Red Hat Satellite 6.15

Deploying Red Hat Satellite on Amazon Web Services

Deploy Satellite Server and Capsule on Amazon Web Services

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Abstract

Use this guide to deploy Red Hat Satellite Server and Capsules on Amazon Web Services (AWS) Elastic Compute Cloud (Amazon EC2).

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MAKING OPEN SOURCE MORE INCLUSIVE

Red Hat is committed to replacing problematic language in our code, documentation, and web properties. Because of the enormity of this endeavor, these changes are being updated gradually and where possible. For more details, see our CTO Chris Wright's message .

PROVIDING FEEDBACK ON RED HAT DOCUMENTATION

We appreciate your feedback on our documentation. Let us know how we can improve it.

Use the **Create Issue** form in Red Hat Jira to provide your feedback. The Jira issue is created in the Red Hat Satellite Jira project, where you can track its progress.

Prerequisites

- Ensure you have registered a Red Hat account.

Procedure

1. Click the following link: **Create Issue**. If Jira displays a login error, log in and proceed after you are redirected to the form.
2. Complete the **Summary** and **Description** fields. In the **Description** field, include the documentation URL, chapter or section number, and a detailed description of the issue. Do not modify any other fields in the form.
3. Click **Create**.

CHAPTER 1. USE CASE CONSIDERATIONS

Because Amazon Web Services is an image-only service, there are common Satellite use cases that do not work, or require extra configuration in an Amazon Web Service environment. If you plan to use Satellite on AWS, ensure that the use case scenarios that you want to use are available in an AWS environment.

1.1. USE CASES KNOWN TO WORK

You can perform the following Red Hat Satellite use cases on AWS:

- Managing Red Hat Subscriptions
- Importing Content
- Managing Errata
- Registering a Host Manually
- Red Hat Insights
- Realm Integration via IdM
- OpenSCAP
- Remote Execution

Subscriptions

Not all Red Hat subscriptions are eligible to run in public cloud environments. For more information about subscription eligibility, see the Red Hat Cloud Access Page . You can create additional organizations and then import additional manifests to the organizations. For more information, see Creating an Organization in *Administering Red Hat Satellite* .

Multi-homed Satellite and Capsule

Multi-homed Satellite is not supported.

Multi-homed Capsule is supported, to implement this, you can configure Capsules with a load balancer. For more information, see Configuring Capsules with a Load Balancer .

You must do this when Satellite Server or Capsule Server has different internal and external DNS host names and there is no site-to-site VPN connection between the locations where you deploy Satellite Server and Capsule Server.

On demand content sources

You can use the **On demand** download policy to reduce the storage footprint of the server that runs Satellite. When you set the download policy to **On Demand**, content syncs to Satellite Server or Capsule Server when a content host requests it.

For more information, see Importing Content in *Managing content*.

1.2. USE CASES THAT DO NOT WORK

In AWS, you cannot manage the DHCP. Because of this, most of Satellite Server's kickstart and PXE provisioning models are unusable. This includes:

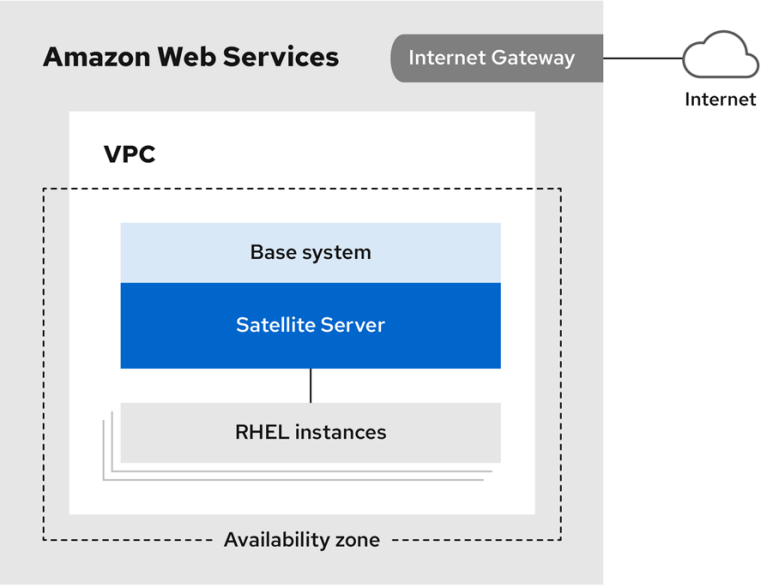
- PXE Provisioning
- Discovery and Discovery Rules
- ISO Provisioning methods.
    - PXE-Less Discovery (iPXE)
    - Per-host ISO
    - Generic ISO
    - Full-host ISO

CHAPTER 2. DEPLOYMENT SCENARIOS

There are three deployment scenarios for Red Hat Satellite in Amazon Web Services:

- One-region setup
- Connecting on-premises and AWS region
- Connecting different regions

Figure 2.1. Scenario 1: One-region setup



The least complex configuration of Satellite Server in Amazon Web Services consists of both Satellite Server and the content hosts residing within the same region and within the Virtual Private Cloud (VPC).

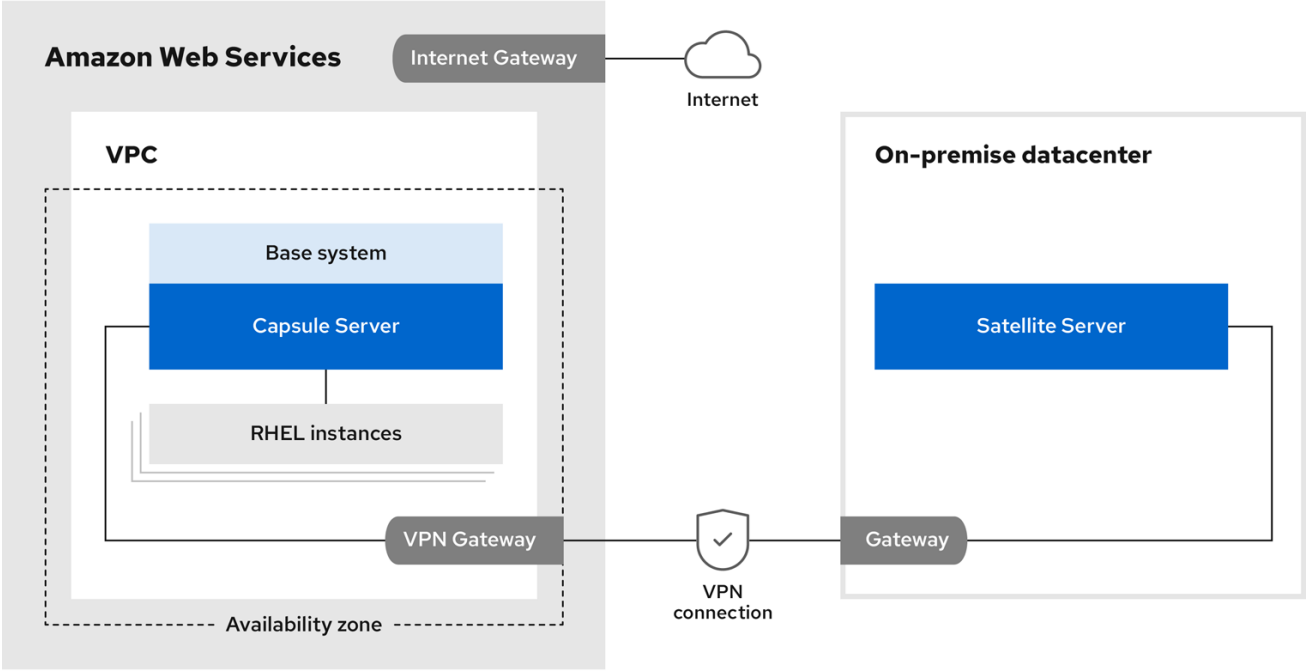
You can also use a different availability zone.

Scenario 2: Connecting on-premises and AWS region

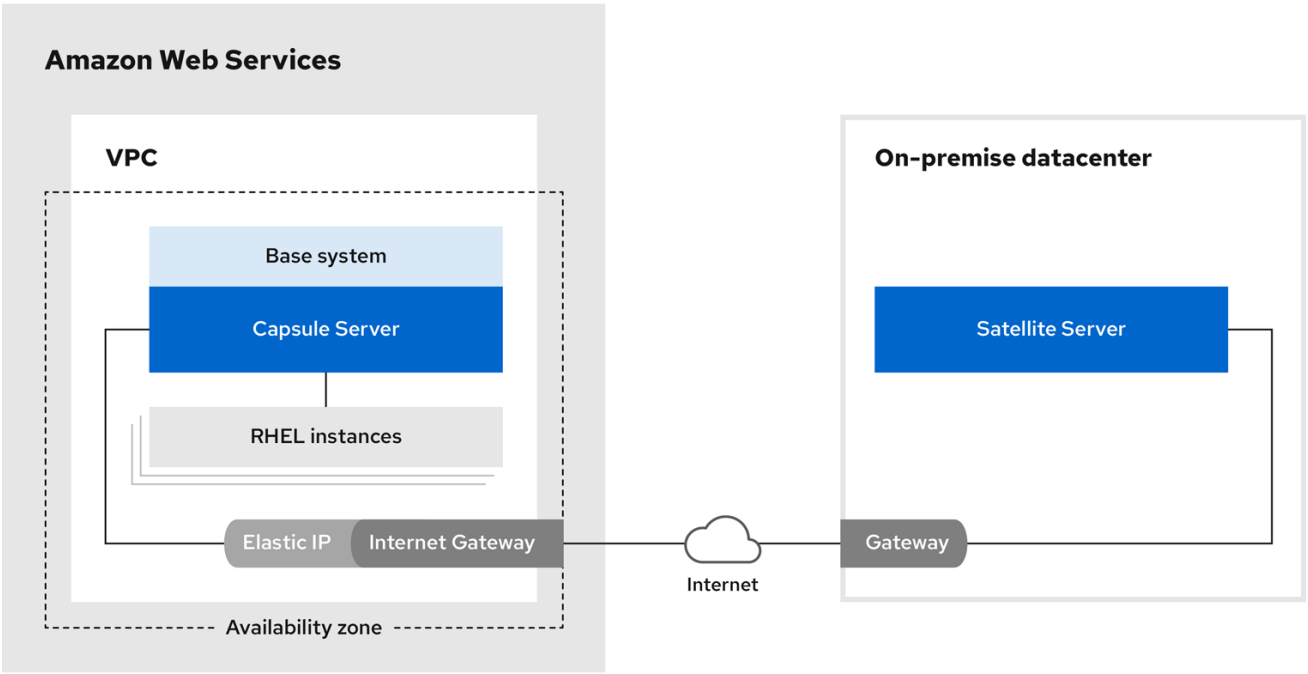
Create a VPN connection between the on-premises location and the AWS region where the Capsule is located.

It is also possible to use the external host name of Satellite Server when you register the instance that runs Capsule Server.

Option 1: Site-to-site VPN connection between the AWS region and the on-premises datacenter



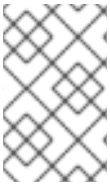
Option 2: Direct connection using the external DNS host name



Scenario 3: Connecting different regions

Create a site-to-site VPN connection between different regions so that you can use the internal DNS host name when you register the instance that runs Capsule Server to Satellite Server.

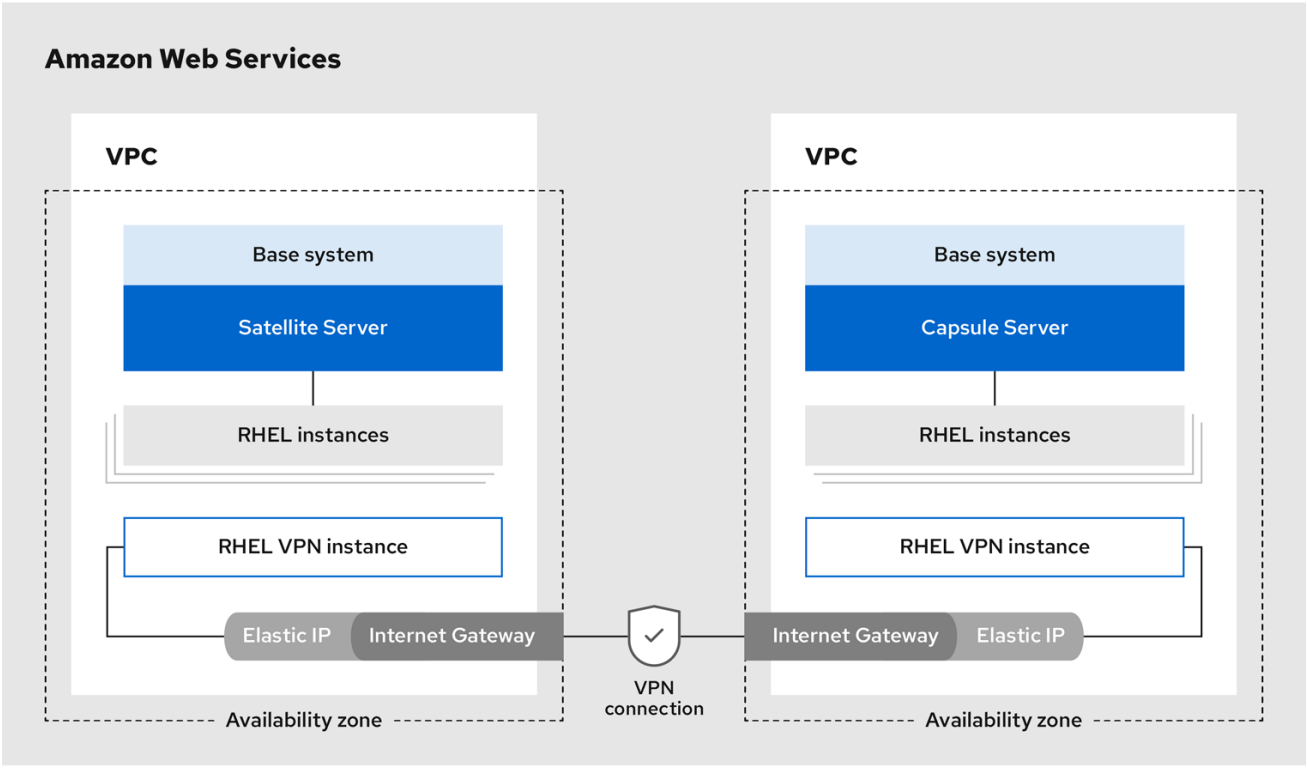
If you do not establish a site-to-site VPN connection, use the external DNS host name when you register the instance that runs Capsule Server to Satellite Server.



NOTE

Most public cloud providers do not charge for data being transferred into a region or between availability zones within a single region. However, they do charge for data leaving the region to the Internet.

Option 1: Site-to-site VPN connection between AWS regions



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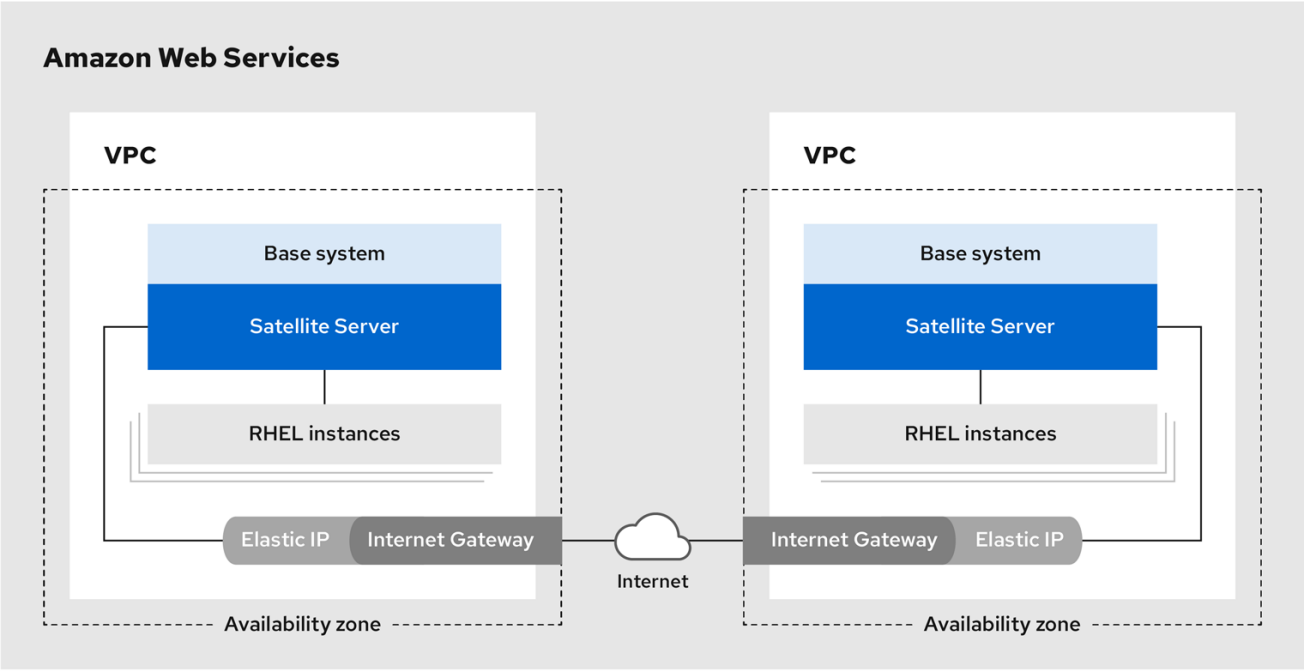
Option 2: Direct connection using the external DNS host name



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CHAPTER 3. PREREQUISITES

Before you can install and register Red Hat Satellite and Capsule, you must set up accounts with Amazon Web Services (AWS) and create and start Red Hat Enterprise Linux instances on AWS.

3.1. AMAZON WEB SERVICE ASSUMPTIONS

To use this guide, you must have a working knowledge of the following aspects of Amazon Web Services:

- Creating and accessing Red Hat Enterprise Linux images in AWS
- Editing network access in AWS Security
- Creating EC2 instances and how to create EBS volumes
- Launching instances
- Importing and exporting virtual machines in AWS
- Using AWS Direct Connect

To install Satellite in an AWS environment, you must ensure that your AWS set up meets the System Requirements in *Installing Satellite Server in a connected network environment* .

To install Capsule in an AWS environment, you must ensure that your AWS set up meets the System Requirements in *Installing Capsule Server*.

For more information about Amazon Web Services and terminology, see Amazon Elastic Compute Cloud Documentation.

For more information about Amazon Web Services Direct Connect, see What is AWS Direct Connect?

3.2. RED HAT CLOUD PREREQUISITES

To use this guide, you must complete the following steps:

- Register with Red Hat Cloud Access.
- Migrate any Red Hat subscriptions that you want to use.
- Create an AWS instance and deploy a Red Hat Enterprise Linux virtual machine to the instance.
- Ensure that your subscriptions are eligible for transfer to Red Hat Cloud. For more information, see Red Hat Cloud Access Program Details .

For more information about deploying Red Hat Enterprise Linux in AWS, see How to Locate Red Hat Cloud Access Gold Images on AWS EC2.

3.3. RED HAT SATELLITE-SPECIFIC PREREQUISITES

- Ensure that the Amazon EC2 instance type meets or exceeds the System Requirements in *Installing Satellite Server in a connected network environment* . For the best performance, use an AWS storage optimized instance .

- Use Storage Requirements in *Installing Satellite Server in a connected network environment* to understand and assign the correct storage to your AWS EBS volumes.
- Store the synced content on an EBS volume that is separate to the boot volume.
- Mount the synced content EBS volume separately in the operating system.
- Optional: Store other data on a separate EBS volume.
- If you want Satellite Server and Capsule Server to communicate using external DNS hostnames, open the required ports for communication in the AWS Security Group that is associated with the instance.

3.4. PREPARING FOR THE RED HAT SATELLITE INSTALLATION

In your AWS environment, complete the following steps:

1. Launch an EC2 instance of a Red Hat Enterprise Linux AMI.
2. Connect to the newly created instance.
3. If you use a Red Hat Gold Image, remove the RHUI client and set the **enabled** parameter in the **product-id.conf** to **1**.

```
# dnf remove -y rh-amazon-rhui-client*
# dnf clean all
# cat << EOF > /etc/yum/pluginconf.d/product-id.conf
> [main]
> enabled=1
> EOF
```

CHAPTER 4. INSTALLING SATELLITE SERVER ON AWS

On your AWS environment, complete the following steps:

1. Connect to the new instance.
2. Use Installing Satellite Server in a connected network environment to install Satellite Server.

CHAPTER 5. INSTALLING CAPSULE ON AWS

On your AWS environment, complete the following steps:

1. Connect to the new instance.
2. Install Capsule Server. For more information, see Installing Capsule Server.

CHAPTER 6. REGISTERING HOSTS TO SATELLITE

When you install Satellite Server and Capsule Server, you must then register the hosts on EC2 instances to Satellite. For more information, see Registering Hosts in *Managing hosts*.