Red Hat
Enterprise Linux

Summit News

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Senior Architect

Red Hat

New from Red Hat

Product innovation highlights and more…

Red Hat Developer Hub
[Preview] Improving developer productivity and product velocity with plugins for Backstage and preview of Developer Hub, including verified, curated tools and components for IT operations teams to support developers

Red Hat Trusted Software Supply Chain
[Preview] A new family of software and service offerings that address software supply chain security challenges, including the new Red Hat Trusted Content and Red Hat Trusted Application Pipelines services

Red Hat Advanced Cluster Security Cloud Service
[Limited availability] Pushing security further left in cloud-native operations without needing to be a Kubernetes expert

Red Hat Service Interconnect
[General availability] Based on Skupper, connects distributed applications or microservices together across clouds, Kubernetes clusters, or virtual machines without requiring in-depth networking knowledge

Red Hat OpenShift AI
[New capabilities] AI-focused portfolio building on Red Hat OpenShift Data Science to make production-ready AI models and applications an achievable reality for modern enterprises

Ansible Lightspeed
[Limited availability] Using the domain-specific AI of IBM Watson Code Assistant to make automation more accessible to all corners of an organization

Event-Driven Ansible
[General availability] Delivering "always on" automation, enabling Ansible Automation Platform to respond to changing operational conditions automatically and rapidly based on organization-defined rules

Expanding Red Hat Insights for RHEL management
[General availability] Simplifying the RHEL management experience across the hybrid cloud, building on existing Insights-driven predictive analytics to add patching, monitoring, and more for administrators of all

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BackStage / Red Hat Developer Hub

▶ Red Hat Developer Hub is an enterprise-grade, open developer platform for building developer portals, containing a supported and opinionated framework. It helps reduce friction and frustration for engineering teams while boosting their productivity and increasing their organization's competitive advantages

▶ Red Hat Plug-ins for Backstage, a bundle of 6 plug-ins that extend the functionality of the upstream project. Red Hat Plug-ins for Backstage can work in tandem with Red Hat Developer Hub and any other pre-existing customer installations of Backstage

Backstage Project Janus

▶ Backstage is an open source Cloud Native Computing Foundation (CNCF) project for building developer platforms and encapsulating tools, services, documentation, and best practices in "golden paths" to ease onboarding and daily development work.

# 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.

New!

Red Hat Developer Hub

Red Hat Developer Hub

- Software Catalog
- Software Templates
- **Red Hat Plug-ins for Backstage** **New!**

Authentication and Authorization with Keycloak

GitOps with Argo CD

Pipelines with Tekton

Application Topology for Kubernetes

Multi Cluster View with Open Cluster Manager (OCM)

Container Image Registry for Quay
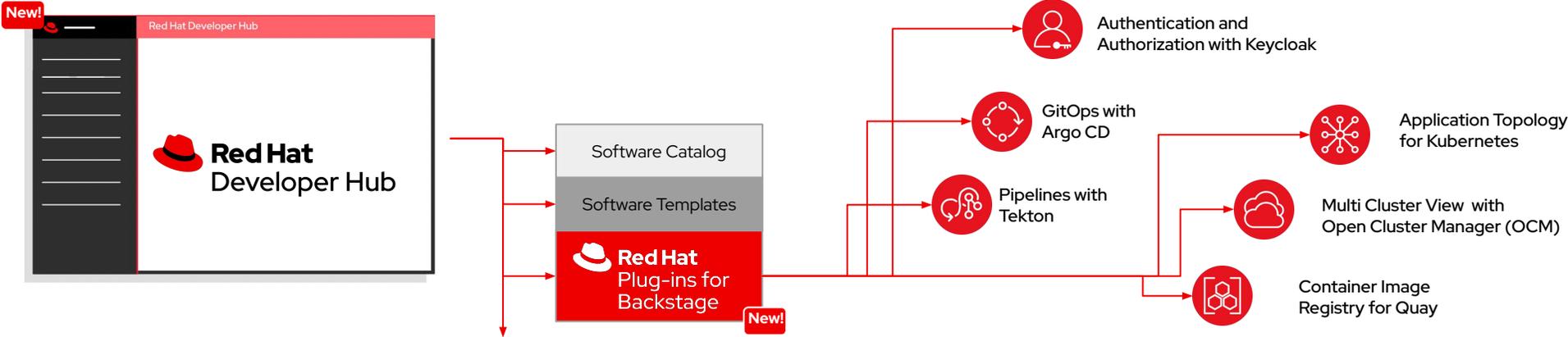
Integrates with industry standards and technologies through a broad ecosystem.

git   Jenkins   ⚙ MANY MORE

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

Backstage

Consistent developer experience across environments.

Physical   Virtual   Hybrid   aws   Azure   IBM Cloud   OPENSHIFT

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Showcase

- ▸ https://showcase.janus-idp.io/
- ▸ https://developers.redhat.com/products/developer-hub/overview

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Typical event driven automation process

Red Hat Point of View

OBSERVE

- Watch for conditions that matter to you
- Work with third party sources of events

EVALUATE

- Known problem identified
- Automated resolution triggered

ACT

- Outage incident created
- Support team notified
- Remediation executed

CO-OPERATE

Work flexibly and well with multi-vendor monitoring and other solutions across the event driven architecture with appropriate approvals, controls and awareness

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Ansible Rulebooks

Simple declarative decisions through rules

▶ **Events are processed by a rules engine**
  ▷ Rules trigger based on conditions and actions can be carried out by the rules engine
  ▷ Rules are organized into Ansible Rulebooks
  ▷ Ansible rules can apply to events occurring on specific hosts or groups

▶ **Conditional management of actions to events**
  ▷ Simple YAML structure for logical conditions
  ▷ Events can trigger different types of actions:
    ■ Run Ansible Playbooks
    ■ Run Modules
    ■ Post new events to the event handler

▶ **YAML-like format familiarity**
  ▷ Current Ansible users quickly learn and use Rulebook writing

```yaml
- name: Automatic Remediation of a web server
  hosts: all
  sources:
    - name: listen for alerts
      ansible.eda.alertmanager:
        host: 0.0.0.0
        port: 8000
  rules:
    - name: restart web server
      condition: event.alert.labels.job == "fastapi" and
event.alert.status == "firing"
      action:
        run_playbook:
          name: ansible.eda.start_app
```

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Event-Driven Ansible integrations and roadmap

CERTIFIED AND VALIDATED CONTENT
(Expected delivery Q2 and Q3 2023)

- Cisco NX-OS
- Cisco ThousandEyes
- CrowdStrike
- Cyberark
- Dynatrace*
- F5
- IBM Instana* and IBM Turbonomic*
- Palo Alto Networks
- Red Hat Insights
- Red Hat Openshift
- ServiceNow
- Zabbix

- AWS SQS
- Azure Service Bus
- GCP Pub/Sub
- Kafka (AMQ Streamz
- Prometheus/Alertmanager
- Webhooks
- watchdog (file system watcher)
- url_check (url status check)
- range (event generation plugin)
- file (loading facts from yaml)

*Collection includes both certified and validated content.

COMMUNITY CONTENT

- Arista

ROADMAP FOR INTEGRATIONS

- Additional ITSM solutions

- Additional observability / monitoring tools

Blog: Event-Driven Ansible ecosystem partners

(as of May, 2023)

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What is Ansible Lightspeed?
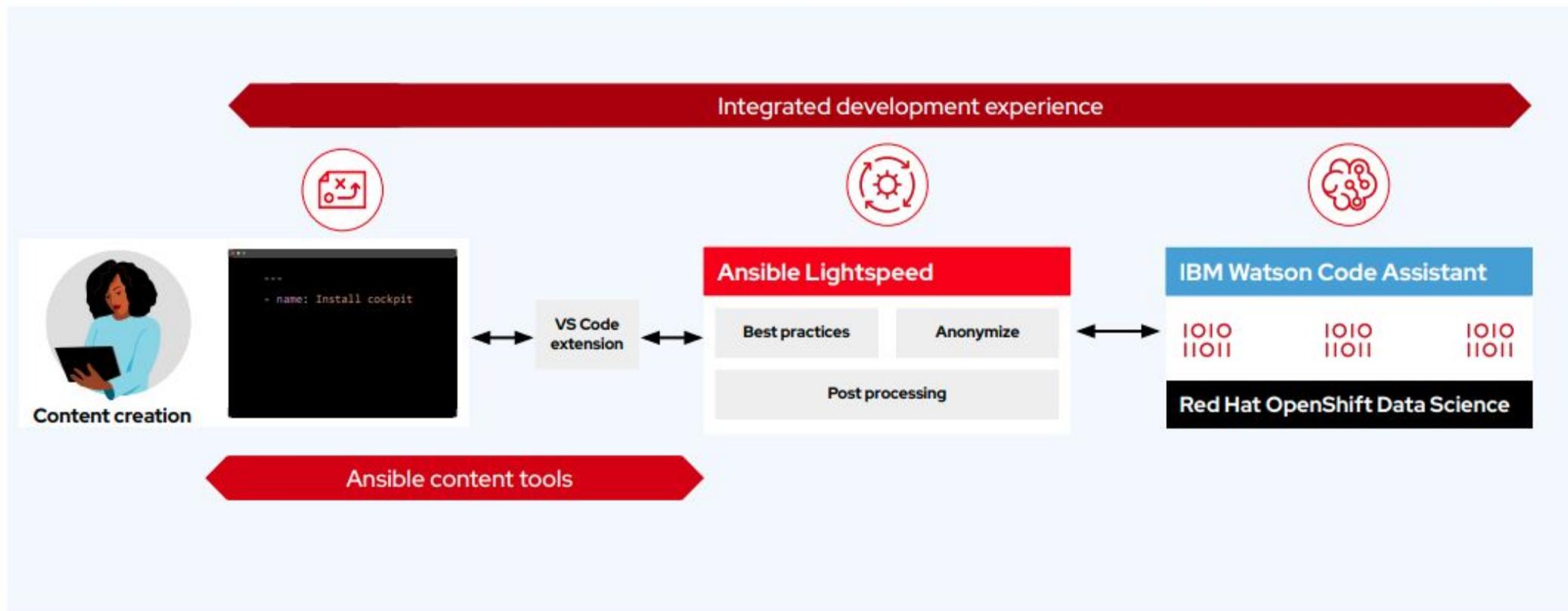
Why Ansible Lightspeed?
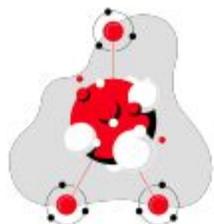
Transparency, collaboration, and choice

- **All content** being used is covered by **approved open source licenses.**
- **Content source matching** and transparency will always be a key priority.
- **Contributors will have a choice** as to whether or not their work is used to fine-tune the model.

A singular focus on automation

- **Purpose-built** to accelerate your Ansible adoption.
- **Uniquely positioned** to offer an **enterprise-grade** AI solution for Ansible.
- **Laser-focussed** on delivering **high-quality, contextual suggestions.**

Meeting developers where they work

- **Natively integrated** into Ansible Visual Studio Code extension.
- **Augments and enhances** developer experience. Non-disruptive.
- **Works collectively with Ansible Content tools,** such as Ansible Lint

AnsibleFest

Ansible Lightspeed will transform content creation

```
> Generate a
playbook task from
a natural language
request
```

**Content
Generation**

```
> Find me a
playbook or role
similar to what
I'm writing
```

**Content
Discovery**

```
> Review my
playbook and help
make it better
```

**Content
Optimization**

```
> Tell me what
this playbook is
doing - and it's
impact
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**Content
Explanation**

Roadmap features

AnsibleFest

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**Content
Explanation**

Roadmap features

AnsibleFest

Code, build, and monitor to a Trusted Software Supply Chain

*Delivered as a **cloud service** with integrated security guardrails at every phase of the software development lifecycle*

New

Application Libraries

Language Runtime

Universal Base Image

Provenance, Attestation of Curated Content

Code

Software Composition Analysis | Digitally Signed & Verified

Red Hat Trusted Content — **New**

Build

Artifact Building | Image Building

Image Scanning | Deployment Gates

Red Hat Trusted Application Pipeline — **New**

Monitor

OSS Risk Profiles | Images Containers Clusters Network

Red Hat Advanced Cluster Security Cloud Service — **New**

Standardize, share and store with centralized access controls — git — GitHub — **Red Hat** Quay.io

Red Hat Trusted Software Supply Chain — **New**

Flexibility and choice of any environment

Physical | **Virtual** | **Hybrid** | **Edge** | aws | Azure | IBM **Cloud**

OPENSHIFT

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Red Hat Trusted Software Supply Chain

With Red Hat Trusted Application Pipeline, Red Hat customers can:

- ▶ Import git repositories and configure container-native continuous build, test, and deployment pipelines via a cloud service in just a few steps;

- ▶ Inspect source code and transitive dependencies;

- ▶ Auto-generate Software Bills of Materials (SBOM) within builds; and

- ▶ Verify and promote container images via a release criteria policy engine that helps confirm consistency with industry frameworks like Supply chain Levels for Software Artifacts (SLSA).

https://www.redhat.com/en/blog/red-hat-trusted-software-supply-chain

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Advanced Cluster Security Cloud offering

limited availability AWS

- ▶ SaaS Offering

- ▶ Visibility

- ▶ Vulnerability management

- ▶ Compliance – CIS Benchmarks, NIST, PCI, and HIPAA.

- ▶ Network security – minimize the attack surface.

- ▶ Risk profiling

- ▶ Configuration management

- ▶ Threat detection & response

Podman Desktop
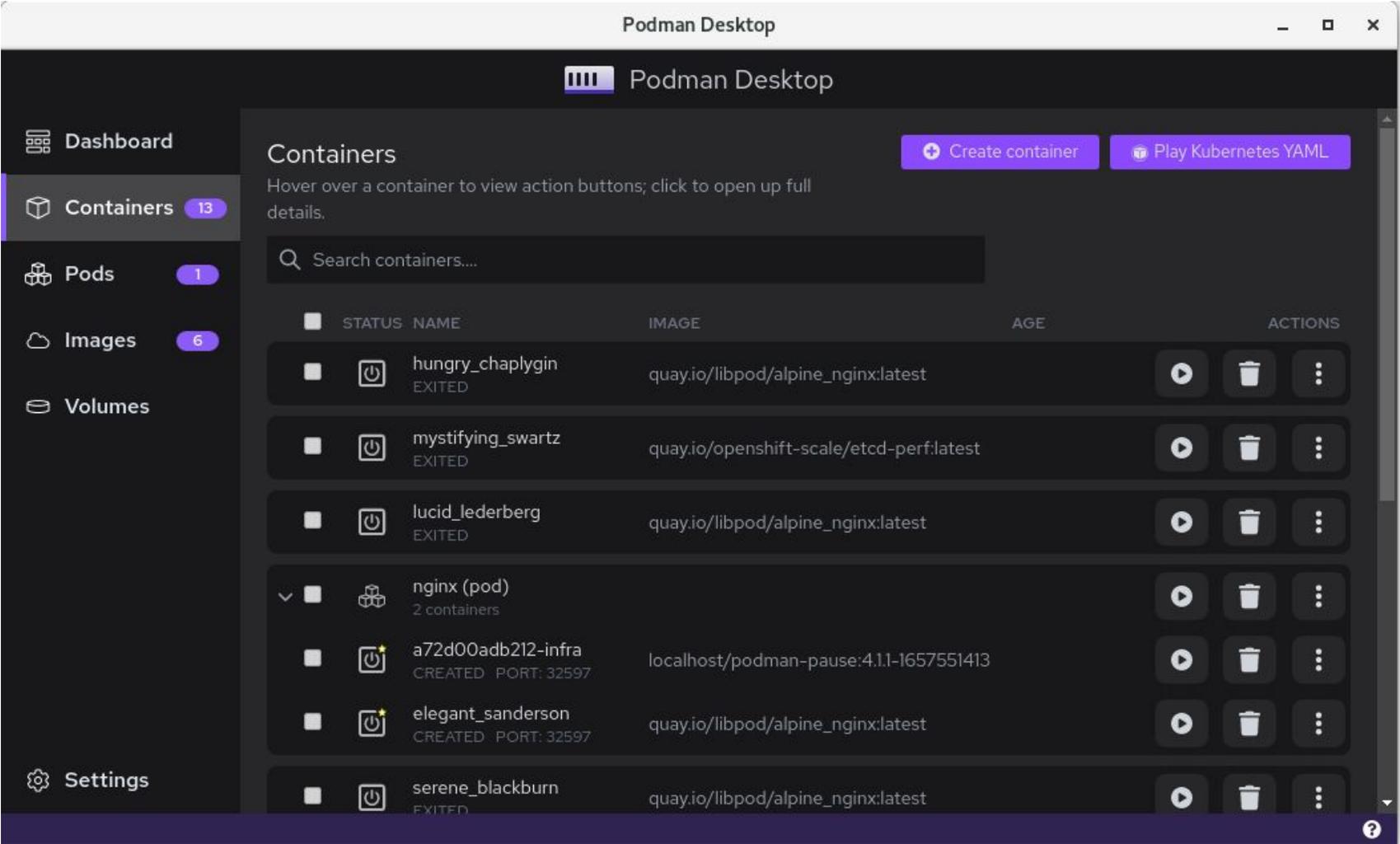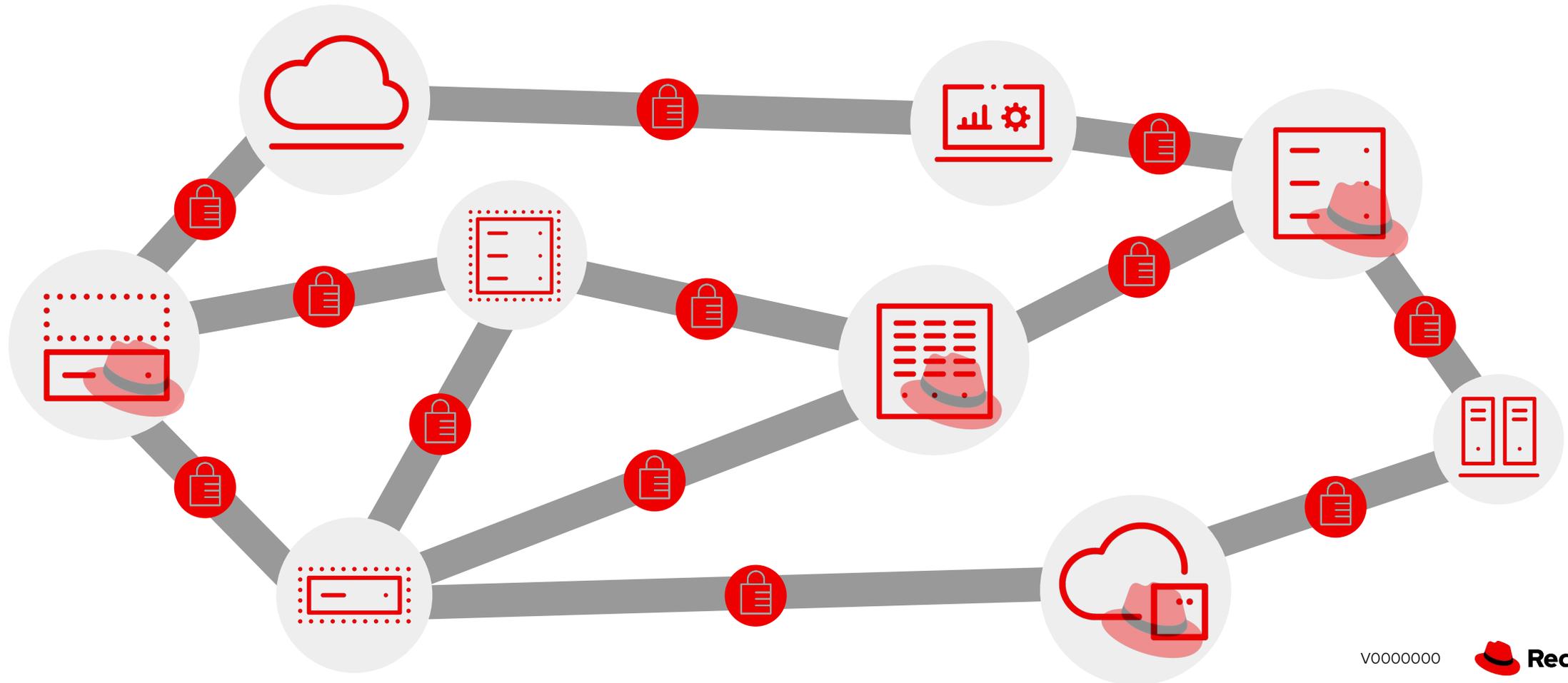
Red Hat
Service Interconnect

Simple and secure application connectivity across platforms, clusters, and clouds

Application Focused Integration

Individual Apps running on virtually any platform can make native TCP calls locally to any other app running on any other platform securely without special VPNs.

Mutual TLS Encryption

Interconnections use Mutual TLS in order to prevent unauthorized interconnections.

Application Layer Abstraction

Agnostic of the environment and IP versions (such as IPv4 and IPv6) Enables portability for both applications and its associated networking. Migrations can be easily done without recreating the networking.

Layer 7 Addressing

Instead of routing IP packets between network endpoints, Layer 7 application routers route messages between application addresses

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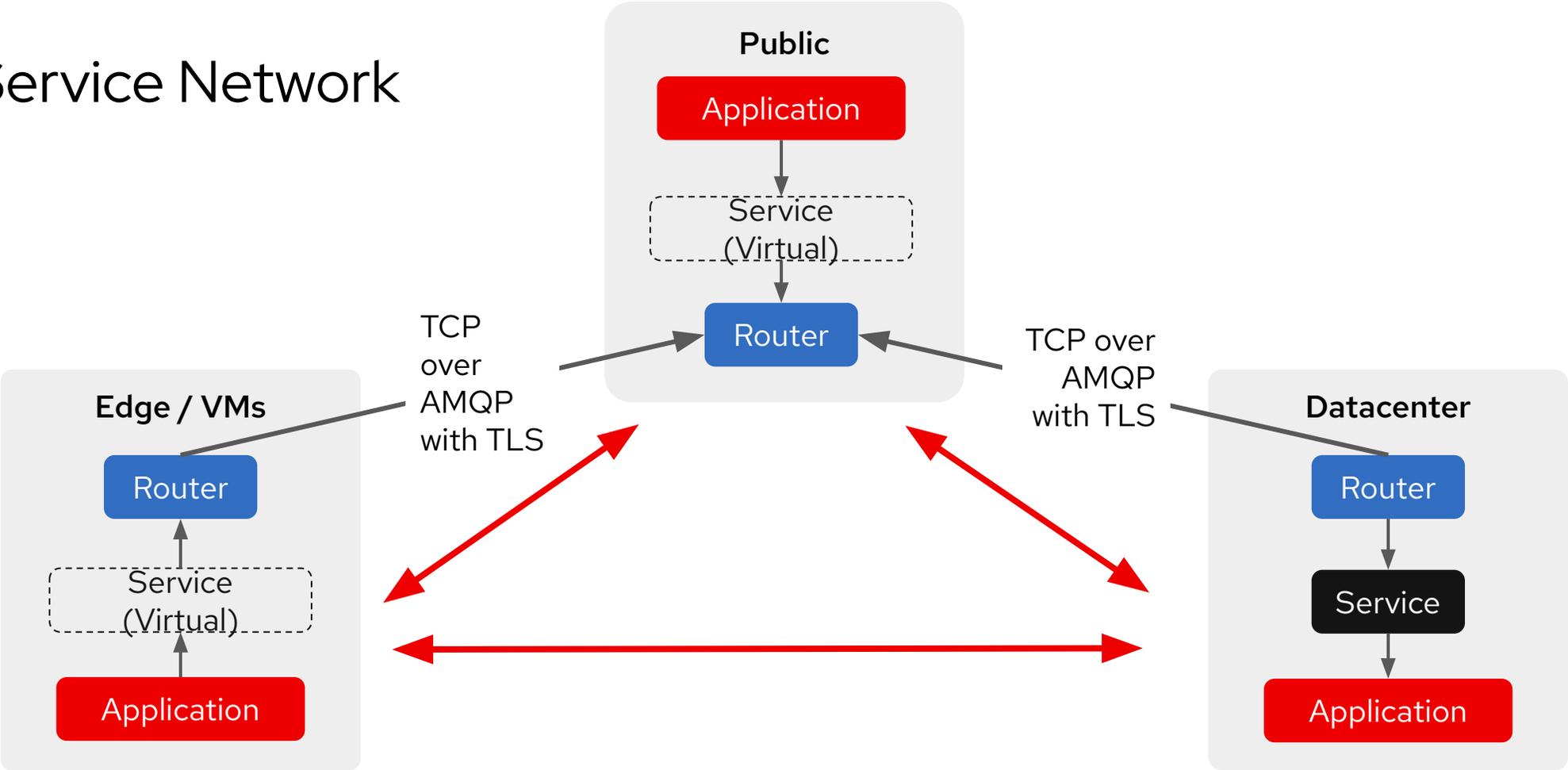
Hybrid interconnections

Linking different applications and services across different environments

Interconnection

Interconnection

Interconnection

Interconnection

Virtual Machine

Bare-Metal Host

Virtual Machine

Public Cloud

Namespace

Kubernetes Cluster

Red Hat
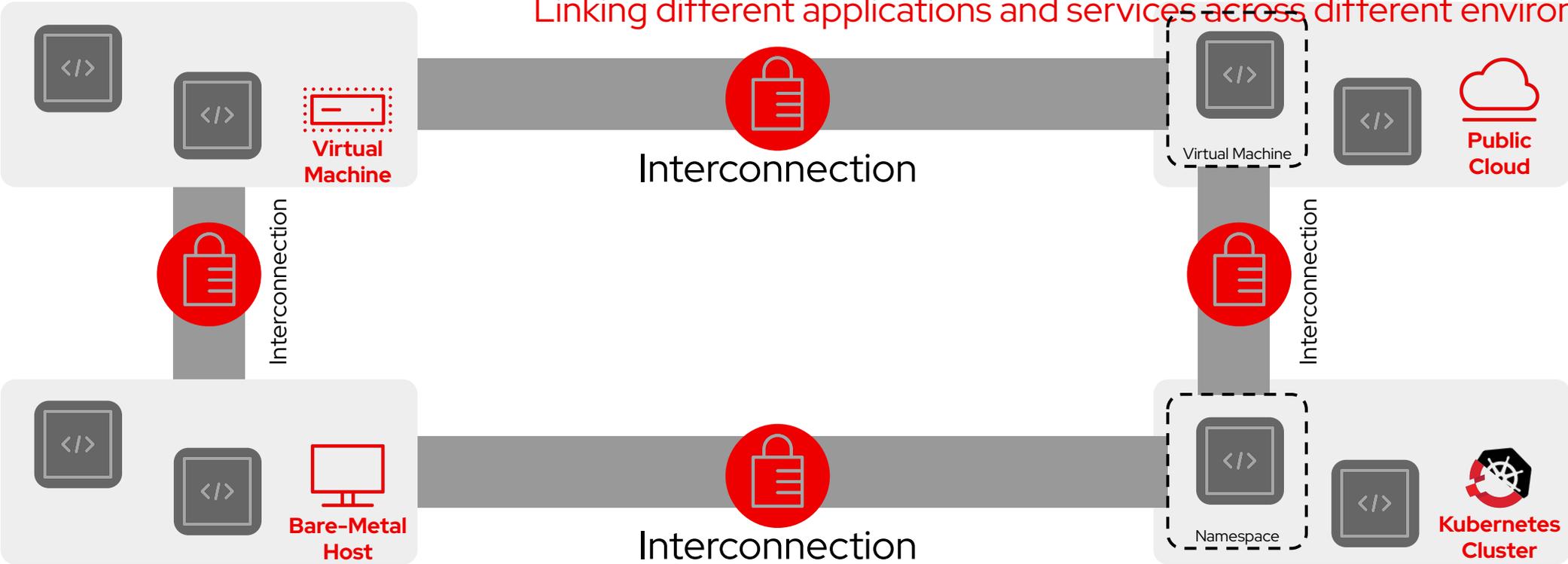
Visualize your connections Console
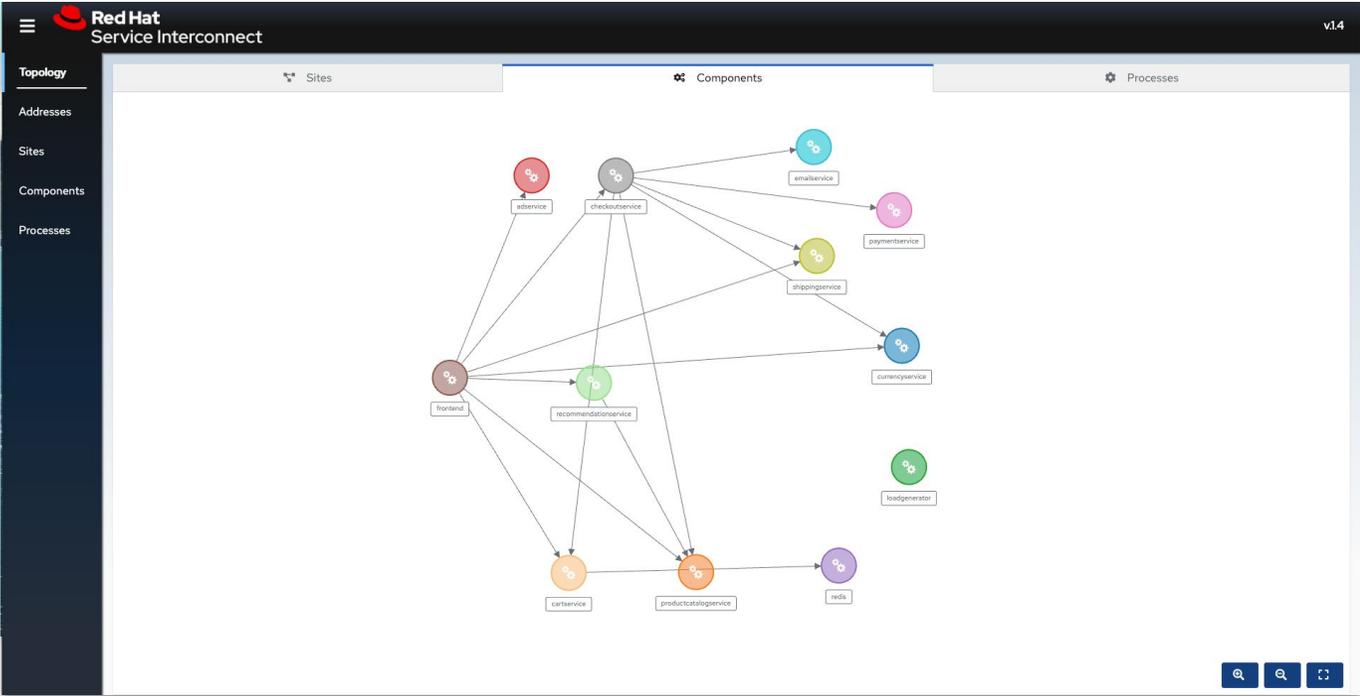
- **Topology:** Graphical representation of the all the connections
- **Components:** Services that are exposed on the service network, both local and remote.
- **Sites:** Application Interconnect installations on the current service network.
- **Throughput Bytes:** Charts providing traffic related information

Cryostat

Securely manage JFR recordings for your containerized Java workloads. Start, stop, and dump recordings for further analysis with triggers on Kubernetes

▸ Cryostat Agent: an agent can be included in your deployment, which facilitates application discovery and JFR operations over HTTP API

▸ Cross-namespace target discovery: a ClusterCryostat custom resource can be configured to communicate with applications deployed across multiple namespaces

▸ Web interface enhancements:

  · Quick starts and Guided Tour: short tutorials on how to navigate and perform basic functions in Cryostat

  · Topology view with bulk actions: view your deployed applications in an OpenShift-like topology view and create JFR recordings in bulk

  · Customizable dashboards: view and configure cards displaying your JVM metrics on a dashboard

Rosa Hosted control planes

▶ Red Hat-owned AWS account rather than the customer's AWS account.

▶ The control plane is dedicated to a single cluster

▶ This provides a highly available control plane that is isolated within Red Hat's AWS account

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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