RED HAT SUMMIT

# MANAGING RED HAT ENTERPRISE LINUX IN A CLOUD-BASED WORLD

**Red Hat Smart Management**

Darshana Paithankar
Principal Product Marketing Manager
May 8, 2019

John Spinks
Principal Technical Marketing Manager

# AGENDA

- Key Challenges
- Red Hat Smart Management
- Red Hat Insights
- Cloud management services for RHEL
- Cloud management services Architecture
- Demo
- Ansible Integration and Support
- Resources and Next Steps

# YOUR CHALLENGES

**Complexity** of managing systems in a **hybrid and multi-cloud** environment

**Lack of flexibility to manage** these systems on-prem or in the cloud

Ensuring that systems are always **up to date and easily scalable**

Inability to proactively **assess, analyze, and remediate** any security **vulnerabilities**

# RED HAT INSIGHTS

Now included with all Red Hat Enterprise Linux subscriptions
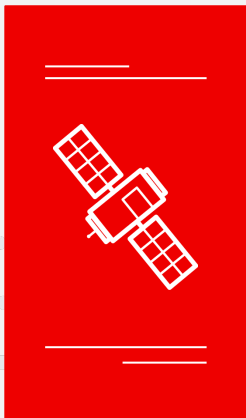
Buy

Get

**Red Hat**
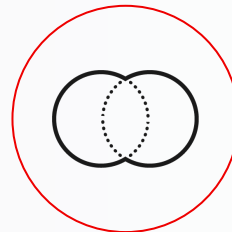Enterprise Linux

**Red Hat**
Insights

# MANAGEMENT FLEXIBILITY

Offering Red Hat Management on-premises or in the cloud

## Red Hat Satellite

Requirements for resource set up and configuration

Addresses on-prem or disconnected environment

Limited to viewing hosts registered to the individual Satellite servers

**Use cases:**
Content management, patching, configuration, subscription management, provisioning

## Cloud Management Services

No requirements for resource set up and maintenance

Adopt new features faster with a software-as-a-service preference

Single view of all hosts across your RH infrastructure

**Use cases:**
Vulnerability, Compliance, System Comparison

Smart Management Packaging gives access to both Satellite AND cloud management services

# RED HAT SATELLITE SESSIONS

**Hands-on integrated management lab**
- Day/Time: Thursday, May 9, 10:45 a.m.-12:45 p.m.
- Session type:Instructor-led lab
- Abstract: This hands-on lab will give you experience with full integration of all Red Hat Management products and services. You'll be provided a working environment and be walked through integrations and major use case functionality with each product or service.

**Hands on with Red Hat Satellite 6.5 [Replay]**
- Day/Time: Thursday, May 9, 2:00 p.m.-4:00 p.m
- Session type: Instructor-led lab
- Abstract: In this lab, you'll be exposed to the latest version of Red Hat Satellite, which is 6.5. You'll be able to exercise new features and see how Satellite improves the management of Red Hat Enterprise Linux.

# CLOUD MANAGEMENT SERVICES

## FOR RED HAT ENTERPRISE LINUX

# CLOUD MANAGEMENT SERVICES FOR RED HAT ENTERPRISE LINUX

- Cloud-based management of Red Hat Enterprise Linux hosts

- Managing instances on-premise and in multi-cloud environments

- Focusing on the functionality that customers need
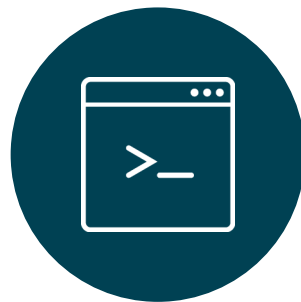
- Offering key benefits of Software-as-a-Service

# Software as a Service Benefits

No infrastructure
to maintain

Register Once

Easy Setup

Always on the
latest version

Easier to access and scale capabilities

# Manage my Red Hat infrastructure

## Red Hat Insights

Predict Risk. Get guidance. Stay secure.

Open →

## Cloud Management Services for Red Hat Enterprise Linux

Operate and protect your Red Hat platforms.

Open →

## Red Hat OpenShift Cluster Manager

Manage your highly available public and private clouds.

Open →

## Support and resources

Get support

Contact customer service

## About

Red Hat Insights

Red Hat Smart Management

Red Hat OpenShift

## Feedback

Tell us about your experience using Red Hat Cloud Services software, and how we can improve.

# RED HAT INSIGHTS

All Smart Management customers will have Insights through their Red Hat Enterprise Linux Subscription

# RED HAT INSIGHTS

Included with your Red Hat Enterprise Linux subscription

## Assesses

customer's Red Hat environments

## Remediates

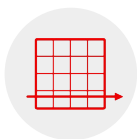findings with prescriptive remediation steps or an Ansible playbook

## Insights

rule contributions directly from Red Hat subject matter experts

Covers issues across Availability, performance, stability and security

# KEY RISKS DISCOVERED

## Tailored resolution steps included for resolution

**Performance issue**
Network interface is not performing at maximum speed

Recommended action
Check cable, connections, and remote switch settings

**Security risk detected**
Privilege escalation

Recommended action
Apply mitigation and update the kernel

**Availability**
OpenShift operations fail if insufficient CPU or memory

Recommended action
Increase CPU and/or memory reservation
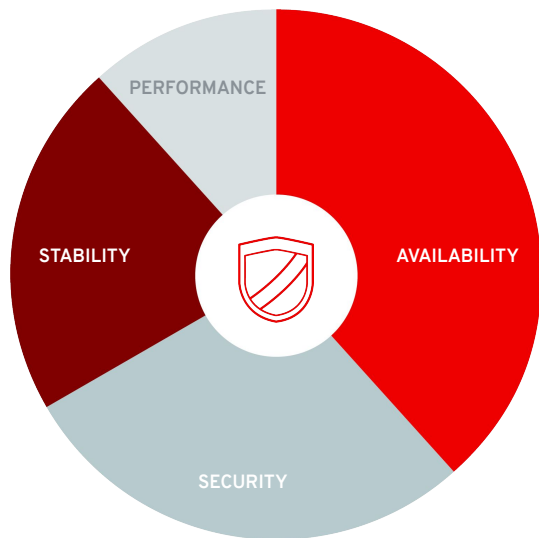
**Stability**
Filesystem has exceeded 95% capacity

Recommended action
Increase free space on the host.

# MORE THAN JUST SECURITY

Red Hat Insights has more than 600 rules—here is how they stack up across categories

**Availability** 38.6%

**Security** 28.1%

**Stability** 21.7%

**Performance** 11.6%

PERFORMANCE

STABILITY

AVAILABILITY

SECURITY
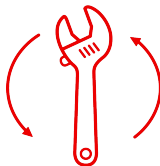
# VULNERABILITY

## CLOUD MANAGEMENT SERVICES
## FOR RED HAT ENTERPRISE LINUX

# VULNERABILITY

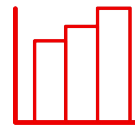Remediate all Common Vulnerabilities and Exposures (CVEs) with errata

**Assess and monitor** the risk of vulnerabilities that impact Red Hat products with operational ease

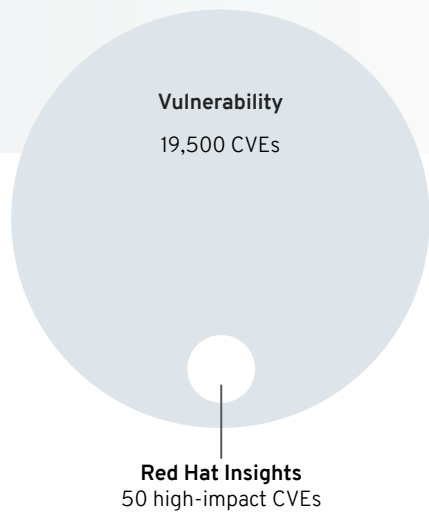**Remediate** known Common Vulnerabilities and Exposures (CVEs)

**Ability to generate** JavaScript Object Notation and CSV view-based **reports** to keep relevant stakeholders informed
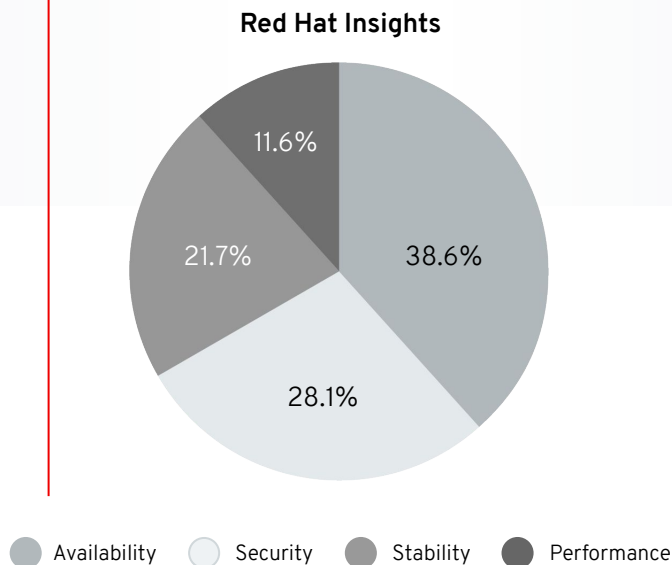
# BUT ... INSIGHTS DOES THIS ALREADY, RIGHT?

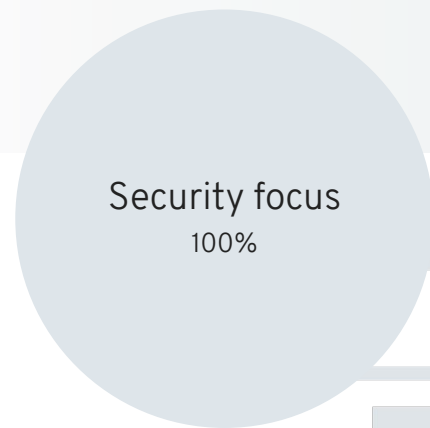## Vulnerability is security-focused–all CVEs with errata

CVEs covered

Areas / Rules covered

**Vulnerability**
19,500 CVEs

**Red Hat Insights**
50 high-impact CVEs

**Red Hat Insights**

11.6%
38.6%
21.7%
28.1%

**Vulnerability**

Security focus
100%

Availability    Security    Stability    Performance

# COMPLIANCE

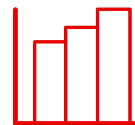## CLOUD MANAGEMENT SERVICES FOR RED HAT ENTERPRISE LINUX

# COMPLIANCE

## Built on OpenSCAP reporting

**Assess and monitor** the degree/level of compliance to a policy for Red Hat products with operational ease

**Remediate** known issues of non-compliance in the Red Hat environment via Ansible playbooks based on business risk & relevance

**Ability to generate** JavaScript Object Notation and CSV view-based **reports** to keep relevant stakeholders informed
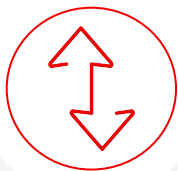
# SYSTEM COMPARISON

## CLOUD MANAGEMENT SERVICES
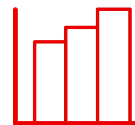## FOR RED HAT ENTERPRISE LINUX

# SYSTEM COMPARISON

## Compare system profiles

**Compare system configuration** of one host to other hosts

**Filter** displayed profile facts, highlighting areas that match, are different, or where information is missing.

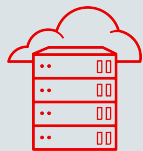**Ability to generate** CSV view-based output

# ARCHITECTURE

CLOUD MANAGEMENT SERVICES
FOR RED HAT ENTERPRISE LINUX

Customers environment

Insights client(s)

Hybrid cloud infrastructure

Customers environment

cloud.redhat.com | hosted on OpenShift Dedicated

Core services

Insights client(s)

Common upload service

Hybrid cloud infrastructure

# DEMO

CLOUD MANAGEMENT SERVICES
FOR RED HAT ENTERPRISE LINUX

# VULNERABILITY

Cloud Management Services

Dashboard

Vulnerabilities

Compliance

System Comparison

Inventory

Remediations

Documentation
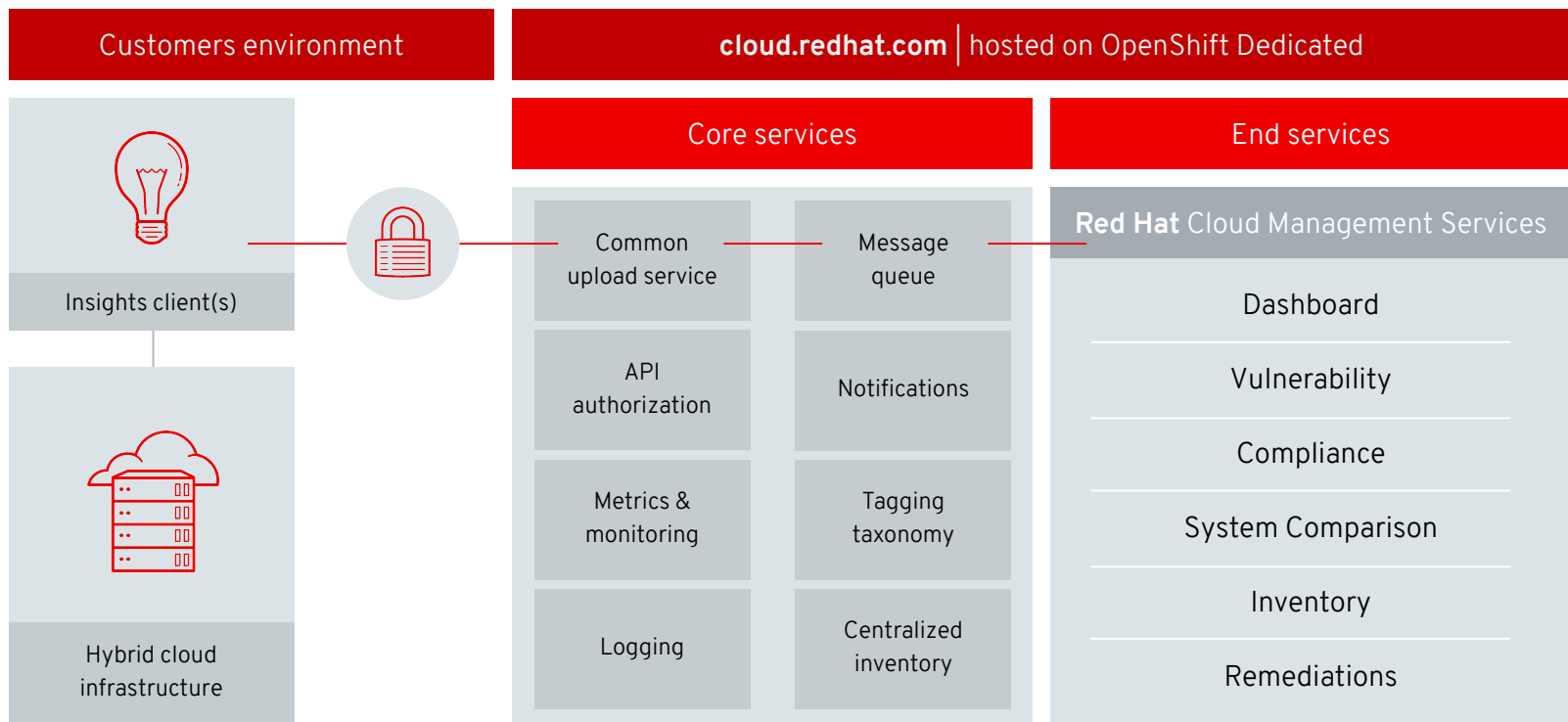
Find a system by UUID

**Remediate with Ansible**

Playbook created
CVE-2018-7700 has been created.

13 Results

| | Name | Status | Last Seen |
|---|---|---|---|
| | rhel6-box | Not Reviewed | 3/31/2019, 2:14:01 AM |
| | drone7.usersys.redhat.com | Not Reviewed | 4/14/2019, 3:03:32 AM |
| | ip-172-31-13-89.us-west-2.compute.internal | Not Reviewed | 3/22/2019, 2:18:20 AM |
| | ip-172-31-8-135.us-west-2.compute.internal | Not Reviewed | 3/22/2019, 3:23:38 AM |
| | ip-172-31-4-98.us-west-2.compute.internal | Not Reviewed | 3/22/2019, 5:17:46 PM |

# COMPLIANCE

# SYSTEM COMPARISON

Cloud Management Services

Dashboard

Vulnerabilities

Compliance

System Comparison

Inventory

Remediations

Documentation

# System Comparison

Filter by Fact

View: All

| Fact | State | ic1.example.com 4/16/2019 3:40:03 AM | ic2.example.com 4/16/2019 2:15:48 AM | Add System |
|---|---|---|---|---|
| arch | | x86_64 | x86_64 | |
| bios_release_date | | No Data | No Data | |
| bios_vendor | | No Data | No Data | |
| bios_version | | No Data | No Data | |
| cores_per_socket | | 1 | 1 | |
| cpu_flags | | | | |
| enabled_services | | | | |

# ANSIBLE INTEGRATION AND SUPPORT

## CLOUD MANAGEMENT SERVICES
## FOR RED HAT ENTERPRISE LINUX

# Ansible Playbook Generation & Execution

Insights and cloud services can generate Ansible playbooks to help remediate issues

- Both Insights and cloud services can natively generate playbooks
- How playbooks are executed depends on a few factors...

# DOWNLOAD AND RUN PLAYBOOKS

Scenario applies to Insights and cloud management services

## Products entitled

**Red Hat**
Insights

**Red Hat**
Enterprise Linux

**Red Hat**
Smart Management

Host A    Host B    Host C    Host D

**Red Hat**
Ansible
Automation

# DOWNLOAD AND RUN PLAYBOOKS

Scenario applies to Insights and cloud management services

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**Red Hat**
Insights

cloud.redhat.com

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# DOWNLOAD AND RUN PLAYBOOKS

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cloud.redhat.com

Host A    Host B    Host C    Host D

Red Hat Ansible Automation

- User creates and downloads playbook from **cloud.redhat.com**

# DOWNLOAD AND RUN PLAYBOOKS

## Scenario applies to Insights and cloud management services

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Insights

**Red Hat**
Enterprise Linux

**Red Hat**
Smart Management

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Host A    Host B    Host C    Host D

**Red Hat**
Ansible
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- User creates and downloads playbook from **cloud.redhat.com**

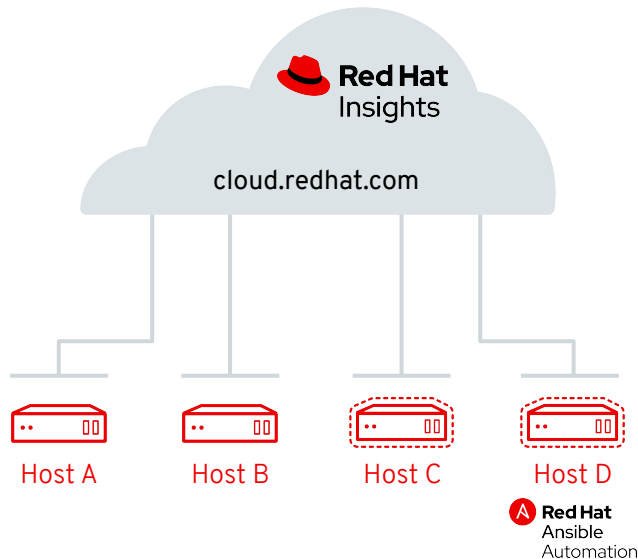- User transfers playbook to Red Hat Enterprise Linux host with Ansible installed

# DOWNLOAD AND RUN PLAYBOOKS

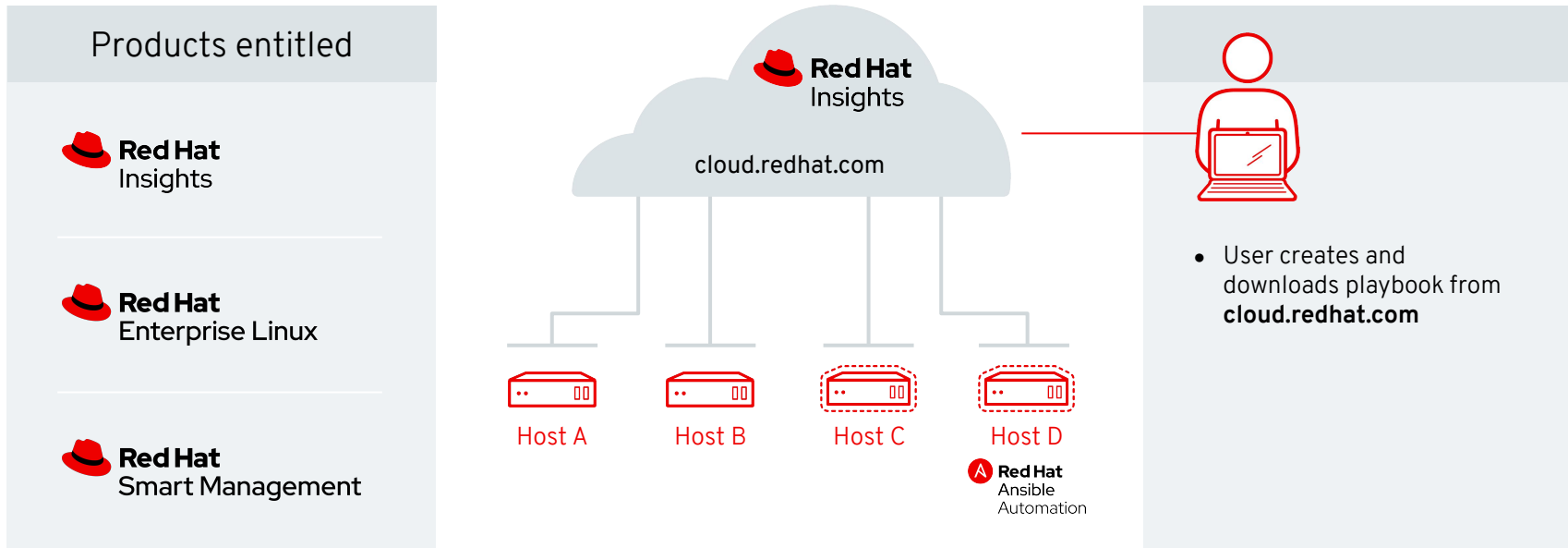Scenario applies to Insights and cloud management services

**Products entitled**

**Red Hat**
Insights

**Red Hat**
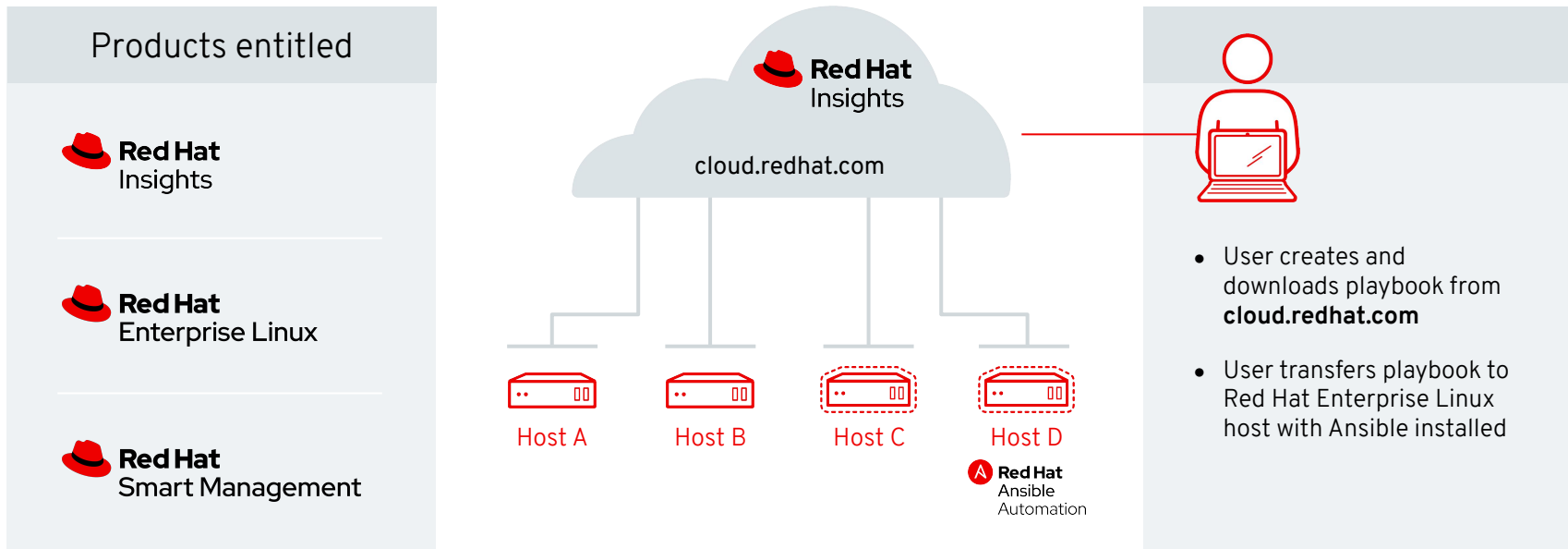Enterprise Linux

**Red Hat**
Smart Management

**Red Hat**
Insights

cloud.redhat.com

Host A    Host B    Host C    Host D

**Red Hat**
Ansible
Automation

- User creates and downloads playbook from **cloud.redhat.com**

- User transfers playbook to Red Hat Enterprise Linux host with Ansible installed

- Playbook is run by Red Hat Enterprise Linux host

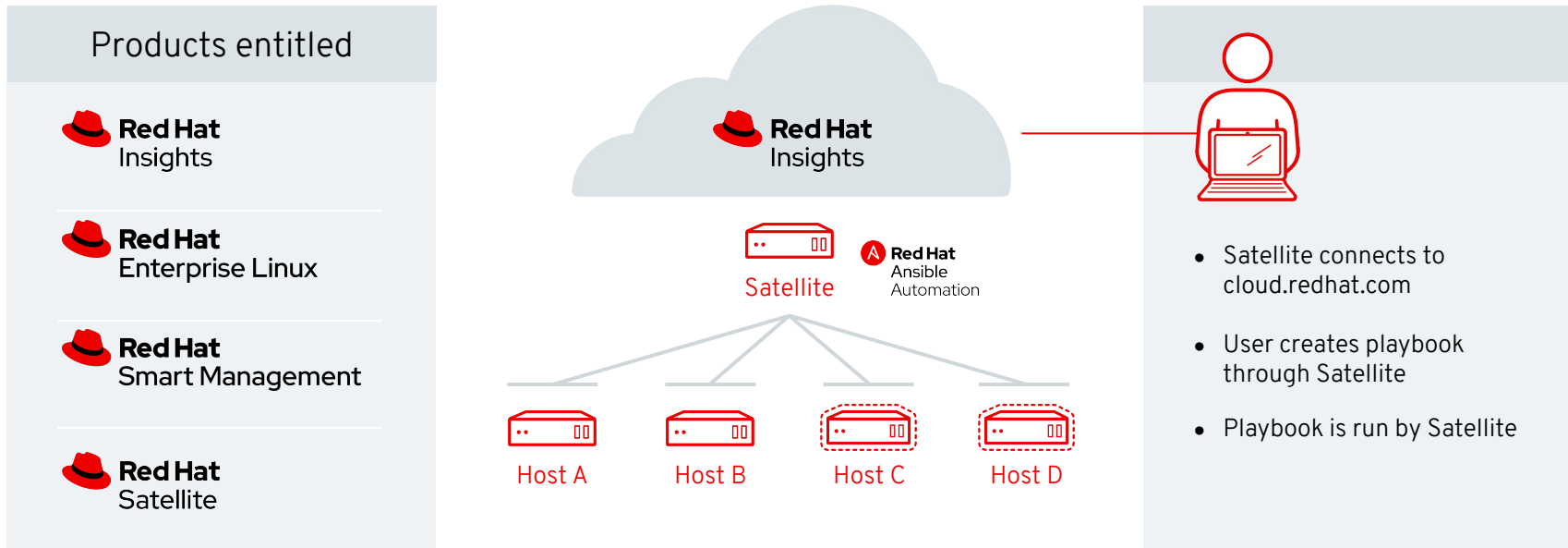# How do I get Ansible for running playbooks?

You don't have to buy anything else to use playbooks generated by cloud management services

- Ansible can be easily installed per the directions here: https://access.redhat.com/articles/3174981
- Red Hat Enterprise Linux ships with the Ansible Engine Repository

  (this does NOT confer an Ansible Engine subscription)

- You can use this same repository as a limited, supported version of Ansible for the express purpose of running RHEL system roles and playbooks created by Red Hat products.

# BUILD AND RUN PLAYBOOKS IN SATELLITE

## Scenario applies to Insights only



Products entitled

Red Hat Insights

Red Hat Enterprise Linux

Red Hat Smart Management

Red Hat Satellite

Red Hat Insights

Satellite

Red Hat Ansible Automation

Host A   Host B   Host C   Host D

- Satellite connects to cloud.redhat.com

- User creates playbook through Satellite

- Playbook is run by Satellite

# BUILD AND RUN PLAYBOOKS IN TOWER

Scenario applies to Insights only
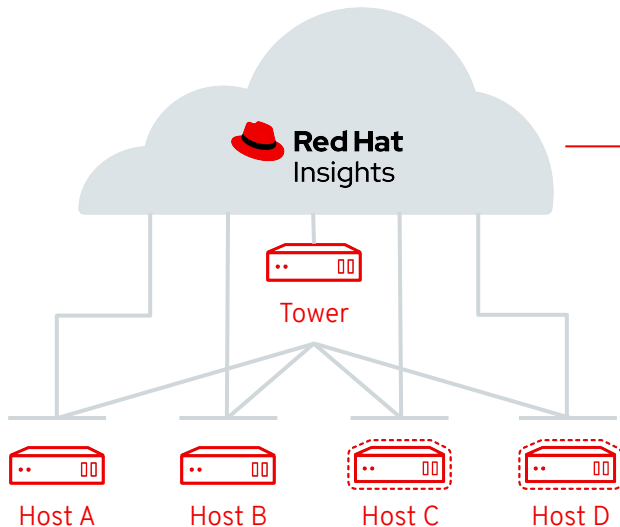


Products entitled

**Red Hat** Insights

**Red Hat** Enterprise Linux

**Red Hat** Smart Management

**Red Hat** Ansible Tower

**Red Hat** Insights

Tower

Host A    Host B    Host C    Host D

- Hosts are directly connected to cloud.redhat.com

- User creates playbook through Ansible Tower

- Playbook is run by Ansible Tower

# RESOURCES & NEXT STEPS

# Smart Management Next Steps & Resources

Call to Action:

- Activate Red Hat Insights
- Same client is used for cloud management services
- Visit cloud.redhat.com

Resources:

- Red Hat Smart Management webpage:
  https://www.redhat.com/en/technologies/management/smart-management
- Red Hat Smart Management documentation:
  https://access.redhat.com/products/cloud_management_services_for_red_hat_enterprise_linux/#getstarted

**RED HAT SUMMIT**

# THANK YOU

| | |
|---|---|
| **in** linkedin.com/company/Red-Hat | **f** facebook.com/RedHatinc |
| **You Tube** youtube.com/user/RedHatVideos | **🐦** twitter.com/RedHat |