Introduction

Red Hat® Satellite is a system management solution that makes Red Hat infrastructure easier to deploy, scale, and manage across physical, virtual, and cloud environments. Satellite enables users to provision, configure, and update systems to help ensure that they are running efficiently and with security while remaining compliant with relevant standards. By automating most tasks related to maintaining systems, Satellite helps organizations increase efficiency, reduce operational costs, and better respond to strategic business needs.

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Red Hat Satellite overview

Question: Why should I use Red Hat Satellite when I already get updates from my Red Hat Enterprise Linux® subscription?

Answer: While you can do basic administrative tasks with the Red Hat services included with your Red Hat Enterprise Linux subscription, Red Hat Satellite adds extensive life-cycle management capabilities, including:

• Patching.
• Subscription management.
• Provisioning.
• Configuration management.

From a single console, you can manage thousands of systems as easily as one, which can help increase system availability, reliability, and auditability. Organizations with growing Red Hat Enterprise Linux environments often need these management capabilities.

Question: What are the advantages to using Red Hat Satellite?

Answer: Red Hat Satellite is a system management solution that makes Red Hat infrastructure easier to deploy, scale, and manage across physical, virtual, and cloud environments. Satellite enables users to provision, configure, and update systems to help ensure that they are running efficiently, with security, and in compliance with various standards. By automating most tasks related to maintaining systems, Satellite helps organizations increase efficiency, reduce operational costs, and better respond to strategic business needs.

Question: What is Red Hat Satellite Capsule Server?

Answer: Red Hat Satellite Capsule Server extends the management of Red Hat Satellite to remote datacenters. Typically, a Red Hat Satellite Capsule Server instance is deployed in each remote datacenter to federate services like provisioning so that they can be performed locally. Its focus is on providing a local repository of certified content for Red Hat Enterprise Linux. This model extends Red Hat Satellite to deliver updates, errata, and software in a highly scalable fashion while using less network bandwidth. Red Hat Satellite Capsule Server replaces Red Hat Satellite Proxy Server.

Red Hat Satellite 6 details

Question: When did Red Hat Satellite 6 become generally available?


• Blog post
• Release notes

Red Hat Satellite 6.5 became generally available on May 14th, 2019

• Blog post
• Release notes
Red Hat Satellite 6.4 became generally available on October 16, 2018.
- Blog post
- AnsibleFest launch announcement
- Release notes

Red Hat Satellite 6.3 became generally available on February 21, 2018.
- Blog post
- Release notes

- Blog post
- Red Hat Satellite 6 datasheet
- Release notes

Red Hat Satellite 6.1 became generally available on August 12, 2015.
- Press release
- Blog post
- Release notes

Red Hat Satellite 6.0 became generally available on September 10, 2014.
- Press release
- Blog post
- Release notes

Question: What are some of the new features in Red Hat Satellite 6?

Answer: The major features of each Satellite 6 release are listed below. In addition to the major features listed, each release also contains a number of fixes for stability, supportability, and performance. Red Hat recommends upgrading to the latest version of Satellite.

Red Hat Satellite 6.6

The Red Hat Satellite 6.6 release focuses on enhancements across reporting, automation, and supportability.

Key features of Red Hat Satellite 6.6 are below.

Automation:
- Ansible® 2.8 upgrade
- Ansible variables as smart class parameters
- OpenSCAP deployed by Ansible
Reporting:
• Ability to schedule reports
• Ability to email reports
• Reporting performance enhancements
• New default applied errata report

Supportability:
• Insights rules for Satellite
• Content view dependency resolution
• Composer integration
• Improved upgrade workflows
• Scale improvements and tuning parameters
• Task dashboard
• Additional notification drawer items (paused tasks or tasks need attention)

**Red Hat Satellite 6.5**

The Red Hat Satellite 6.5 release focuses on support for hosts running Red Hat Enterprise Linux 8 and support for FIPS on the Satellite host.

Key features of Red Hat Satellite 6.5 are below.

Red Hat Enterprise Linux 8:
• Red Hat Enterprise Linux 8 Patching
• Red Hat Enterprise Linux 8 Provisioning
• Red Hat Enterprise Linux 8 Application Streams
• Red Hat Enterprise Linux 8 System Purpose
• Red Hat Enterprise Linux System Roles

Security:
• Install Satellite on a FIPS Enabled Red Hat Enterprise Linux 7 Host
• OpenSCAP enhancements
• Satellite Admin Role
Content Management:
• Export Content Views
• Container Admin

Support:
• Run Satellite or Capsules in major cloud providers¹
  • Amazon Web Services
  • Microsoft Azure
  • Google Cloud Platform
  • Alibaba Cloud
  • IBM Cloud
• Infoblox IPAM Support

Reporting:
• New Reporting Engine
• Pre-canned reports for
  • Host status
  • Subscriptions
  • Registered Hosts
  • Applicable Errata
• Customize or create your own

Red Hat Satellite 6.4


Key features of Red Hat Satellite 6.4 are organized into content areas below.

Content management:
• Ansible embedded for remote execution
• Insights deployed through Ansible

¹ Other providers require a support exception. Host provisioning is only supported on Amazon Web Services and Google Cloud Platform
• Ansible/Foreman integration and Ansible roles
• Puppet 5 support
• Pull templates from Git

Usability:
• Vertical navigation
• Updated Red Hat repositories page
• Notification drawer enhancements
• Automatic republish of component content views
• Ability to update a manifest inside of Satellite
• Auditing of user events

Supportability:
• Provision to Amazon Web Services (AWS) GovCloud
• Load balanced capsules
• Ability to offload databases from Satellite Server
• Support for docker private repositories
• Preservation of custom configs

Performance and stability:
• Red Hat Enterprise Linux performance co-pilot integration
• Rebase of MongoDB to 3.x
• Tuning for PostgreSQL
• Other performance and stability fixes

For ease of reference, a summary of features from previous releases is included below.

Red Hat Satellite 6.3

The Red Hat Satellite 6.3 release increased product stability and usability.

Key features of Red Hat Satellite 6.3 are organized into content areas below.

Content management:
• Improved content download policies and synchronization (lazy sync tool)
• New custom file type repository
System provisioning:
• Improved ability to manage provisioning templates (Pull templates from Git tool: tech preview)
• VMware boot disk image (tech preview)

Configuration management:
• Ansible Tower integration best practices
• Full Red Hat support for Puppet 3.8 and Puppet 4

Supportability:
• Full Red Hat support for Satellite and Capsule servers running on AWS Elastic Compute Cloud (EC2)
• Security and user access:
  • Newly defined and formalized Org Admin role
  • New OpenSCAP tailoring files

Usability:
• Improved user interface (UI) notifications (notification drawer tool)
• New future-dated subscriptions
• Ability to clone an existing Satellite server to a new host (cloning tool)
• Ability to change the Satellite hostname while changing configurations (renaming tool)
• New virt-who configuration wizard
• New tracer tool (tech preview)

Red Hat Satellite 6.2
Notable new features in Red Hat Satellite 6.2 included:
• Automated workflows. Capabilities include remote execution and scheduling for remote execution jobs, as well as expanded bootstrap and provisioning options.
• Air-gapped security and federation. Users can sync to export RPM content from one Satellite server to another.
• Software management improvements. Simplified smart variable management is available.
• Capsule improvements. Users have extended insight into capsule health and overall performance. Capsules are more lightweight and can be configured to store only content requested by clients. In addition, capsules have a new reference architecture that includes the ability to deploy a highly available Red Hat Satellite capsule.
• Atomic OSTree and containers. Users can mirror, provision, and manage Red Hat Enterprise Linux Atomic Host and content with Satellite. Also, they can mirror container repositories, such as Red Hat Registry, Docker Hub, and other third-party sources. Satellite provides a secure, curated point of entry for container content.

• Enhanced documentation.

New documentation:

• Virtual instance guide: How to configure virt-who
• Hammer command-line interface (CLI) guide: How to use Red Hat Satellite’s CLI
• Content management guide
• Quick start guide

Updated documentation:

• User guide divided into topics for easier use: Server administration and host configuration
• Cheat sheets available for specific topics

Lazy sync:

• Satellite 6.2.3 introduces the “lazy sync” functionality, which provides users with additional flexibility when they are downloading content. Lazy sync provides a series of new download policies that govern how content is downloaded.

• Lazy sync was included in earlier Satellite 6.2 releases (6.2.0 through 6.2.2) as a technology preview.

• With Satellite 6.2.3, Lazy sync will transition to full support.

**Red Hat Satellite 6.1**

Red Hat Satellite 6.1 includes many other enhancements and fixes to improve stability, reliability, and scalability.

Notable new features in Red Hat Satellite 6.1 included:

• Errata management.
• Container management.
• Provisioning enhancements.
• Support for disconnected environments.
• SCAP operations.
• Enhanced bare-metal discovery.
• Active Directory groups for user roles.
Red Hat Satellite 6.0

Notable new features in Red Hat Satellite 6.0 included:

- Provisioning across bare-metal, private, and public clouds.
- Puppet Forge and Git integration.
- Federated life-cycle management.
- Drift remediation.
- Content views for life-cycle management.
- System discovery.

Questions:

**Question:** Where can I download Red Hat Satellite 6?

**Answer:** Red Hat Satellite is available for download on the [Red Hat Customer Portal](https://access.redhat.com) as part of your Red Hat Satellite subscription.

**Question:** Where are the release notes, technical notes, and official documentation for Red Hat Satellite 6?

**Answer:** [Documentation](https://access.redhat.com) is available on the Red Hat Customer Portal.

**Question:** What infrastructures are supported by Red Hat Satellite 6?

**Answer:** Bare metal, Red Hat Virtualization, Red Hat OpenStack® Platform, and VMware are supported.

**Question:** What open source projects serve as the upstream for Red Hat Satellite 6?

**Answer:** Key projects include Foreman, Katello, Pulp, Candlepin, and Puppet.

**Question:** What is the supported usage for these components in Red Hat Satellite 6?

**Answer:** All Red Hat Satellite components (such as Foreman, Katello, Pulp, Candlepin, and Puppet) and their usage are supported within the context of Red Hat Satellite only. Third-party usage of any components falls beyond supported usage. Refer to the [Red Hat Satellite 6 supported usage](https://access.redhat.com) chapter in [Planning for Red Hat Satellite 6](https://access.redhat.com) for details.

**Question:** How can I upgrade from Red Hat Satellite 5 to Red Hat Satellite 6, and can I upgrade in place?

**Answer:** The product architectures differ between Red Hat Satellite 5 and Red Hat Satellite 6. As such, Red Hat Satellite 6.x requires a fresh install. Upgrading in place from Red Hat Satellite 5.x to Red Hat Satellite 6.x is not possible. Current Red Hat Satellite 5 customers will have many options to manage their Red Hat Enterprise Linux environment with Red Hat Satellite 6. For a detailed review of transitioning from Red Hat Satellite 5 to Red Hat Satellite 6, consult [Red Hat Satellite 5 to Satellite 6 Transition FAQ](https://access.redhat.com) and [Transitioning from Red Hat Satellite 5 to Satellite 6](https://access.redhat.com).

There also is a Red Hat Consulting offering to help you with your transition. Read the [datasheet](https://access.redhat.com) for more information.
**Question:** Can Red Hat Satellite 6 manage Red Hat Enterprise Linux 7 client systems?

**Answer:** Yes. Red Hat Satellite versions 5.6 and above are capable of Red Hat Enterprise Linux 7 content and system management.

**Question:** Can Red Hat Satellite 6 manage Red Hat Enterprise Linux 8 client systems?

**Answer:** Yes. Red Hat Satellite versions 6.5 and above are capable of Red Hat Enterprise Linux 8 content and system management.

**Question:** Does Red Hat Satellite feature high availability?

**Answer:** Satellite 6.4 introduced support for load balanced capsules, but this does not offer high availability of the Satellite Server. The recommended method for Satellite high availability is to virtualize the host running Satellite and use the high-availability capabilities offered by your hypervisor of choice. Refer to High Availability with Satellite 6.3, 6.4 and 6.5 for more information.

**Question:** How does Red Hat Satellite compare to Red Hat CloudForms® and Red Hat Cloud Infrastructure?

**Answer:** Red Hat Satellite executes what would traditionally be called system management work—related to Red Hat infrastructure—on bare metal, virtualized servers, or in the cloud. Many organizations use both Red Hat CloudForms and Red Hat Satellite to provide end-to-end infrastructure management. Red Hat CloudForms provides a centralized view and control or orchestration of all workloads across private and public cloud infrastructures, while Red Hat Satellite performs software, configuration, and subscription management, as well as provisioning for Red Hat infrastructure. Both products are offered in Red Hat Cloud Infrastructure, an integrated set of Red Hat technologies.

**Question:** What is the upgrade path for beta customers?

**Answer:** There is no supported upgrade path from beta to general availability. Fresh install only. Upgrading and Updating Red Hat Satellite provides documentation. There also is an interactive upgrade helper on the Red Hat Customer Portal.

**Question:** What Red Hat products can Red Hat Satellite manage?

**Answer:** Red Hat Satellite can manage any RPM-based product. This includes Red Hat Enterprise Linux, Red Hat Virtualization, Red Hat OpenStack Platform, Red Hat JBoss® Enterprise Application Platform, Red Hat Storage, Red Hat CloudForms, and others.

**Question:** Does Satellite 6 support Puppet Enterprise?

**Answer:** No. Red Hat takes the community version of Puppet and weaves that into Red Hat Satellite 6. This means, generally speaking, that any feature in the community version of Puppet will be in Satellite 6 but that if a feature is exclusive to Puppet Enterprise, then it is not included in Satellite 6. See the Red Hat Satellite 6 & Puppet Enterprise integration solution brief for more information.
## Red Hat Satellite 5 and upgrade details

**Question:** What happened to Red Hat Satellite Proxy Server?

**Answer:** Red Hat Satellite Proxy Server as a federation device for Red Hat Satellite has been replaced by Red Hat Satellite Capsule Server. Satellite Capsule Server is similar to Satellite Proxy Server, but it uses a different architecture. If you are transitioning from Red Hat Satellite 5 to Red Hat Satellite 6, any deployed proxy servers must be transitioned to capsule servers. For more information on transitioning from Red Hat Satellite 5 to Red Hat Satellite 6, consult Red Hat Satellite 5 to Satellite 6 Transition FAQ and Transitioning from Red Hat Satellite 5 to Satellite 6.

**Question:** Is Red Hat Satellite 5 still supported?

**Answer:** Red Hat Satellite 5.7 and earlier versions are no longer supported. Red Hat Satellite 5.8 will be supported until May 2020 and is the best option for customers staying on Satellite 5.x for some time before transitioning to Satellite 6. Refer to Important Changes Coming to Red Hat Satellite 5, the Satellite life-cycle support page, and End-of-Life (EOL) notification for Red Hat Satellite 5.5 and older versions for more information. Note that Satellite 5.8 support does not mean that all new Red Hat products can be distributed through it.

**Question:** Where can I find end-of-life (EOL) information for Red Hat Satellite?

**Answer:** Learn about the Satellite release life cycle and EOL cycles on the Satellite life-cycle support page.

**Question:** Where can I learn more about upgrading to Satellite 6?

**Answer:** Learn about upgrading from Satellite 5 to 6 in Transitioning from Red Hat Satellite 5 to Red Hat Satellite 6.

### Security

**Question:** My environment will not let me have a network connection from my Red Hat Satellite Server back to Red Hat. What other options do I have?

**Answer:** You can download content from the Red Hat Content Delivery Network (CDN) to a staging system and store it on physical media so that your organization can keep certified content up to date. Many organizations that have tight security requirements use the disconnected Red Hat Satellite configuration.

**Question:** How is security implemented between Red Hat Satellite Server and its managed nodes?

**Answer:** From a features perspective, Red Hat Satellite lets administrators implement a full audit trail of all activities taken through Red Hat Satellite and assign policies and permissions for simple role-based administration.
**Interoperability**

**Question:** Does Red Hat Satellite work with other management products from vendors like HP or IBM?

**Answer:** You can use the application programming interface (API) in Red Hat Satellite to script commands inside the product and to exchange information with other management products. Customers have used the API in Red Hat Satellite to integrate it with other management tools from vendors like HP and IBM.

**Question:** What type of hardware do you need in order to run Red Hat Satellite Server 6?

**Answer:** Refer to the latest version of the Installing Satellite Server guide. There should be at least one networked host with the following minimum specifications:

- 64-bit architecture.
- The latest version of Red Hat Enterprise Linux 7 Server.
- 4-core 2.0GHz CPU.
- A minimum of 20GB memory so that the Satellite Server can function. In addition, a minimum of 4GB of swap space is recommended. Satellite running with less memory than the minimum value might not operate correctly.
- A unique hostname, which can contain lower-case letters, numbers, dots (.), and hyphens (-).
- A current Red Hat Satellite subscription.
- Administrative user (root) access.
- A system umask of 0022.
- Full forward and reverse DNS resolution using a fully qualified domain name.

Before you install Satellite Server or Capsule Server, ensure that your environment meets the requirements for installation.

Satellite Server must be installed on a freshly provisioned system that serves no other function except to run Satellite Server.

**Note:** The Red Hat Satellite Server and Capsule Server versions must match. For example, a Satellite 6.4 Server cannot run a 6.5 Capsule Server, and a Satellite 6.5 Server cannot run a 6.4 Capsule Server. Mismatching Satellite Server and Capsule Server versions results in the Capsule Server failing silently.

**Question:** What kind of database is required to run Red Hat Satellite Server in my environment?

**Answer:** Red Hat Satellite 6 includes an embedded PostgreSQL database and an embedded MongoDB database.

**Question:** Are there installation and consulting services available for Red Hat Satellite Server?

**Answer:** Yes. Red Hat Global Professional Services offers consulting services specifically for Red Hat Satellite customers. Contact Red Hat Sales for more information.
**Question:** What options do I have to try Red Hat Satellite in my environment?

**Answer:** Red Hat is currently offering a 30-day trial evaluation. Contact a Red Hat sales representative for details.

**Question:** What level of service is included with Red Hat Satellite?

**Answer:** For Red Hat Satellite Smart Management Add-On entitlements, customers get the same service-level agreement (SLA) as they currently subscribe to for the operating system. The Red Hat Satellite Server and Red Hat Satellite Capsule Server models include a subscription to Red Hat Enterprise Linux premium, which ensures that customers receive Red Hat premium support.

### Virtualization

**Question:** Can Red Hat Satellite manage virtual instances of Red Hat Enterprise Linux?

**Answer:** Red Hat Satellite can manage any system running Red Hat Enterprise Linux on any supported hypervisor, including Red Hat Virtualization and VMware. To do this, each Red Hat Enterprise Linux system managed by Red Hat Satellite must have the necessary Smart Management Add-On entitlement.

**Question:** Can you run Red Hat Satellite as a virtual instance using Red Hat’s virtualization technology? Can you run it using VMware?

**Answer:** Red Hat Satellite and Red Hat Satellite Capsule Server are currently supported on Red Hat Enterprise Linux guests hosted by supported hypervisors like Xen, Kernel-based Virtual Machine (KVM), and VMware hypervisors.
Resources information

Answer: More information is available here:

- Red Hat Satellite landing page on Red Hat Customer Portal
- Red Hat Satellite 6 documentation
- Red Hat Satellite blog

Training:

- RH053: Satellite Technical Overview (Red Hat Training)
- RH053: Satellite Technical Overview (on Udemy)
- RH403: Red Hat Satellite 6 Administration

Additional resources:

- Satellite upgrade helper
- Red Hat Satellite 5 and 6 Puppet Guide
- Red Hat Satellite 6: Core Standard Operating Environments (SOE) Recommended Practices
- Red Hat support

About Red Hat

Red Hat is the world’s leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.

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