# Enterprise Automation
## A story about innovation

Jesse Faett
Senior Solution Architect
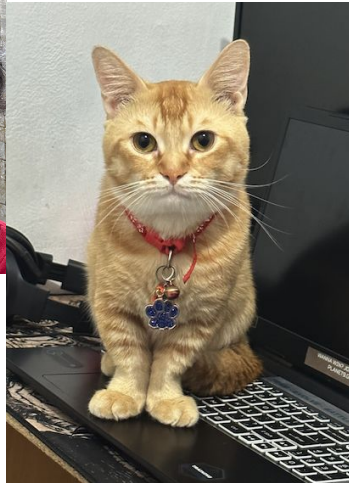
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## Agenda for Today

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

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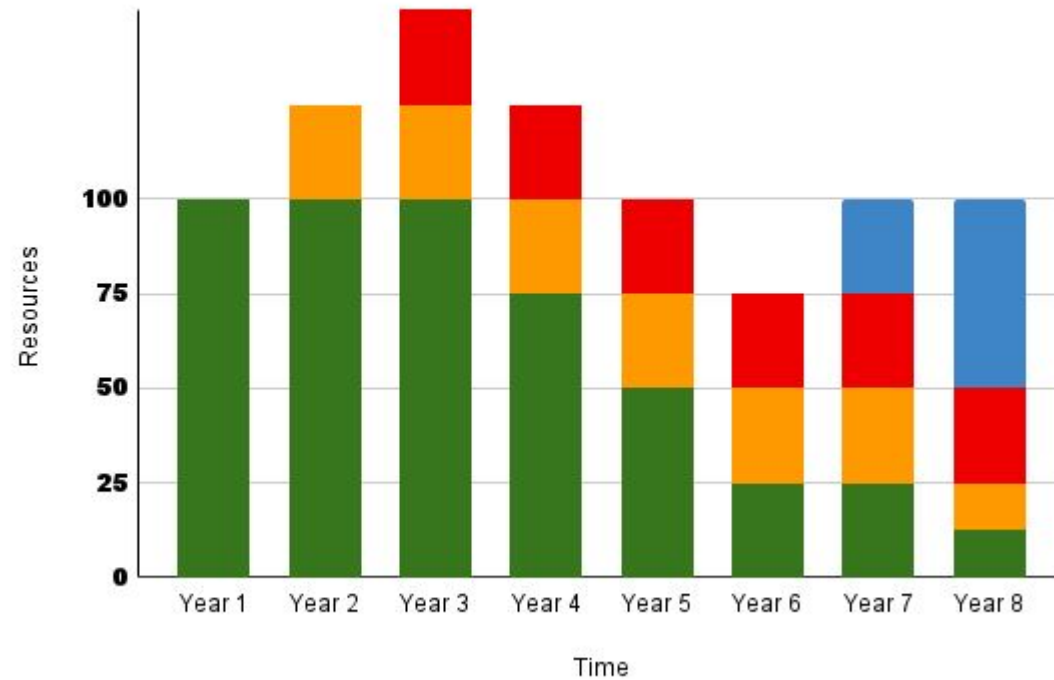
- Federal Financials ~3 Years
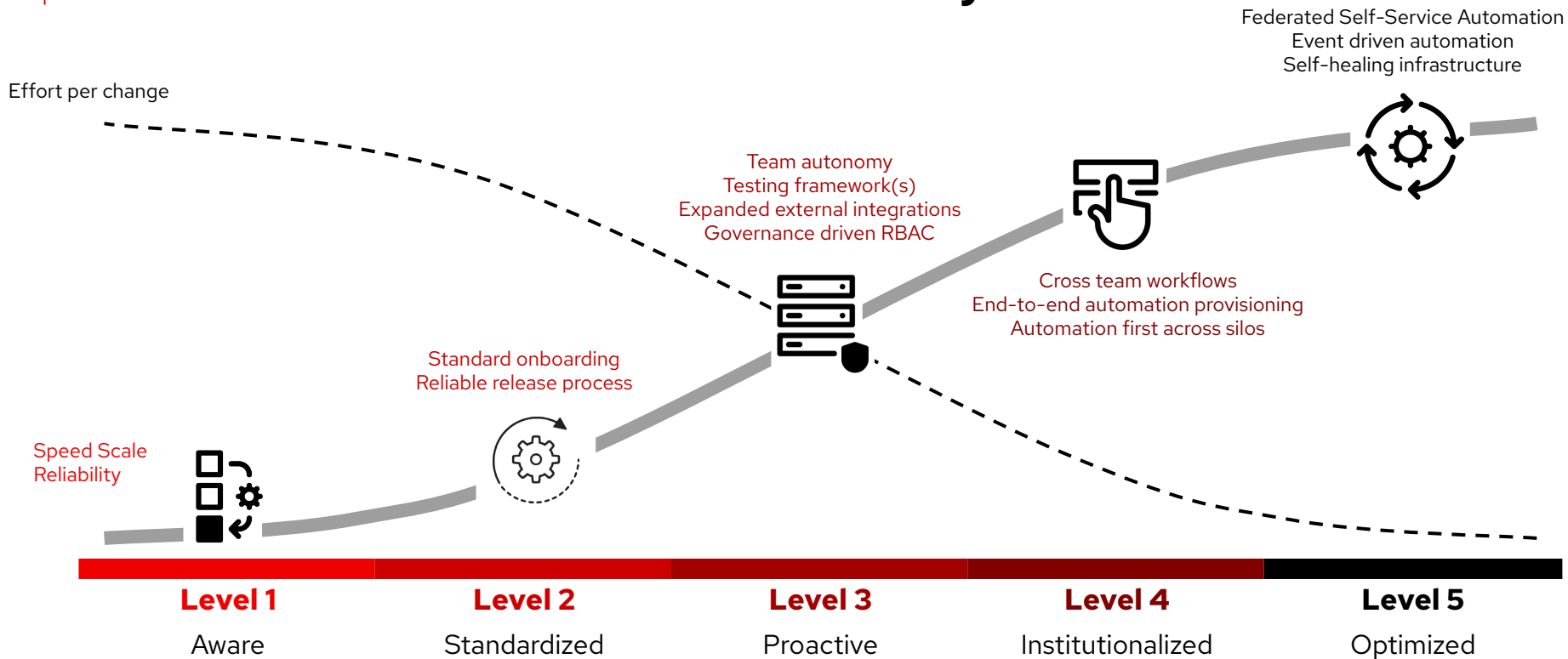
# Enough about me, why are we here?

# Let's look at a graph about Innovation Capacity!

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# Automation Maturity Curve

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

Effort per change

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?



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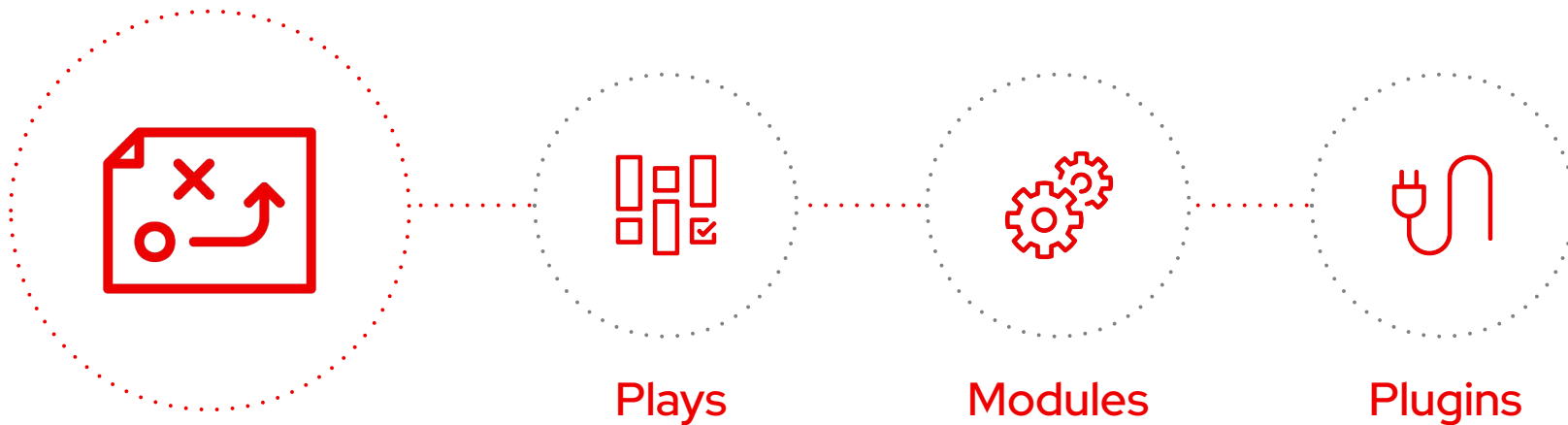# Ansible Automation Platform Key Components

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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

```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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```yaml
---
- 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
```

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A play

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

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

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        dest: /var/www/html/

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

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

A task

```
---
- 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 module ➡️
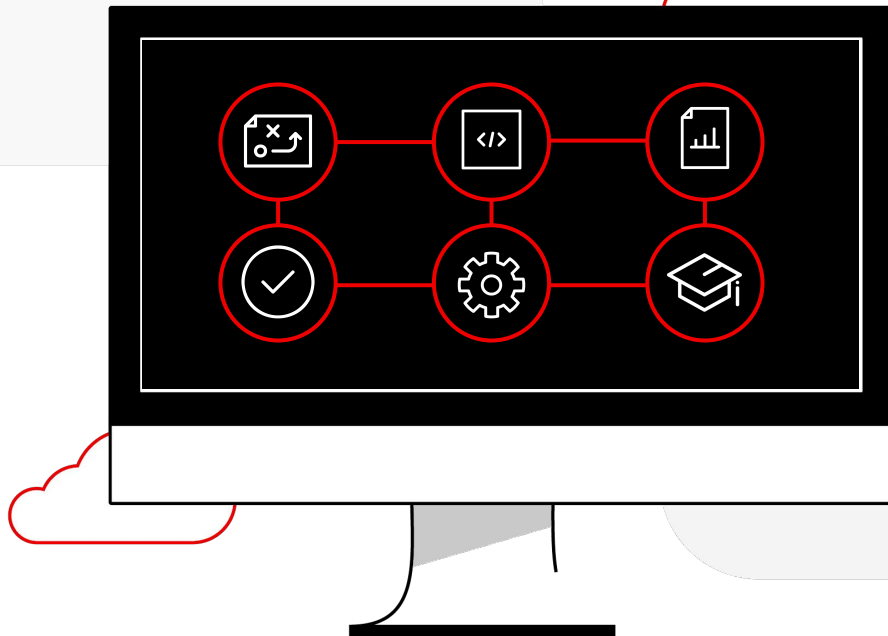
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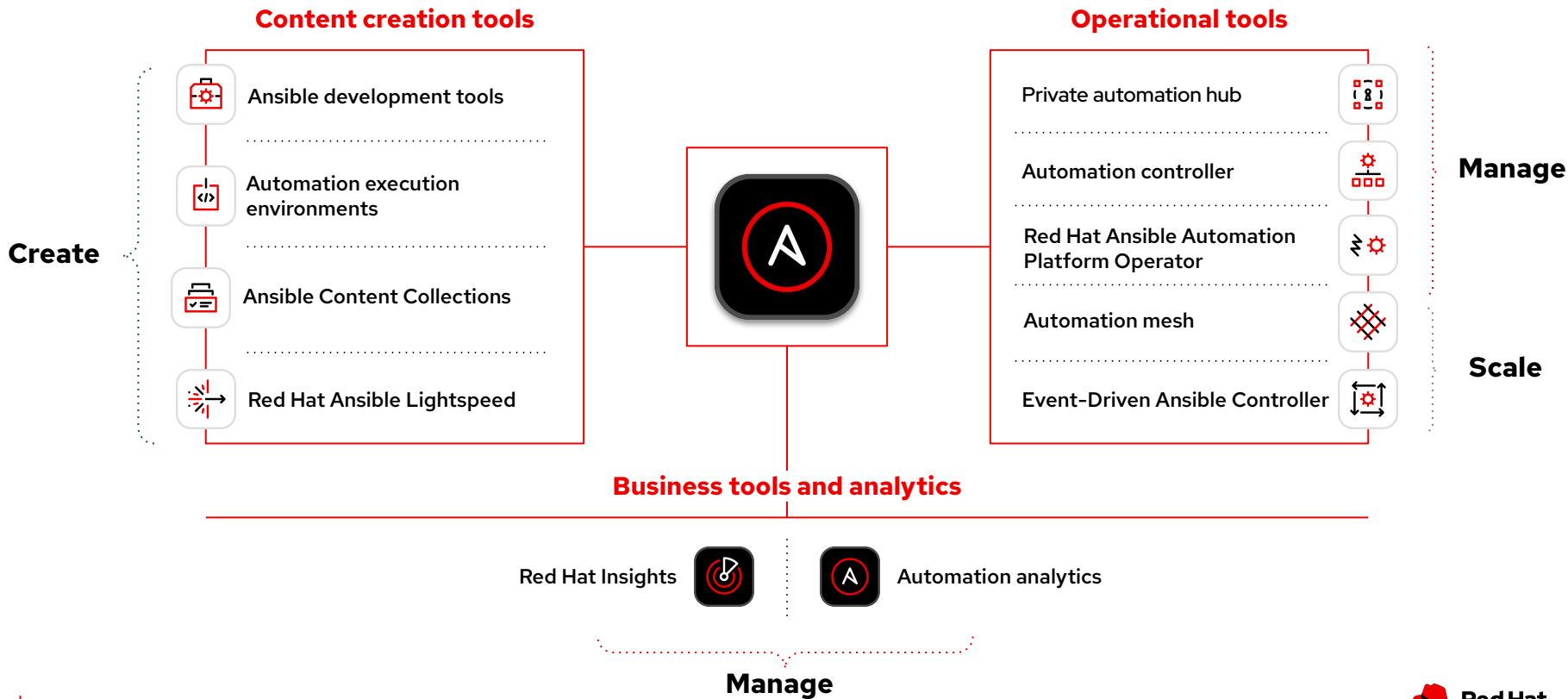# Content Collections

Simplified and consistent content delivery

**What are they?**

Collections are a data structure containing automation content:
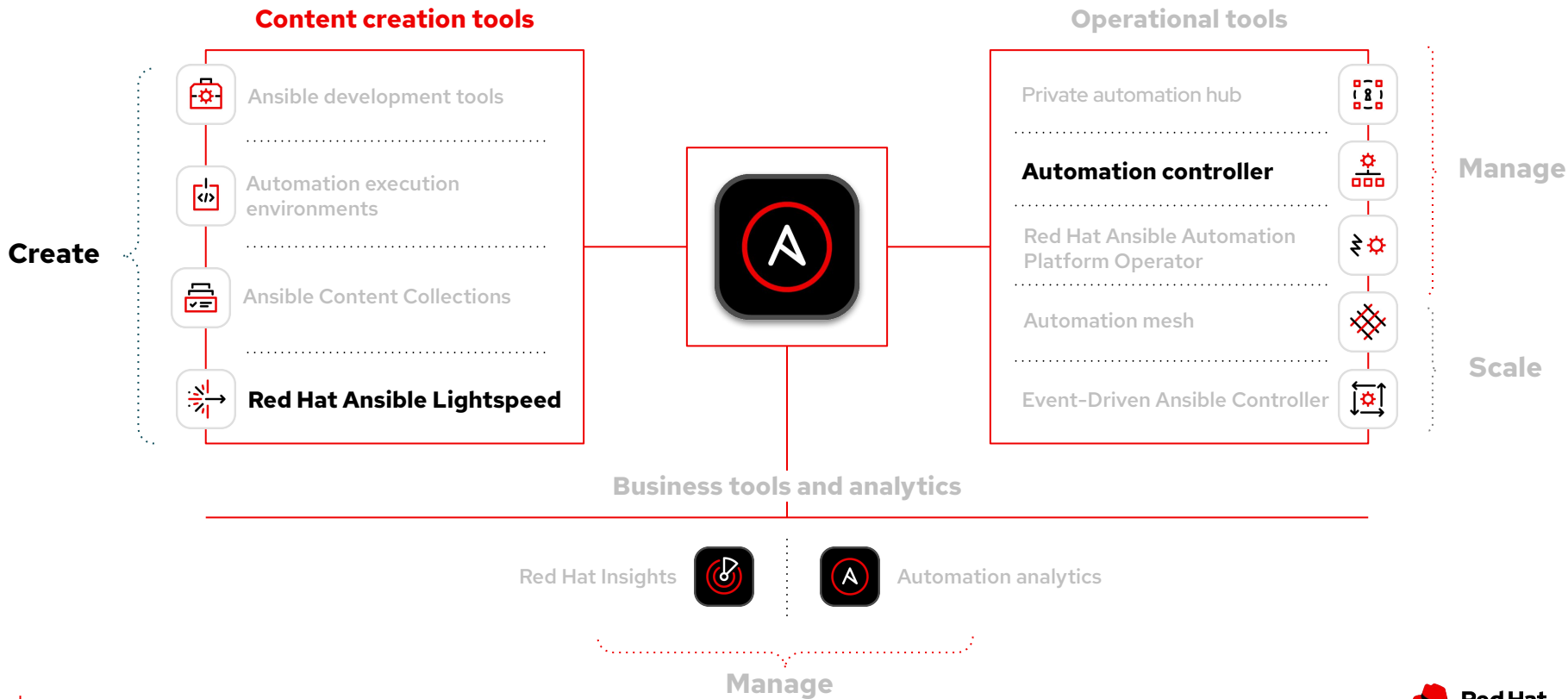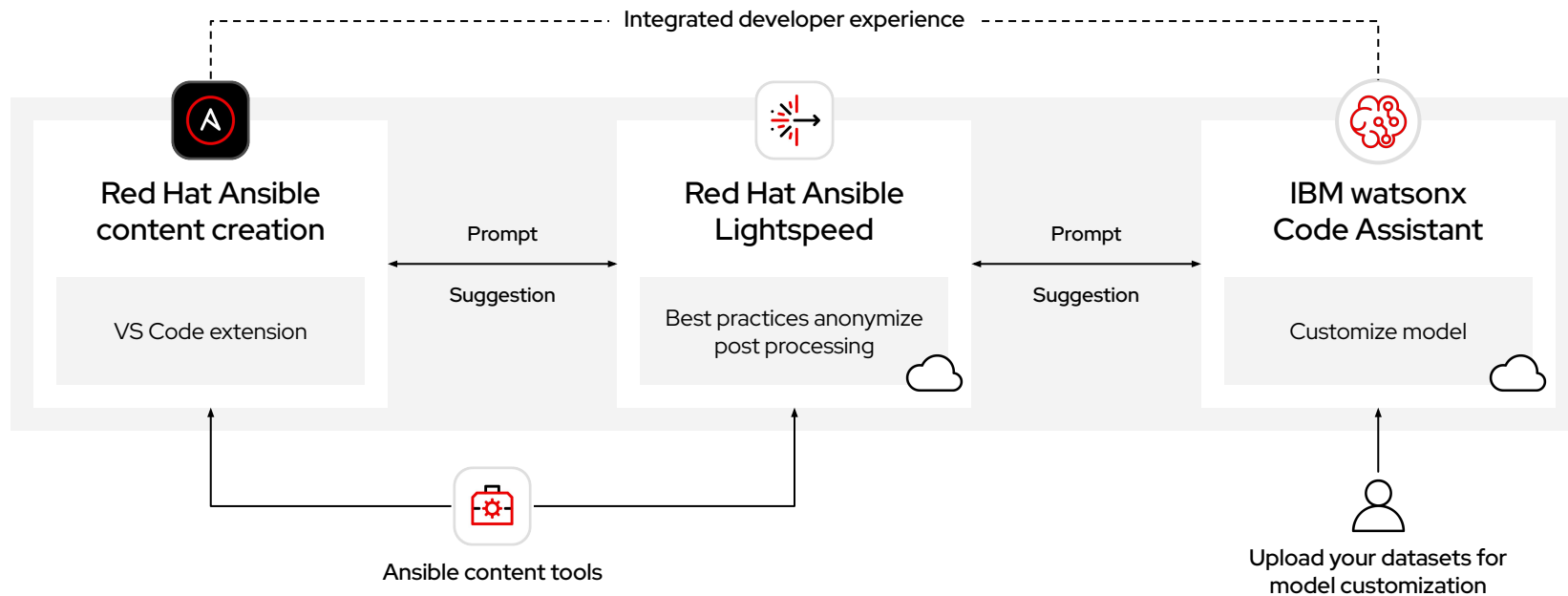
- Modules
- Playbooks
- Roles
- Plugins
- Docs
- Tests

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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**

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# Red Hat Ansible Automation Platform

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

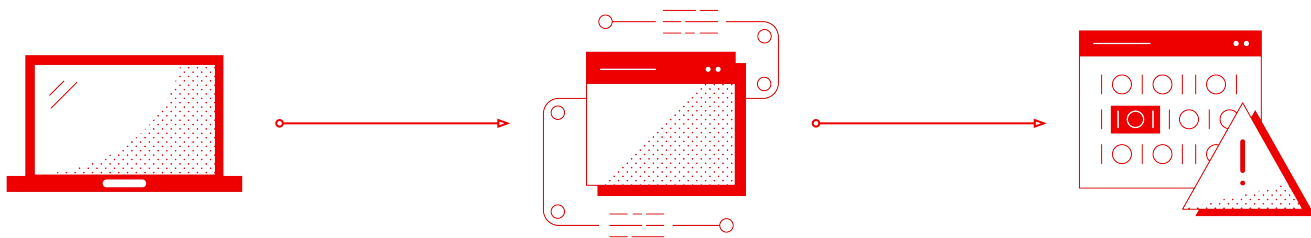**Data security**

+ 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

# 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

# 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!

# Q & A

# 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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