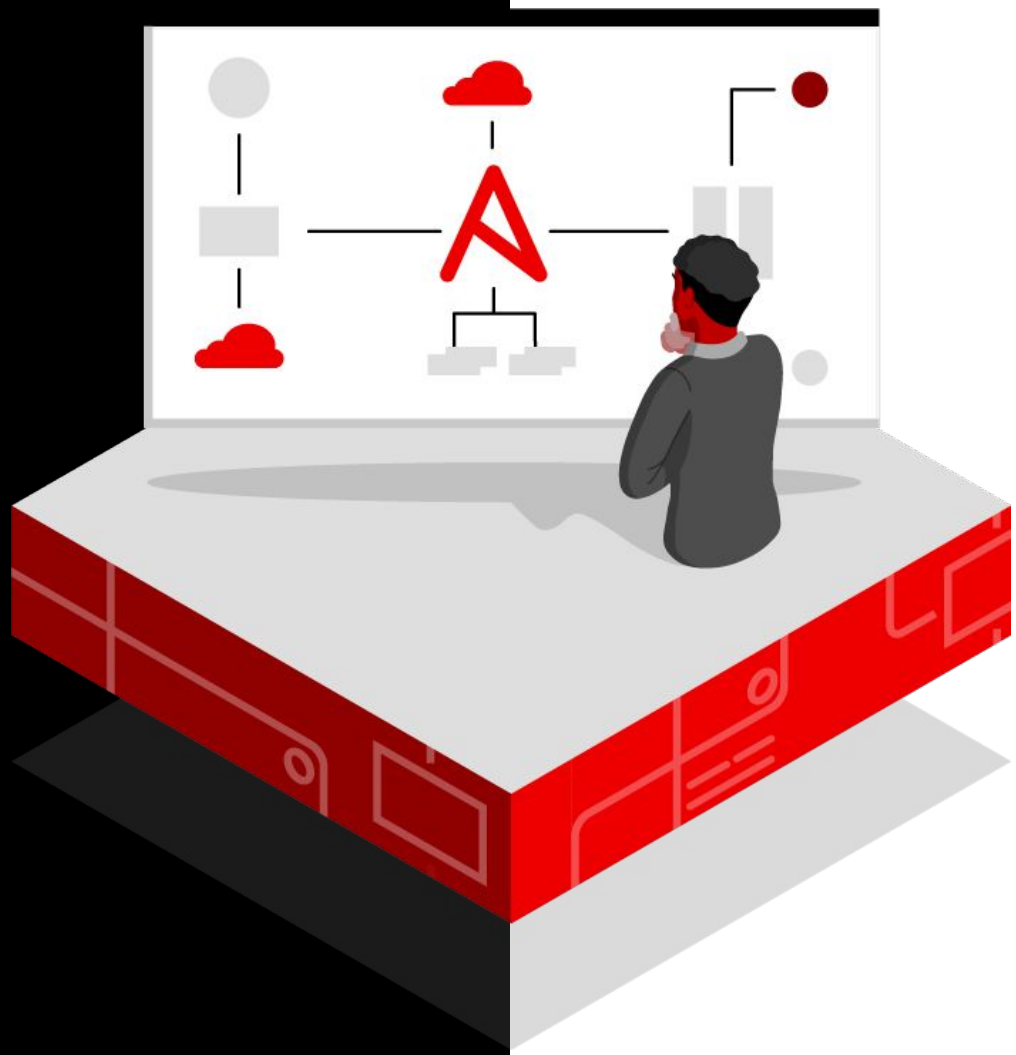
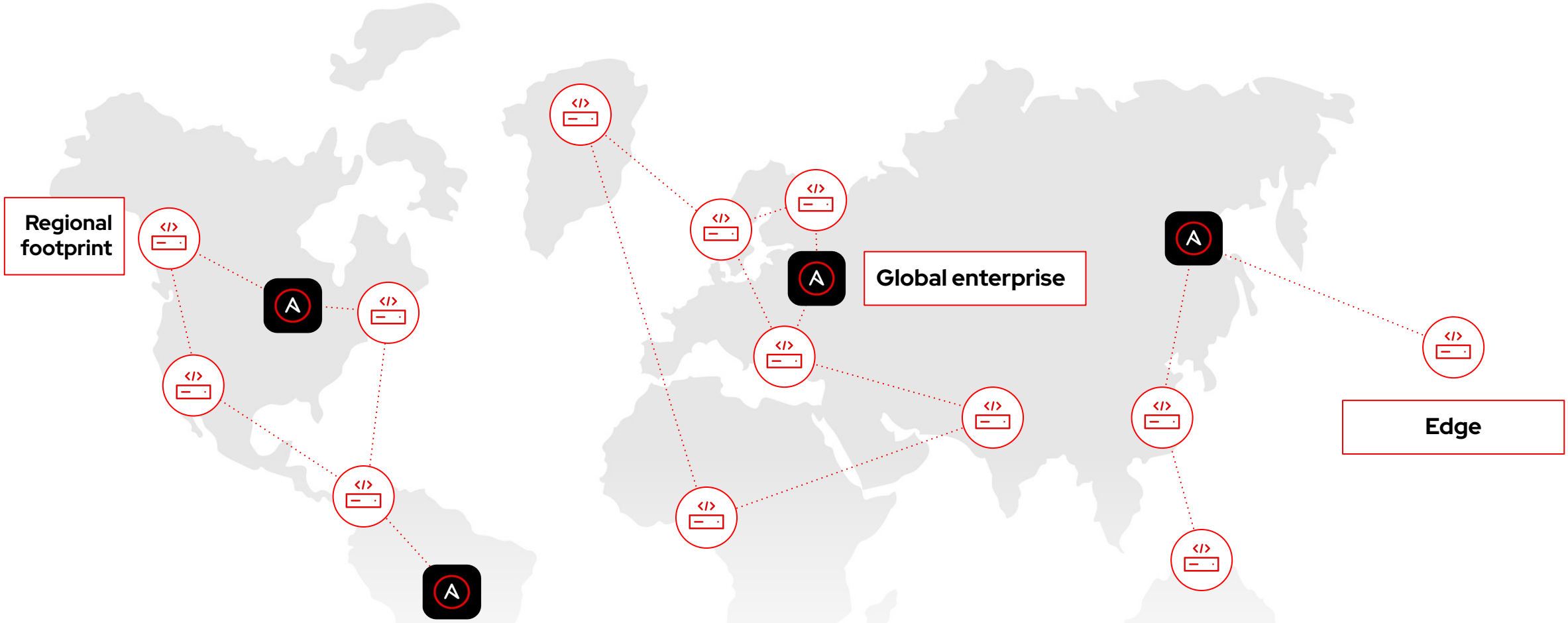
Scale



The flexibility to scale, wherever that may be.



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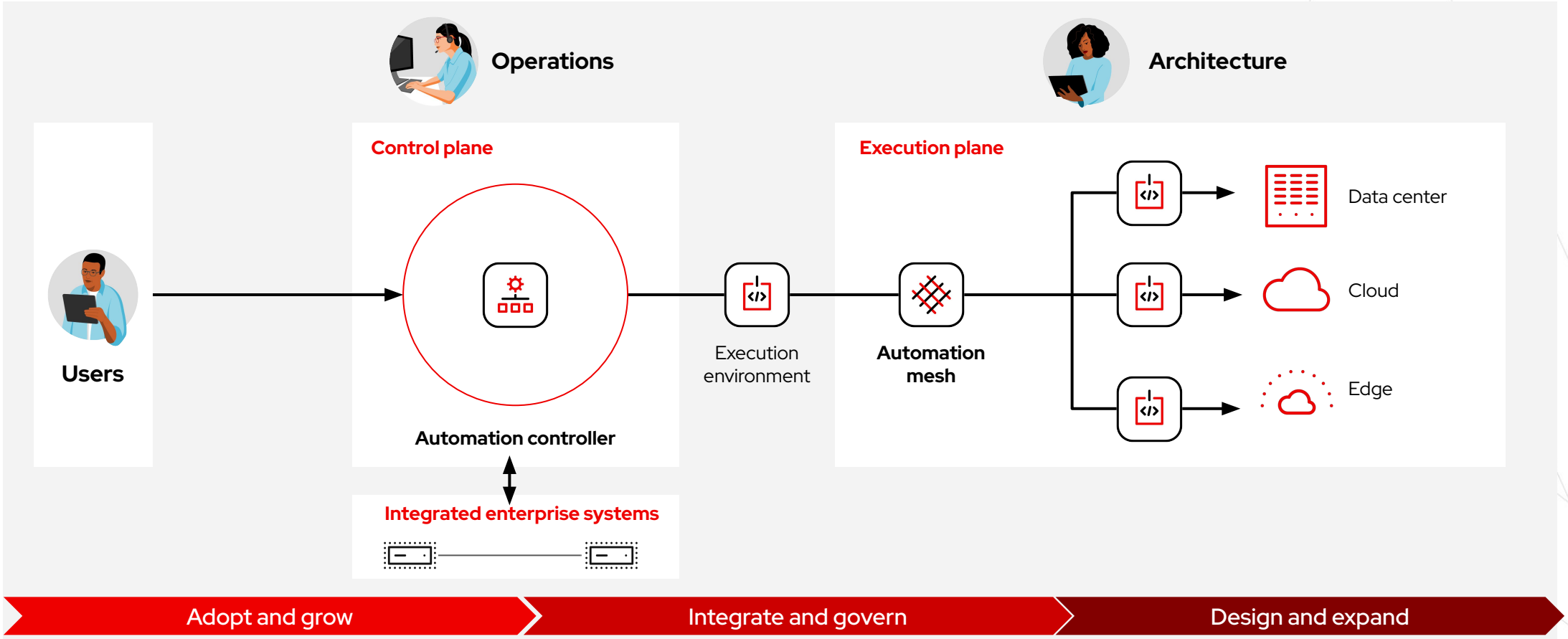
The automation content life cycle. Scale.



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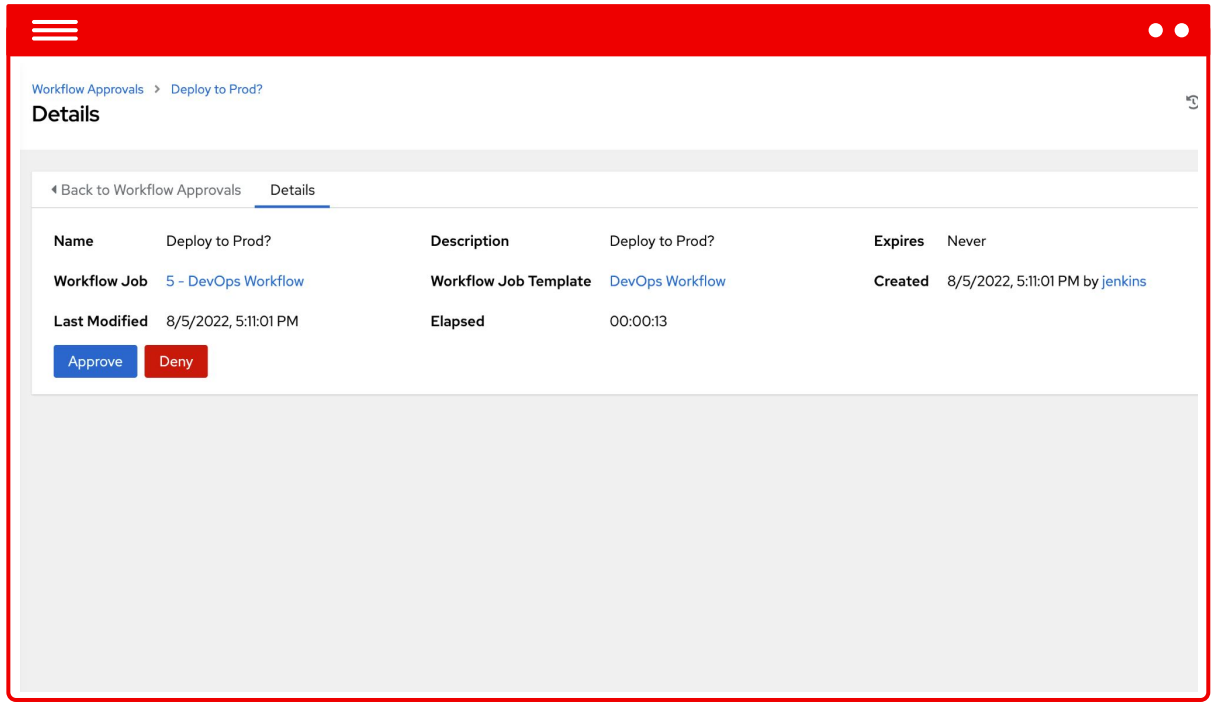
Automation controller approvals. Integrate and govern.

What is it?

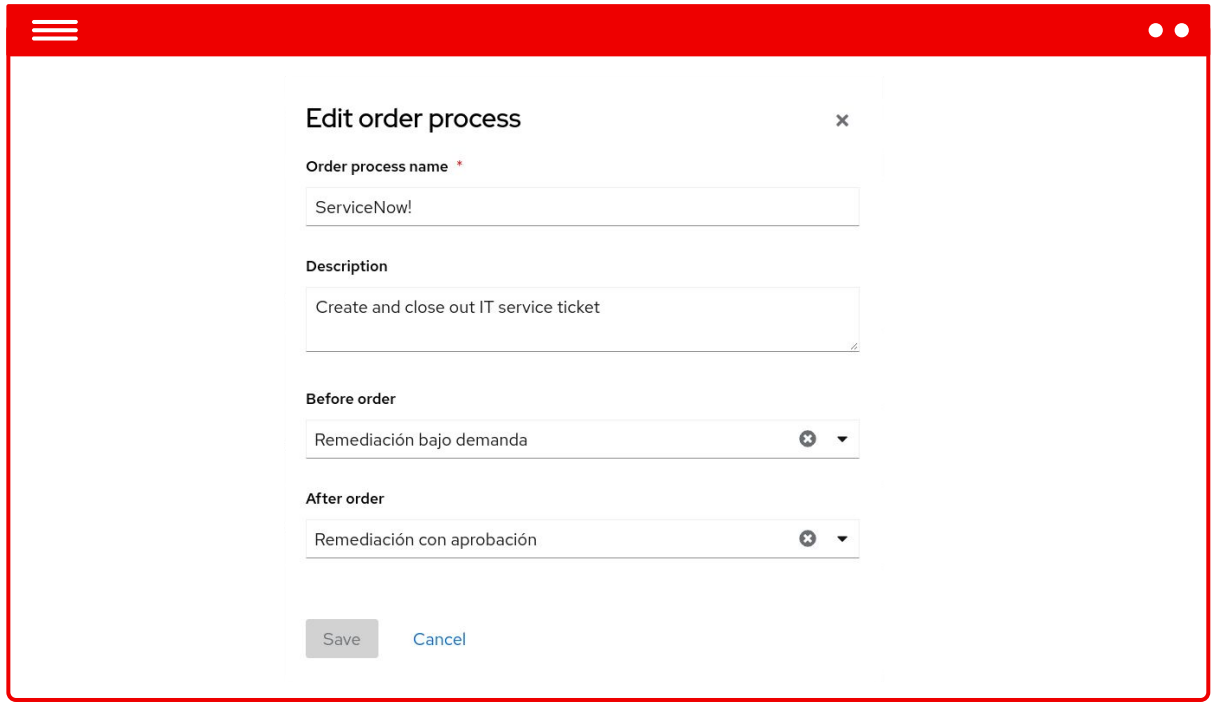
- Adds human interaction to the automation for administration and governance
- Available at the operational level on the Automation controller UI



IT service management integration (ITSM).
Integrate and govern.

Incorporate automation into your ITSM

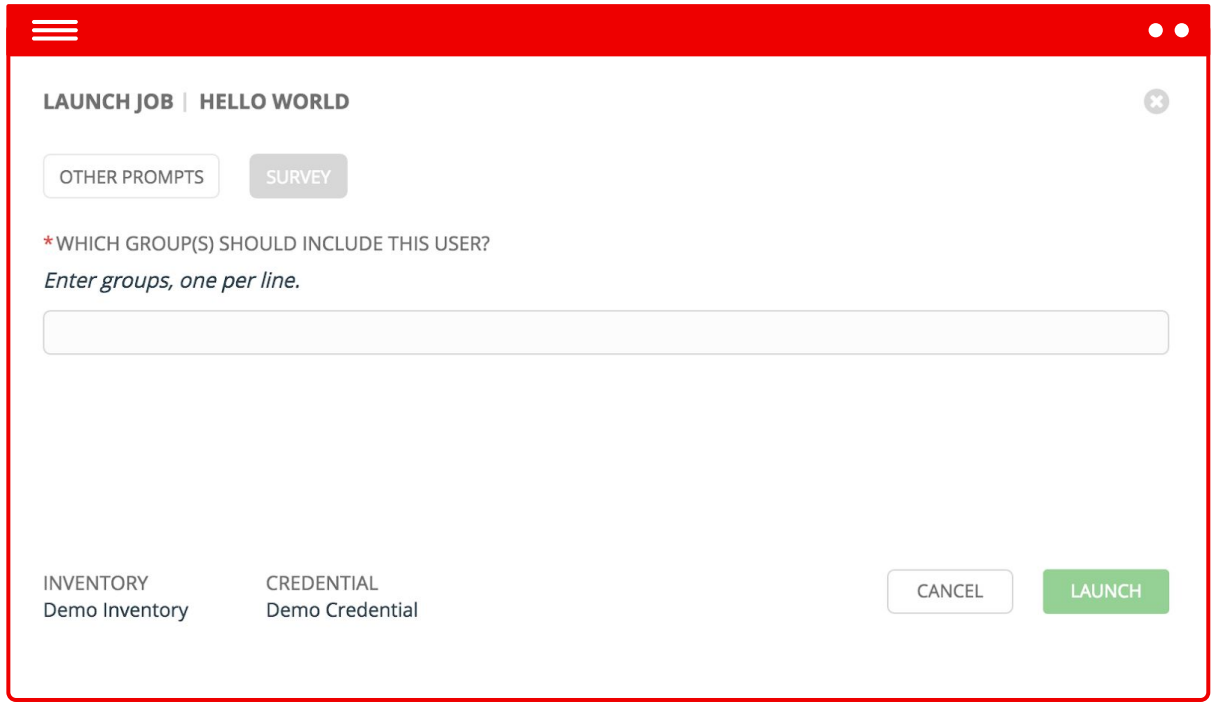
- Integrate high level workflows in existing ITSM toolsets with the automation platform.
- Apply organization governance and integrate your automation to larger business processes
- Have the automation platform reach out to the ITSM system whenever things are changing, including data transmission between the tools



Automation controller surveys. Adopt and grow.

What is it?

- User-friendly, self-service interface in automation controller
- Abstracts complexity using question and answer format
- Best suited for teams directly accessing automation and close to the automation practice
- Access and execution governed using controller features



Thank you

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