Enterprise Automation
A story about innovation

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Senior Solutions Architect
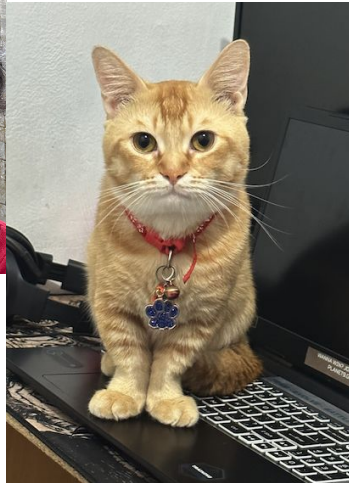
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Agenda for Today

- Introduction
- Innovation capacity
- Concepts of change
- Ansible basics
- Ansible Lightspeed
- See it in action

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Introduction to me!

Who is this guy?

- Jesse Faett Jr.

  jfaett@redhat.com

- Agnes is my fiancée!

- I'm from Bloomsburg, PA
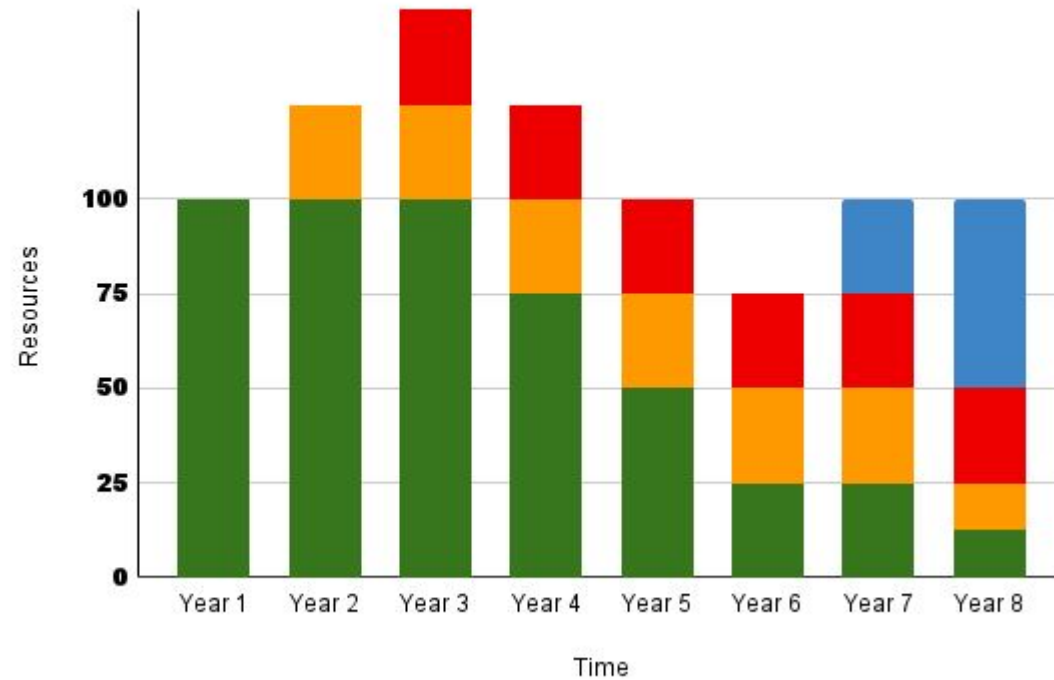
- Healthcare for ~15 years

- Federal Financials ~3 Years
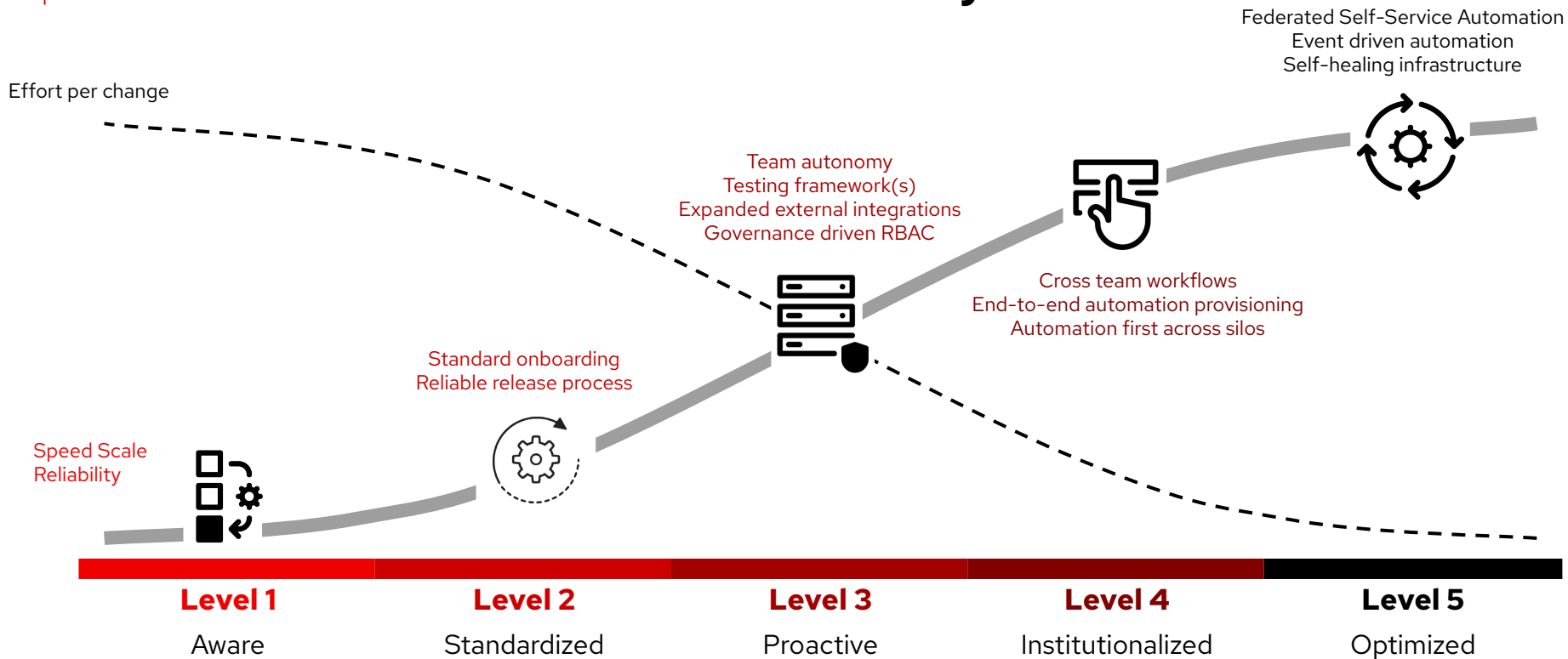
Enough about me, why are we here?

Let's look at a graph about Innovation Capacity!

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Automation Maturity Curve

Effort per change

Federated Self-Service Automation
Event driven automation
Self-healing infrastructure

Team autonomy
Testing framework(s)
Expanded external integrations
Governance driven RBAC

Cross team workflows
End-to-end automation provisioning
Automation first across silos

Standard onboarding
Reliable release process

Speed Scale
Reliability

Level 1
Aware

Level 2
Standardized

Level 3
Proactive

Level 4
Institutionalized

Level 5
Optimized

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Change can be challenging

Why change? Why now?

P(c) = (D * M * P) < CoDN

- Probability of Change

- Disatisfaction

    - Unhappy with the status quo

- Model

    - What does success look like?

- Process

    - How do I get there?

- Cost of Doing Nothing

    - What happens if I do nothing?

Some Key Contributors to Successful Change

- Coalition of the Willing
  - I've failed many things alone. I've rarely succeeded alone.
- Make it accessible
  - "Perfection is the enemy of progress" - Winston Churchill
- Data
  - Where did I start and where did I end up?

# Ansible Automation Platform Key Components

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

```yaml
---
- 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?
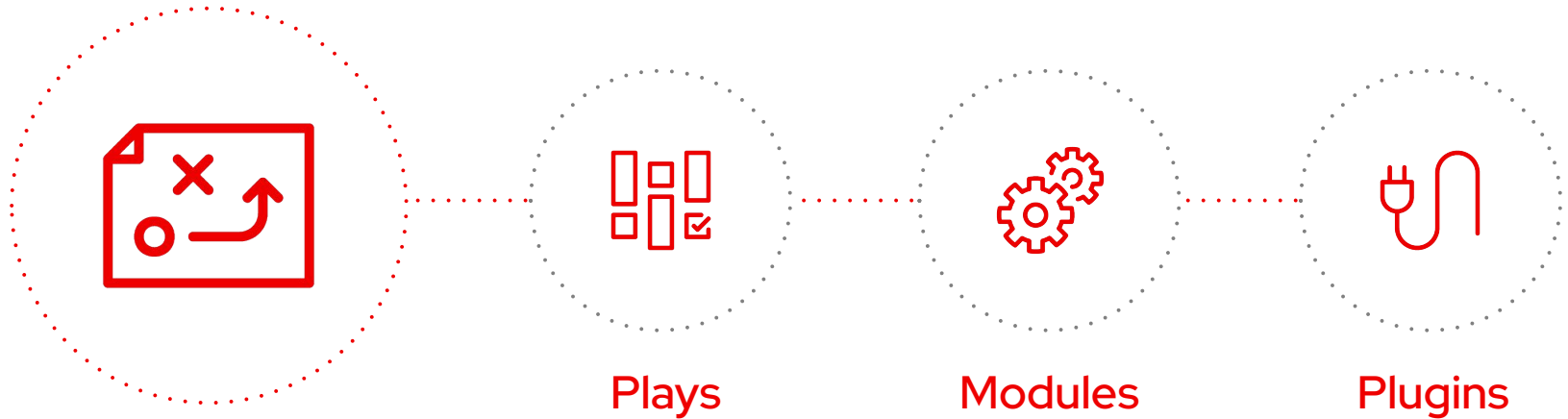
Plays

Modules

Plugins

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

  tasks:
    - name: httpd package is present
      ansible.builtin.yum:
          name: httpd
          state: latest

    - name: latest index.html file is present
      ansible.builtin.template:
        src: files/index.html
        dest: /var/www/html/

    - name: httpd is started
      ansible.builtin.service:
        name: httpd
        state: started
```

A play

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

  tasks:
    - name: httpd package is present
      ansible.builtin.yum:
          name: httpd
          state: latest

    - name: latest index.html file is present
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        src: files/index.html
        dest: /var/www/html/

    - name: httpd is started
      ansible.builtin.service:
        name: httpd
        state: started
```

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A task

```
---
- name: install and start apache
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  become: true

  tasks:
    - name: httpd package is present
      ansible.builtin.yum:
        name: httpd
        state: latest

    - name: latest index.html file is present
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        dest: /var/www/html/

    - name: httpd is started
      ansible.builtin.service:
        name: httpd
        state: started
```

```
---
- name: install and start apache
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  tasks:
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      ansible.builtin.template:
        src: files/index.html
        dest: /var/www/html/

    - name: httpd is started
      ansible.builtin.service:
        name: httpd
        state: started
```

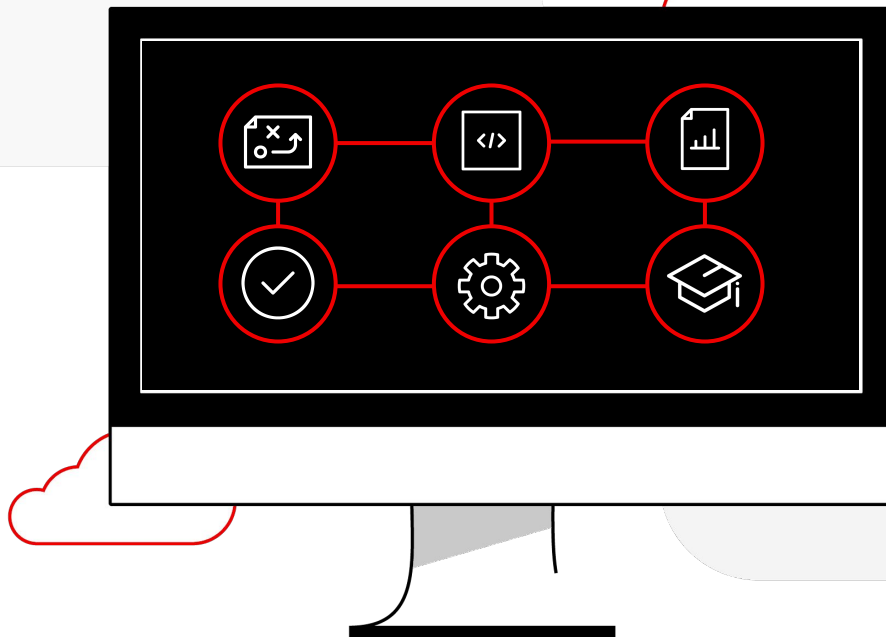A module ➡

Content Collections

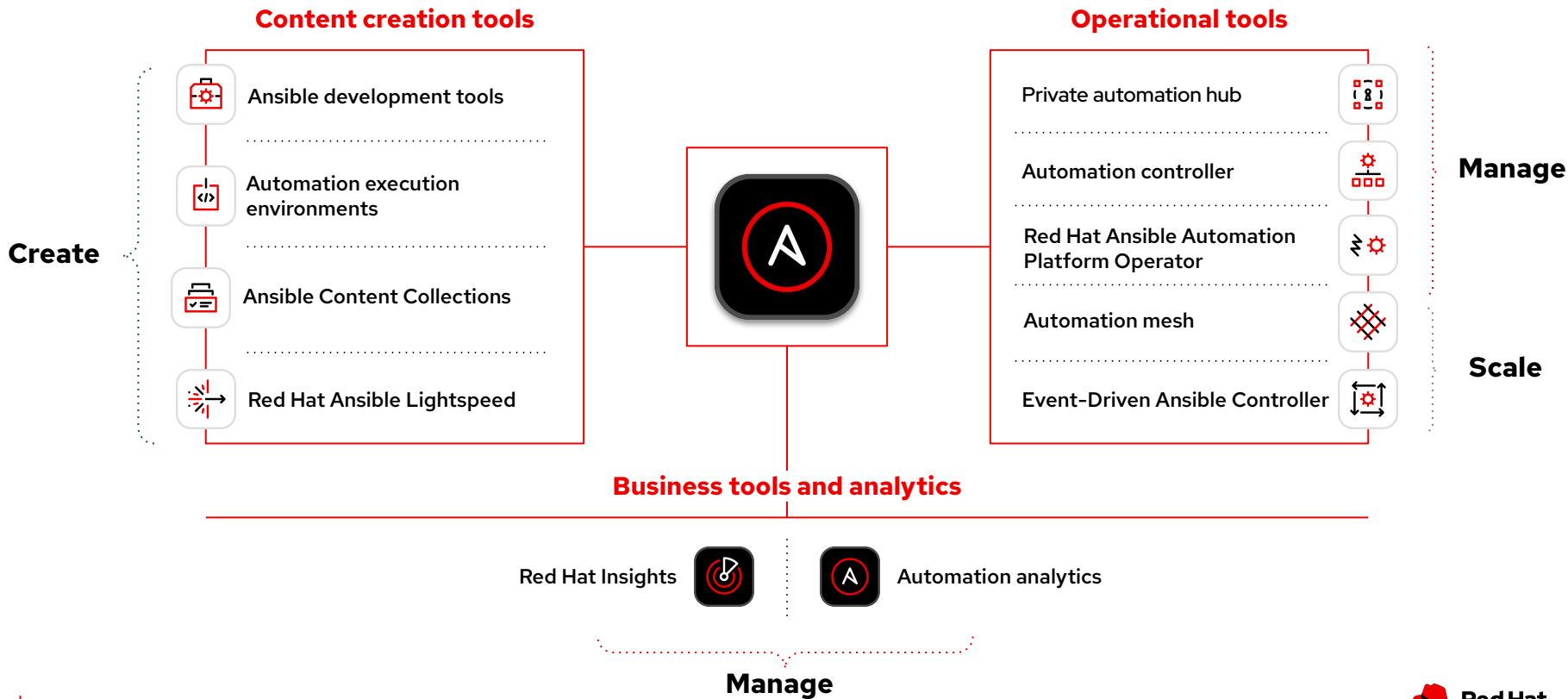Simplified and consistent content delivery

What are they?

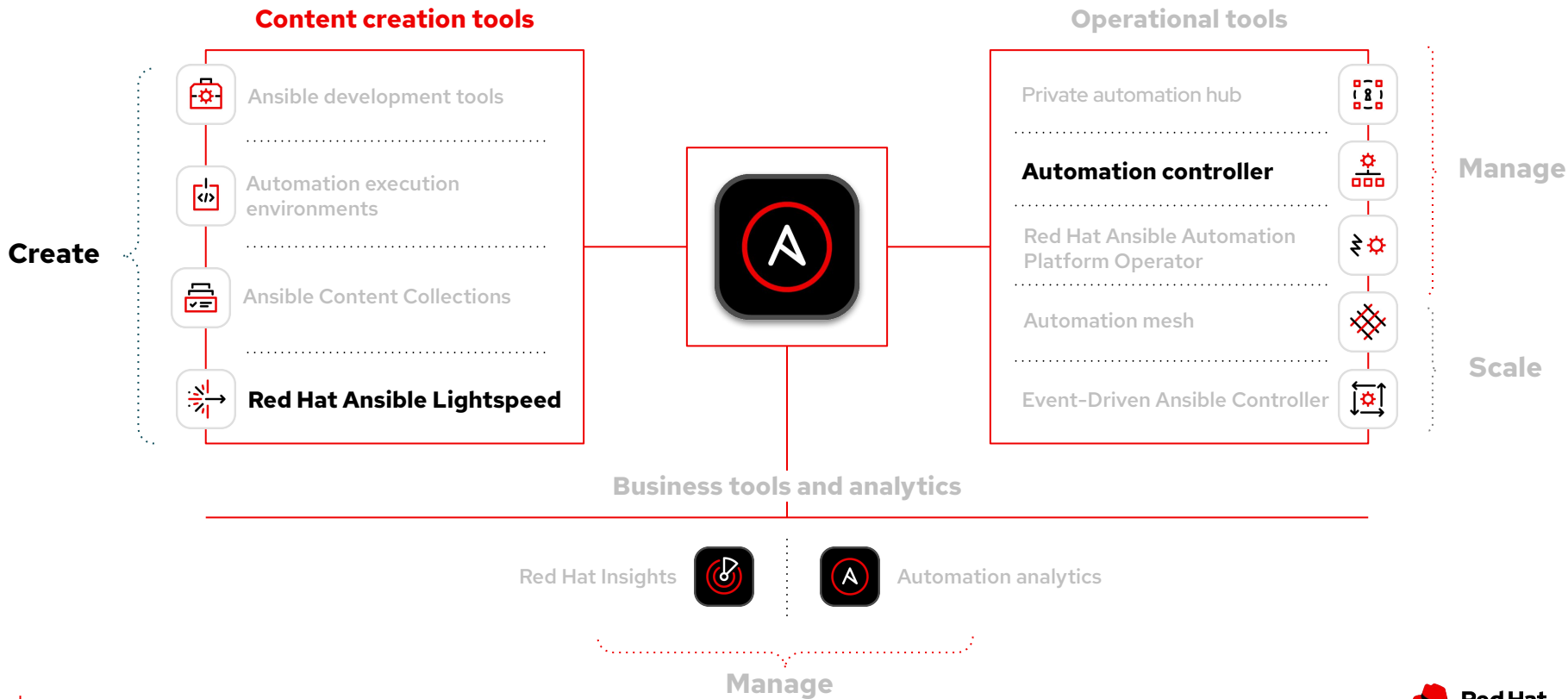Collections are a data structure containing automation content:

- ▸ Modules
- ▸ Playbooks
- ▸ Roles
- ▸ Plugins
- ▸ Docs
- ▸ Tests

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Red Hat Ansible Automation Platform

Content creation tools

- Ansible development tools
- Automation execution environments
- Ansible Content Collections
- Red Hat Ansible Lightspeed

Create

Operational tools

- Private automation hub
- Automation controller
- Red Hat Ansible Automation Platform Operator
- Automation mesh
- Event-Driven Ansible Controller

Manage

Scale

Business tools and analytics

Red Hat Insights

Automation analytics

Manage

Red Hat

Red Hat Ansible Automation Platform

Content creation tools

Ansible development tools

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Create

Operational tools

Private automation hub

Automation controller

Red Hat Ansible Automation Platform Operator

Automation mesh

Event-Driven Ansible Controller

Manage

Scale

Business tools and analytics

Red Hat Insights

Automation analytics

Manage

Red Hat

Integrated developer experience

Red Hat Ansible content creation

VS Code extension

Prompt

Suggestion

Red Hat Ansible Lightspeed

Best practices anonymize post processing

Prompt

Suggestion

IBM watsonx Code Assistant

Customize model

Ansible content tools
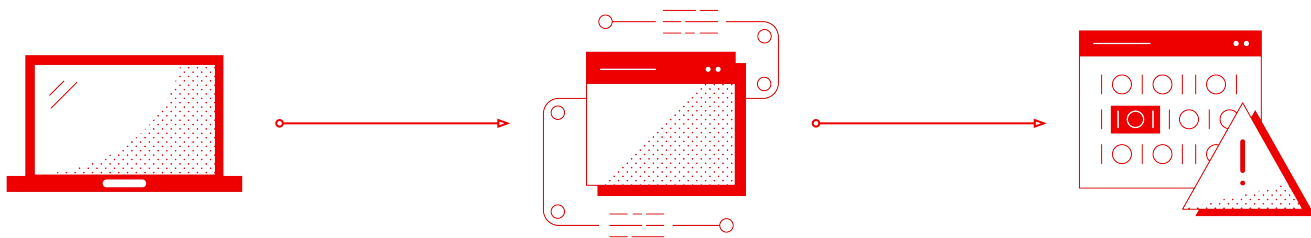
Upload your datasets for model customization

Data security

+ Prompt/Suggestion data is encrypted in transit and at rest and is ephemeral

+ Customer metadata and customized models are stored in customer-owned IBM cloud object storage and are not shared with IBM, Red Hat, or any other customers

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The automation code life cycle

Create

———

Multi-task generation
Foundational model for Ansible

Adopt

———

Content source matching
Post-processing capabilities

Maintain

———

Ansible code bot
User management

Create

Multi-task generation

Generates multiple task suggestions for Ansible task files and playbooks with a sequential chain of natural language task prompts chained together using ampersands (&) in YAML comment (#) lines

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Introduction to the scenario

Give me the background!

Company:

- We are all part of a fictitious company called **Bombastic Big Blue Bears!**
  - Just starting automation journey!

Scenario and Assumptions:

- Ansible Automation Platform is already deployed in our environment.
- Assume we've properly vetted and tested all AI generated artifacts.
- Assume all automation will run as intended.

Let's get started innovating!

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What did we talk about today?

- Innovation Capacity
- Concepts to help implement change more effectively
- Red Hat Ansible Lightspeed
- A tried and tested process for implementing automation within an organization

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Reference Materials

- GitHub Repo for this presentation
- Red Hat Ansible Lightspeed overview page
- Getting Started
- Interactive 101 Ansible Lightspeed Lab
- Ansible Interactive Labs
- Red Hat Ansible Lightspeed with IBM watsonx Code Assistant User Guide
- Red Hat Ansible Lightspeed documentation page
- Red Hat Ansible Lightspeed playlist
- Anthem Video

Thank you

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enterprise open source software solutions.
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services make
Red Hat a trusted adviser to the Fortune 500.

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