



Where is Red Hat heading to with Ansible?

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Automate everything.

Develop, operate and consume automation at scale

Automate everywhere.

Flexible, portable automation for the hybrid cloud.

Automate for everyone.

Deliver expansive automation drives results

Automate everything

Develop, operate and consume automation at scale

- ▶ A **simplified automation experience** with a **bare-metal, VM, OR containerized automation platform**.
- ▶ Enhanced management of **certified content** via private automation hub.
- ▶ Added **control, analytics, auditing** and reporting via Red Hat Insights for Ansible Automation Platform



Automate everywhere

Flexible, portable automation for the hybrid cloud

- ▶ Ansible **execution environments** and an improved **automation controller** architecture **simplifies deployment and scaling**.
- ▶ **Simplified scale-out instances** of Ansible Automation Platform 2.0 accelerates deployments across your environments.



Automate for everyone

Deliver expansive automation drives results

- ▶ **Enhanced developer experience**, with new tools to make enterprise content “destined for the automation controller.”
- ▶ **Predictable and scalable development** and deployment from a developer workstation to production server.
- ▶ Align automation with **governance and business processes** at scale with **automation services catalog and ITSM integration**.



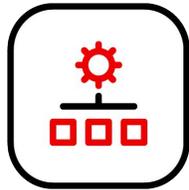
Key Changes

Ansible Tower and **Ansible Engine** are **no more**.

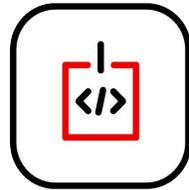
The product that we sell, distribute, and support is
Red Hat Ansible Automation Platform.



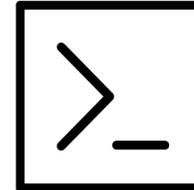
Key Changes in Ansible Automation Platform 2.0



Automation controller
Replaced *Ansible Tower*.



Automation execution environments
Replaced *Ansible Engine*.



ansible-builder and **ansible-navigator**
New tools for enterprise automation developers.

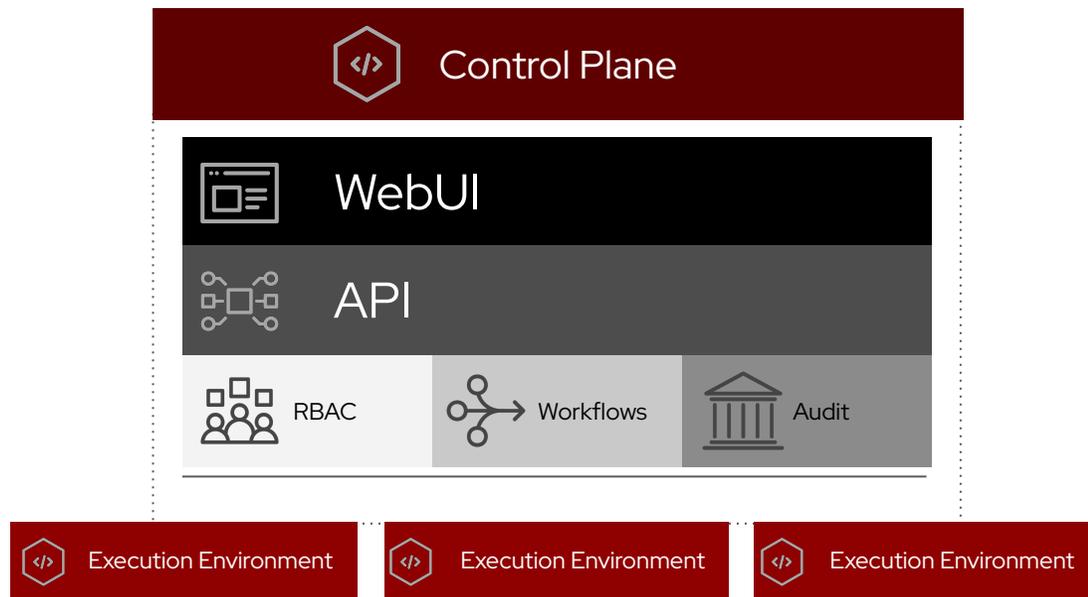


Updated Private Automation Hub
Hosting of private content, container registry.

→ NOTE: All AAP hosted services (Insights for AAP, Automation Hub, Services catalog) have no new features for 2.0 milestone.

Architecture

Automation controller 4.0 updates



Architecture

- ▶ Start to modularize application
- ▶ Decoupled control and execution plane

WebUI

- ▶ Refactored to PatternFly 4.0
- ▶ Increased performance
- ▶ Job output filters
- ▶ Distinct **edit** and **read** views

PostgreSQL 12

- ▶ Installed from RHEL modules
- ▶ Partitioned access - increased performance

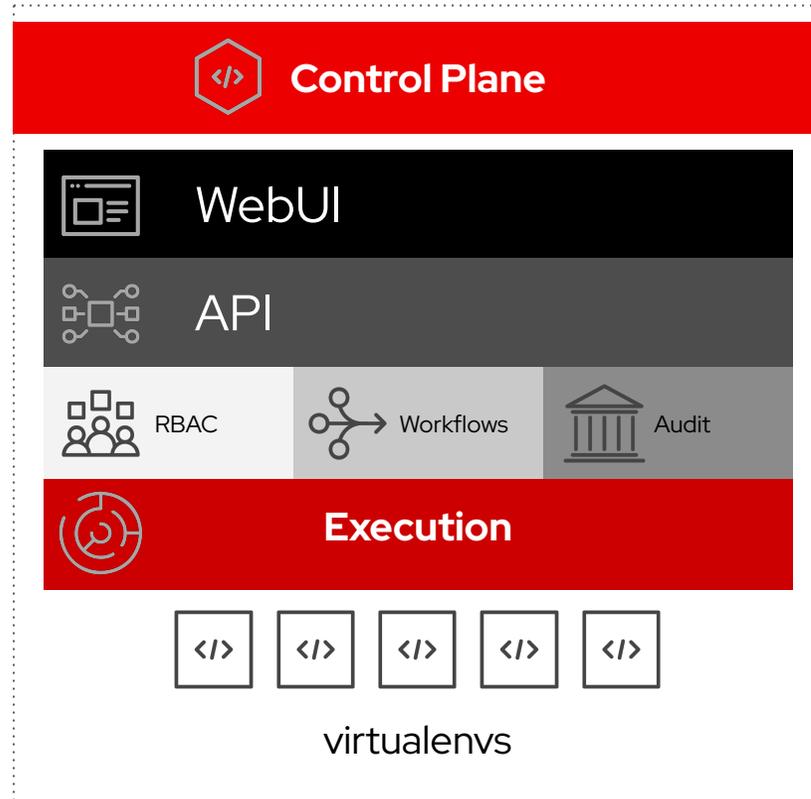
Notes for Platform Operators/Administrators

Warning

- ▶ **No** isolated node support
- ▶ **No** support for PostgreSQL 10
- ▶ **No** delivery via releases.ansible.com
- ▶ **No** support for Mercurial projects
- ▶ **No** support for custom inventory scripts
- ▶ **No** support for deploying on RHEL 7, CentOS

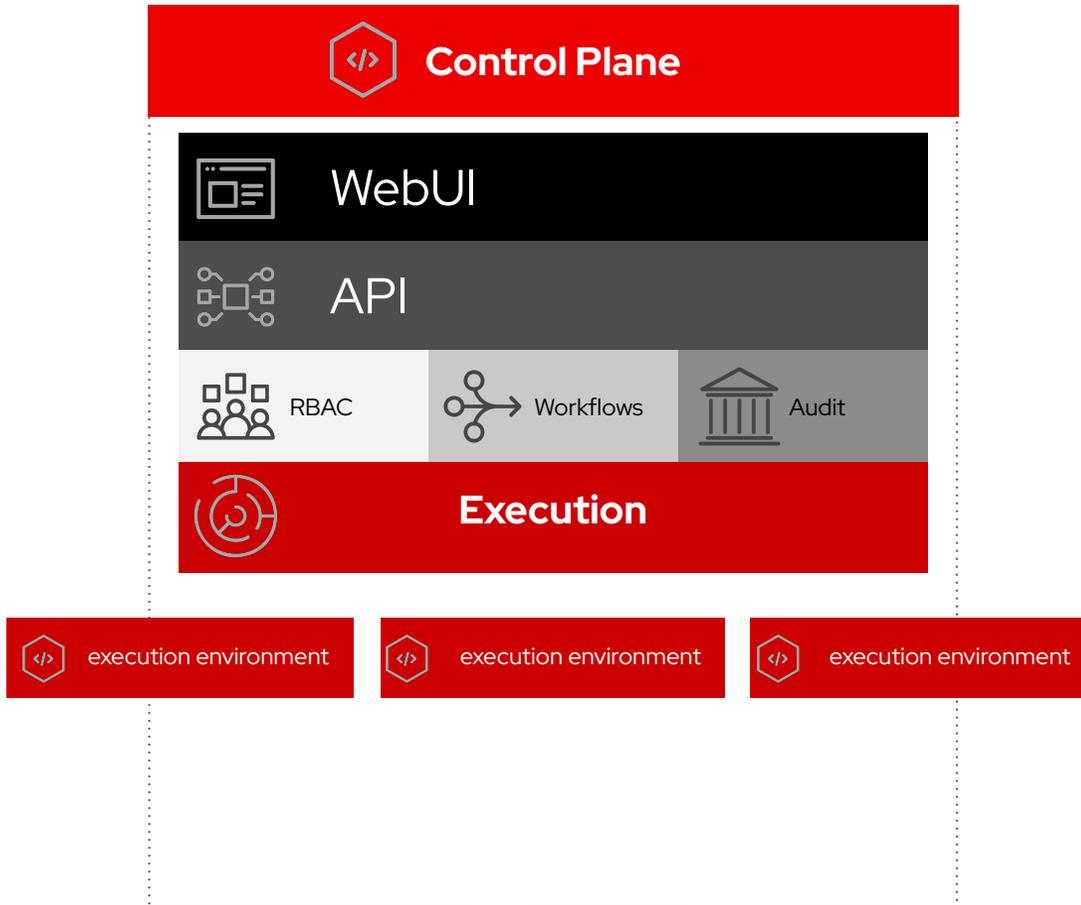
Roadmap

Previous Architecture



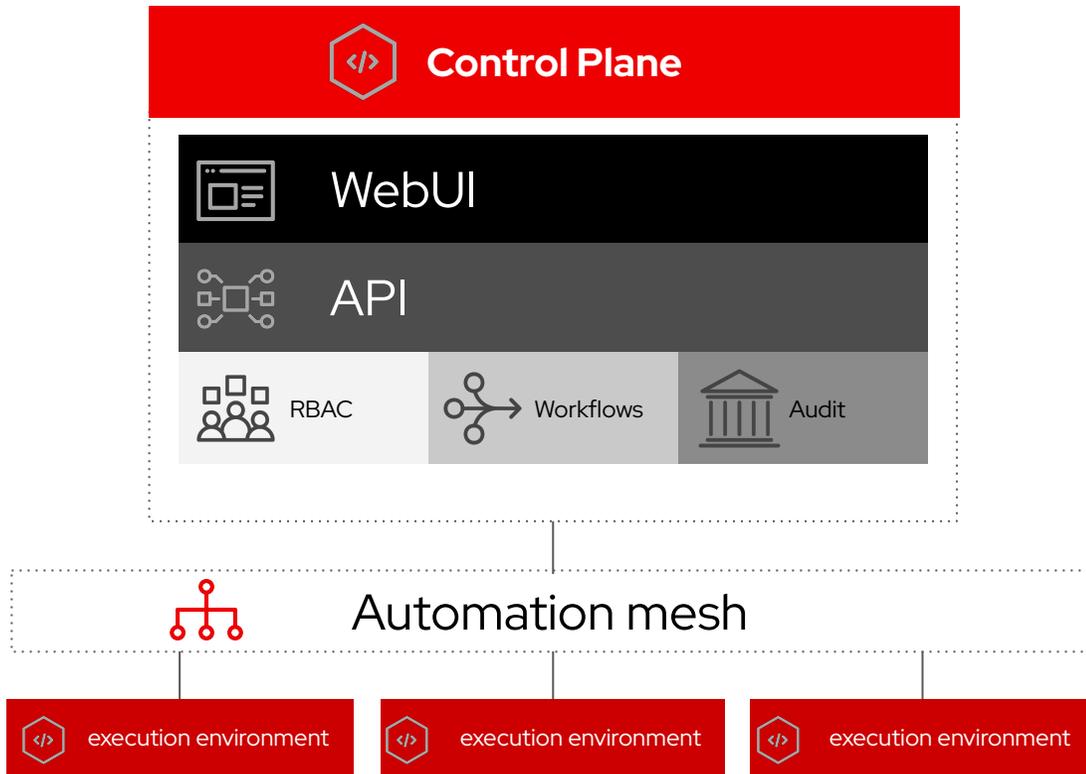
- ▶ Centralized, monolithic application
- ▶ Control node contains control plane and execution plane
- ▶ Poor scalability, rigid architecture

Current Architecture AAP 2.0



- ▶ Started to modularize
- ▶ Control node still contains control plane and execution plane
- ▶ Containerized execution environments

Future architecture



- ▶ Decentralized, modular application
- ▶ Decouple control plane and execution environments
- ▶ **Planned** for 2.1 release

See -> <https://github.com/ansible/receptor>

Technical Details

Automation execution environments

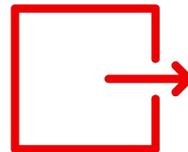
Limitations of Python Virtual Environments

They don't work for the enterprise



Tooling

Python Virtual Environments are not part of the Red Hat Ansible Automation Platform, they are Python constructs meant for Python developers.



Portability

Python Virtual Environments are unique to a single system and hard to replicate on another system.



Maintenance

Python Virtual Environments may have dozens of Python dependencies and become increasingly hard to manage and maintain overtime.



Automation execution environments

Challenge



Management of Ansible dependencies, multiple Python virtualenvs increases complexity of automation.

Solution & Business Value



Standardized package format to build, deploy and run Ansible content, provides reliable, reproducible and scalable execution layer.

Technical Implementation



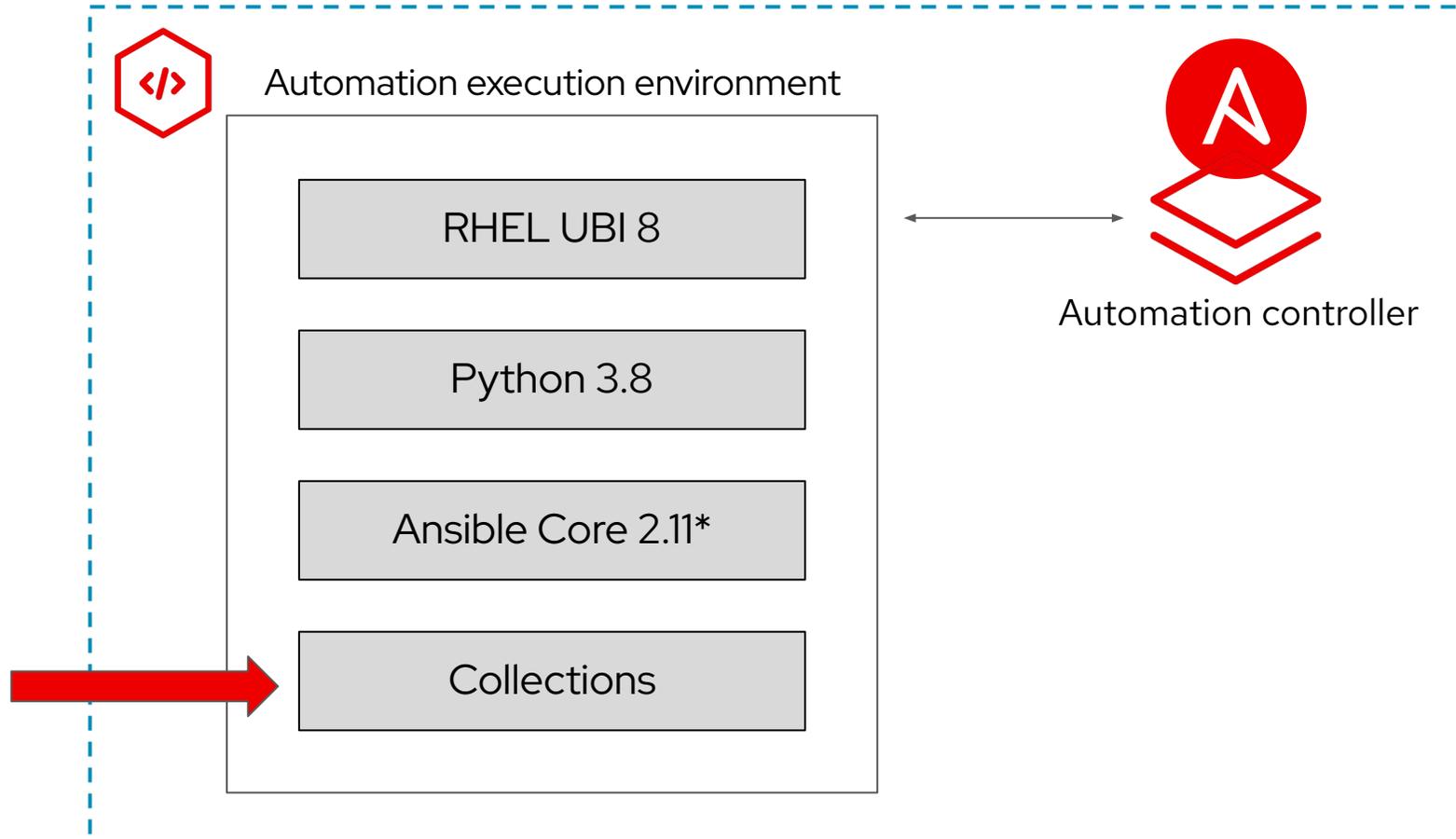
Bundle together all required Collections, corresponding RPM or PIP3 dependencies, and a minimal Ansible version in a single container.

What's in an automation execution environment?



Example Packaging with automation execution environments

-  amazon.aws Collection
-  ansible.utils Collection
-  arista.cvp Collection
-  azure.azcollection Collection
-  ibm.qradar Collection
-  redhat.satellite Collection



*includes other Ansible dependencies/packages

Available automation execution environments with AAP 2.0

- ▶ **Minimal** (ee-minimal-rhel8) - Contains Ansible Core 2.11 and doesn't contain any Collections.
- ▶ **Supported** (ee-supported-rhel8) - This is the default image. It is built on top of the minimal image and contains content supported by Red Hat.
- ▶ **Compatibility** (ee-29-rhel8) - Contains Ansible 2.9 "batteries included" and is best for customers migrating from Ansible Automation Platform 1.2.

Execution environment builder

Execution environment builder

Execution environment builder is a tool that aids in the creation of execution environments.

Challenge



No existing tooling for building Automation execution environments.

Solution & Business Value



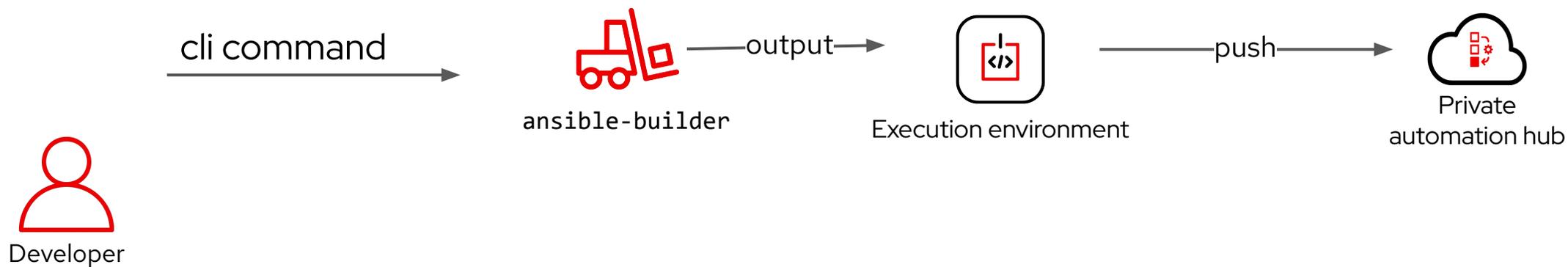
Execution environment builder allows organizations to customize and build their own execution environments with the collections and dependencies they need.

Technical Implementation



Execution environment builder is a Python application that will produce the container image along with any other files that need to be added to the image.

Adapting execution environments



Demo

ansible-builder

Source:

<https://github.com/ansible/ansible-builder>

<https://gitlab.com/cjung/ansible-ee-intro>

Automation content navigator



Automation content navigator

Top-level interface for Platform enterprise developers

Challenge



Containerized execution introduces new challenges for developing, testing, and deploying Ansible content destined for automation controller.

Solution & Business Value



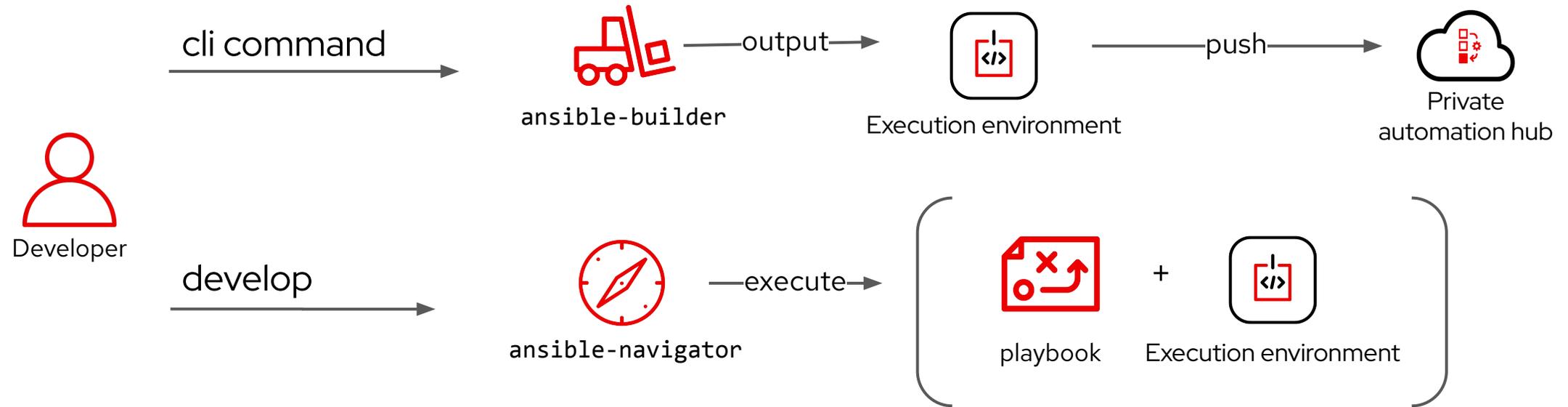
Provides a more cohesive, more consistent, predictable, developer experience for content destined to be run on the Automation Platform.

Technical Implementation



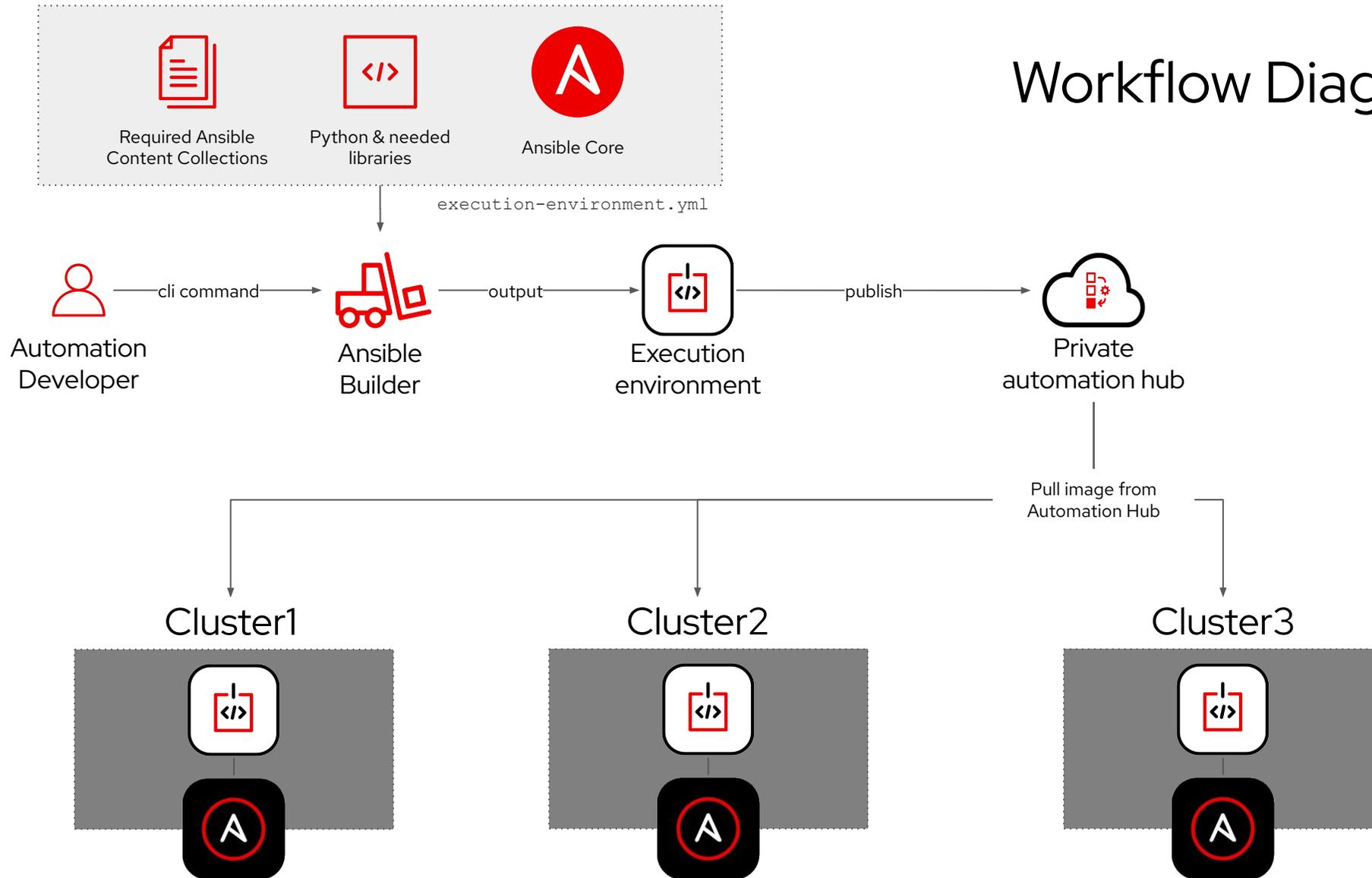
Automation content navigator is a Python application bundled with Ansible Automation Platform.

Adapting execution environments



- ✓ Supported Tooling
- ✓ Portable
- ✓ Scalable

Workflow Diagram



Demo

ansible-navigator

Source:

<https://github.com/ansible/ansible-navigator>

<https://gitlab.com/cjung/ansible-ee-intro>

Migration Considerations

Migrating to Red Hat Ansible Automation Platform 2.0

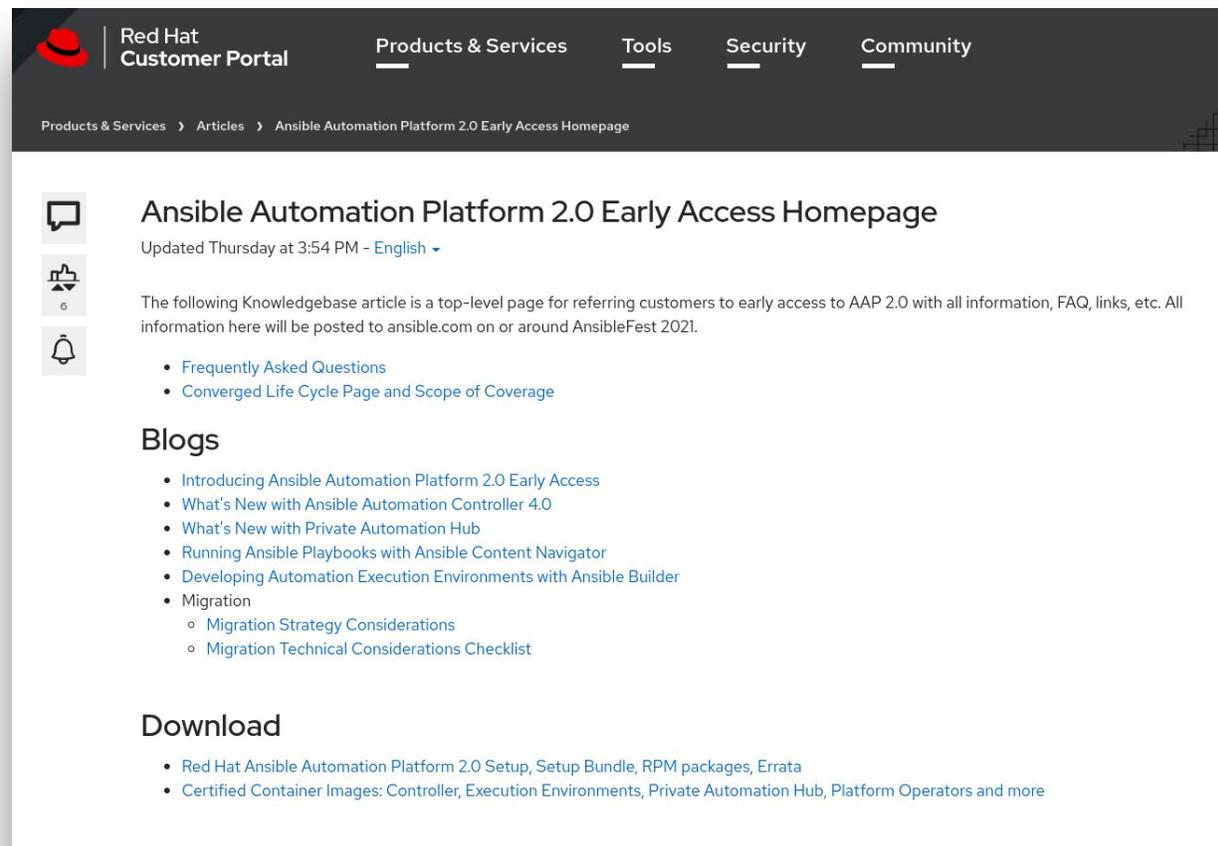
- ▶ **Running AAP 1.2 on RHEL 7?**
 - Migrate AAP 1.2 environment to RHEL 8.3+ as part of upgrade
 - Or run on OCP 4
- ▶ **Running AAP 1.1 or older?**
 - Must update to AAP 1.2 first in order to then update to AAP 2.0
- ▶ **Isolated nodes feature used?**
 - Wait for automation mesh feature in AAP 2.1
- ▶ **Using ansible-playbook?**
 - We are replacing this with new tooling (builder and navigator)
- ▶ **There is more: Python venvs, collections...**
 - Must migrate all virtual environments to execution environments

Migrating to Red Hat Ansible Automation Platform 2.0

- ▶ **How long will 3.8 be supported?**
 - EOL is planned for 18. November 2022
 - <https://access.redhat.com/support/policy/updates/ansible-tower>
- ▶ **Is 2.0 a Beta, Tech Preview or limited support?**
 - No, 2.0 is GA and fully supported!
 - Some features missing until 2.1, in particular isolated nodes

Ansible Automation Platform 2.0 Early Access Homepage

<https://red.ht/AAP-20>



The screenshot shows the Red Hat Customer Portal interface. At the top, there is a navigation bar with the Red Hat logo and the text "Red Hat Customer Portal". To the right of the logo are navigation links for "Products & Services", "Tools", "Security", and "Community". Below the navigation bar is a breadcrumb trail: "Products & Services > Articles > Ansible Automation Platform 2.0 Early Access Homepage".

The main content area features a title "Ansible Automation Platform 2.0 Early Access Homepage" and a sub-header "Updated Thursday at 3:54 PM - English". Below this is a paragraph of text: "The following Knowledgebase article is a top-level page for referring customers to early access to AAP 2.0 with all information, FAQ, links, etc. All information here will be posted to ansible.com on or around AnsibleFest 2021." This is followed by a bulleted list of links: "Frequently Asked Questions" and "Converged Life Cycle Page and Scope of Coverage".

Below the list is a section titled "Blogs" with a bulleted list of links: "Introducing Ansible Automation Platform 2.0 Early Access", "What's New with Ansible Automation Controller 4.0", "What's New with Private Automation Hub", "Running Ansible Playbooks with Ansible Content Navigator", "Developing Automation Execution Environments with Ansible Builder", "Migration", "Migration Strategy Considerations", and "Migration Technical Considerations Checklist".

At the bottom is a section titled "Download" with a bulleted list of links: "Red Hat Ansible Automation Platform 2.0 Setup, Setup Bundle, RPM packages, Errata" and "Certified Container Images: Controller, Execution Environments, Private Automation Hub, Platform Operators and more".

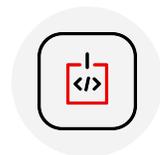
In the bottom right corner of the screenshot is the Red Hat logo.

Red Hat Ansible Automation Platform 2.0



Automation controller

The control plane for automation: includes a UI, RestFul API, RBAC, workflows, and CI/CD integrations, helping teams scale.



Execution environments

The execution plane for automation: includes Ansible Core 2.11, Python 3.8, UBI8, and selected Collections, all packaged and used as a container.



Ansible Platform operator

Package, deploy and manage Red Hat Ansible Automation Platform on OpenShift.



Ansible Content Collections

90+ certified, content collections comprised of over 40k modules curated for consistent, compliant delivery.



Automation services catalog

A venue for developers and business users to manage, provision, and retire automation resources. Modeling and delivery made easy.



Automation Hub

Sync certified Ansible content repositories to on-premises private automation hub, or download directly from automation hub. Available as both a hosted service and privately on-prem.



ansible-builder

The execution environment builder is command line tool leveraging podman that builds Ansible environments inside a container.



ansible-navigator

The automation content navigator is command line tool for Execution Environments. Provides enhanced and familiar experience for Ansible creators.



Red Hat Insights for Ansible

Control, predictive analytics, auditing and reporting for multiple personas across the IT organization. Continuous actionable insights based on holistic view into entire automation stack.

Thank you

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