



# Red Hat Satellite 6.5

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# How to Buy Satellite

# Red Hat Insights

Now included with all Red Hat Enterprise Linux subscriptions

Buy



**Red Hat**  
Enterprise Linux

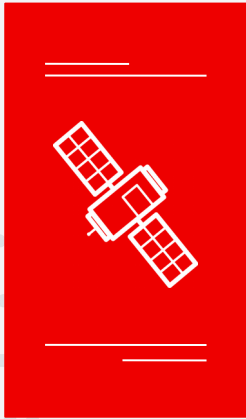
Get



**Red Hat**  
Insights

# Red Hat Smart Management

Red Hat Satellite

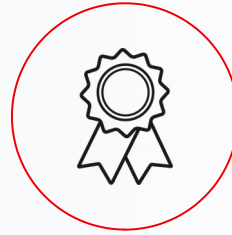


+

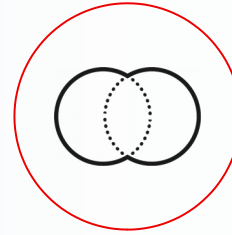
Cloud management services for Red Hat Enterprise Linux



Vulnerability



Compliance



System comparison

# What do I get for Satellite with Smart Management?

Quantity 50 of MCT3718 - Satellite Infrastructure Subscription

Enabling you to Scale out your Satellite deployment to best suit your needs.

- Need a Satellite for Test/Dev?
- Need a Capsule in the cloud?
- Need load-balanced Capsules?
- Need an air-gapped synchronization host?

No Problem.

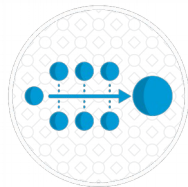
# Satellite 6.5 New Features

# Satellite 6.5 Theme



## Red Hat Enterprise Linux 8

- You can do all the things with RHEL 8 that you can do with RHEL 7 and earlier versions



## Enhanced Security

- Install Satellite on a FIPS enabled RHEL 7 host

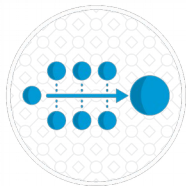
# Key Focus Areas



Red Hat Enterprise Linux 8



Security



Content Management



Support



Usability



Reporting



# Red Hat Enterprise Linux 8

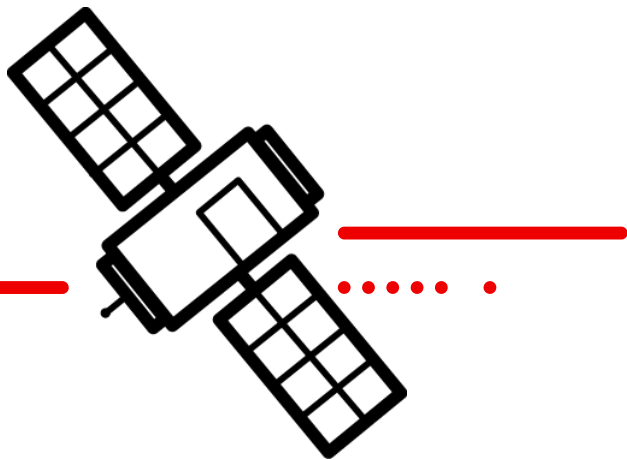
Satellite 6.5 supports

Red Hat Enterprise Linux

8 hosts

# Red Hat Satellite 6.5

## System management for Red Hat Enterprise Linux 8 hosts



If you want to manage Red Hat Enterprise Linux 8 clients, you must be running Satellite 6.5.

### Patching

Patch Red Hat Enterprise Linux 8 hosts with Satellite

### Provisioning

Provision Red Hat Enterprise Linux 8 hosts with Satellite

### Application streams

Basic module visibility and management with Red Hat Enterprise Linux 8

### System purpose

State the intended use of a Red Hat Enterprise Linux 8 system

### System roles

Run system roles on Red Hat Enterprise Linux hosts

\*NOTE: Satellite and Capsules must be installed on a Red Hat Enterprise Linux 7 Host



Monitor &gt;



Content &gt;



Containers &gt;



Hosts &gt;



Configure &gt;



Infrastructure &gt;



Insights &gt;



Access &gt;



Administer &gt;

All Hosts &gt; skylab.example.com

Found 83 reports from the last  days

Boot disk ▾

Run Ansible roles

Schedule Remote Job ▾

Back

Edit

Clone

Build

Run puppet

Delete

## Details

Audits

Facts

Reports

YAML

Content

Compliance

Properties

Metrics

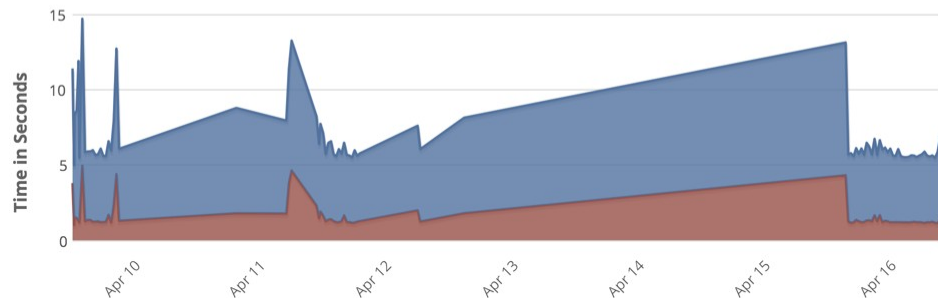
NICs

## Properties

Status	✔ OK
Compliance	✔ Compliant
Configuration	✔ No changes
Execution	✔ Last execution succeeded
Errata	✔ All errata applied
System Purpose	✔ Matched
Subscription	✔ Fully entitled
Build duration	N/A
Token	N/A
Domain	example.com
IP Address	10.0.180.180
MAC Address	2c:c2:60:49:a3:25
Puppet Environment	production
Architecture	x86_64
Operating System	RedHat 8.0
PXE Loader	
Location	Default Location

## Runtime

last 7 days



## Resources

last 7 days



# RED HAT ENTERPRISE LINUX 8 SUPPORT



Monitor &gt;



Content &gt;



Containers &gt;



Hosts &gt;



Configure &gt;



Infrastructure &gt;



Insights &gt;



Access &gt;



Administer &gt;

## Content Hosts

Filter...

Search ▾

Export

Register Content Host

Select Action ▾

0 of 4 Selected

<input type="checkbox"/>	Name	Subscription Status	Installable Updates	OS	Lifecycle Environment	Content View	Registered	Last Checkin
<input type="checkbox"/>	<a href="#">aqua.example.com</a>	✓	0 ▲ 0 ✖ 0 + 0	RedHat 8.0	Production	RHEL8 with errata	2019-04-03 11:08:13 -0400	2019-04-16 07:49:05 -0400
<input type="checkbox"/>	<a href="#">capsule.example.com</a>	⚠	0 ▲ 0 ✖ 0 + 0	RedHat 7.6	Production	RHEL7	2019-04-09 19:31:57 -0400	2019-04-09 19:32:08 -0400
<input type="checkbox"/>	<a href="#">rdu-db01.example.com</a>	✓	0 ▲ 0 ✖ 0 + 0	RedHat 8.0	Library	Default Organization View	2019-04-16 07:59:40 -0400	2019-04-16 08:06:09 -0400
<input type="checkbox"/>	<a href="#">skylab.example.com</a>	✓	0 ▲ 0 ✖ 0 + 0	RedHat 8.0	Production	RHEL8 container tags	2019-04-02 20:35:17 -0400	2019-04-16 07:53:32 -0400

20 ▾ per page

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# RED HAT ENTERPRISE LINUX 8 PATCHING



Monitor &gt;



Content &gt;



Containers &gt;



Hosts &gt;



Configure &gt;



Infrastructure &gt;



Insights &gt;



Access &gt;



Administer &gt;

[All Hosts](#) > Create HostHost Ansible Roles Virtual Machine **Operating System** Interfaces Puppet Classes Parameters Additional Information

Architecture \*

x86\_64 x ▾

Operating system \*

No options available for selected Architecture ▾

Provisioning Method \*

☐ Boot disk based ☒ Network Based ☐ Image Based

Build

☒ Enable this host for provisioning

Media Selection

☒ Synced Content ☐ All Media

Select the installation media that will be used to provision this host. Choose 'Synced Content' for Synced Kickstart Repositories or 'All Media' for other media.

Synced Content

Red\_Hat\_Enterprise\_Linux\_8\_for\_x86\_64\_-\_BaseOS\_... x ▾

Partition Table \*

No options available for selected Operating System ▾

# RED HAT ENTERPRISE LINUX 8 PROVISIONING

what ever text(or lxb template) you use in here, would be used as your OS disk layout options if you want to use the partition table option, delete all of the text from this field

Root Pass \*

Password must be 8 characters or more

Provisioning Templates

[Resolve](#)

Display the templates that will be used to provision this host



Monitor &gt;



Content &gt;



Containers &gt;



Hosts &gt;



Configure &gt;



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Insights &gt;



Access &gt;



Administer &gt;

skylab.example.com

Unregister Host

[Content Hosts](#) » [skylab.example.com](#) » [Module Streams](#) ≡

Details

Provisioning Details

Subscriptions ▾

Host Collections

Tasks

Packages ▾

Errata

Module Streams

Traces

Repository Sets

## Available Module Streams

Filter...

Search ▾

Filter by Status: All ▾

Name	Stream	Status	Installed Profile	Actions
389-ds	1.4			Actions ▾
ant	1.10			Actions ▾
App-cpanminus	1.7044			Actions ▾
container-tools	1.0	Enabled		Actions ▾
DBD-MySQL	4.046			Actions ▾
DBD-Pg	3.7			Actions ▾

# RED HAT ENTERPRISE LINUX 8 MODULE STREAMS

gimp	2.8			Actions ▾
go-toolset	rhel8			Actions ▾
httpd	2.4			Actions ▾
idm	DL1			Actions ▾
i18n	rhel8			Actions ▾

Monitor

Content

Containers

Hosts

Configure

Infrastructure

### Basic Information

**Name:** rdu-db01.example.com  
**UUID:** 9a381c83-7834-49ed-8cf8-7dd2f25d1f46  
**Description:**  
**Type:** kvm  
**Katello Agent :** Not installed  
**Virtual Guests:** 0 Content Hosts  
**Registered Through:** satellite65.example.com

### Subscriptions

**Subscription Status:** Fully entitled  
**Details:**  
**Auto-Attach:** Yes

### Installable Errata

**Security:** 0  
**Bug Fix:** 0  
**Enhancement:** 0

### Content Host Content

**Release Version:**  
**Content View:** Default Organization View  
**Lifecycle Environment :**

☒ Library  
☐ Development  
☐ Staging  
☐ Production

### System Purpose

**System Purpose Status:** Matched  
**Service Level (SLA):**  
**Usage Type:** Production  
**Role:** Red Hat Enterprise Linux  
**Add c**

### Content Host Status

**Created:** 2019-04-15 15:42:56 -0400

RED HAT ENTERPRISE LINUX 8 SYSTEM PURPOSE



Monitor &gt;



Content &gt;



Containers &gt;



Hosts &gt;



Configure &gt;



Infrastructure &gt;



Insights &gt;



Access &gt;



Administer &gt;

## Ansible Roles



Q Search



Import ▾

Documentation

▲ Name	Hostgroups	Hosts	Imported at	Actions
fix-selinux	0	0	less than a minute ago	Delete
linux-system-roles.kdump	0	0	less than a minute ago	Delete
linux-system-roles.network	0	0	less than a minute ago	Delete
linux-system-roles.postfix	0	0	less than a minute ago	Delete
linux-system-roles.selinux	0	1	8 days ago	Delete
linux-system-roles.timesync	0	0	less than a minute ago	Delete
RedHatInsights.insights-client	0	1	8 days ago	Delete
rhel-system-roles.kdump	0	0	less than a minute ago	Delete
rhel-system-roles.network	0	0	less than a minute ago	Delete
rhel-system-roles.postfix	0	0	less than a minute ago	Delete
rhel-system-roles.selinux	0	0	less than a minute ago	Delete
rhel-system-roles.timesync	0	0	less than a minute ago	Delete
tomcat_role	0	1	4 days ago	Delete

20 ^ per page

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# RED HAT ENTERPRISE LINUX 8 SYSTEM ROLES



# Satellite and Red Hat Enterprise Linux 8

- Sat 6.5 supports RHEL 8 clients
- Sat 6.6 will allow you to run Satellite on RHEL 8
  - Post 6.6, some new features will only work on RHEL 8
  - Post 6.6 will help migrate your Satellite from RHEL 7 to RHEL 8
  - Eventually Satellite will only run on RHEL 8

What does the future hold for Satellite and RHEL 8?

# Security

Security changes in  
Satellite 6.5

# Security Enhancements

## FIPS Support and OpenSCAP Enhancements



### Install Satellite on a FIPS Enabled RHEL 7 Host

Satellite inherits the FIPS level of RHEL

### OpenSCAP enhancements

Show hosts that fail a certain OpenSCAP rule

### Satellite Admin Role

A new user type that can manage the Satellite infrastructure, create new organizations, but can't manage the hosts.



# Support

Supportability changes in  
Satellite 6.5

# Support



## Infoblox IPAM Support

Support for Infoblox IPAM

## Run Satellite or Capsules in major cloud providers






Customers who are using Cloud Access can now deploy Satellite or Capsules without a support exception on the following cloud providers:

- AWS
- Azure
- Google
- Alibaba
- IBM

To deploy Satellite/Capsule on other cloud providers still requires a support exception

Note this functionality is separate from provisioning of hosts which is only supported on AWS and Google.



Cloud Provider	Can <b>Run</b> Satellite*?	Can <b>Manage</b> Hosts In this Cloud Provider?	Can <b>Provision</b> Hosts In this Cloud Provider?
	✓	✓	✓
	✓	✓	✗
 Compute Engine	✓	✓	✓
 Alibaba Cloud	✓	✓	✗
 IBM Cloud	✓	✓	✗

AWS includes AWS Cloud for Government  
 Azure includes Microsoft Azure for Government

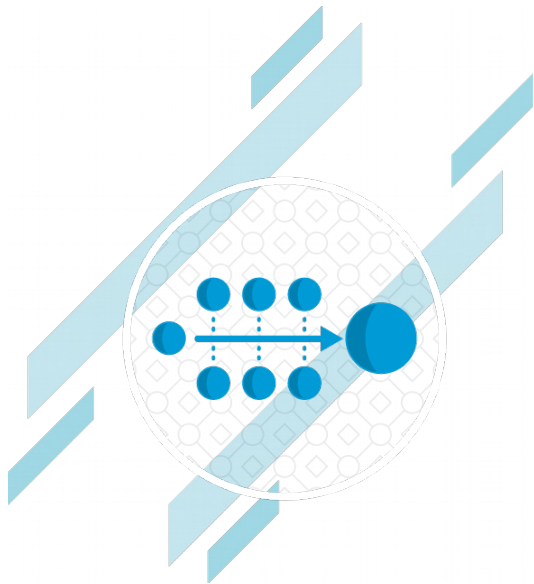
\*Cloud Providers not listed require a support exception

# Content Management

Content Management  
changes in Satellite 6.5

# Content Management

## Enhanced Architectural Flexibility



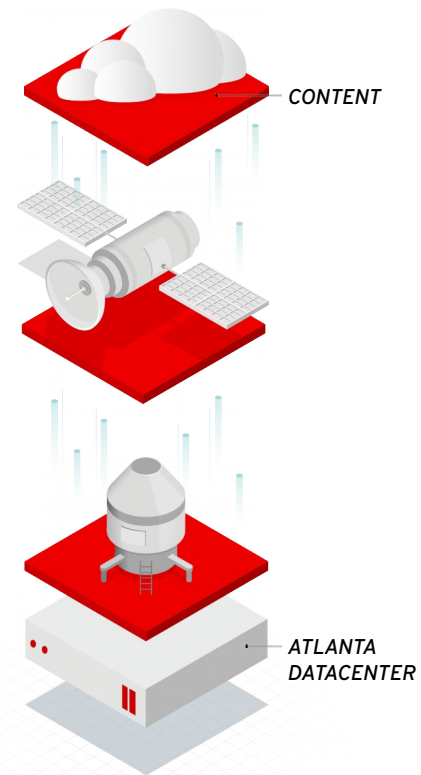
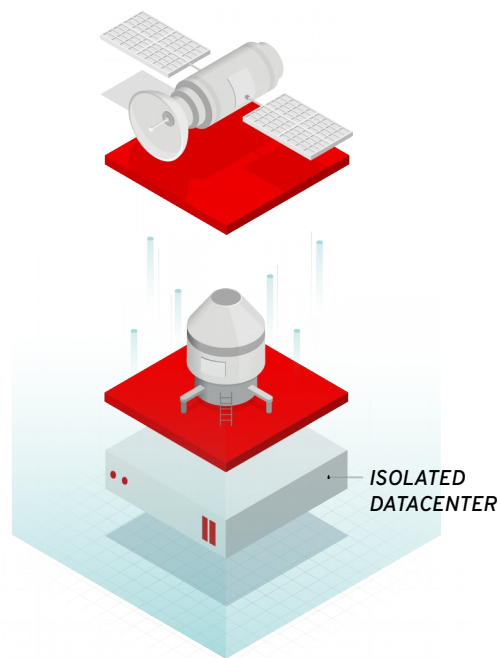
### Export Content Views

Export content from a Satellite and import them on a different Satellite

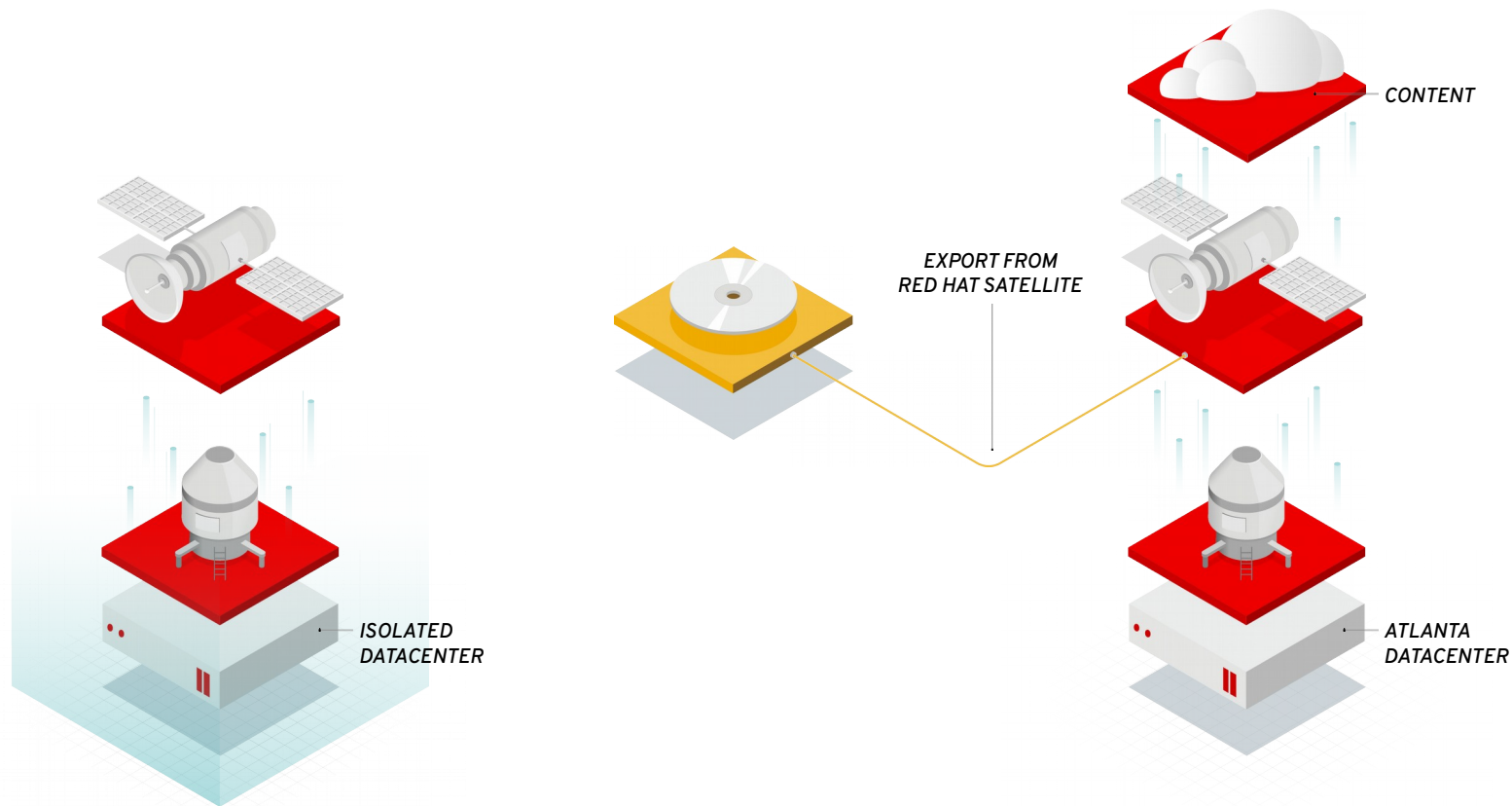
### Container Admin

Manage container images for use by end users

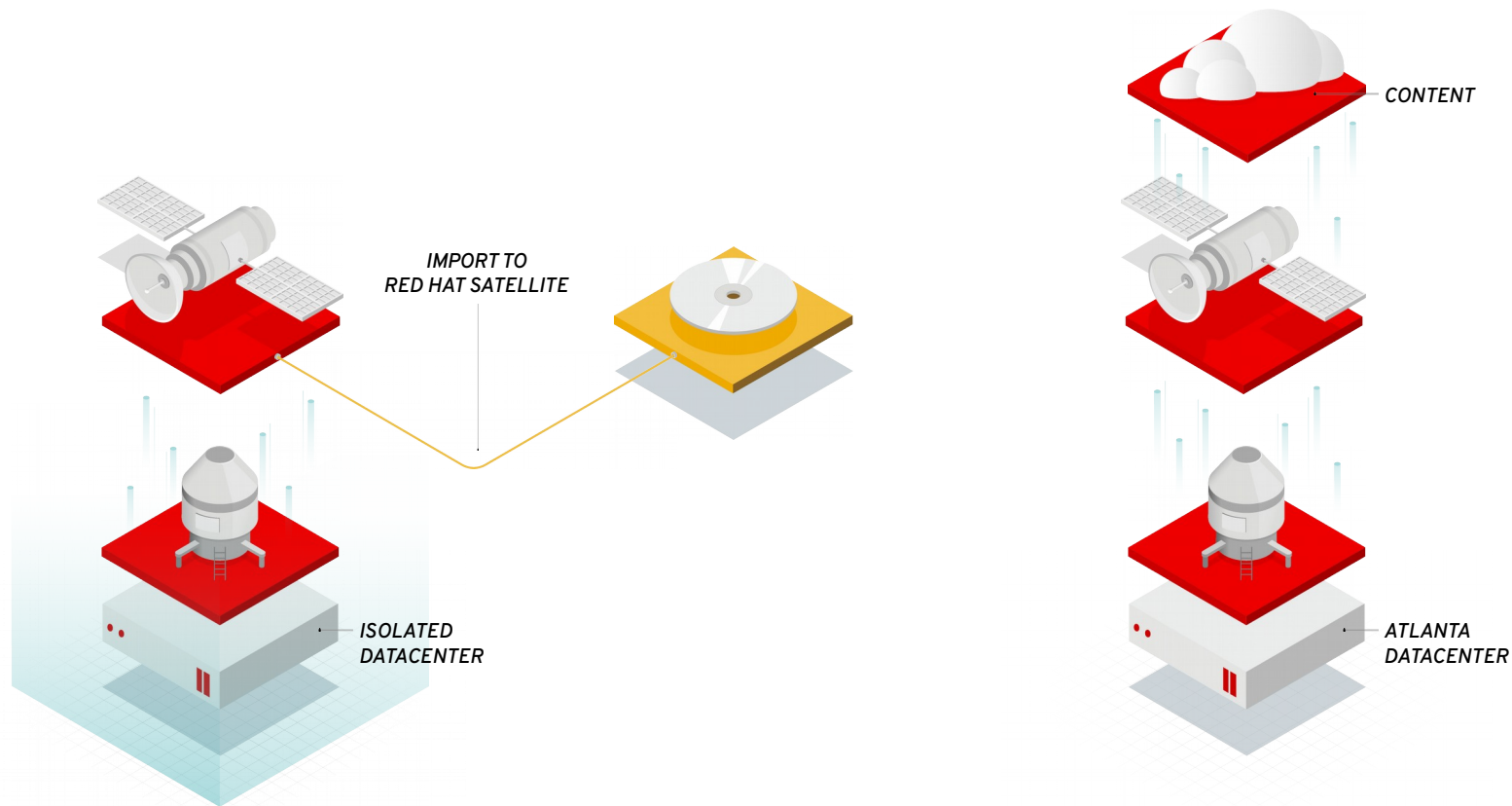




## RED HAT SATELLITE IN AN AIR GAPPED ENVIRONMENT



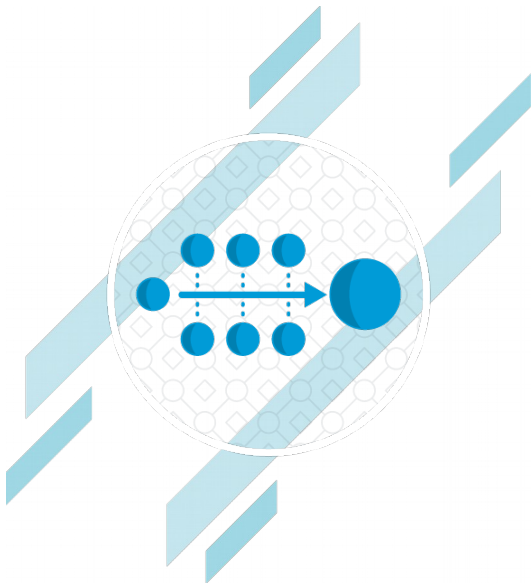
## RED HAT SATELLITE IN AN AIR GAPPED ENVIRONMENT



# Reporting

All new reporting engine  
in Satellite 6.5

# Reporting Engine



## Reporting Engine

Pre-canned, customizable, and newly created reports

### Pre-canned reports

- Host Statuses
- Subscriptions
- Registered Hosts
- Applicable Errata

Customize any of the above reports or create your own

Monitor

Content

Containers

Hosts

Configure

Infrastructure

Insights

Access

Administer

# Report Templates

Filter ... Search

Create Template Documentation

Name	Snippet	Locked	Actions
Applicable errata			Generate
Community - Host statuses			Generate
Host statuses CSV			Generate
Registered hosts			Generate
Subscriptions			Generate

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NEW REPORT TEMPLATES

Monitor

Content

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Access

Administer

Template Inputs Type History Locations Organizations Help

Name \* Subscriptions clone

Default ☒

Template \*

Input Diff Preview Import Fullscreen

ruby Default

```
<%#
name: Subscriptions
snippet: false
template_inputs:
- name: Subscriptions filter
  required: false
  input_type: user
  description: Search query to filter subscription entitlements. E.g. `quantity >
    0` to exclude subscriptions with unlimited entitlements. Keep unset for all subscriptions.
  advanced: false
```

CUSTOMIZE A TEMPLATE, OR MAKE YOUR OWN

```
<%= load_pools(search: input(:subscriptions_filter), includes: [:subscription, :products]).each_record do |pool| -%>
<%= report_row(
  'ID': pool.id,
  'Name': pool.name,
  'Available': pool.available,
  'Quantity': pool.quantity,
```

Audit Comment

# Little Bites

Small things that can  
make a big difference



# Little Bites

## Little things that make a big difference

### **Easier Searching for repositories**

Provide a package name and you can see all repositories (repos) in which the package exists

### **Simplification of repository selection**

Repo selection page is more prescriptive on what you can use vs what is preferred

### **Preserve VMs when deleting compute resources**

When deleting a compute resource you won't accidentally delete associated virtual machines.

### **Bootstrap script updates**

Bootstrap script now ships as an Ansible playbook

### **Updated to latest version of Puppet**

Puppet 5 latest version

# Satellite & Ansible

## More info

How Satellite and Ansible  
work together

# SATELLITE AND ANSIBLE TOWER INTEGRATION

Documented best practices to help optimize use of both products



By integrating Red Hat Satellite with Red Hat Ansible® Tower, administrators can now perform the following functions:

## Dynamic inventory

Allows Ansible Tower to use Satellite as a dynamic inventory source.

## Provisioning callbacks

Allows systems provisioned via Satellite to “callback” to Ansible Tower so that playbook runs can happen post-provisioning.

# SATELLITE - ANSIBLE INTEGRATION

Basic Ansible capabilities are now part of Satellite



Satellite has integration with Ansible for the purposes of remote execution and desired state management

## Remote Execution

Run Ansible Playbooks inside of Satellite

## Deploy Insights using Ansible

Install Insights on all your hosts

## RHEL System Roles

Deploy RHEL System Roles to hosts managed by Satellite

# How to use Red Hat Insights

# Installation and registration

## Simple and Straightforward



Step #1: Run (as root) # `yum install insights-client`

- Red Hat Enterprise Linux 8 customers will not need to perform this step - the Insights client is pre-installed.

Step #2: Run (as root) # `insights-client --register`

More information including automation playbooks are available at:

- <https://access.redhat.com/insights/getting-started>

Man page available via `$ man insights-client`

# Data collection

Very small amount of data and only data that is needed for rule analysis

Example files:

- `/etc/redhat-release`
- `/proc/meminfo`
- `/var/log/messages`
- `/boot/grub/grub.conf`
- `/boot/grub2/grub.cfg`
- `/etc/modprobe.conf`

We do not collect logs files, but rather the lines that match a potential rule (i.e. page allocation failure)

Commands:

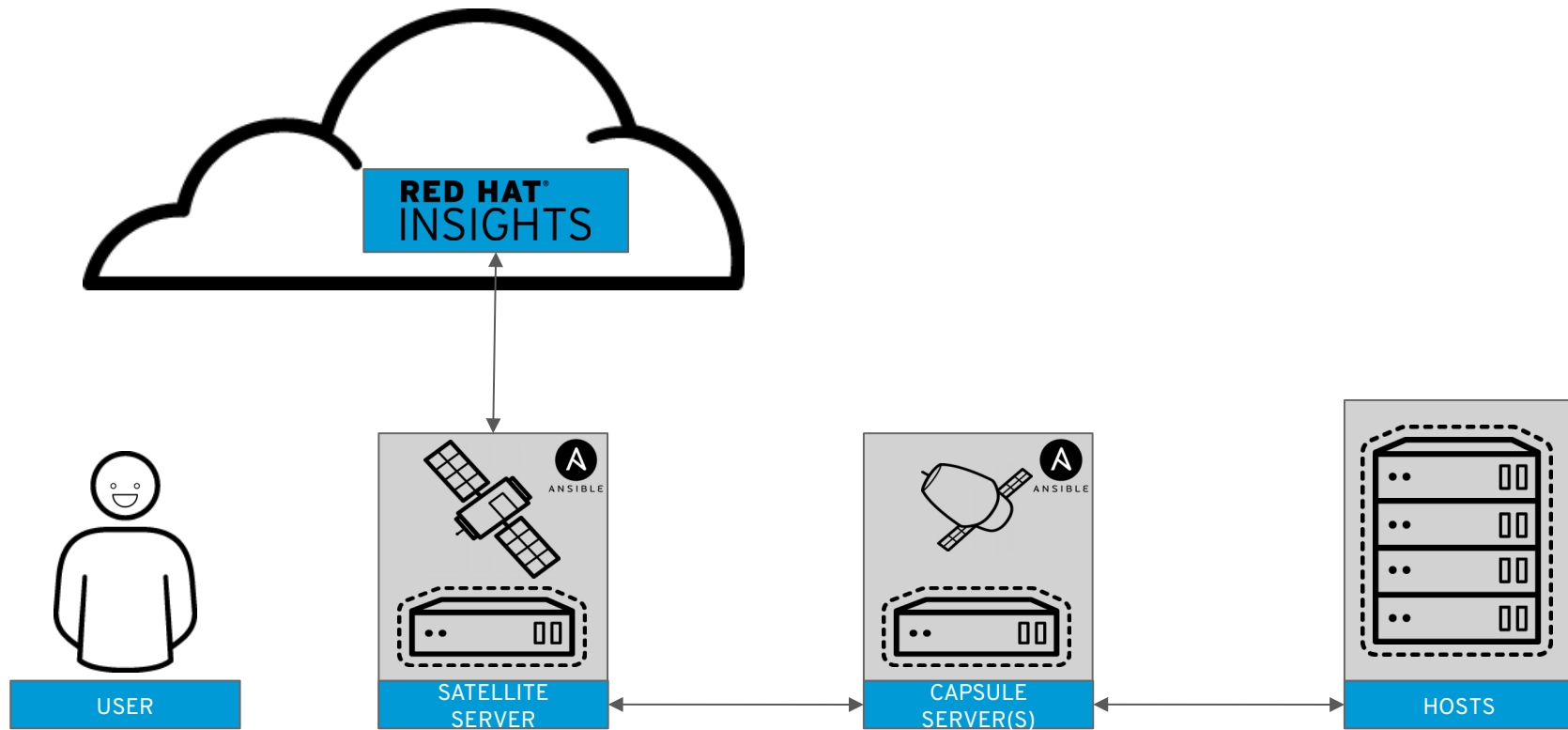
- `/bin/rpm -qa`
- `/bin/uname -a`
- `/usr/sbin/dmidecode`
- `/bin/netstat -i`
- `/bin/ps auxcww`



# Find it, Fix it, Before it Breaks

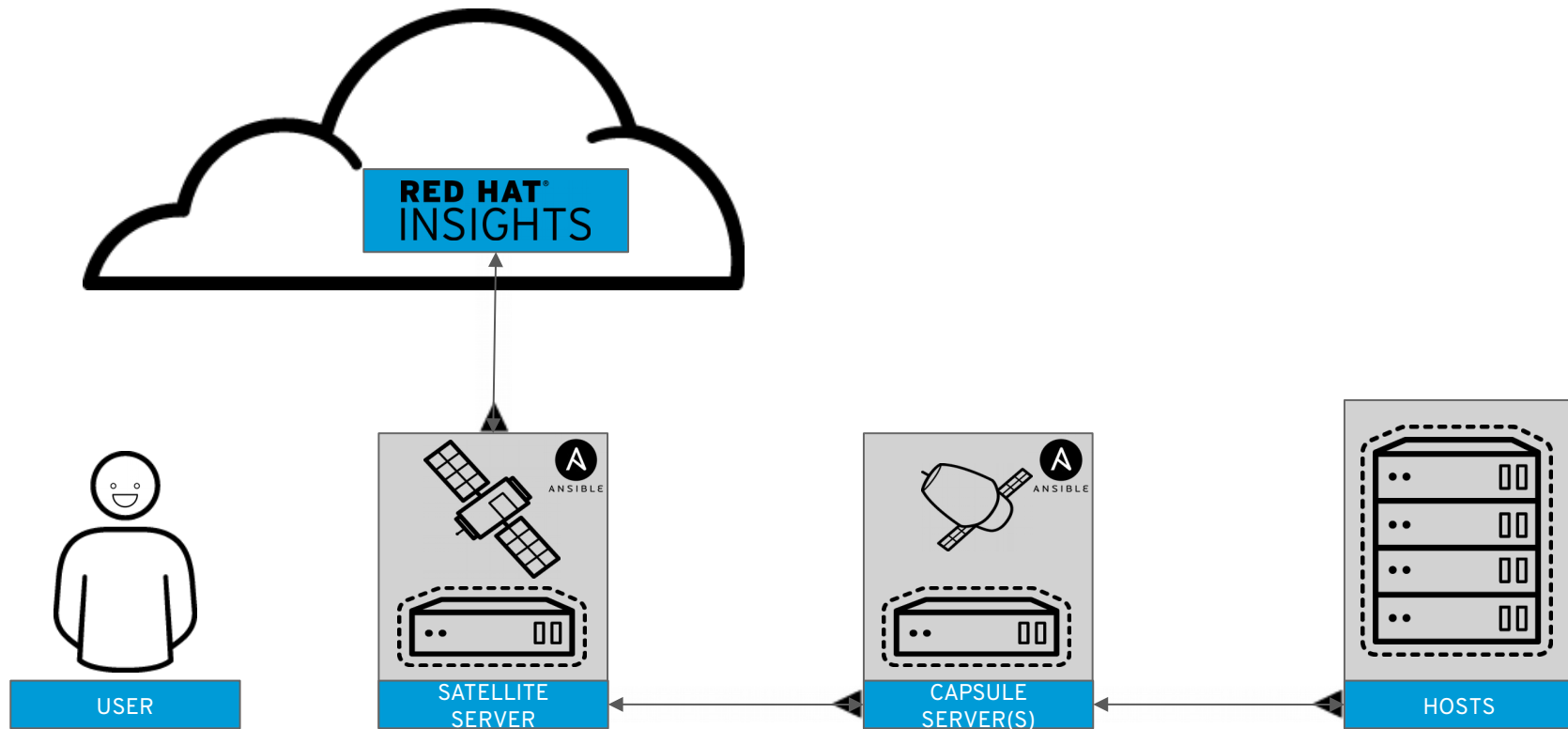


## Basic Communication Flow



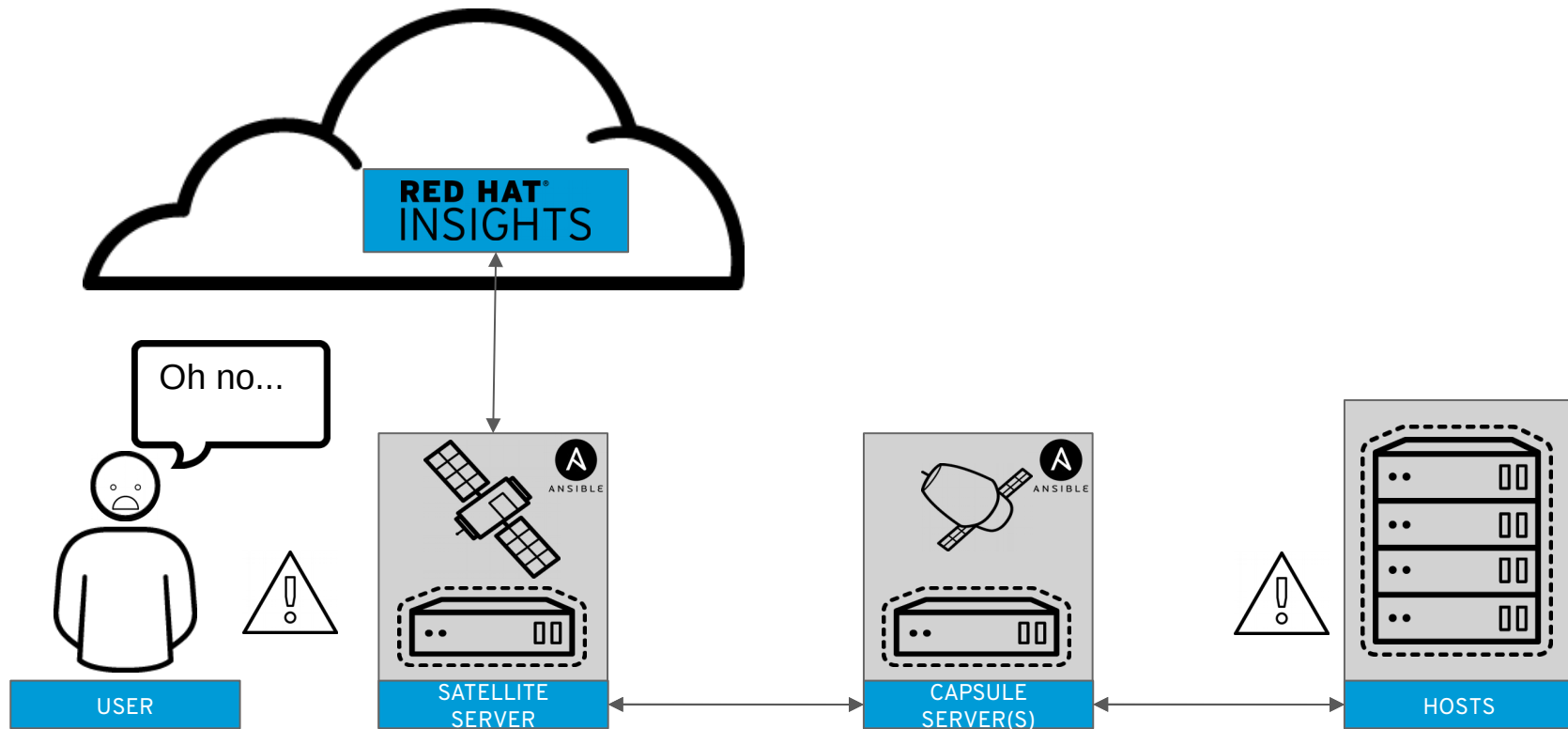
# Data Sent to Insights for examination

Insights does this daily, automatically



# Risk Found!

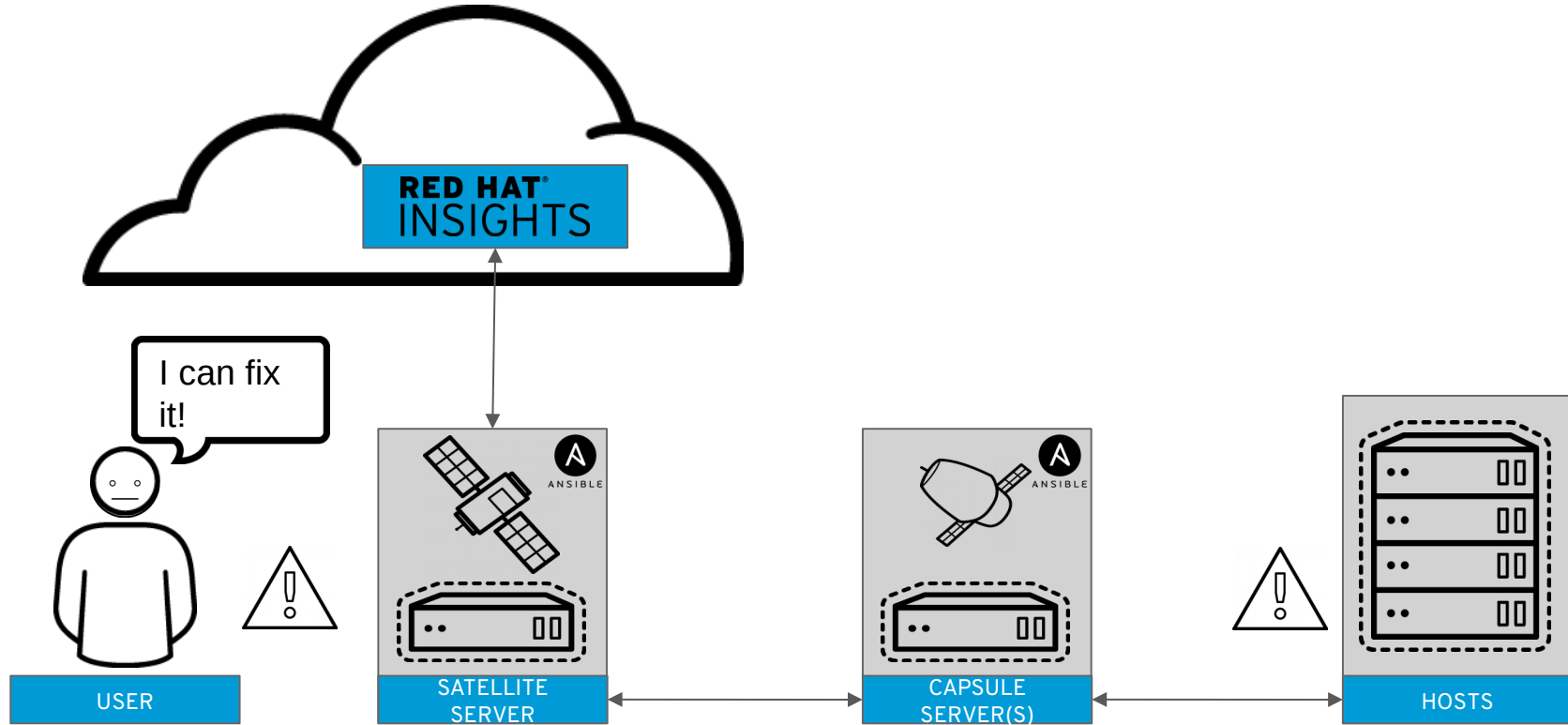
Satellite reads the data from Insights, dashboard widgets show the new risk



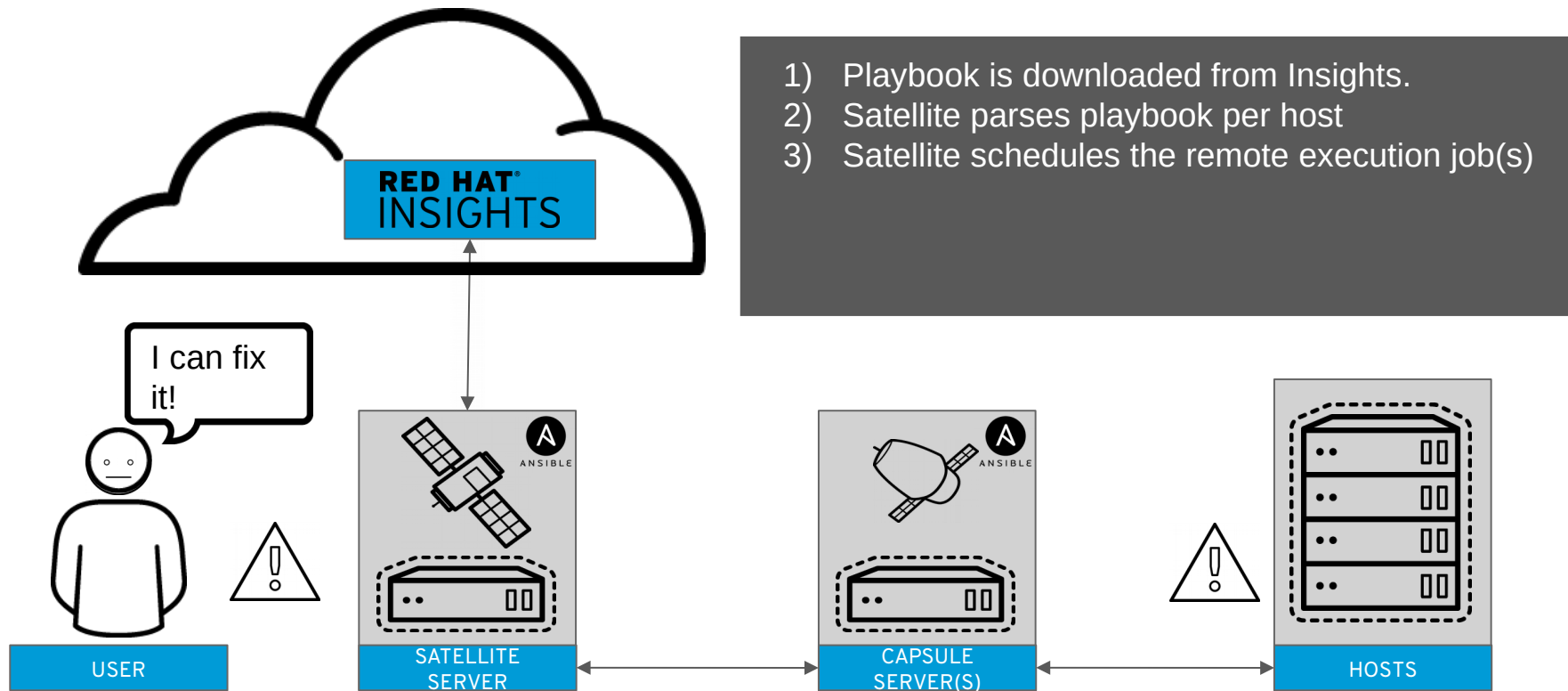
\*Satellite does not store any information from Insights in the database. It is all real time.

# Create a Remediation Plan

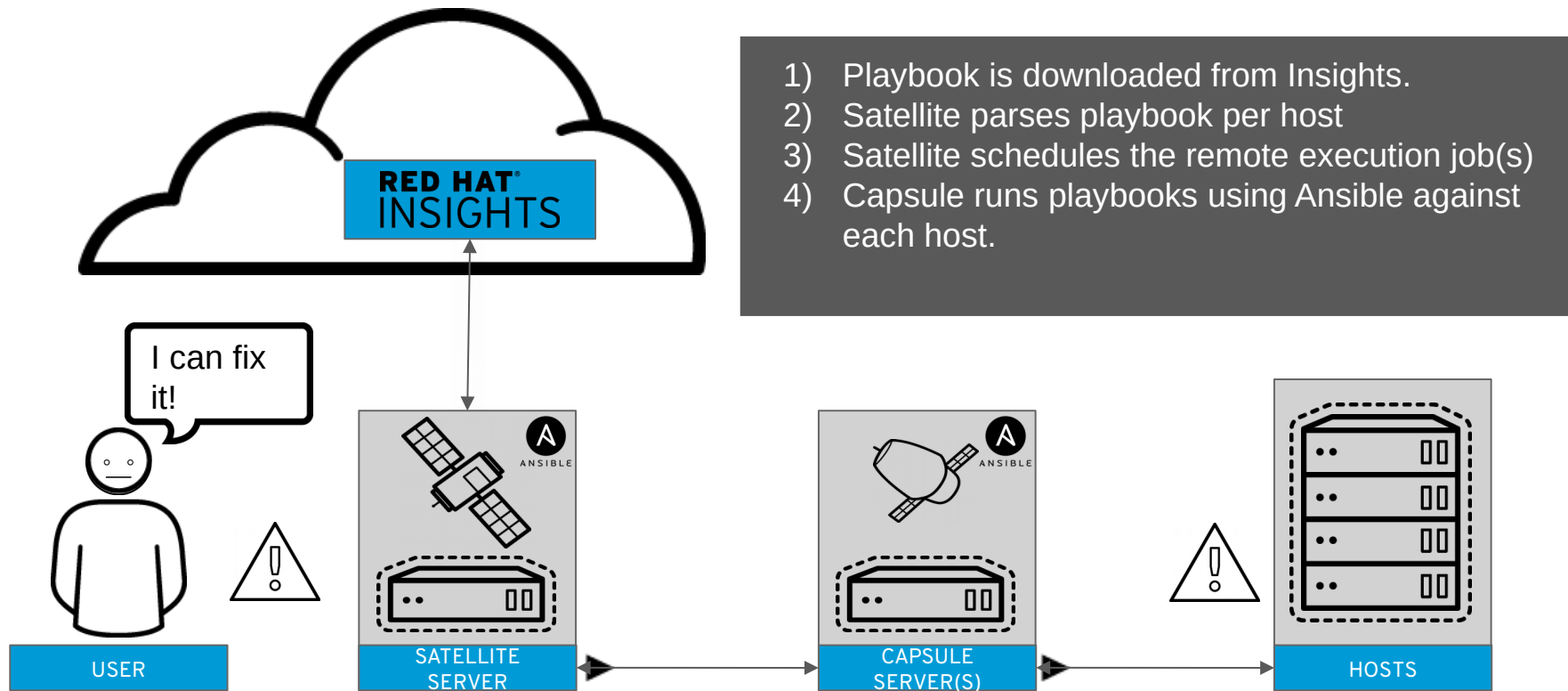
A user creates the remediation plan through Satellite



## Plan Executes

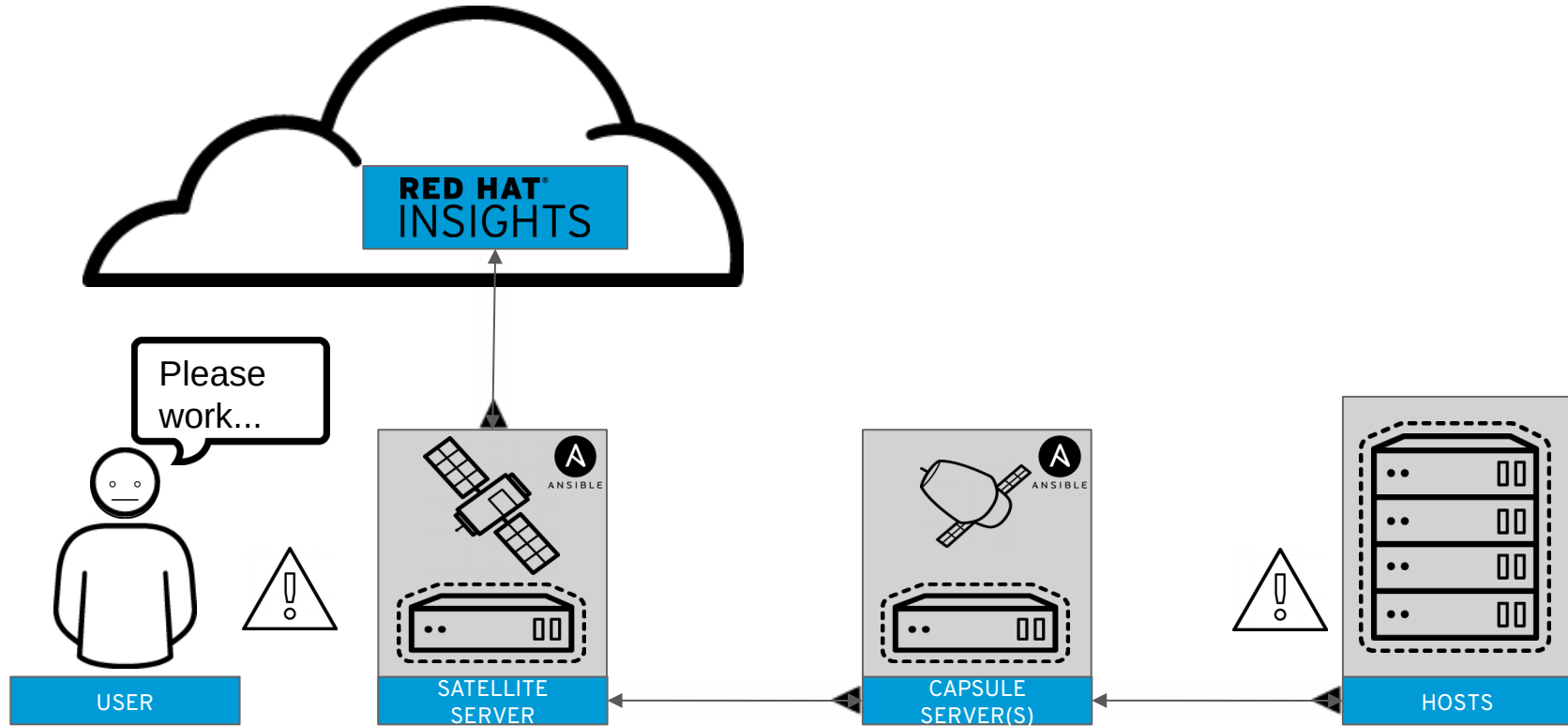


## Plan Executes



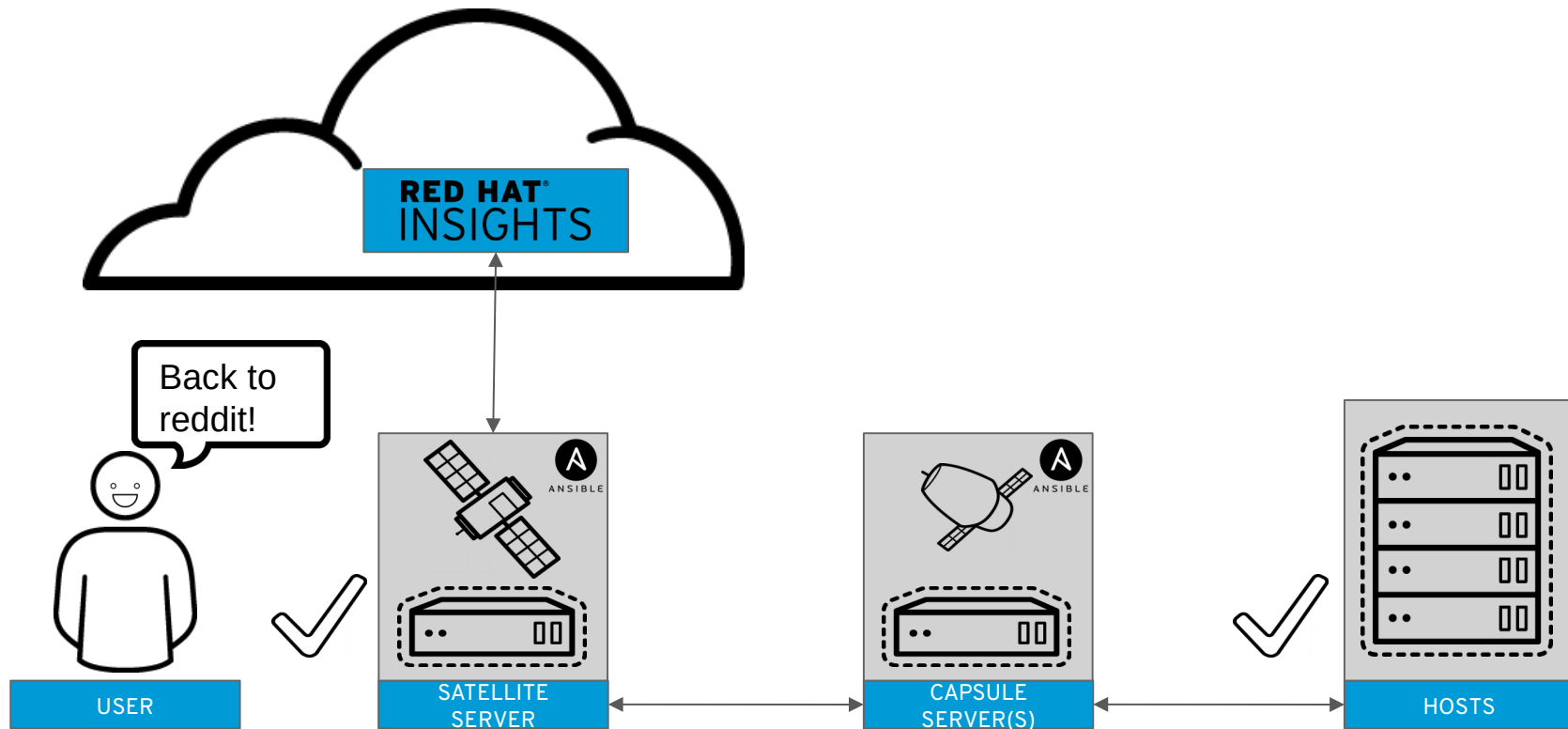
# Data Sent to Insights for examination

Rescan is done after remediation completes



# Data Sent to Insights for examination

The dashboard will pull updated info from Insights, showing the risk was resolved.





# ANSIBLE & SATELLITE

While Satellite has Ansible capabilities built in, Ansible Tower is still critical for enterprise automation

## Satellite's use of Ansible is for RHEL-specific purposes

- Ansible Playbooks can be executed against managed RHEL hosts
- Ansible Roles provide desired state
- Automation will be limited to RHEL use cases only

## Satellite connected to Ansible Tower

- For enterprise-wide, open-ended IT orchestration and automation
- Management of non-RHEL systems alongside RHEL systems
- Automate Satellite actions alongside other enterprise requirements

# Next Steps & Resources

Where to go to learn more

## Next steps

Use the Upgrade Helper to plan your upgrade-

<https://access.redhat.com/labs/satelliteupgradehelper/>

Using Satellite 5.8 or earlier?	Satellite 5.8 goes EOL May 2020. Older versions are already EOL	Move to the latest version of Satellite 6
Using Satellite 6.2 or earlier?	Satellite 6.2 and older versions are EOL	Move to the latest version of Satellite 6

## Satellite Resources

- [Red Hat Satellite Blog - https://satelliteblog.redhat.com/](https://satelliteblog.redhat.com/)
- [Red Hat Satellite Product page](#)
- [Red Hat Satellite Customer Portal](#)
- [Red Hat Satellite Documentation](#)
- [Red Hat Consulting offering: Transition to Red Hat Satellite 6](#)

## Satellite Training and Videos

- **NEW COURSE** - [RH053: Satellite Technical Overview](#) also available on [Udemy](#)
- [RH403: Red Hat Satellite 6 Administration](#)
- Satellite 6.5 Reporting Engine Video: <https://www.youtube.com/watch?v=sBciejh1G80>

# Thank you

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