



## Red Hat Satellite 6.9

# Deploying Red Hat Satellite on Amazon Web Services

Reference guide for deploying Red Hat Satellite Server and Capsules on Amazon Web Services



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Red Hat Satellite Documentation Team  
satellite-doc-list@redhat.com

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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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# 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:

- [Subscription Management](#)
- [Content Management](#)
- [Errata Management](#)
- [Configuring Hosts](#)
- [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 the *Content Management Guide*.

### 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 Red Hat Enterprise Linux server that runs Satellite. When you set the download policy to **On Demand**, content syncs to the Satellite Server or Capsule Server when a content host requests it.

For more information, see [Importing Red Hat Content](#) in the *Content Management Guide*.

## 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

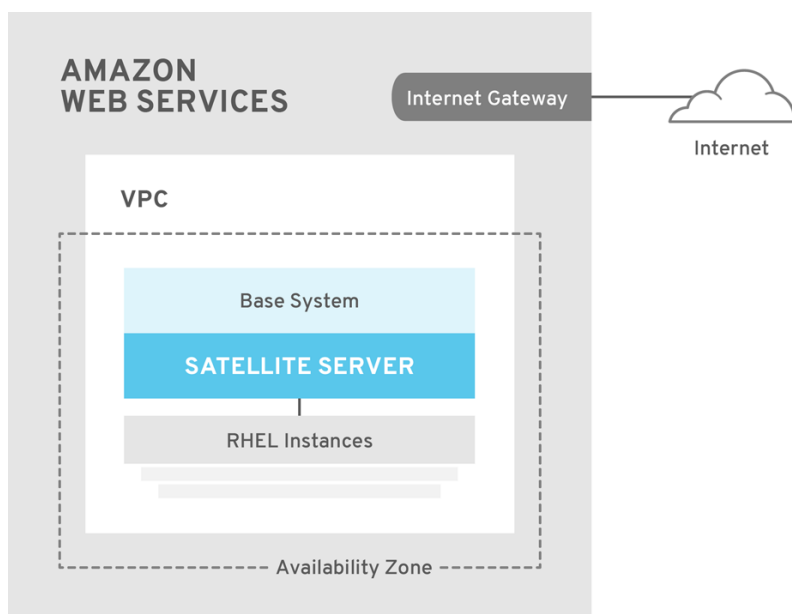


## CHAPTER 2. DEPLOYMENT SCENARIOS

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

1. One region setup
2. Connecting on-premise and AWS region
3. Connecting different regions

### Scenario 1: One region setup



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

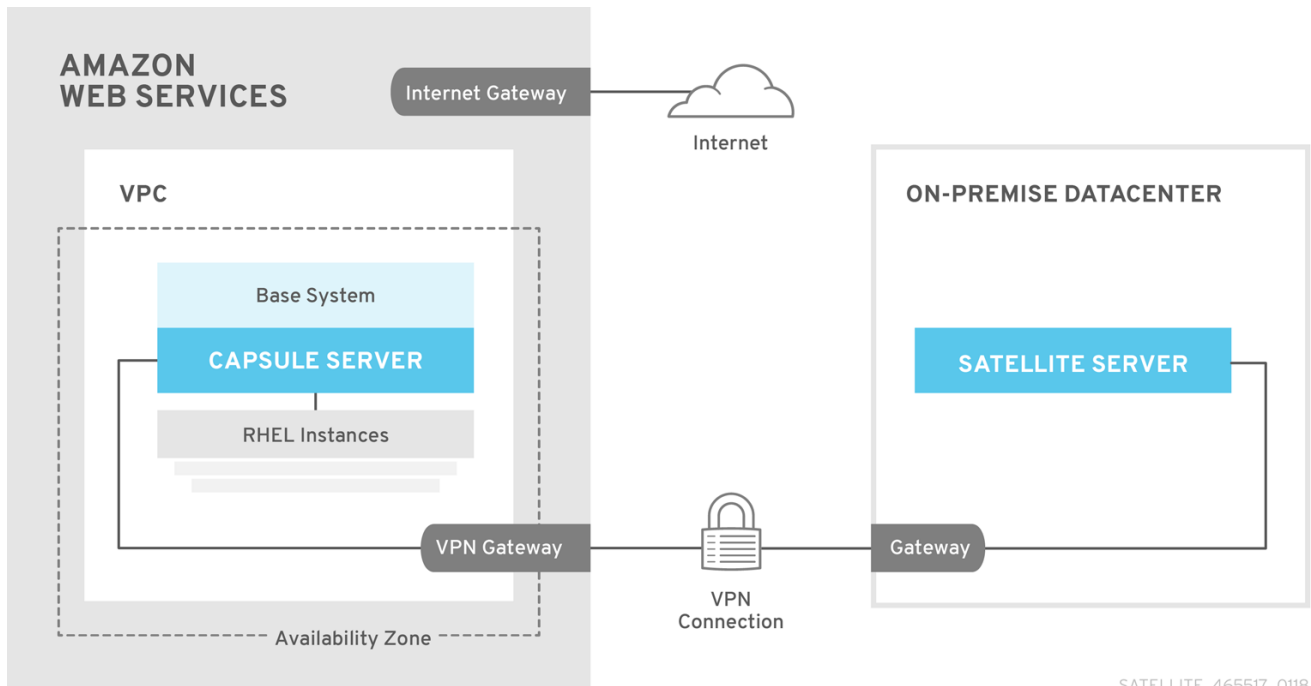
You can also use a different availability zone.

### Scenario 2: Connecting on-premise and AWS region

Create a VPN connection between the on-premise location and the AWS region where the Capsule resides.

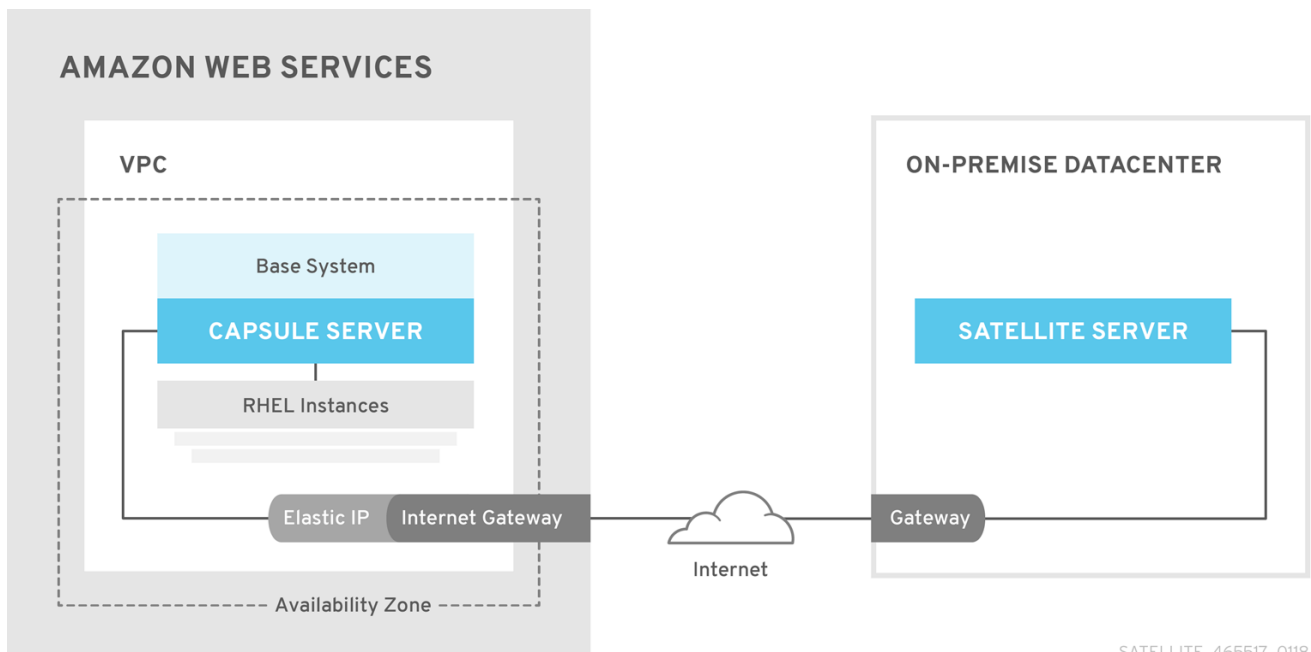
It is also possible to use the external host name of Satellite Server when you register the instance which runs Capsule Server.

#### Option 1: Site-to-Site VPN connection between the AWS region and the On-Premise Datacenter



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### Option 2: Direct connection using the External DNS host name

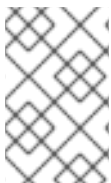


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### Scenario 3: Connecting different regions

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

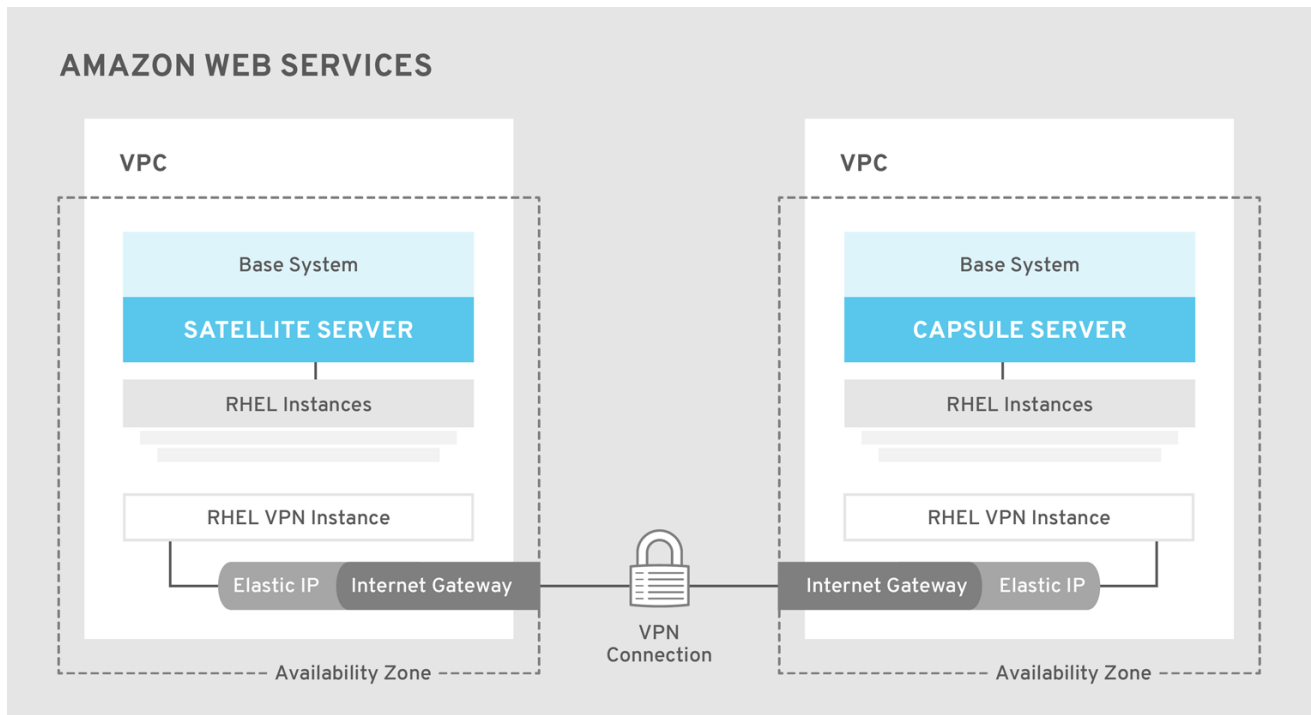
If you do not establish a site-to-site VPN connection, use the external DNS host name when you register the instance that runs Capsule Server to the Satellite Server.



#### NOTE

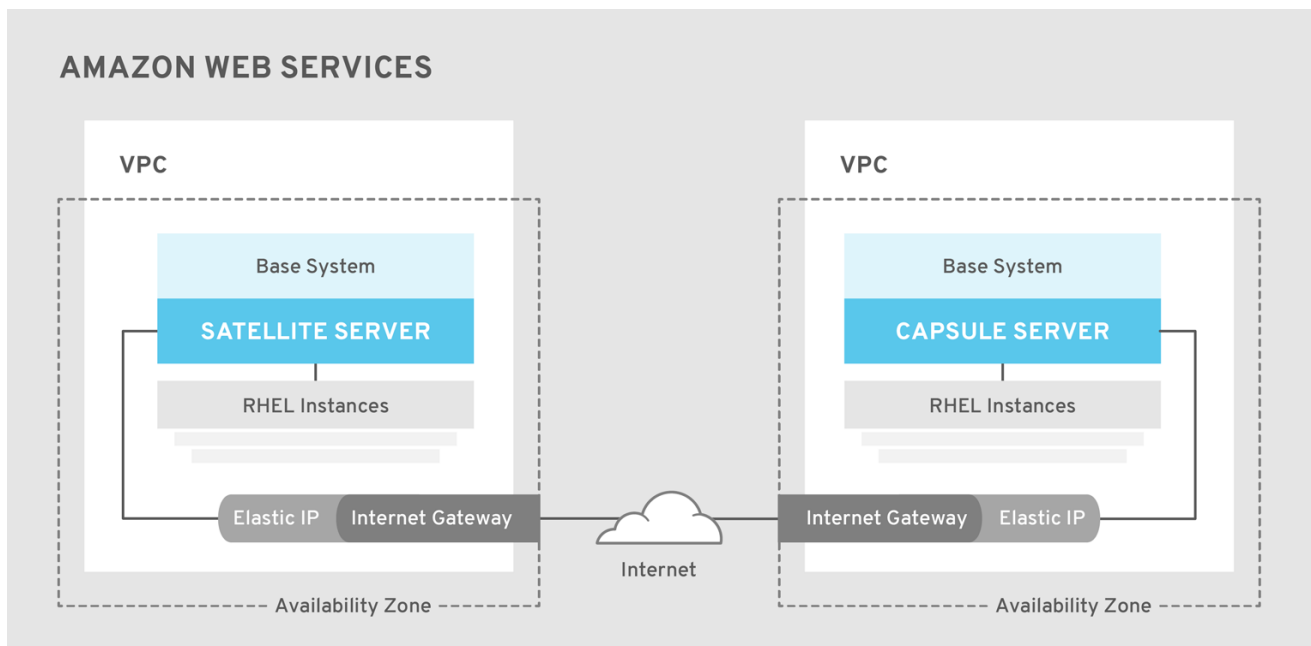
Most Public Cloud Providers do not charge for data being transferred into a region, or between availability zones within a single region; however, they do charge for data leaving the region to the Internet.

## 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 from a Connected Network* .

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 from a Connected Network* . For the best performance, use an [AWS storage optimized instance](#).

- Use [Storage Requirements](#) in *Installing Satellite Server from a Connected Network* 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, for example, the **mongodb** directory on a separate EBS volume.
- If you want the 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**.

```
# yum remove -y rh-amazon-rhui-client*
# yum 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 from a Connected Network](#) 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 USING THE BOOTSTRAP SCRIPT

When you install Satellite Server and Capsule Server, you must then register the content hosts on EC2 instances to Satellite with the bootstrap script.

For more information about using the bootstrap script, see [Registering Hosts to Red Hat Satellite Using The Bootstrap Script](#) in the *Managing Hosts* guide.

Install the Katello Agent. For more information, see [Installing the katello Agent](#).

Note that the Katello agent is deprecated and will be removed in a future Satellite version. Migrate your workloads to use the remote execution feature to update clients remotely. For more information, see [Host Management Without Goferd and Katello Agent](#) in the *Managing Hosts Guide*.