

# Platform Engineering as the catalyst for 10x developer productivity

Internal Developer Platform with  
Trusted Software Supply Chain



# Red Hat OpenShift Platform Plus

Unified experience, secure and platform consistent everywhere



## Red Hat OpenShift Platform Plus



**Red Hat**  
Advanced Cluster  
Management  
for Kubernetes



**Red Hat**  
Advanced Cluster  
Security  
for Kubernetes



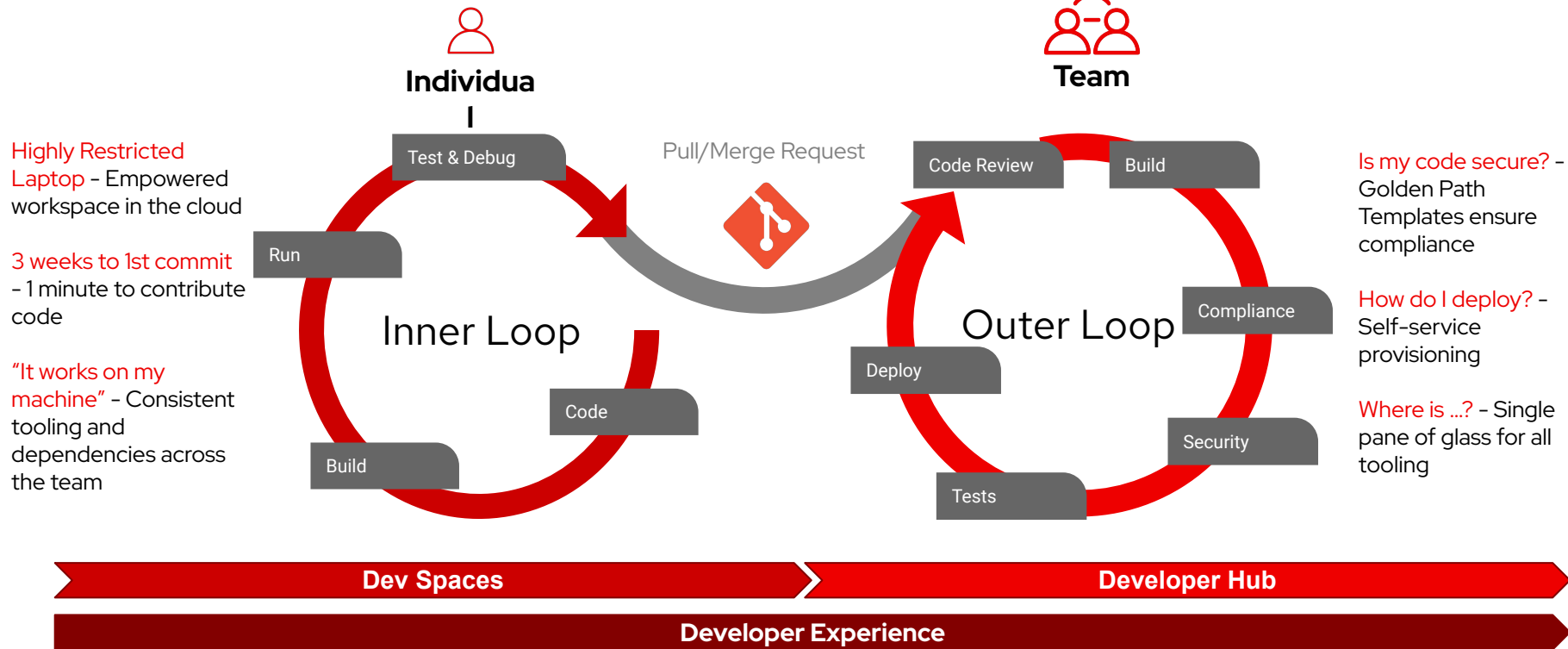
**Red Hat**  
Quay



**Red Hat**  
OpenShift  
Data Foundation



**Red Hat**  
OpenShift  
Container Platform



# Red Hat open hybrid cloud platform

## Solution Focus

 Red Hat  
OpenShift  
Platform Plus

 Red Hat  
OpenShift  
Container Platform

 Red Hat  
OpenShift  
Kubernetes Engine

 Red Hat  
Advanced Cluster Management  
for Kubernetes

### Multicluster management

Observability | Discovery | Policy | Compliance |  
Configuration | Workloads

 Red Hat  
Advanced Cluster Security  
for Kubernetes

### Cluster security

Declarative security | Container vulnerability  
management | Network segmentation |  
Threat detection and response

 Red Hat  
Quay

### Global registry

Image management | Security scanning |  
Geo-replication Mirroring | Image builds

 Red Hat  
OpenShift  
Data Foundation

### Cluster data management

RWO, RWX, Object | Efficiency |  
Performance | Security | Backup |  
DR Multicloud gateway\*\*

### Manage workloads

#### Platform services

- Service mesh | Serverless
- Builds | CI/CD pipelines
- GitOps | Distributed Tracing
- Log management
- Cost management

### Build cloud-native apps

#### Application services\*

- Languages and runtimes
- API management
- Integration
- Messaging
- Process automation

### Data-driven insights

#### Data services\*

- Databases | Cache
- Data ingest and preparation
- Data analytics
- AI/ML

### Developer productivity

#### Developer services

- Developer CLI | IDE
- Plugins and extensions
- CodeReady workspaces
- CodeReady containers

### Kubernetes cluster services

Install | Over-the-air updates | Networking | Ingress | Storage | Monitoring | Log forwarding | Registry | Authorization | Containers | VMs | Operators | Helm

### Kubernetes (orchestration)


 Red Hat  
Enterprise Linux


### Linux (container host operating system)

 Red Hat  
Enterprise Linux  
CoreOS

  
Physical

  
Virtual

  
Private cloud

  
Public cloud

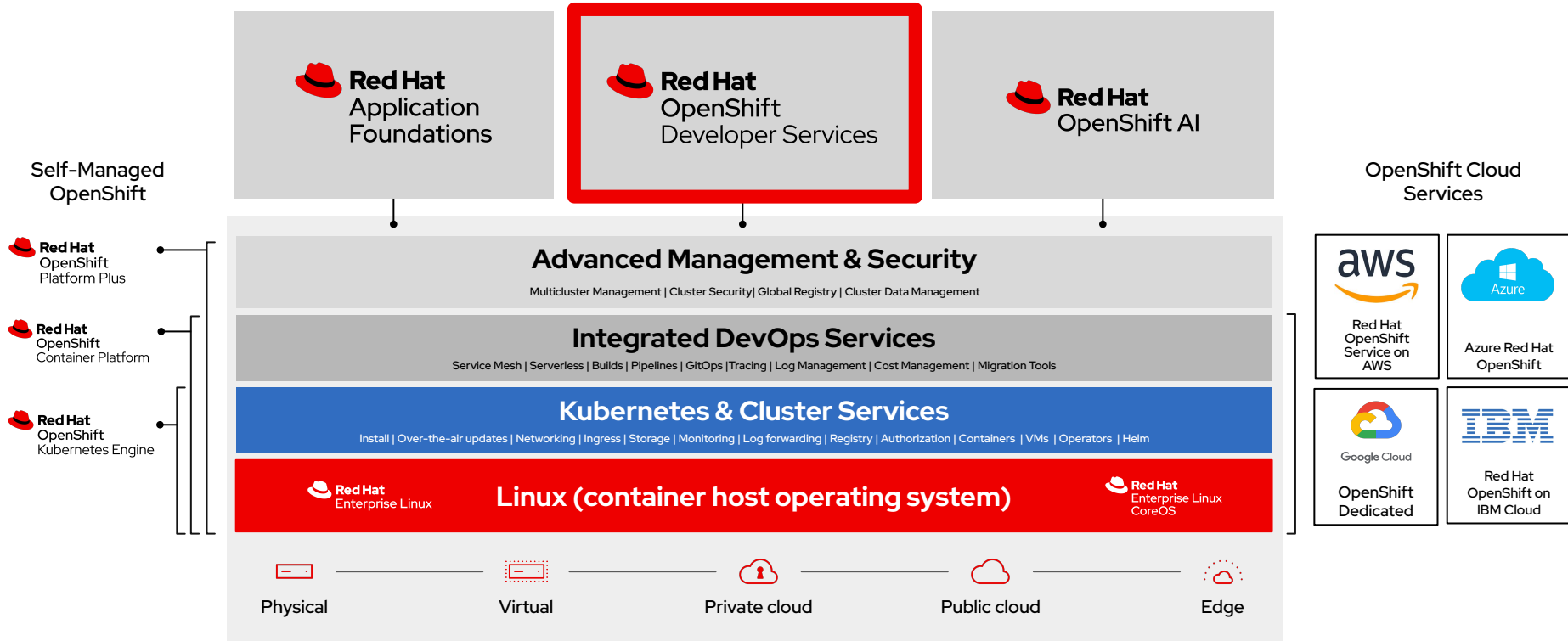
  
Edge

\* Red Hat OpenShift® includes supported runtimes for popular languages/frameworks/databases. Additional capabilities listed are from the Red Hat Application Services and Red Hat Data Services portfolios.

\*\* Disaster recovery, volume and multicloud encryption, key management service, and support for multiple clusters and off-cluster workloads requires OpenShift Data Foundation Advanced

# Red Hat open hybrid cloud platform

CONFIDENTIAL designator



V0000000





IDP: Internal  
Developer Portal



**Red Hat**  
Developer Hub



Kube Developer  
Desktop Experience :  
**Podman Desktop**



Migration Services



**Red Hat**  
Migration Services



IDE Tools



**Red Hat**  
IDE Plugins



**Red Hat**  
Dev Spaces



Trusted Software  
Supply Chain



**Red Hat**  
Trusted Application  
Pipeline



**Red Hat**  
Trusted  
Artifact Signer



**Red Hat**  
Trusted Profile  
Analyzer



Application Networking  
Services



**Red Hat**  
Service  
Interconnect

Allows developers to **quickly and securely deliver applications to production**

Enabling platform engineers to more easily enforce operational controls and compliance across hybrid multi-cloud environments

# Advanced Cluster Management

# Advanced Cluster Management

## Application-centric Management

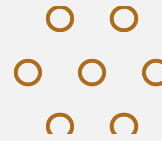
Deploy, upgrade, and manage applications with consistency across multiple clouds

## Policy-Based Governance

Enforce configuration policies and ensure compliance across clusters, applications and infrastructures

## Cluster Lifecycle Management

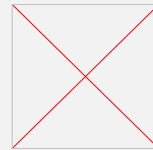
Centrally, create, update, delete clusters across the enterprise



Multicloud  
Management



Infrastructure  
Management



Application  
Management



Event  
Management



Existing Tools  
& Processes



Configuration &  
Compliance  
Management



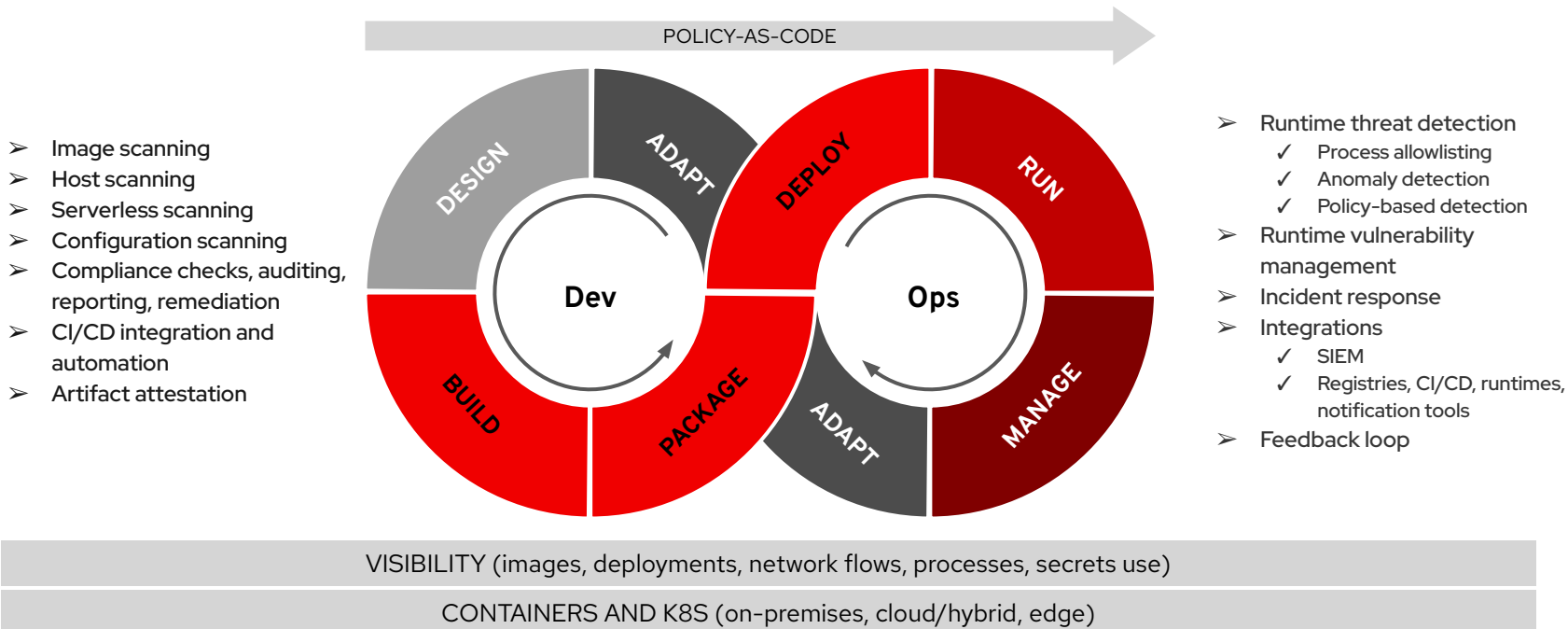
# ACM capabilities

- **ACM provides the single pane of glass to manage Kube clusters regardless of region.**  
ACS shines at evaluating and enforcing the security posture for those clusters.
- **End to End management, visibility and control across hybrid platforms**  
Security and Compliance of entire kubernetes domain across multiple data centers  
Clusters can be running anywhere on prem, public clouds, private clouds & managed
- **Network configuration, Role based configuration, CMDB, ITSM integration**  
Ansible can be leveraged to boost the automation and remediation with ACM
- **Policy driven governance, risk and compliance management**
- **Advanced application life cycle management & Application Topology view**  
Deploy applications at scale to clusters with labels, Applications views across clusters, events oriented action before and after deployments
- **Multicluster observability for health and optimization**  
Select/Sort/filter capabilities, troubleshoot faster, aggregated metrics

# Advanced Cluster Security

# Red Hat Advanced Cluster Security: Use Cases

Security across the entire application lifecycle

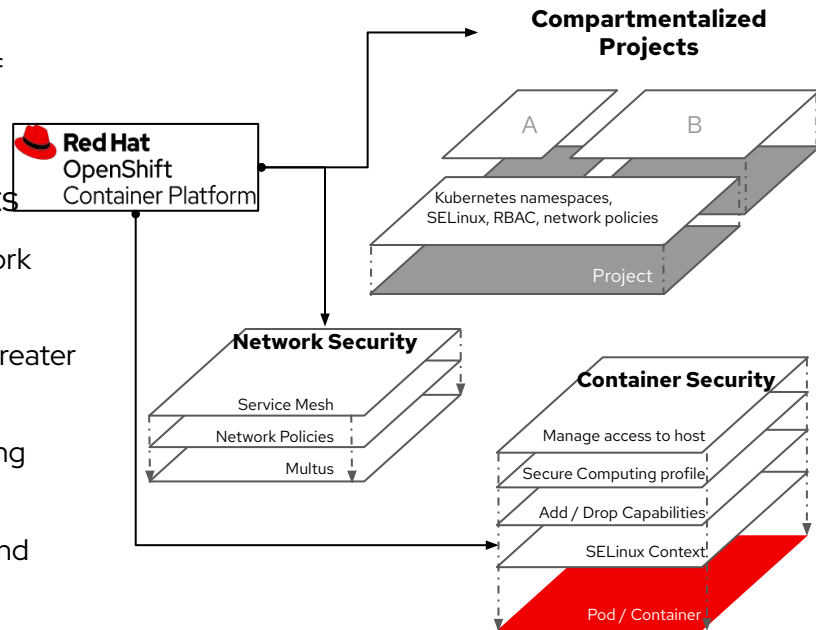


# Run

**Secure the container runtime, effectively triage issues, and fix problems upstream**

## Platform capabilities

- ▶ Minimize the impact of an attack with runtime enforcement of
  - Security contexts, pod security standards
  - Network Policies for microsegmentation
  - Analyze kube-audit logs for high risk events
- ▶ Analyze network traffic in real-time and flag anomalous network behavior as well as other anomalous runtime behavior
- ▶ Combine configuration details with vulnerability details for a greater understanding of risk and impact of running workloads.
- ▶ Get compliance information tied directly to workloads, enabling Security teams to respond effectively.
- ▶ Automate threat detection and response with build, deploy, and runtime policies integrated into your supply chain.
- ▶ Export security information to scheduled reports, notification services or SIEM tools



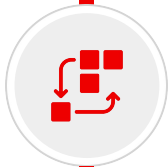


# Red Hat Quay

Enterprise container registry for multi-cluster environments



**Trusted, open source container registry platform** that runs everywhere, but runs best on Red Hat OpenShift



**Scalability without limits**, from a developer laptop to a container host or Kubernetes, on-premise or on public cloud

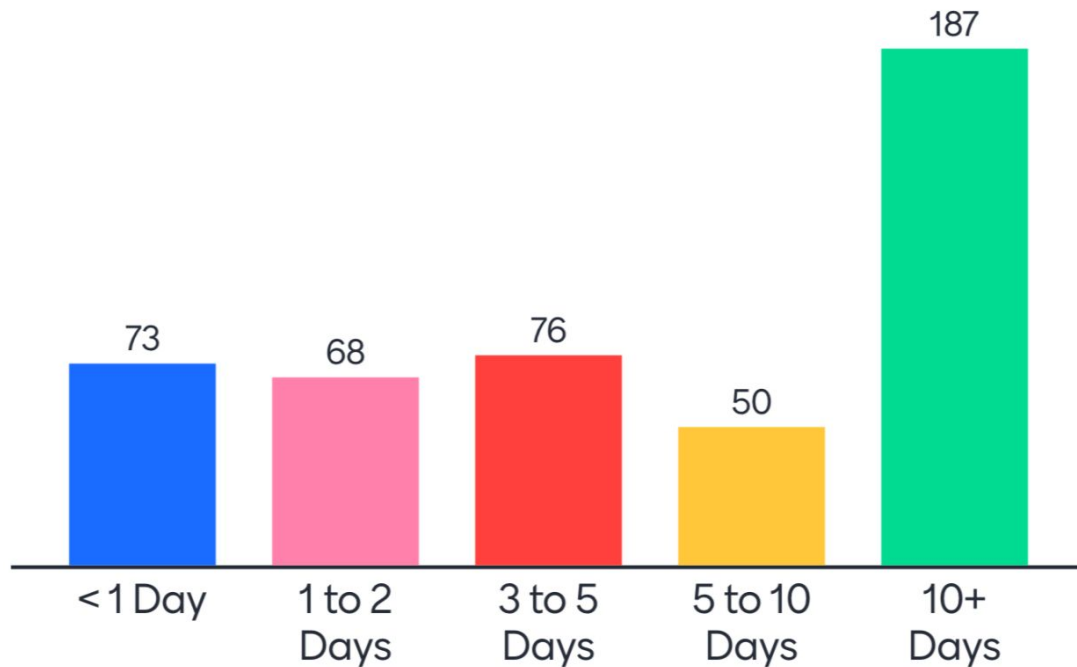


**Global governance and security controls**, with image vulnerability scanning, access controls, geo-replication, etc.



Offered as a **self-managed enterprise container registry product** and as a **hosted multi-tenant SaaS solution**

# How many days waiting on <resources>?



# Overloaded

COBOL  
JCL/WFL  
---  
Batch  
Centralized

C/C++  
4GLs  
RDBMS/  
SQL  
Unix  
---  
Interactive  
Distributed

Mouse  
PushButton Click  
DropDown List  
Windows  
---  
GUI/Event-Driven

HTML  
HTTP  
CGI  
GET/POST  
Cookies  
Java  
Servlet  
EJB  
Solaris/AIX  
---  
Request/Response

MVC-Struts  
DI-Spring  
ORM-Hibernate  
XML  
WS-\*  
JSF  
Agile  
Automated Testing  
CI  
SVN  
Linux  
---  
AJAX

Java EE 6  
HTML5 (JavaScript)  
iOS/Android  
Phonegap/Cordova  
Cucumber  
REST  
Maven/Gradle  
git  
MongoDB/Redis  
Hadoop  
DevOps  
CD  
Microservices  
---  
Asynch, Functional  
Reactive

Java EE 8-12, NodeJS, Go  
Serverless  
AWS, Azure  
Flutter, Typescript  
Kafka, GCP  
gRPC, Avro  
Vue, React, Next.js  
Serverless, Wasm  
Terraform, Vault  
CRI-O, Podman  
ArgoCD, Tekton, CircleCI  
Backstage, Helm  
Kustomize  
Istio/ServiceMesh  
---  
Cloud, Kubernetes



60's-70's



1985-1995



1993-1999



1995-2003



2003-2011



2010-2016



2018-2022



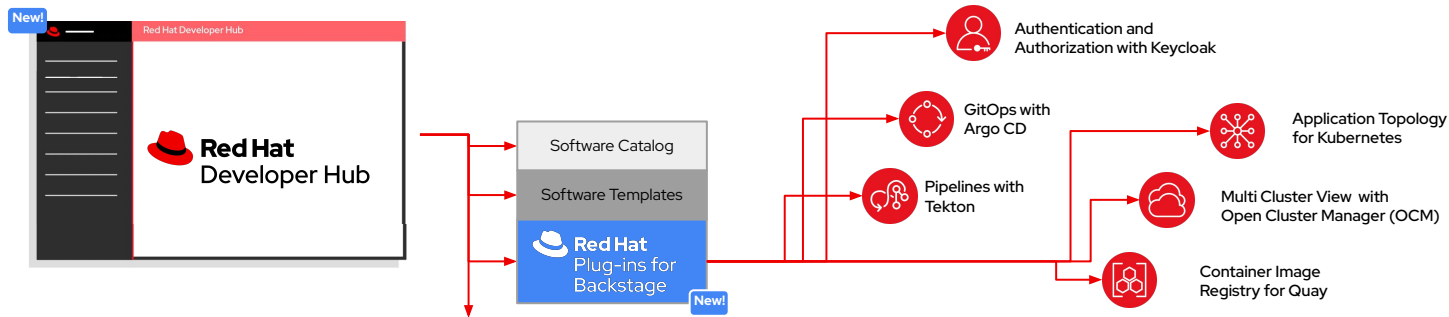
# Empowering engineering to deliver business value faster.

**Single pane** of glass to increase engineering productivity.

**Self-service** with guardrails for cloud-native development.

**Best practices** with GitOps and automation.

**Real-time view** of application and infrastructure health and security.



Integrates with industry standards and technologies through a broad ecosystem.



Based on Backstage, an open source platform for building developer portals.



Consistent developer experience across environments.

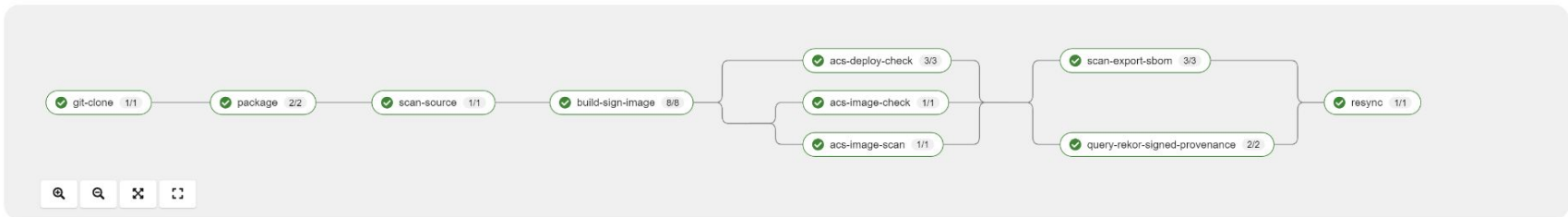


Cluster dev-cluster-infra Status All

### Pipeline Runs

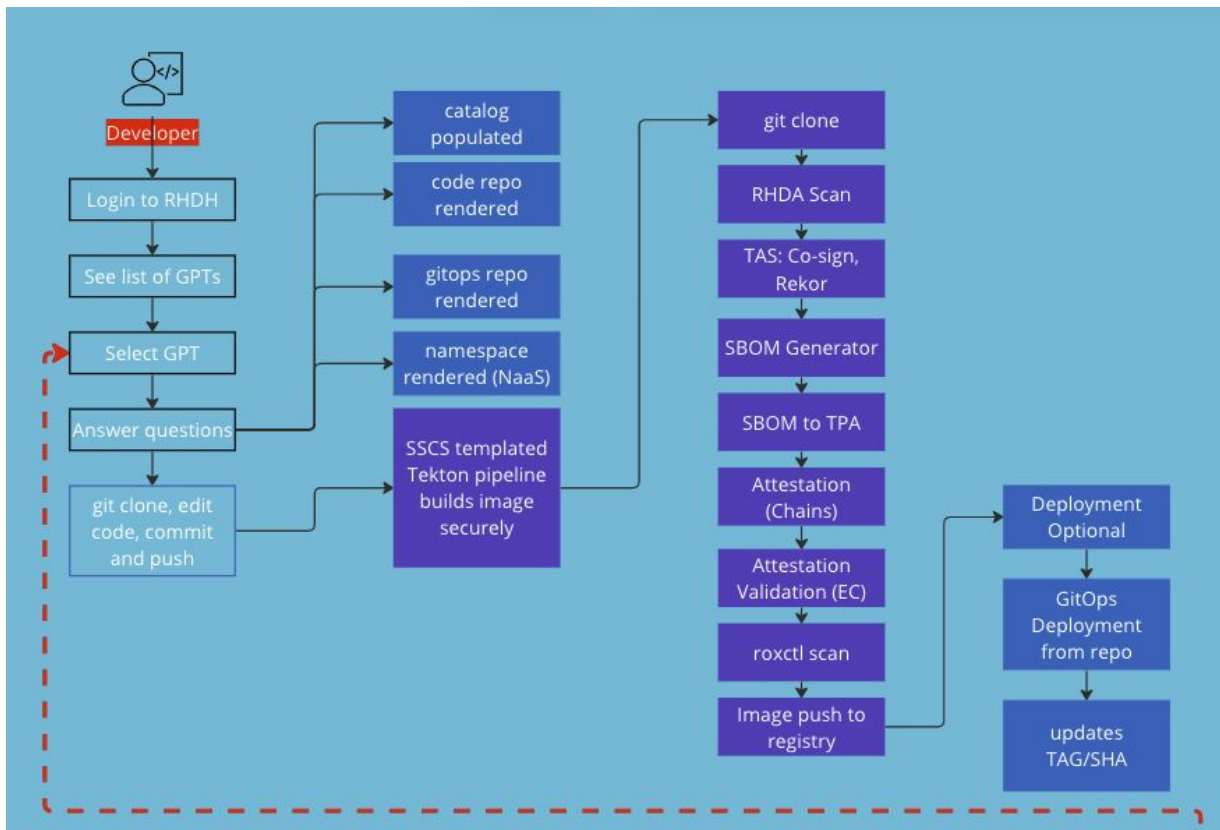
Search

NAME	STATUS	TASK STATUS	STARTED	DURATION
PLR 1680fd98-d350-4b46-b721-39410fa82399	Succeeded	<div style="width: 100%; height: 10px; background-color: green;"></div>	1/22/2024, 9:30:40 AM	4 minutes 59 seconds



🔍 🔍 ✖ 🔄

5 rows 1-1 of 1



## Scenario

Using the GPT set up by Paula the app dev team can create a new app and work on it all in RHDH.



## DEMO

<https://youtu.be/Mw4PReDnww0?si=J4Br6gID5Evommf9>



# 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.



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